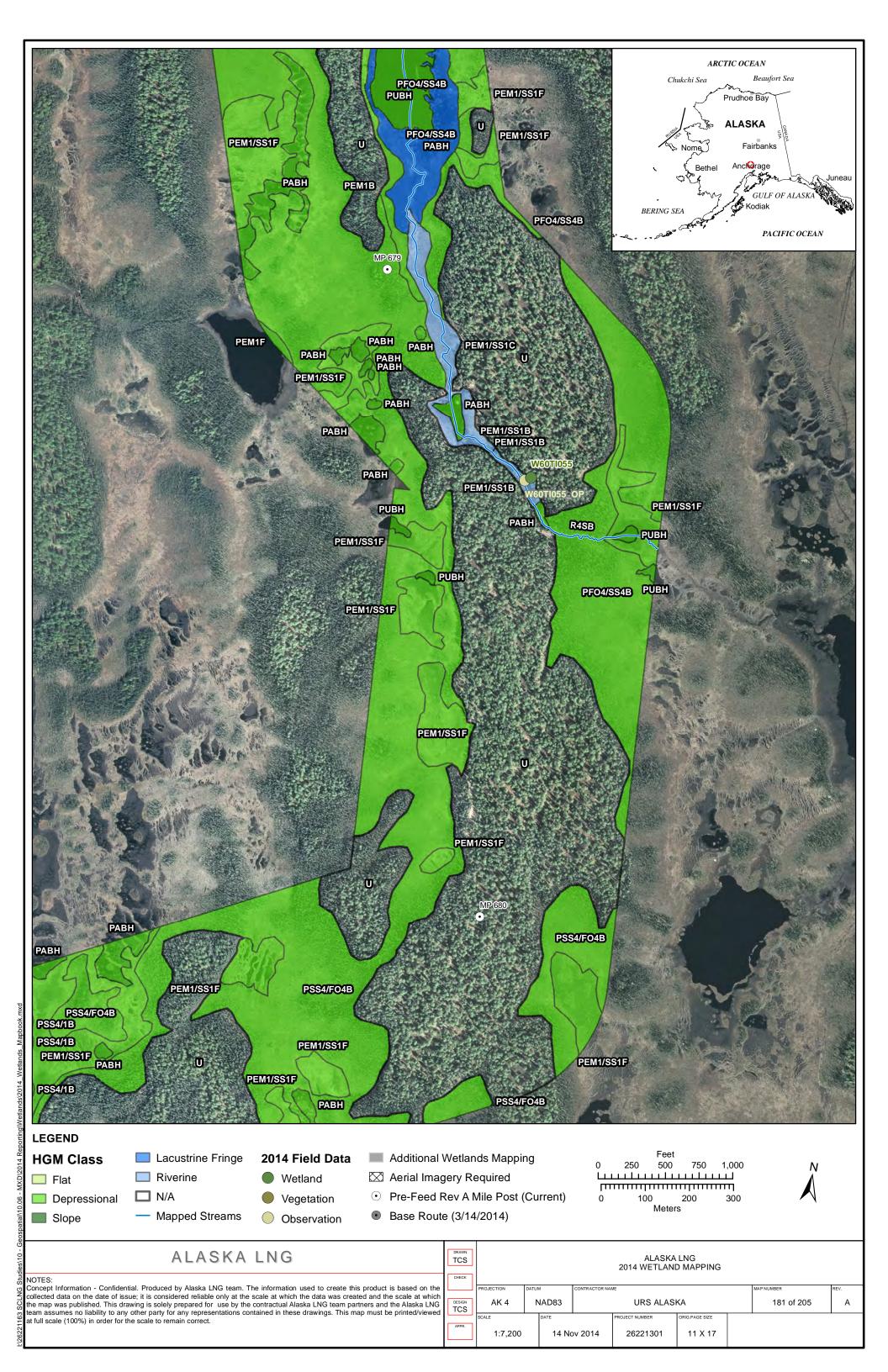
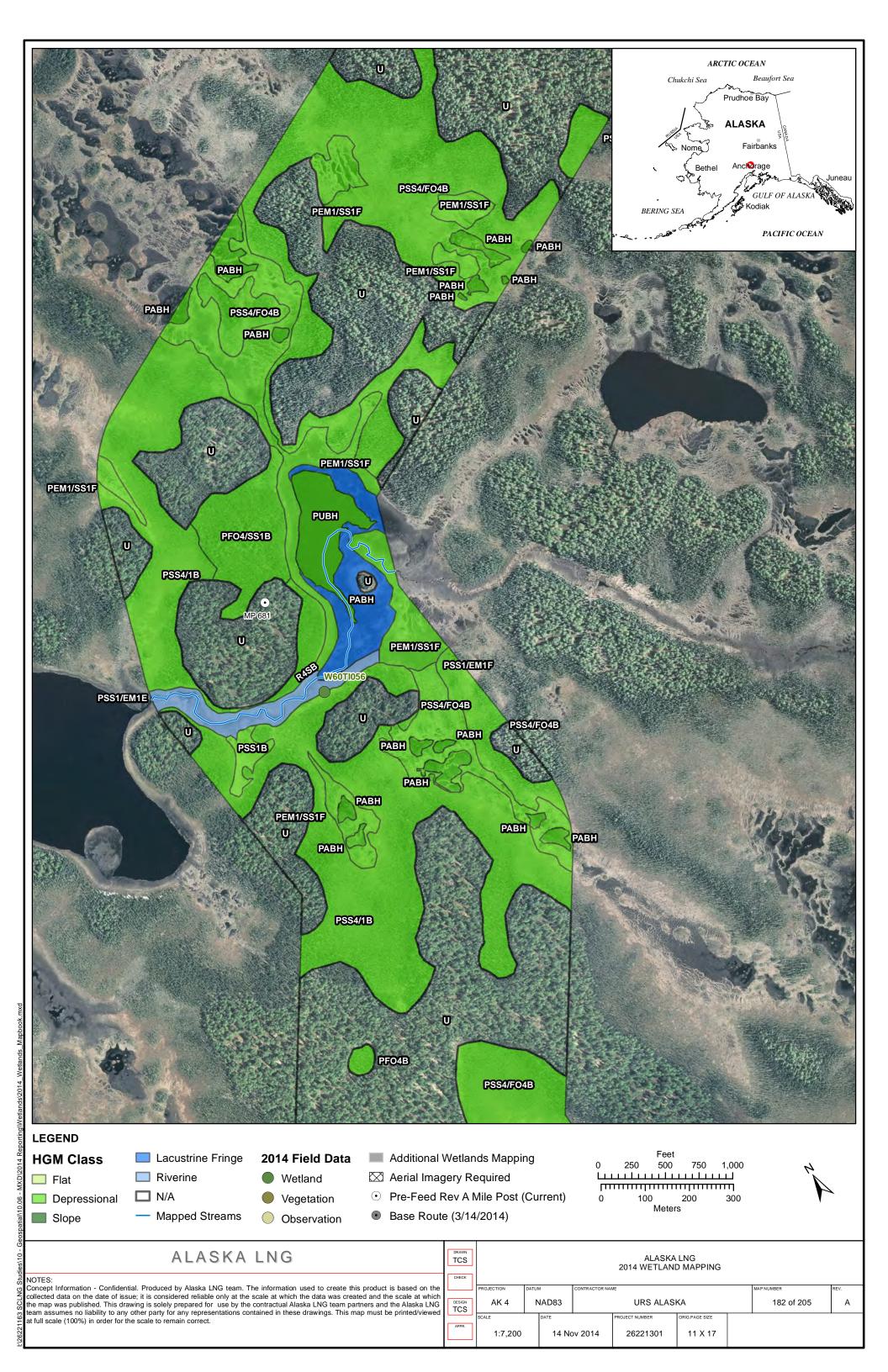
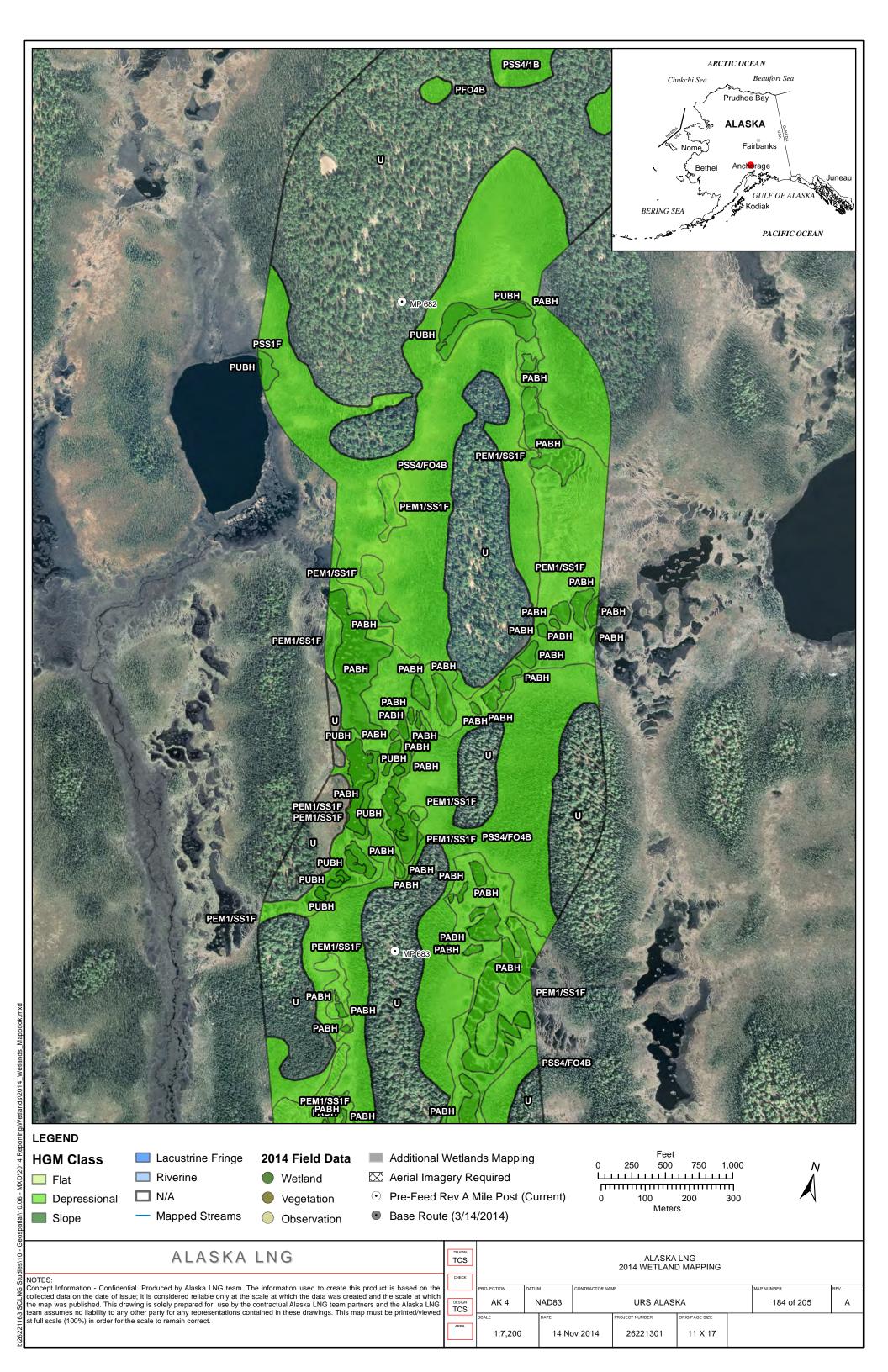
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	RESOURCE REPORT NO. 2	000006-000
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	Public	

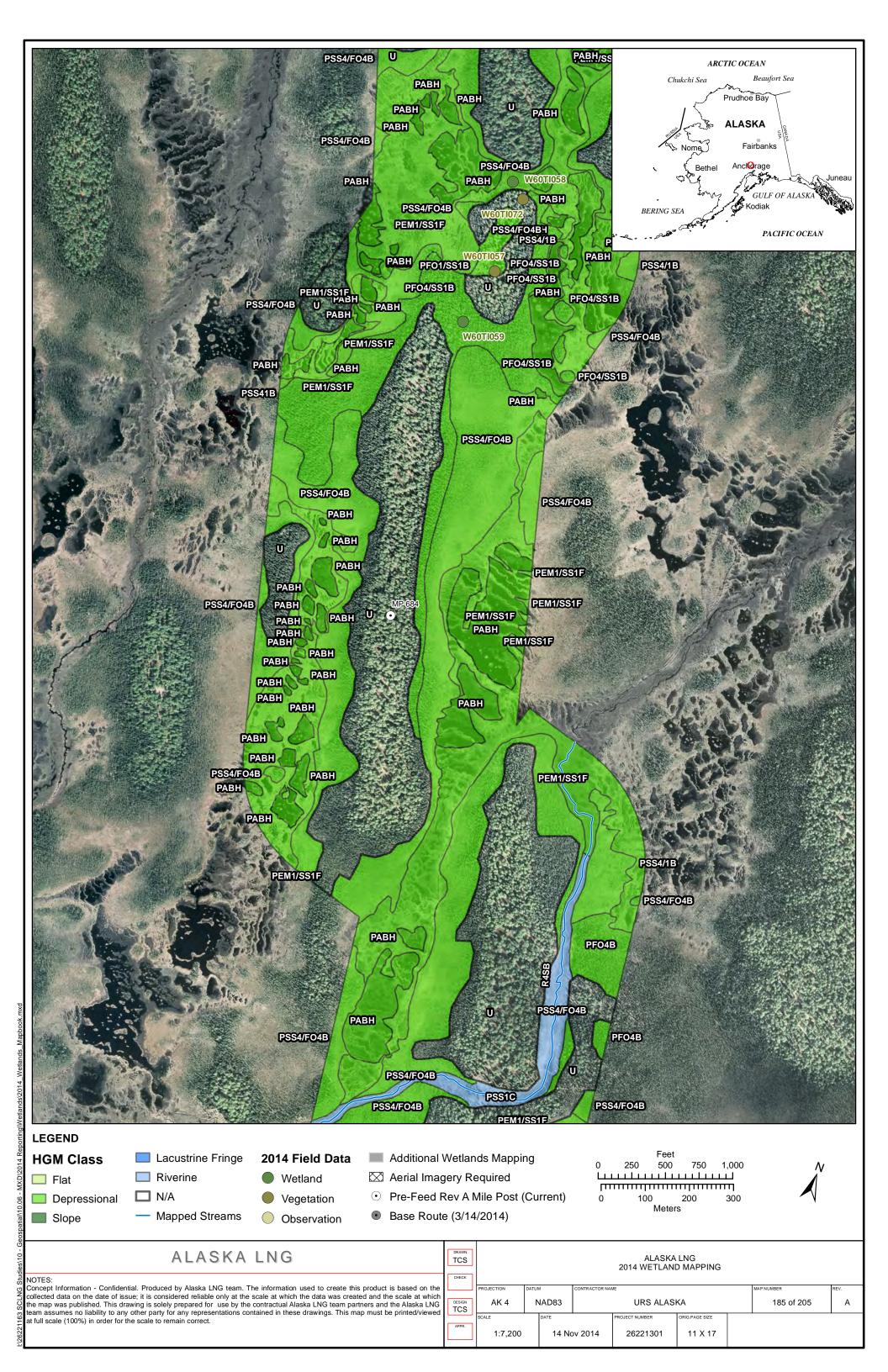
Part 6 of 19 of Appendix G of Resource Report No. 2

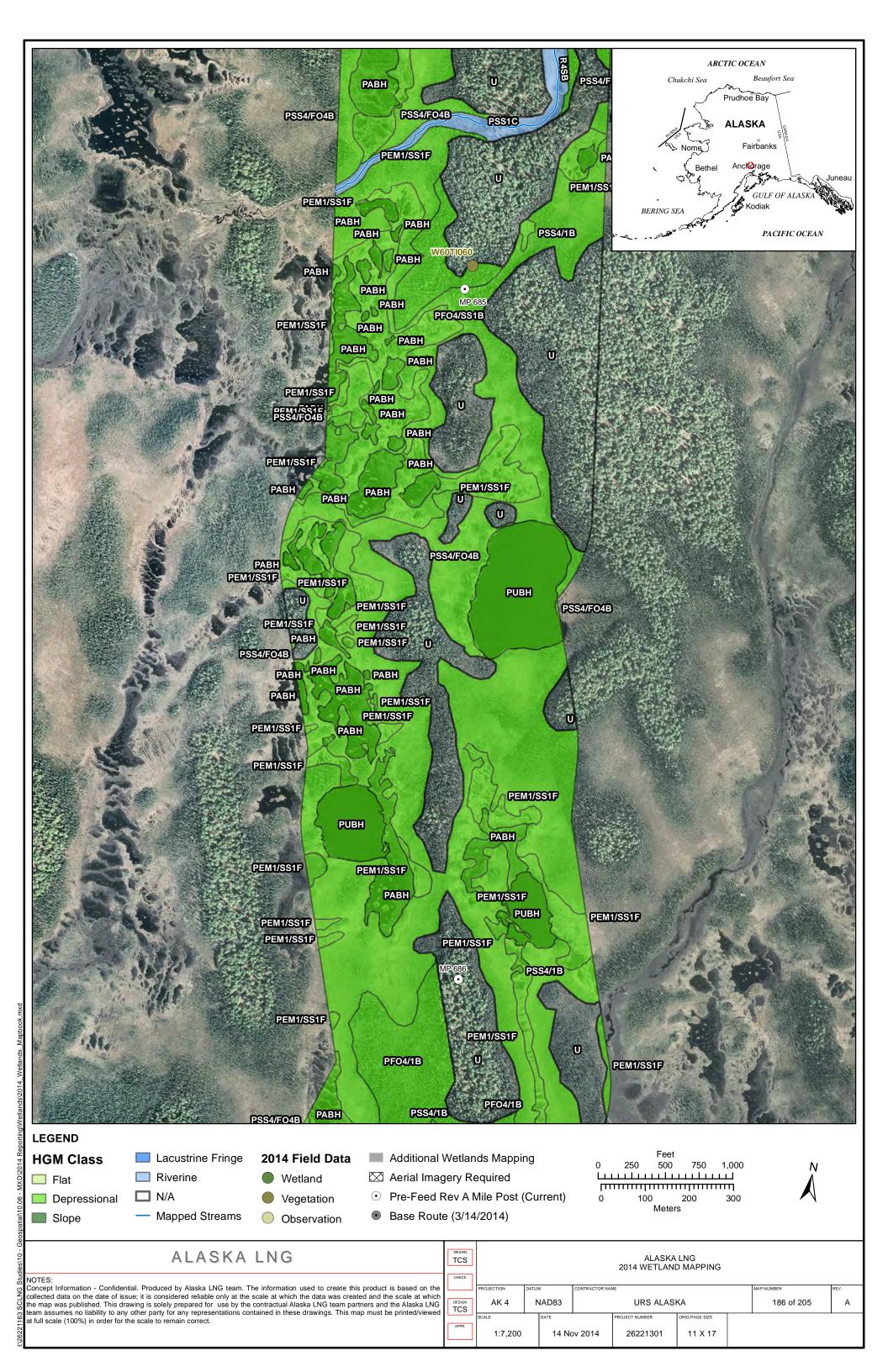




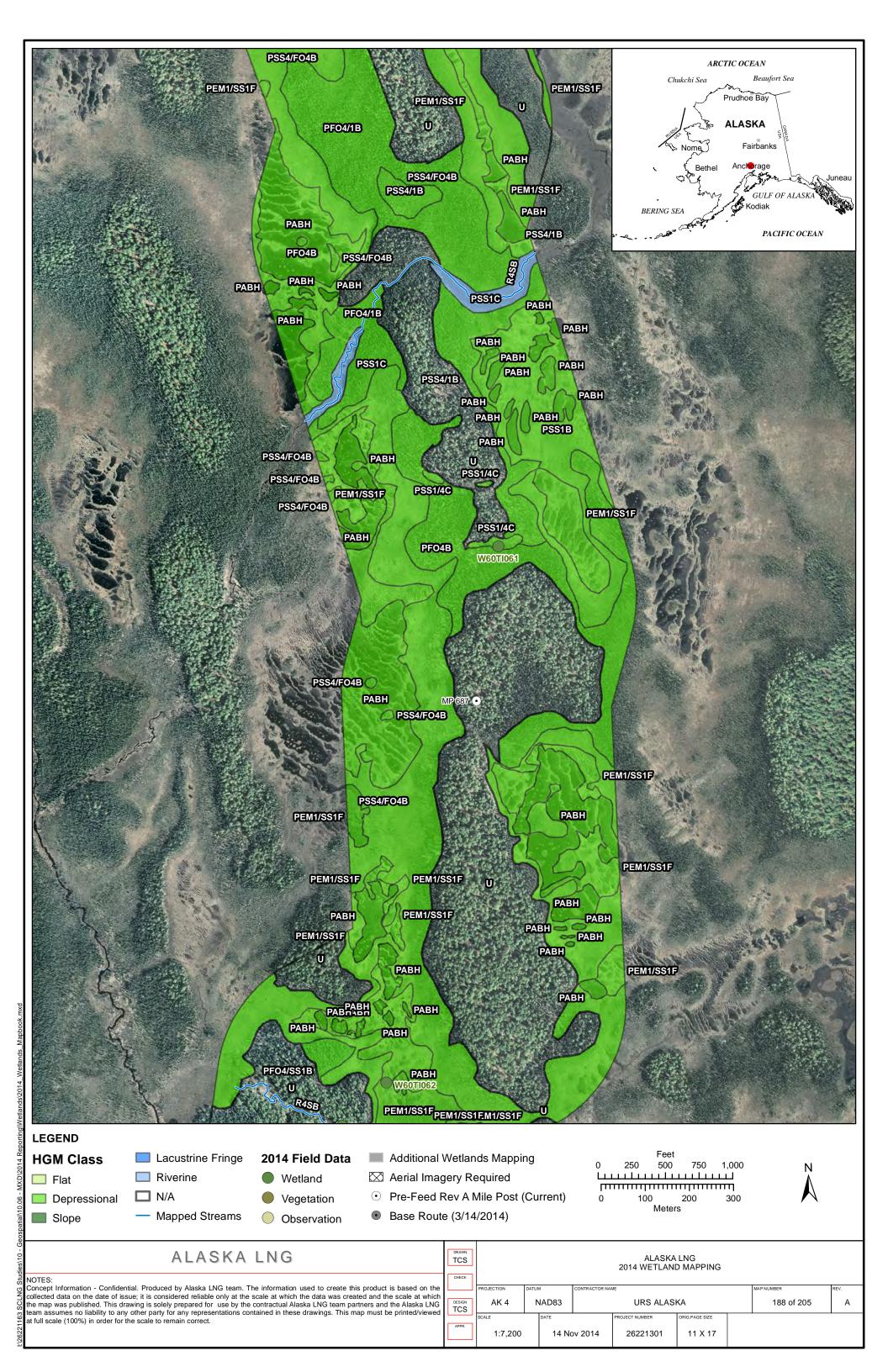




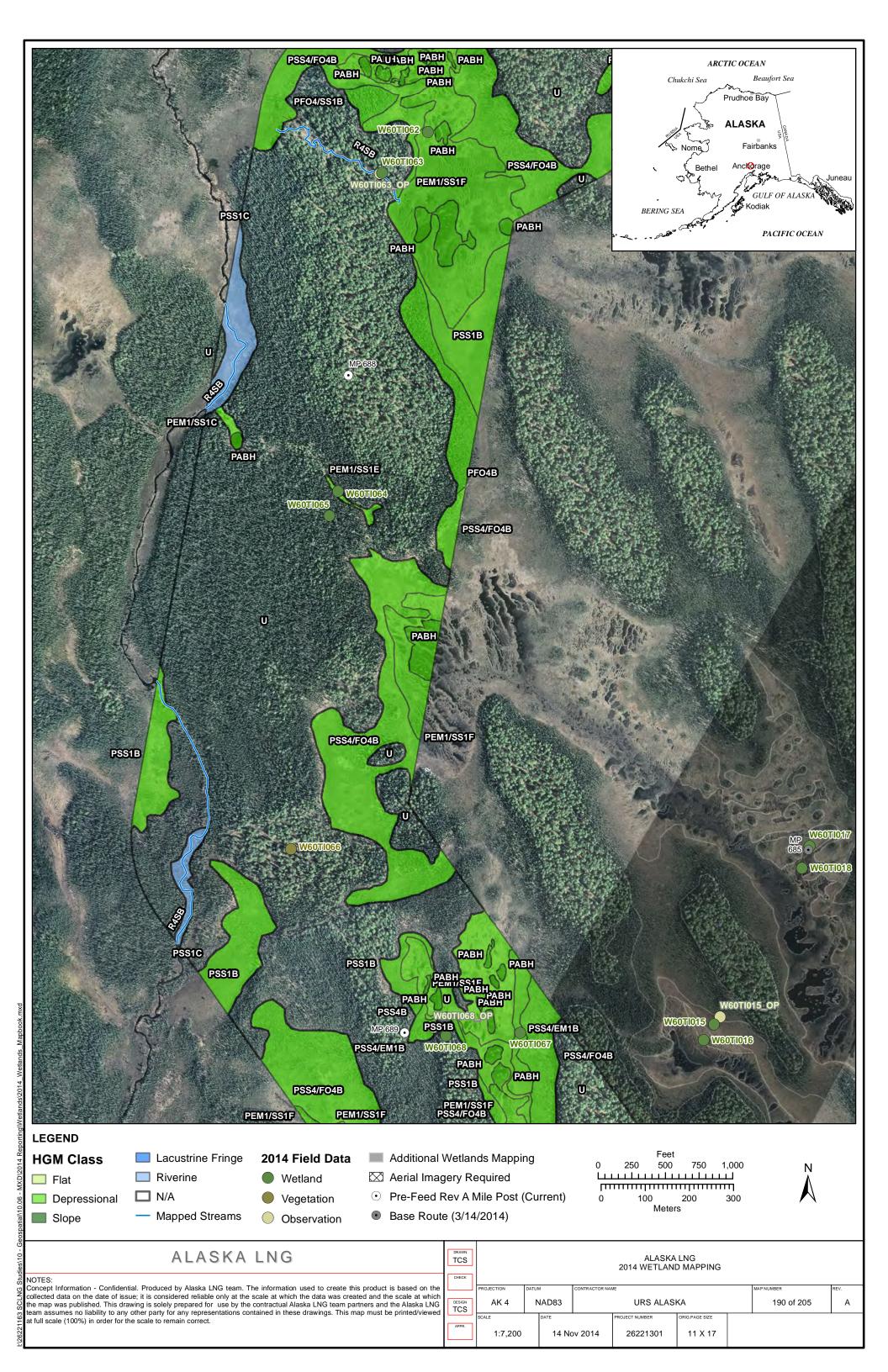


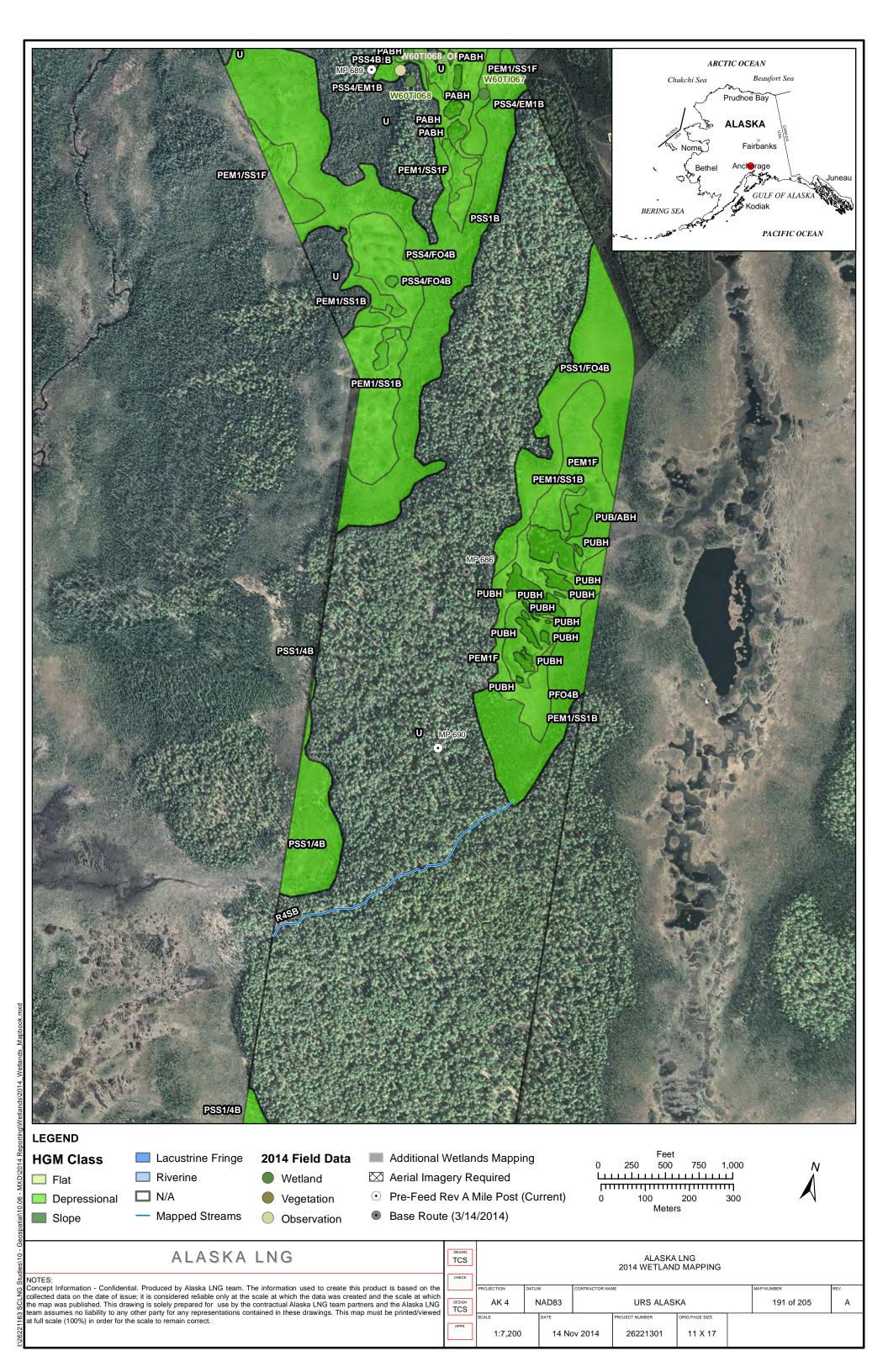


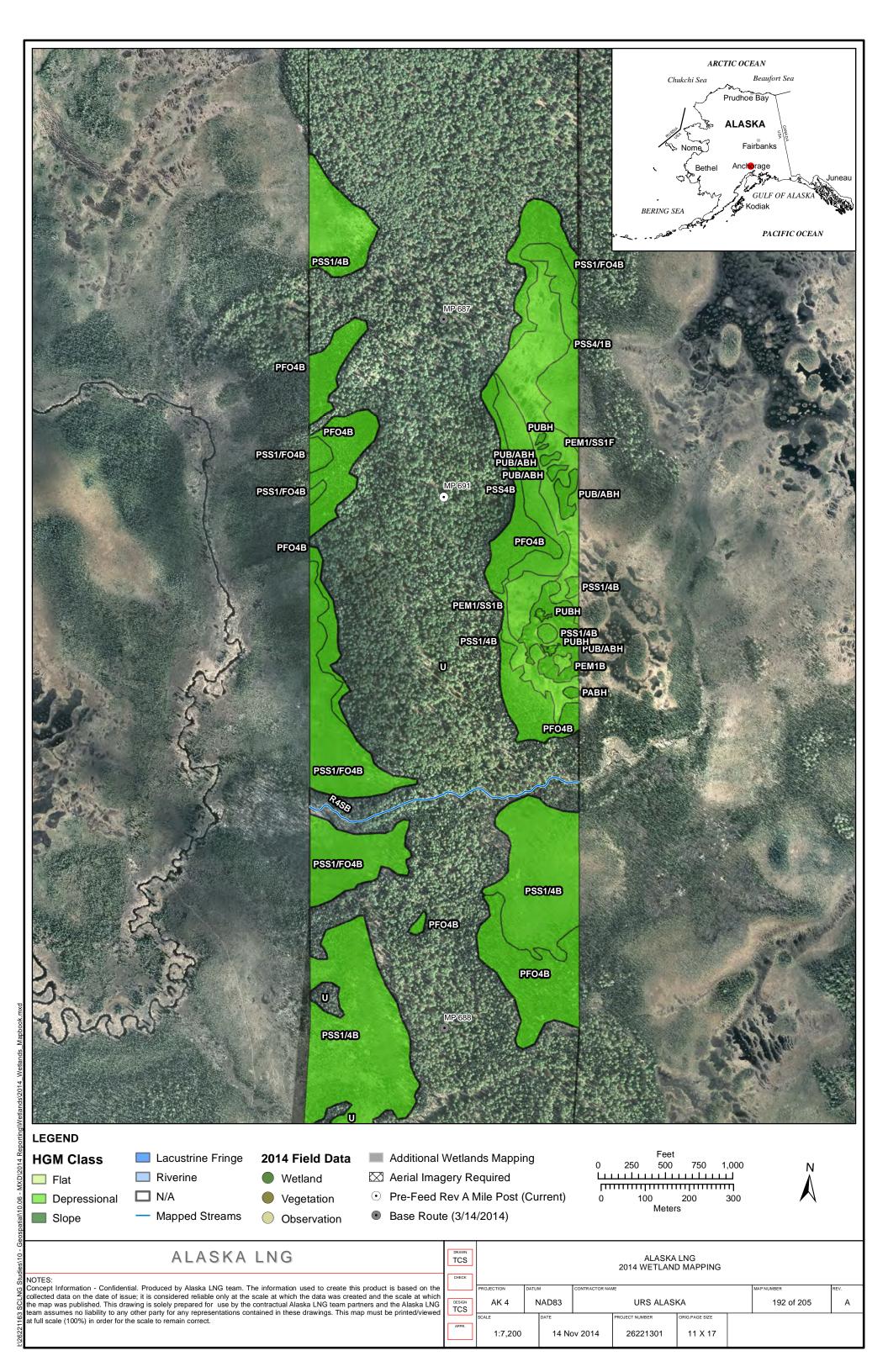




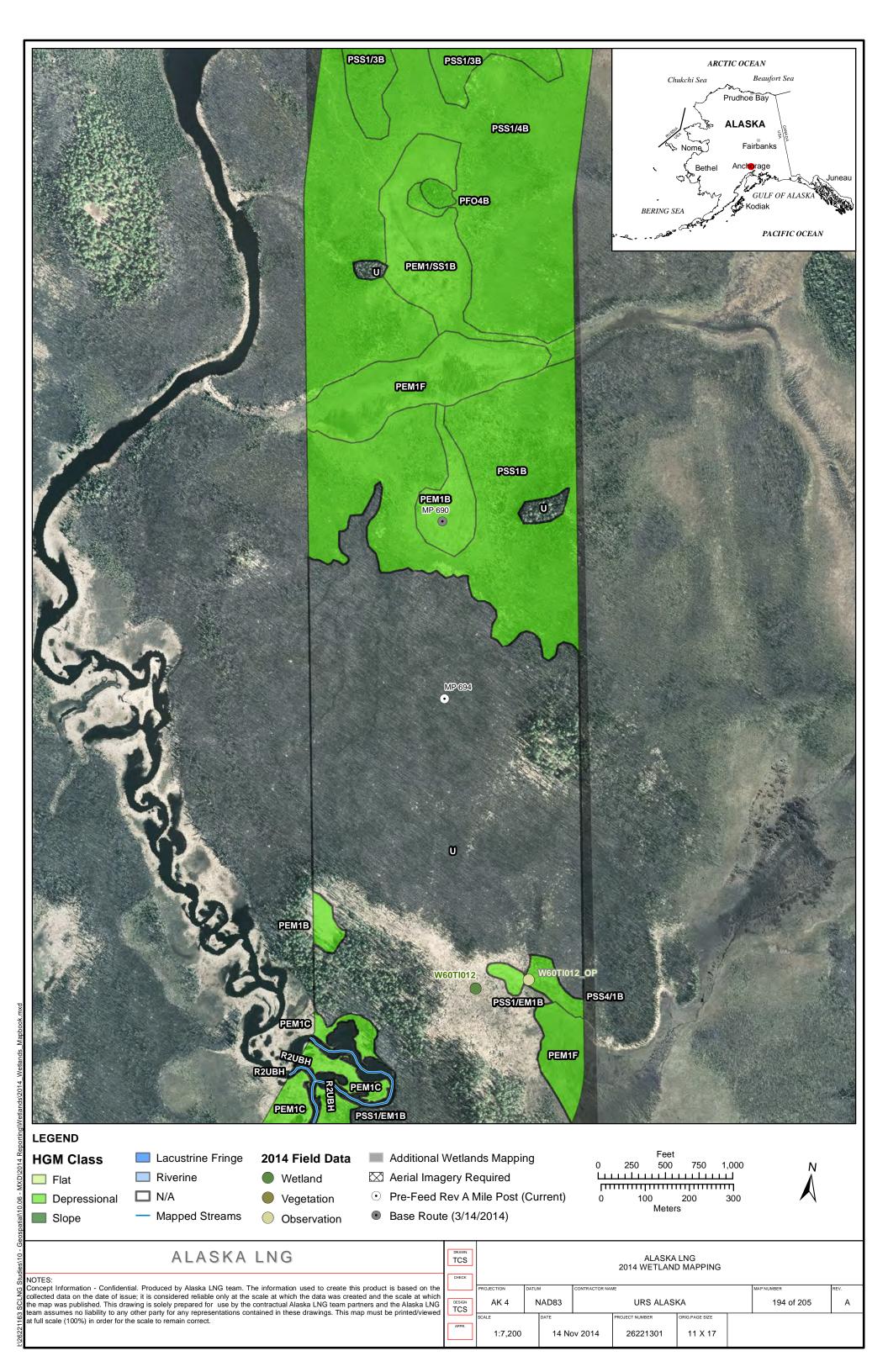


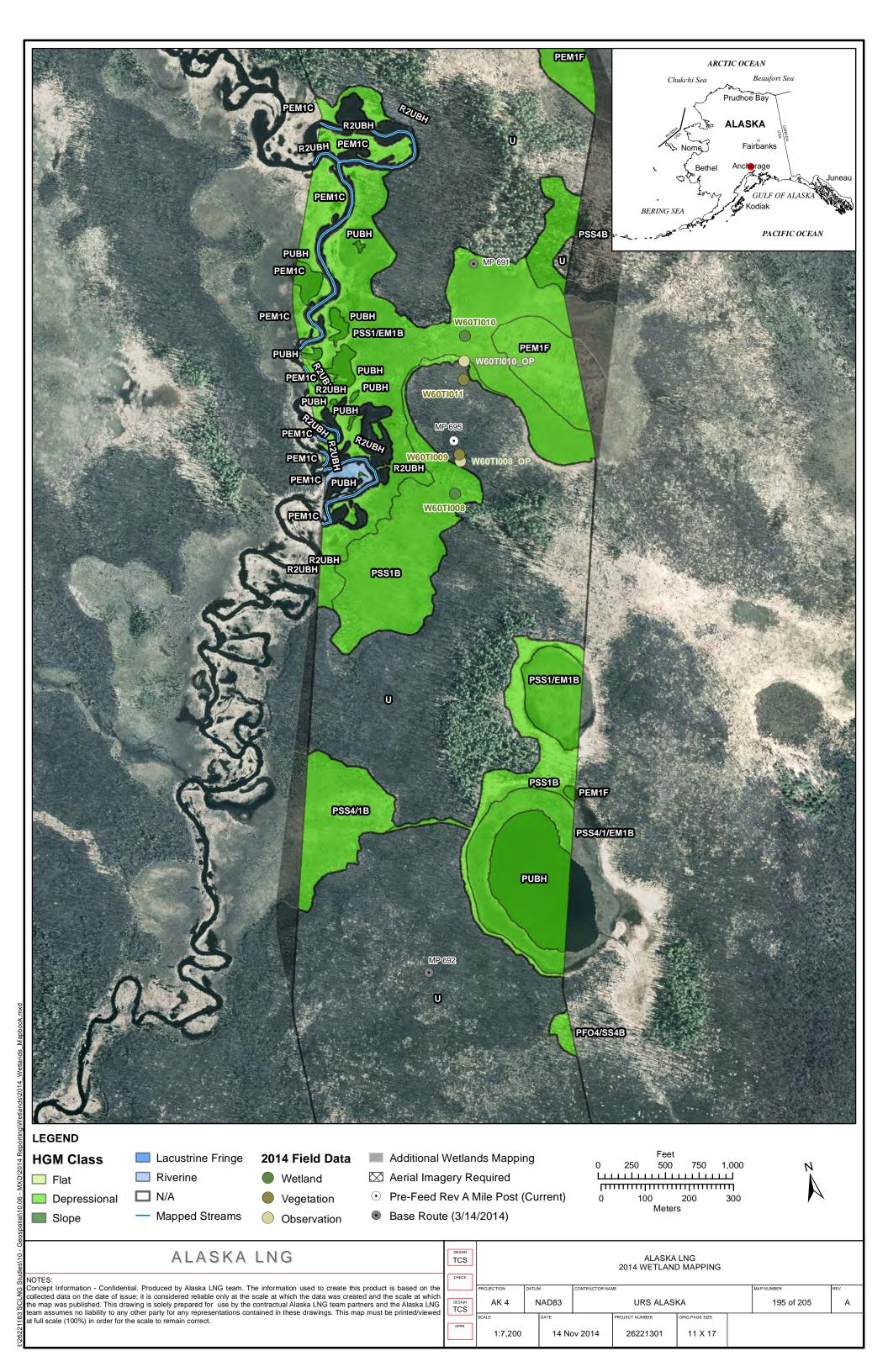


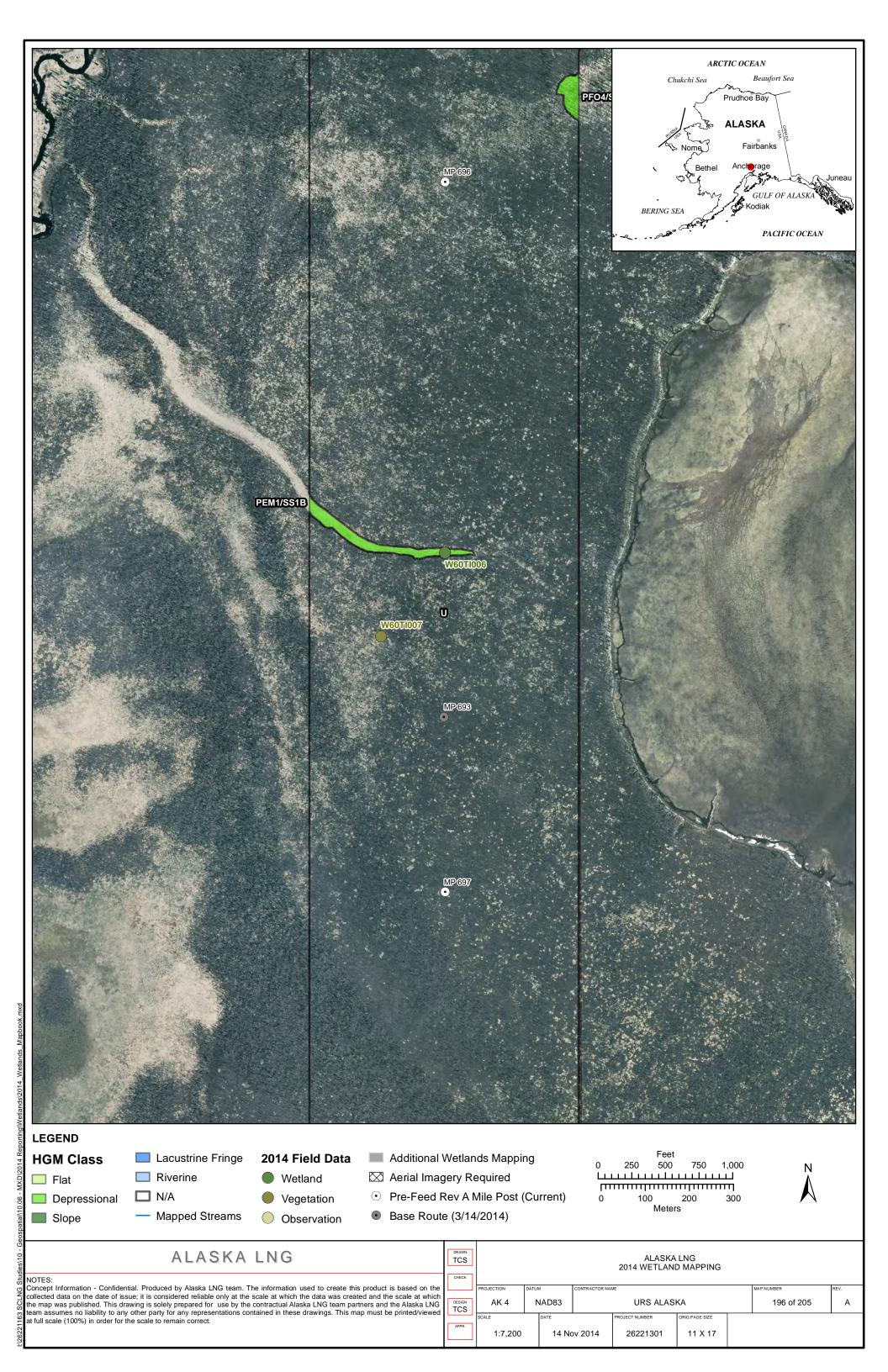


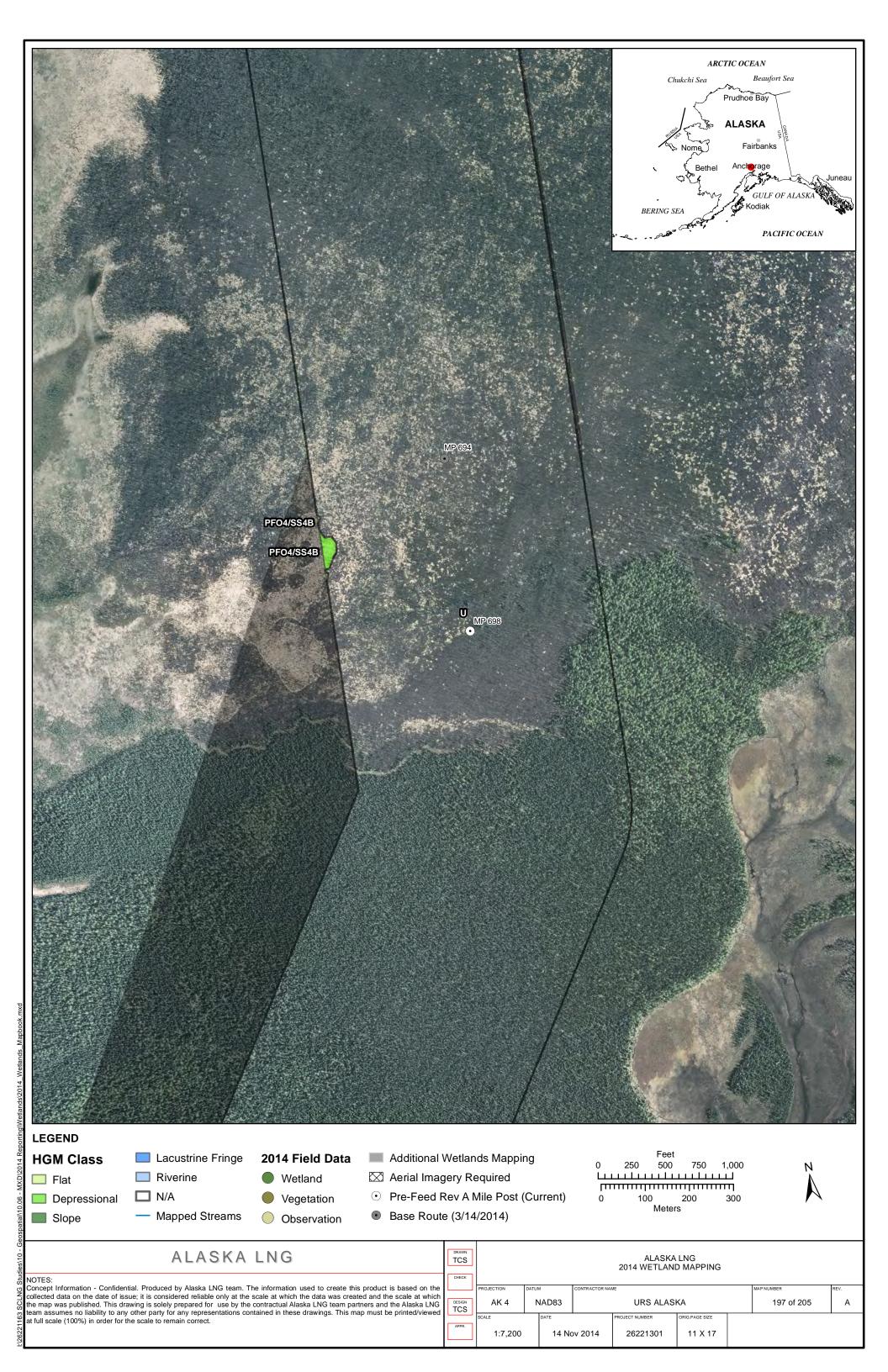


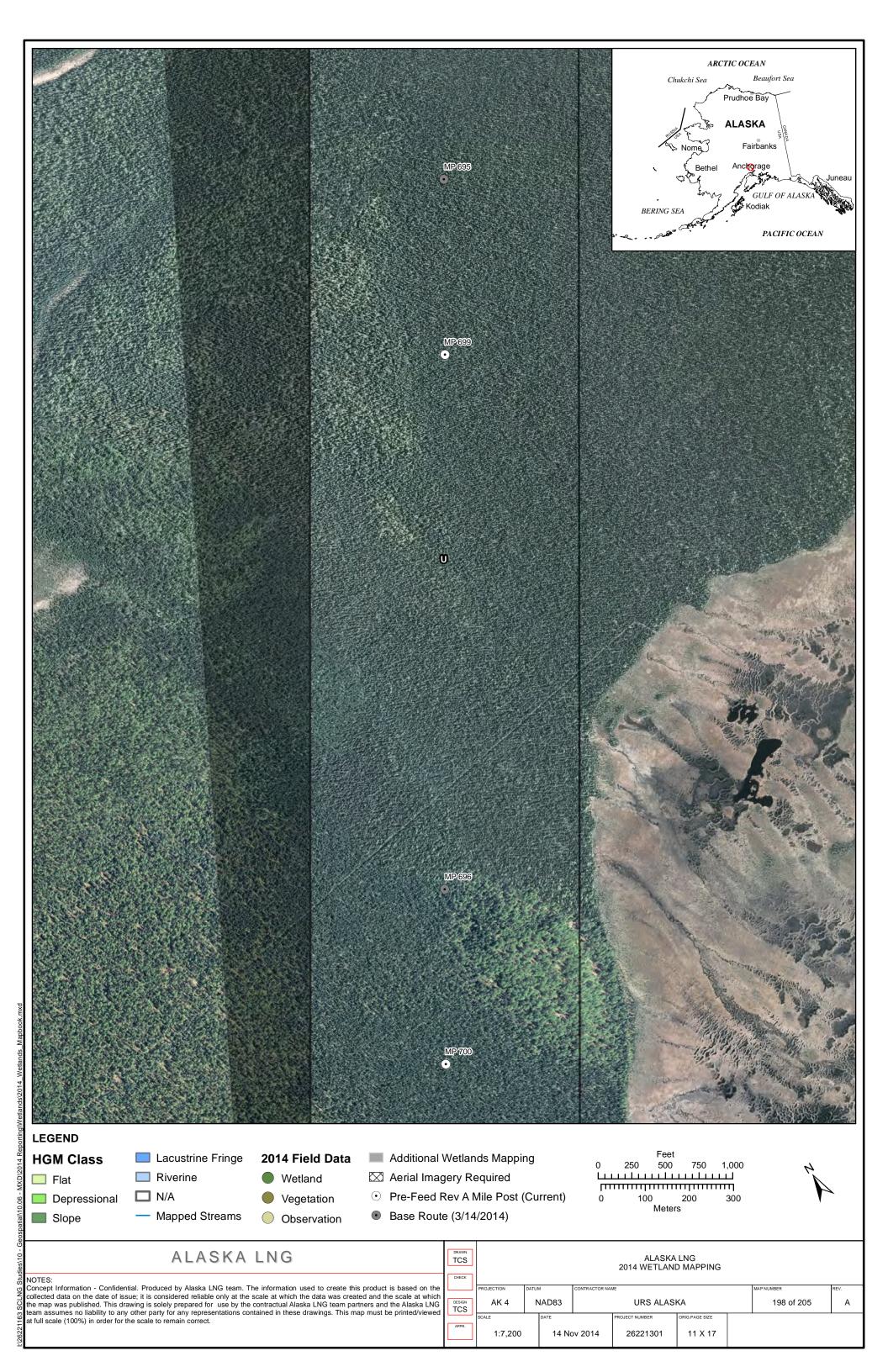


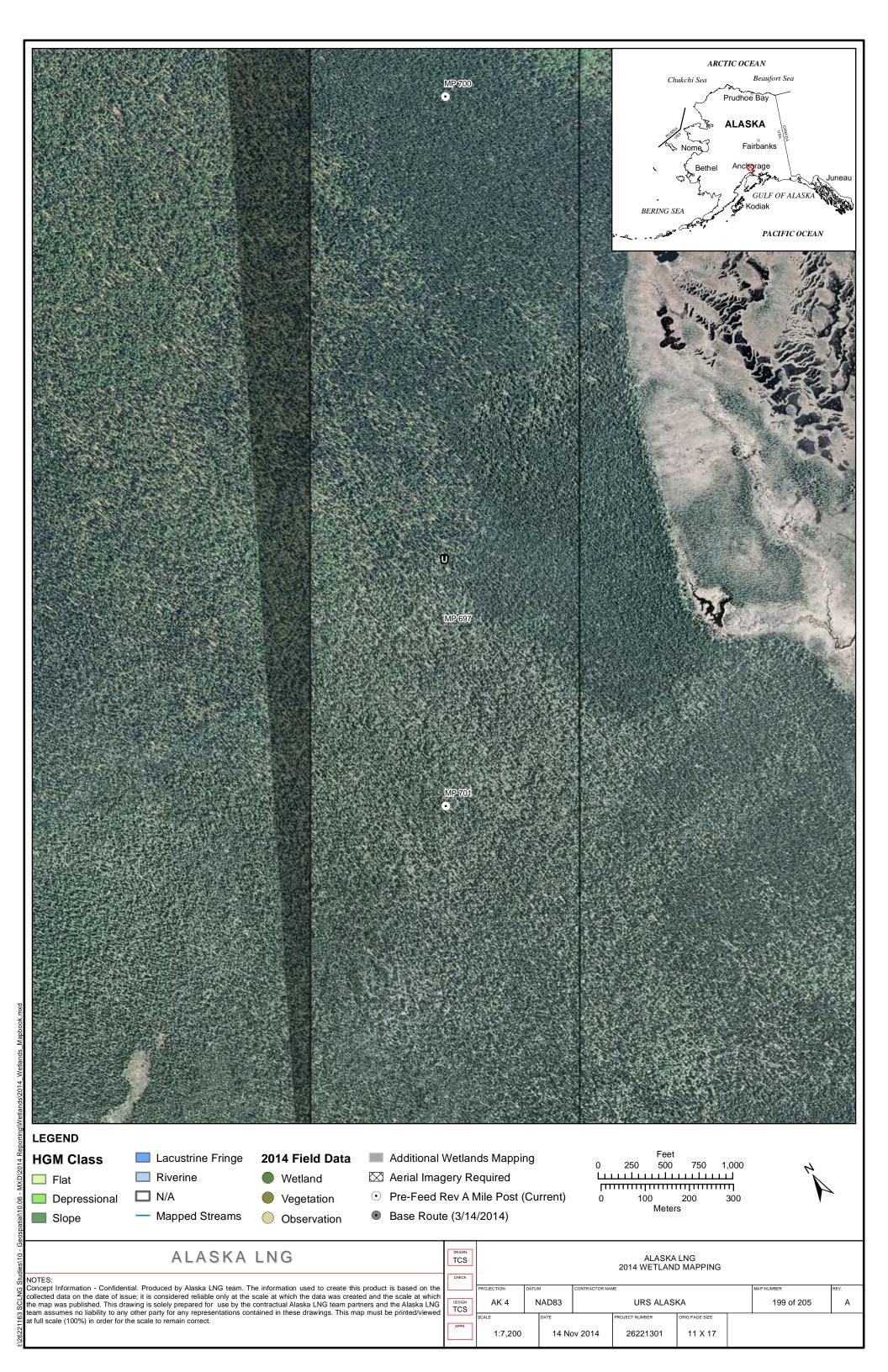


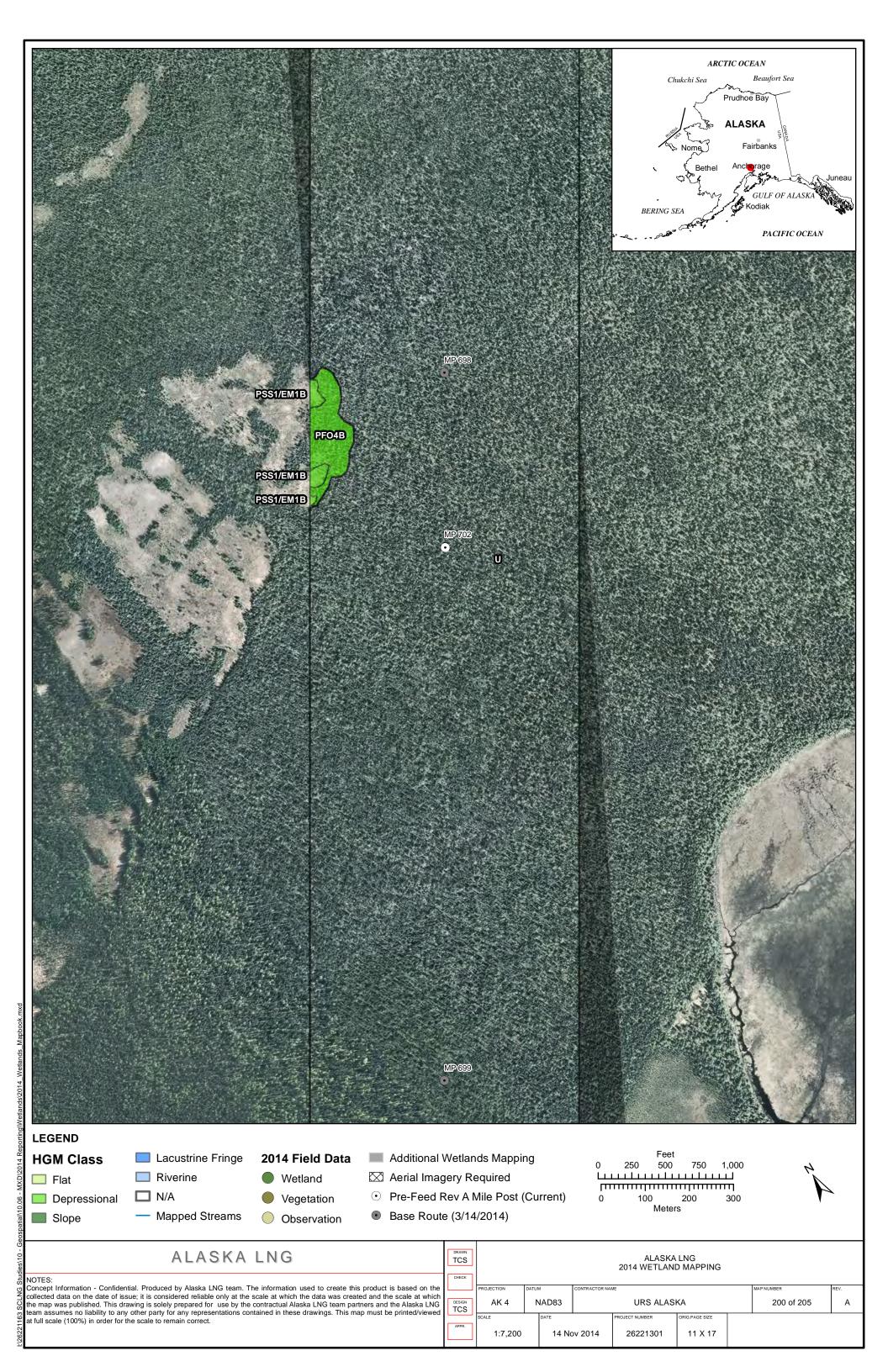


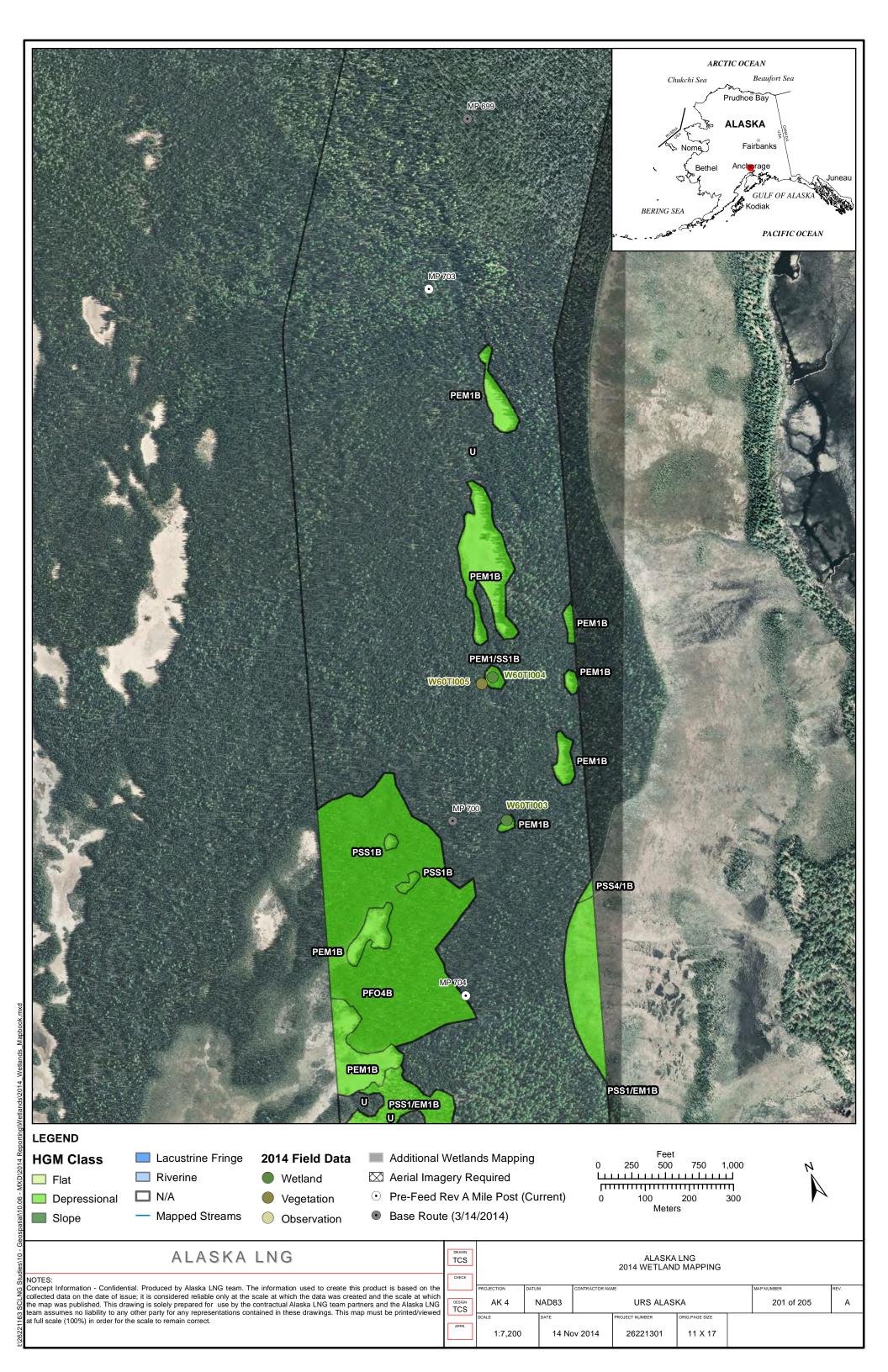


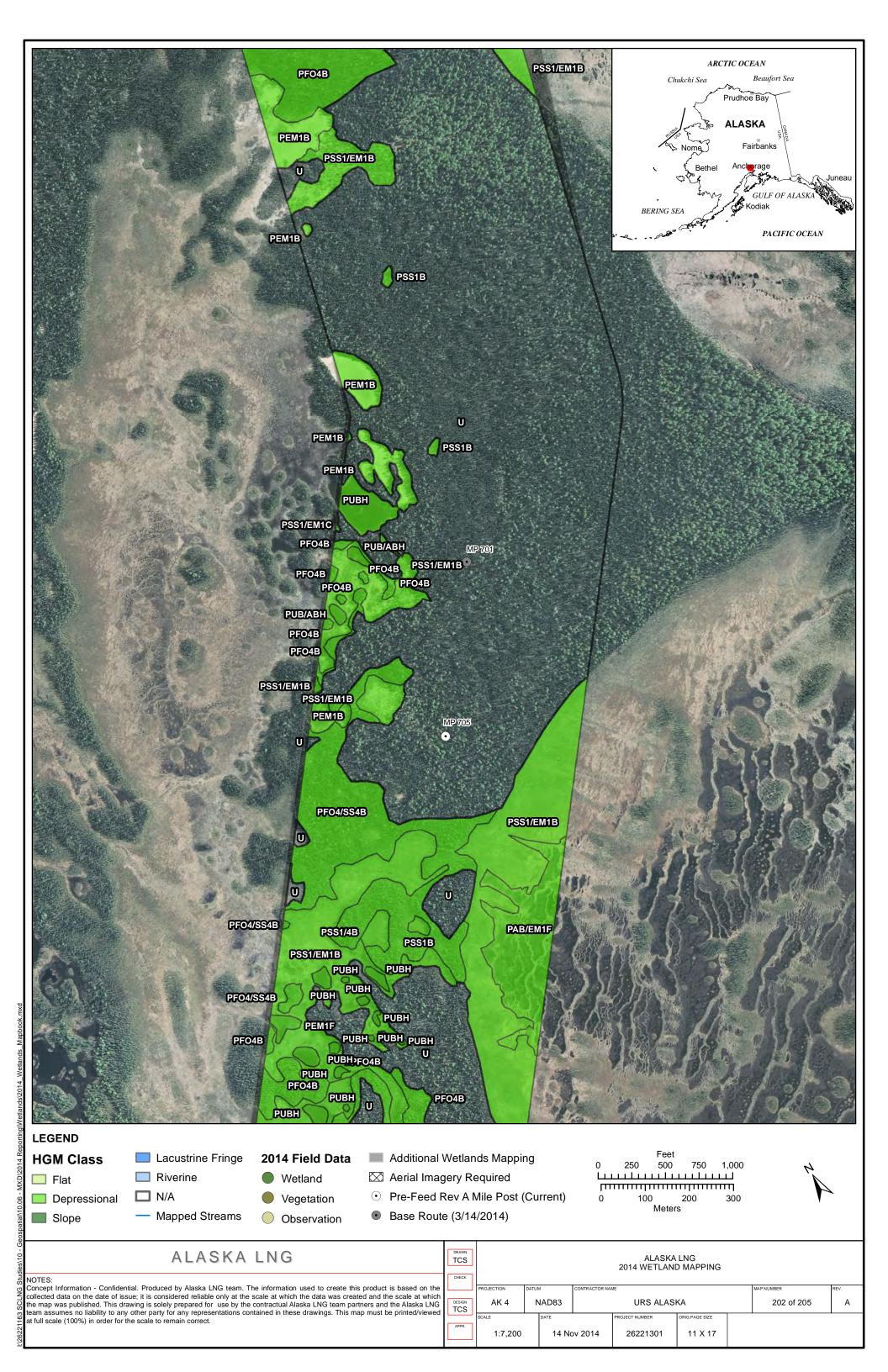


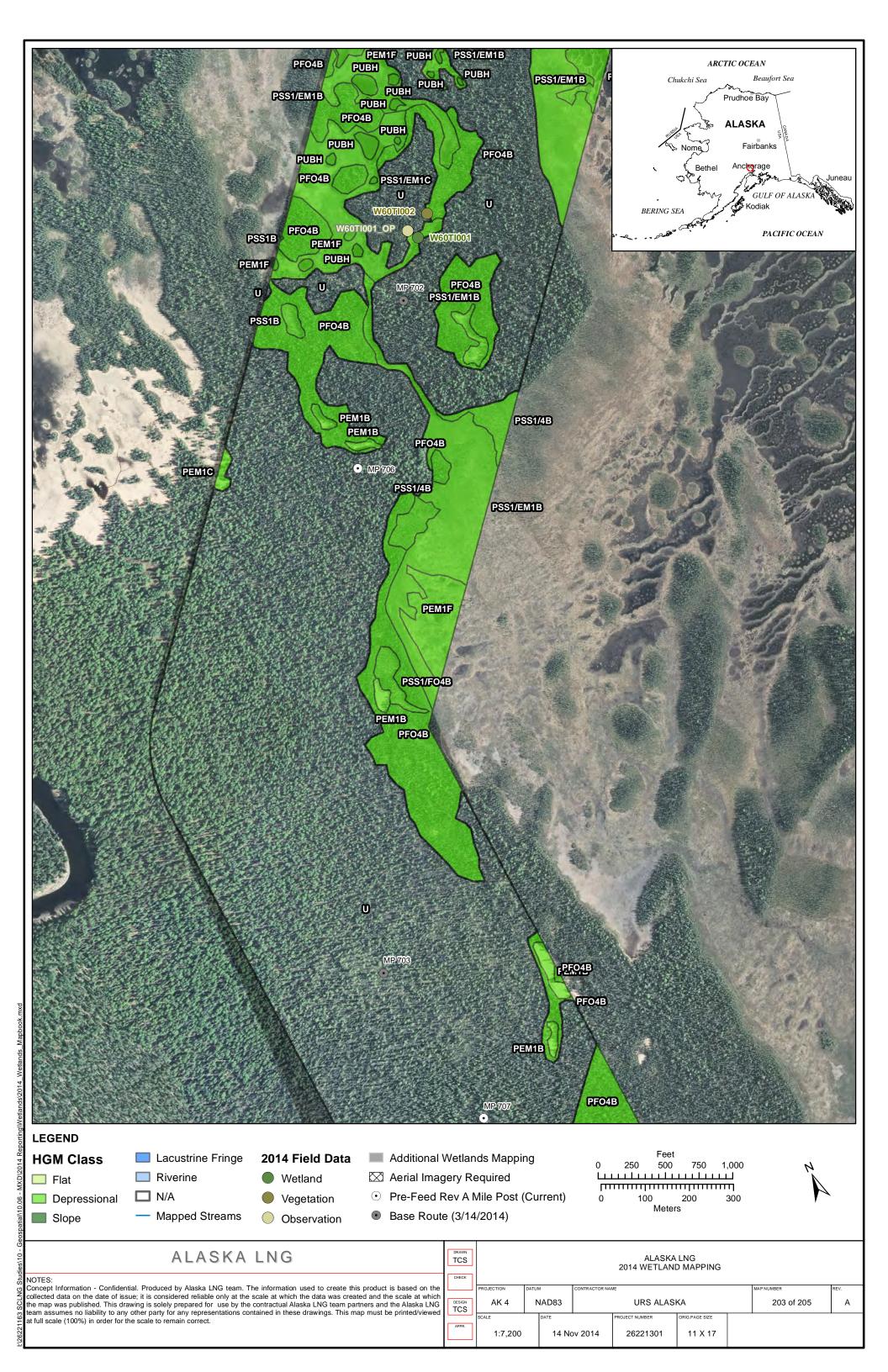




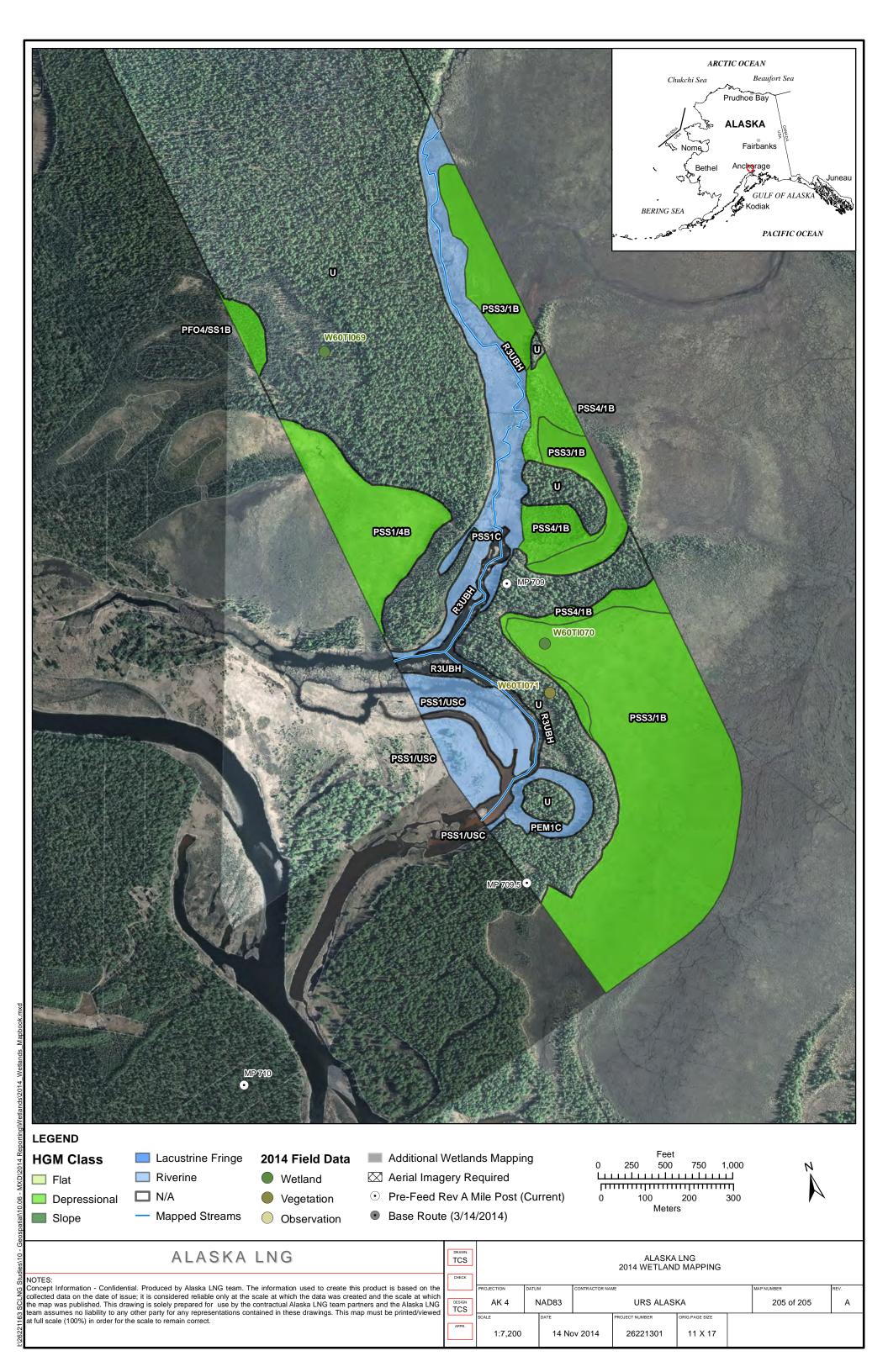














2015 WETLAND FIELD STUDY REPORT

USAI-P1-SRZZZ-00-000002-000 DECEMBER 17, 2015

REVISION: 0

APPENDIX C – 2015 WETLAND FIELD DATA SUMMARY TABLE AND US ARMY CORPS OF ENGINEERS ALASKA DISTRICT WETLAND DETERMINATION FORMS

	Data		Field				HGM	Vogotation
FEATURE ID	Type <sup>1</sup>	SURVEY_DATE	Target #	LATITUDE	LONGITUDE	Cowardin Code	Classification*	Vegetation Classification
W84AY001	WDF	7/1/2015	15225	67.2238	-150.2278	PSS1/4B	FLAT	II C 2, II A 3
W84AY001_OP	OP	7/1/2015	15225	67.2239	-150.2269	PSS4/1B	N/A	II A 2, II C 2
W84AY002	WDF	7/1/2015	15224	67.2231	-150.2286	PEM1/SS1B	FLAT	III A 2, II D 2
W84AY003	WDF	7/1/2015	15222	66.8630	-150.5490	PSS4/EM1B	FLAT	II A 2, III A 2
W84AY004	WDF	7/1/2015	15223	66.8644	-150.5461	PSS4/EM1B	FLAT	II A 2, III A 2
W84AY005	WDF	7/2/2015	15226	67.2328	-150.2005	U	N/A	II C 2, I A 3
W84AY005_OP	OP	7/2/2015	15226	67.2282	-150.2166	U	N/A	IIC2
W84AY006	WDF	7/2/2015	15301	67.1324	-150.3469	PSS1/EM1B	FLAT	II C 2, III A 2
W84AY007	WDF	7/2/2015	15300	66.8365	-150.5984	U	N/A	I A 2, II B 2
W84AY008	WDF	7/3/2015	15262	66.8195	-150.6714	U	N/A	II C 2, III A 2
W84AY009	WDF	7/3/2015	15234	67.5024	-149.8554	PEM1/SS4B	FLAT	II A 3, III A 2, II D 2
W84AY009_OP	OP	7/3/2015	15234	67.5028	-149.8555	U	N/A	I A 3, II C 2
W84AY010	WDF	7/3/2015	15233	67.4831	-149.8649	U	N/A	I A 3, II A 3
W84AY010_OP	OP	7/3/2015	15233	67.4831	-149.8666	PSS1/4B	N/A	II A 3, III A 2
W84AY011	WDF	7/4/2015	15302	67.6773	-149.7302	PSS1/EM1B	SLOPE	II C 2, III A 2
W84AY012	WDF	7/4/2015	15263	67.8882	-149.8239	U	N/A	I A 2, II C 2
W84AY012_OP	OP	7/4/2015	15263	67.8900	-149.8209	U	N/A	IIB2
W84AY013	WDF	7/4/2015	15316	67.5618	-149.8223	U	N/A	II A 3, II C 2
W84AY014	WDF	7/5/2015	15231	67.4659	-149.9518	PSS1/EM1B	FLAT	II C 2, III A 2
W84AY015	WDF	7/5/2015	15232	67.4795	-149.8821	U	N/A	I A 3, II C 2
W84AY016	WDF	7/5/2015	15227	67.2497	-150.1607	PFO4/SS1B	FLAT	I A 2, II C 2
W84AY017	WDF	7/6/2015	15317	68.0751	-149.5684	PSS1B	FLAT	II C 2
W84AY017_OP	OP	7/6/2015	15317	68.0757	-149.5696	U	N/A	II C 2, II B 2
W84AY017_OP2	OP	7/6/2015	15317	68.0748	-149.5673	R4SBA	N/A	NONE
W84AY018	WDF	7/6/2015	15264	68.0799	-149.5753	PSS1/ML1B	FLAT	III C 2
W84AY018_OP	OP	7/6/2015	15264	68.0796	-149.5751	R3UBH	N/A	NONE
W84AY019	WDF	7/12/2015	15228	67.4428	-150.0629	U	N/A	II A 3, II C 2

	Data		Field				HGM	Vegetation
FEATURE ID	Type <sup>1</sup>	SURVEY_DATE	Target #	LATITUDE	LONGITUDE	Cowardin Code	Classification*	Classification
W84AY020	WDF	7/12/2015	15230	67.4534	-150.0460	U	N/A	I A 3, II D 1
W84AY020_OP	OP	7/12/2015	15230	67.4532	-150.0449	U	N/A	II A 3, II D 3
W84AY021	WDF	7/12/2015	15229	67.4536	-150.0416	U	N/A	II A 3, II C 2
W84AY022	WDF	7/12/2015	15218	66.8118	-150.6317	PSS1/EM1C	FLAT	II C 2, III A 3
W84AY023	WDF	7/13/2015	15219	66.8180	-150.6209	PSS1/EM1E	SLOPE	II C 2, III A 2
W84AY024	WDF	7/13/2015	15220	66.8215	-150.6146	PSS1/EM1B	FLAT	II C 2, III A 2
W84AY025	WDF	7/13/2015	15221	66.8214	-150.6200	PSS1/EM1B	FLAT	II C 2, III A 2
W84AY026	WDF	7/14/2015	15261	66.5821	-150.7569	U	N/A	II C 2, III A 2
W84AY027	WDF	7/14/2015	15260	66.1408	-150.1762	U	N/A	II C 2
W84AY028	WDF	7/14/2015	15315	66.0819	-150.1721	PSS3/4B	FLAT	IID2,IIA3
W84AY029	WDF	7/15/2015	15215	66.0760	-150.1770	PSS1/EM1B	FLAT	II C 2, III A 2
W84AY030	WDF	7/15/2015	15216	66.0756	-150.1759	U	N/A	II C 2
W84AY031	WDF	7/15/2015	15217	66.0830	-150.1804	PEM1/SS1B	FLAT	III A 2, II D 2
W84HT001	WDF	8/3/2015	15096	63.6813	-148.7706	PSS1/4B	FLAT	II C 2, II A 3
W84HT001_OP	OP	8/3/2015	15096	63.6808	-148.7685	U	N/A	I A 2, II C 2
W84HT001_OP2	OP	8/3/2015	15096	63.6818	-148.7716	R3USC/PSS1A	N/A	IIB2, IIC2
W84HT002	WDF	8/3/2015	15098	63.6702	-148.7626	U	N/A	I A 3, II C 2
W84HT002_OP	OP	8/3/2015	15098	63.6700	-148.7589	PEM1F	N/A	III A 3
W84HT002_OP2	OP	8/3/2015	15098	63.6690	-148.7600	PSS1/FO4B	N/A	I A 3, II C 2
W84HT003	WDF	8/3/2015	15083	63.2128	-149.3269	U	N/A	I C 2
W84HT003_OP	OP	8/3/2015	15083	63.2127	-149.3274	PUB/USF	N/A	NONE
W84HT004	WDF	8/3/2015	15082	63.2146	-149.3287	PSS1/EM1Cb	RIVERINE	II B 2, III A 2
W84HT005	WDF	8/4/2015	15110	63.8306	-149.0410	PSS1/EM1C	SLOPE	IIB2, IIC2
W84HT006	WDF	8/4/2015	15111	63.8305	-149.0402	PSS1/EM1B	FLAT	II C 2, III A 2
W84HT007	WDF	8/5/2015	15081	63.1783	-149.3613	PSS1/FO4B	SLOPE	II B 2, I A 3
W84HT007_OP	OP	8/5/2015	15081	63.1782	-149.3636	PEM1/SS1B	N/A	III A 3, II D 2
W84HT007_OP2	OP	8/5/2015	15081	63.1785	-149.3583	PEM1/ML2E	N/A	III A 3

	Data		Field				HGM	Vegetation
FEATURE ID	Type <sup>1</sup>	SURVEY_DATE	Target #	LATITUDE	LONGITUDE	Cowardin Code	Classification*	Classification
W84HT008	WDF	8/5/2015	15079	63.1724	-149.3606	PSS1A	RIVERINE	IIB2
W84HT009	WDF	8/5/2015	15080	63.1730	-149.3603	U	N/A	I C 2, II B 2
W84HT009_OP	OP	8/5/2015	15080	63.1731	-149.3604	PSS1/EM1B	N/A	II B 2, III A 2
W84HT010	WDF	8/6/2015	15085	63.2183	-149.3323	U	N/A	III A 1
W84HT010_OP	OP	8/6/2015	15085	63.2186	-149.3313	U	N/A	III A 1
W84HT011	WDF	8/6/2015	15099	63.6956	-148.7843	PSS1/EM1B	SLOPE	II C 2, III A 2
W84HT011_OP	OP	8/6/2015	15099	63.6960	-148.7834	U	N/A	I A 2, II C 2
W84HT012	WDF	8/6/2015	15095	63.6905	-148.7791	PSS4/1B	SLOPE	II A 2, II C 2
W84HT012_OP	OP	8/6/2015	15095	63.6925	-148.7783	R4SBC	N/A	NONE
W84HT012_OP2	OP	8/6/2015	15095	63.6904	-148.7778	U	N/A	I A 2, II C 2
W84HT013	WDF	8/6/2015	15294	63.6885	-148.7744	PSS1/4C	SLOPE	II C 2, II A 3
W84HT013_OP	OP	8/6/2015	15294	63.6888	-148.7750	PSS4/1C	N/A	II A 2, II B 2
W84HT014	WDF	8/7/2015	15109	63.8305	-149.0340	U	N/A	I A 2, II B 2
W84HT014_OP	OP	8/7/2015	15109	63.8303	-149.0334	PSS4/FO4B	N/A	II A 2, I A 2
W84HT015	WDF	8/7/2015	15108	63.8304	-149.0280	PSS4/1B	SLOPE	II A 2, II C 2
W84HT015_OP	OP	8/7/2015	15108	63.8305	-149.0297	U	N/A	I A 2, II C 2
W84HT015_OP2	OP	8/7/2015	15108	63.8303	-149.0272	U	N/A	I A 2, II B 2
W84HT016	WDF	8/7/2015	15094	63.7081	-148.8204	PSS4/1B	SLOPE	II A 2, II C 2
W84HT016_OP	OP	8/7/2015	15094	63.7073	-148.8186	R3UBH	N/A	NONE
W84HT017	WDF	8/7/2015	15100	63.7043	-148.8165	U	N/A	I A 3, II C 2
W84HT017_OP	OP	8/7/2015	15100	63.7060	-148.8173	U	N/A	I A 2, II C 2
W84HT017_OP2	OP	8/7/2015	15100	63.7040	-148.8171	PEM1C	N/A	III A 3
W84HT018	WDF	8/9/2015	15113	63.8578	-149.0694	U	N/A	I A 2, II C 2
W84HT018_OP	OP	8/9/2015	15113	63.8583	-149.0680	PSS4/1B	N/A	II A 2, II C 2
W84HT018_OP2	OP	8/9/2015	15113	63.8579	-149.0705	PSS4/FO4B	N/A	II A 2, II C 2
W84HT019	WDF	8/9/2015	15114	63.8591	-149.0713	U	N/A	I A 2, II C 2
W84HT019_OP	OP	8/9/2015	15114	63.8597	-149.0717	PSS4/1B	N/A	II A 2, II C 2

	Data		Field				HGM	Vegetation
FEATURE ID	Type <sup>1</sup>	SURVEY_DATE	Target #	LATITUDE	LONGITUDE	Cowardin Code	Classification*	Classification
W84HT020	WDF	8/9/2015	15115	63.8699	-149.0800	U	N/A	I A 2, II C 2
W84HT021	WDF	8/9/2015	15116	63.8705	-149.0802	U	N/A	I A 2, II C 2
W84HT022	WDF	8/10/2015	15280	62.7210	-150.1912	U	N/A	I C 3, II B 1
W84HT022_OP	OP	8/10/2015	15280	62.7195	-150.1971	U	N/A	I B 3, II B 1
W84HT023	WDF	8/10/2015	15281	62.8786	-149.8061	PEM1/SS1Eb	RIVERINE	III A 2, II C 2
W84HT023_OP	OP	8/10/2015	15281	62.8781	-149.8068	PFO4/SS1B	N/A	I A 2, II B 2
W84HT024	WDF	8/11/2015	15102	63.7236	-148.8596	U	N/A	IIB2
W84HT025	WDF	8/11/2015	15103	63.7245	-148.8600	PFO4/SS1B	SLOPE	I A 2, II C 2
W84HT025_OP	OP	8/11/2015	15103	63.7245	-148.8596	U	N/A	I A 2
W84HT026	WDF	8/11/2015	15101	63.7189	-148.8513	U	N/A	I A 2, II C 2
W84HT026_OP	OP	8/11/2015	15101	63.7187	-148.8512	PSS4/1B	SLOPE	II A 2, II C 2
W84HT027	WDF	8/20/2015	15089	63.3922	-148.8814	PSS1/EM1B	SLOPE	II C 2, III A 2
W84HT028	WDF	8/20/2015	15283	63.0014	-149.5604	U	N/A	II C 2, II B 2
W84HT028_OP	OP	8/20/2015	15283	63.0009	-149.5603	U	N/A	II C 2
W84HT029	WDF	8/21/2015	15288	63.0315	-149.5520	PEM1/SS1C	SLOPE	III A 3, II C 2
W84HT029_OP	OP	8/21/2015	15288	63.0314	-149.5512	U	N/A	IB1
W84HT030	WDF	8/21/2015	15289	63.0311	-149.5484	U	N/A	IIB1
W84HT030_OP	OP	8/21/2015	15289	63.0313	-149.5487	PSS1C	N/A	II B 1
W84HT031	WDF	8/21/2015	15067	63.0711	-149.4821	U	N/A	I C 3, II B 2
W84HT031_OP	OP	8/21/2015	15067	63.0715	-149.4819	R4SBC	N/A	NONE
W84HT032	WDF	8/21/2015	15068	63.0722	-149.4816	U	N/A	I A 2
W84HT033	WDF	8/22/2015	15073	63.1239	-149.4331	U	N/A	II B 1, I A 3
W84HT033_OP	OP	8/22/2015	15073	63.1247	-149.4271	PSS1B	N/A	II B 2, I A 3
W84HT034	WDF	8/22/2015	15074	63.1261	-149.4306	U	N/A	I A 3, II C 2
W84HT034_OP	OP	8/22/2015	15074	63.1248	-149.4333	U	N/A	II B 2, I A 3
W84HT034_OP2	OP	8/22/2015	15074	63.1262	-149.4319	PSS1/FO4B	N/A	II B 2, I A 3
W84HT035	WDF	8/22/2015	15075	63.1286	-149.4286	PSS1B	SLOPE	IIB1

	Data		Field				HGM	Vegetation
FEATURE ID	Type <sup>1</sup>	SURVEY_DATE	Target #	LATITUDE	LONGITUDE	Cowardin Code	Classification*	Classification
W84HT036	WDF	8/22/2015	15284	63.0016	-149.5618	U	N/A	III A 2
W84HT036_OP	OP	8/22/2015	15284	63.0011	-149.5585	PSS1B	N/A	II C 2
W84HT037	WDF	8/23/2015	15084	63.2069	-149.3331	PSS1C	SLOPE	II B 1
W84HT038	WDF	8/23/2015	15286	63.0077	-149.5856	PEM1/SS1E	SLOPE	III A 3, II D 2
W84HT039	WDF	8/23/2015	15287	63.0074	-149.5837	PSS1B	SLOPE	II B 1
W84HT039_OP	OP	8/23/2015	15287	63.0075	-149.5839	PSS1C	N/A	II B 1
W84HT039_OP2	OP	8/23/2015	15287	63.0082	-149.5871	PSS1B	N/A	IIB1
W84HT040	WDF	8/23/2015	15285	63.0088	-149.5889	U	N/A	II C 1
W84HT041	WDF	8/24/2015	15104	63.7726	-148.9079	PSS1/4B	SLOPE	II A 3, II C 2
W84HT042	WDF	8/24/2015	15291	63.1185	-149.4594	PEM1B	FLAT	III A 2
W84HT042_OP	OP	8/24/2015	15291	63.1184	-149.4590	PSS1B	FLAT	IIB1
W84HT043	WDF	8/24/2015	15282	62.7933	-149.9894	U	N/A	I C 2, II B 2
W84HT043_OP	OP	8/24/2015	15282	62.7919	-149.9877	PSS1/EM1B	N/A	II C 2, III A 3
W84LH001	WDF	7/18/2015	15148	64.4402	-149.2300	PEM1E	DEPRESSIONAL	III A 3
W84LH002	WDF	7/18/2015	15147	64.4394	-149.2305	PSS1/EM1C	FLAT	II B 2, III A 3
W84LH003	WDF	7/18/2015	15146	64.4373	-149.2313	PFO1/SS1B	FLAT	I B 2, II B 2
W84LH004	WDF	7/19/2015	15131	64.2532	-149.3031	PEM1C	DEPRESSIONAL	III A 2
W84LH004_OP	OP	7/19/2015	15131	64.2566	-149.3007	PSS1/EM1B	N/A	II C 2, III A 2
W84LH004_OP2	OP	7/19/2015	15131	64.2533	-149.3035	U	N/A	IIB1
W84LH005	WDF	7/19/2015	15130	64.2516	-149.3036	PSS1/EM1B	FLAT	II C 2, III A 2
W84LH005_OP	OP	7/19/2015	15130	64.2544	-149.3014	U	N/A	IIB2
W84LH006	WDF	7/19/2015	15129	64.2506	-149.3044	PSS3/1B	FLAT	IID2, IIC2
W84LH007	WDF	7/20/2015	15143	64.4086	-149.2569	U	N/A	I C 3, II B 2
W84LH007_OP	OP	7/20/2015	15143	64.4090	-149.2530	U	N/A	I C 2, II B 2
W84LH008	WDF	7/20/2015	15142	64.4043	-149.2594	U	N/A	I A 2
W84LH009	WDF	7/20/2015	15141	64.4040	-149.2575	PFO4/SS4B	SLOPE	I A 2, II B 2
W84LH009_OP	OP	7/22/2015	15141	64.4044	-149.2572	PEM1/SS1E	N/A	III A 3, II B 2

	Data		Field				HGM	Vegetation
FEATURE ID	Type <sup>1</sup>	SURVEY_DATE	Target #	LATITUDE	LONGITUDE	Cowardin Code	Classification*	Classification
W84LH010	WDF	7/20/2015	15140	64.4013	-149.2614	U	N/A	I C 2
W84LH011	WDF	7/21/2015	15205	65.2995	-148.5993	U	N/A	IA2
W84LH011_OP	OP	7/21/2015	15205	65.3013	-148.6000	U	N/A	IA2
W84LH012	WDF	7/21/2015	15211	65.3070	-148.5989	U	N/A	IA2
W84LH013	WDF	7/21/2015	15206	65.3126	-148.5902	U	N/A	IA2
W84LH014	WDF	7/21/2015	15210	65.3180	-148.5876	U	N/A	I C 2
W84LH015	WDF	7/22/2015	15207	65.3655	-148.6021	U	N/A	I A 2
W84LH016	WDF	7/22/2015	15208	65.3685	-148.6090	U	N/A	I A 2
W84LH016_OP	OP	7/22/2015	15208	65.3693	-148.6085	R4SBC	N/A	NONE
W84LH017	WDF	7/22/2015	15209	65.3725	-148.6087	PSS4/1B	SLOPE	II A 2, I A 3
W84LH017_OP	OP	7/22/2015	15209	65.3730	-148.6093	R4SB	N/A	NONE
W84LH018	WDF	7/22/2015	15214	65.3758	-148.6123	PSS4/FO4B	SLOPE	II A 2, I A 3
W84LH019	WDF	7/23/2015	15155	64.5042	-149.1646	PSS4/1B	FLAT	II A 2, II C 2
W84LH020	WDF	7/23/2015	15156	64.5079	-149.1631	PSS3/4B	FLAT	IIC2, IIA3
W84LH020_OP	OP	7/23/2015	15156	64.5078	-149.1632	PEM1E	N/A	III A 3
W84LH021	WDF	7/23/2015	15159	64.5260	-149.1490	PEM1/SS1E	DEPRESSIONAL	III A 3, II B 2
W84LH022	WDF	7/23/2015	15143	64.4107	-149.2526	U	N/A	I C 2, II B 2
W84LH023	WDF	7/30/2015	15189	65.0802	-148.6746	U	N/A	I B 2, II B 2
W84LH023_OP	OP	7/30/2015	15189	65.0803	-148.6727	U	N/A	IA2
W84LH024	WDF	7/30/2015	15190	65.0791	-148.6745	U	N/A	I A 2
W84LH024_OP	OP	7/30/2015	15190	65.0792	-148.6766	PSS1/4B	N/A	II A 3, II C 2
W84LH025	WDF	7/30/2015	15198	65.1543	-148.6929	PSS4B	FLAT	II A 1
W84LH025_OP	OP	7/30/2015	15198	65.1546	-148.6927	PSS1/FO4B	N/A	II C 2, I A 3
W84LH026	WDF	7/31/2015	15213	65.2592	-148.5841	U	N/A	IA2
W84LH027	WDF	7/31/2015	15200	65.2610	-148.5841	U	N/A	II B 2, I C 3
W84LH028	WDF	7/31/2015	15203	65.2641	-148.5842	U	N/A	IA1
W84LH028_OP	OP	7/31/2015	15203	65.2658	-148.5864	U	N/A	I A 2

	Data		Field				HGM	Vegetation
FEATURE ID	Type <sup>1</sup>	SURVEY_DATE	Target #	LATITUDE	LONGITUDE	Cowardin Code	Classification*	Classification
W84LH029	WDF	7/31/2015	15201	65.2677	-148.5871	PSS4/FO4B	FLAT	II A 2
W84LH029_OP	OP	7/31/2015	15201	65.2670	-148.5890	U	N/A	II A 2
W84LH030	WDF	7/31/2015	15202	65.2709	-148.5928	U	N/A	IA2
W84LH030_OP	OP	7/31/2015	15202	65.2732	-148.5962	U	N/A	I A 3
W84LH031	WDF	8/1/2015	15312	64.6721	-149.0314	U	N/A	I C 2
W84LH031_OP	OP	8/1/2015	15312	64.6712	-149.0312	PSS1/FO1C	N/A	II B 1, I C 3
W84LH032	WDF	8/1/2015	15313	64.6709	-149.0312	PSS1/FO1C	FLAT	II B 2, I B 3, III A 2
W84LH033	WDF	8/2/2015	15256	64.2146	-149.3189	U	N/A	II A 1
W84LH034	WDF	8/2/2015	15126	64.1745	-149.2907	U	N/A	IA2,IC2
W84LH034_OP	OP	8/2/2015	15126	64.1743	-149.2903	PSS4B	N/A	II A 2
W84LH035	WDF	8/2/2015	15127	64.1780	-149.2929	U	N/A	I A 2
W84LH036	WDF	8/25/2015	15112	63.8393	-149.0604	PSS1/4B	FLAT	II A 3, II C 2
W84LH036_OP	OP	8/25/2015	15112	63.8399	-149.0621	U	N/A	IB1
W84LH037	WDF	8/25/2015	15118	63.9125	-149.0737	U	N/A	II C 1
W84LH038	WDF	8/25/2015	15117	63.9060	-149.0794	PSS4/FO4B	FLAT	II A 2, II C 2
W84LH038_OP	OP	8/25/2015	15117	63.9082	-149.0792	PSS4/1B	N/A	II A 2, II C 2
W84PA001	WDF	7/6/2015	15265	68.4621	-149.4829	U	N/A	II D 1
W84PA002	WDF	7/8/2015	15235	68.7680	-148.8901	U	N/A	II C 2
W84PA002_OP	OP	7/8/2015	15235	68.7693	-148.8917	U	N/A	IIB2, IIC1
W84PA003	WDF	7/8/2015	15266	68.7612	-148.8777	PEM1/SS1B	FLAT	III A 2, II D 2
W84PA004	WDF	7/9/2015	15267	69.1456	-148.8304	U	N/A	II C 2, II D 1
W84PA005	WDF	7/9/2015	15307	68.6202	-149.3927	PSS1/EM1B	FLAT	II D 2, III A 2
W84PA006	WDF	7/9/2015	15309	68.6244	-149.3794	PSS1/EM1B	FLAT	II D 2, III A 3
W84PA007	WDF	7/9/2015	15308	68.5655	-149.4749	U	N/A	II D 1, III A 2
W84PA008	WDF	7/10/2015	15268	69.1462	-148.8400	U	N/A	II C 2, III A 2
W84PA008_OP	OP	7/10/2015	15268	69.1465	-148.8412	U	N/A	II C 2, III A 2
W84PA009	WDF	7/10/2015	15239	69.0075	-148.8535	PEM1/SS1B	FLAT	III A 2, II D 2

	Data		Field				HGM	Vogotation
FEATURE ID	Type <sup>1</sup>	SURVEY_DATE	Target #	LATITUDE	LONGITUDE	Cowardin Code	Classification*	Vegetation Classification
W84PA010	WDF	7/10/2015	15238	69.0079	-148.8514	U	N/A	II C 2, II D 2
W84PA011	WDF	7/10/2015	15304	69.1404	-148.8725	PEM1/SS1B	FLAT	III A 2, II D 2
W84PA012	WDF	7/10/2015	15305	69.1390	-148.8729	U	N/A	II C 2, II D 2
W84PA013	WDF	7/11/2015	15306	69.1367	-148.8749	PEM1/SS1B	FLAT	III A 2, II D 2
W84PA014	WDF	7/11/2015	15303	69.0957	-148.8094	PEM1/SS1B	FLAT	III A 2, II D 1
W84PA014_OP	OP	7/11/2015	15303	69.0964	-148.8078	U	N/A	II C 2, II D 1
W84PA015	WDF	7/11/2015	15237	68.7759	-148.8688	PEM1/SS1B	FLAT	III A 2, II D 2
W84TI001	WDF	6/5/2015	15050	61.5504	-150.5400	PEM1/SS1B	SLOPE	III A 2, II B 2
W84TI002	WDF	6/6/2015	15037	61.3719	-150.8392	PFO1/EM1C	SLOPE	I B 2, III A 2
W84TI003	WDF	6/6/2015	15036	61.3709	-150.8417	PFO1/EM1B	FLAT	I B 2, III A 2
W84TI004	WDF	6/8/2015	15047	61.4624	-150.6462	PFO1/SS1B	SLOPE	I B 2, II B 2
W84TI005	WDF	6/7/2015	15038	61.3764	-150.8249	PSS1/EM1C	SLOPE	II B 2, III A 2
W84TI005_OP	OP	6/7/2015	15038	61.3759	-150.8258	R4USF	N/A	NONE
W84TI006	WDF	6/7/2015	15039	61.3784	-150.8228	PFO1/SS1B	SLOPE	I B 2, II B 2
W84TI006_OP	OP	6/7/2015	15039	61.3784	-150.8242	R4SBF	N/A	NONE
W84TI006_OP2	OP	6/7/2015	15039	61.3783	-150.8269	PSS1/FO1B	SLOPE	I B 3, II B 2
W84TI007	WDF	6/8/2015	15048	61.4629	-150.6482	U	N/A	III A 2
W84TI007_OP	OP	6/8/2015	15048	61.4629	-150.6485	R3UBH	N/A	NONE
W84TI008	WDF	6/9/2015	15027	61.3386	-150.9290	U	N/A	I B 2, II B 2
W84TI008_OP	OP	6/9/2015	15027	61.3381	-150.9265	R4SBF	N/A	NONE
W84TI009	WDF	6/9/2015	15028	61.3398	-150.9194	PSS4/1B	DEPRESSIONAL	II A 2, I A 2
W84TI009_OP	OP	6/9/2015	15028	61.3394	-150.9191	U	N/A	I A 2, II B 2
W84TI010	WDF	6/9/2015	15029	61.3400	-150.9152	PSS1/FO1B	FLAT	I C 3, II B 2
W84TI011	WDF	6/10/2015	15065	61.7896	-150.3482	U	N/A	I A 2
W84TI012	WDF	6/10/2015	15064	61.7894	-150.3499	PFO4B	DEPRESSIONAL	I A 2
W84TI013	WDF	6/10/2015	15057	61.6690	-150.4897	PFO4B	FLAT	I A 2
W84TI014	WDF	6/16/2015	15275	61.4903	-150.6371	U	N/A	III A 2, II B 2

	Data		Field				HGM	Vegetation
FEATURE ID	Type <sup>1</sup>	SURVEY_DATE	Target #	LATITUDE	LONGITUDE	Cowardin Code	Classification*	Classification
W84TI014_OP	OP	6/8/2015	15275	61.4885	-150.6337	PEM1B	N/A	III A 2
W84TI014_OP2	OP	6/8/2015	15275	61.4887	-150.6352	U	N/A	I B 3, III A 3
W84TI014_OP3	OP	6/16/2015	15275	61.4890	-150.6341	PSS1/FO1B	N/A	I B 3, II B 2
W84TI015	WDF	6/11/2015	15055	61.6528	-150.4881	U	N/A	I C 2
W84TI015_OP	OP	6/11/2015	15055	61.6543	-150.4872	PFO4B	N/A	I A 2
W84TI015_OP2	OP	6/11/2015	15055	61.6556	-150.4870	PSS4/FO4B	N/A	II A 2, II C 2
W84TI016	VEG	6/11/2015	15020	61.2998	-151.0353	None	*	I C 2, II C 2
W84TI017	WDF	6/11/2015	15020	61.3000	-151.0363	PSS1/EM1B	DEPRESSIONAL	II D 2, III A 3
W84TI018	WDF	6/14/2015	15009	61.2228	-151.1315	U	N/A	I B 3, II B 2
W84TI018_OP	OP	6/14/2015	15009	61.2227	-151.1316	R4SB	N/A	NONE
W84TI019	WDF	6/14/2015	15010	61.2262	-151.1301	U	N/A	I B 2, II B 2
W84TI020	WDF	6/15/2015	15033	61.3452	-150.8969	U	N/A	I C 2, III A 2
W84TI021	WDF	6/15/2015	15030	61.3411	-150.9093	U	N/A	III A 2, II B 2
W84TI022	WDF	6/15/2015	15031	61.3426	-150.9047	U	N/A	III A 2, II B 2
W84TI023	VEG	6/16/2015	15018	61.2695	-151.0883	None	*	I B 3, II B 2
W84TI024	WDF	6/16/2015	15011	61.2288	-151.1275	U	N/A	I B 2, II B 2
W84TI025	WDF	6/17/2015	15052	61.6060	-150.5030	U	N/A	III A 2
W84TI026	WDF	6/17/2015	15032	61.3439	-150.9012	U	N/A	I C 3, III A 2
W84TI026_OP	OP	6/17/2015	15032	61.3439	-150.9009	PEM1/2A	N/A	III A 2
W84TI026_OP2	OP	6/17/2015	15032	61.3429	-150.9017	R3UBH	N/A	NONE
W84TI027	WDF	6/19/2015	15063	61.7551	-150.3511	U	N/A	II B 2, III A 2
W84TI028	WDF	6/19/2015	15062	61.7507	-150.3517	U	N/A	I C 2
W84TI028_OP	OP	6/19/2015	15062	61.7494	-150.3551	PFO4B	N/A	I A 2
W84TI029	WDF	6/19/2015	15054	61.6403	-150.4869	U	N/A	I C 2
W84TI029_OP	OP	6/19/2015	15054	61.6419	-150.4874	PEM1B	N/A	III A 2
W84TI030	WDF	6/20/2015	15051	61.5889	-150.5192	PEM1/FO1B	SLOPE	III A 2, I B 3
W84TI030_OP	OP	6/20/2015	15051	61.5892	-150.5149	PEM1/SS1B	N/A	III A 2, II B 2

	Data		Field				HGM	Vegetation
FEATURE ID	Type <sup>1</sup>	SURVEY_DATE	Target #	LATITUDE	LONGITUDE	Cowardin Code	Classification*	Classification
W84TI031	WDF	6/20/2015	15244	61.9320	-150.1986	U	N/A	III A 2, II B 2
W84YL001	WDF	7/16/2015	15259	65.7068	-149.1735	U	N/A	II B 2, III A 2
W85HT001	WDF	8/15/2015	15254	63.6602	-148.7545	PFO4/SS1B	SLOPE	I A 2, II C 2
W85HT001_OP	OP	8/15/2015	15254	63.6611	-148.7552	PSS4/1B	N/A	II A 3, II C 2
W85HT001_OP2	OP	8/15/2015	15254	63.6616	-148.7558	PFO4/SS1B	N/A	I A 2, II C 2
W85HT002	WDF	8/15/2015	15253	63.6597	-148.7570	PFO4/SS1B	SLOPE	I A 2, II C 2
W85HT002_OP	OP	8/21/2015	15253	63.6590	-148.7580	PFO4/SS1B	N/A	I A 2, II C 2
W85HT003	WDF	8/16/2015	15088	63.2591	-149.2684	PSS1/FO4B	SLOPE	I A 2, II B 2
W85HT004	WDF	8/16/2015	15078	63.1586	-149.3753	PSS1C	RIVERINE	II B 1
W85HT005	WDF	8/16/2015	15076	63.1427	-149.4041	PFO4/SS1C	RIVERINE	I A 2, II B 2
W85HT005_OP	OP	8/16/2015	15076	63.1443	-149.4004	PFO4/SS1B	SLOPE	I A 2, II C 2
W85HT006	WDF	8/16/2015	15077	63.1486	-149.3942	PSS1C	SLOPE	IIB2
W85HT007	WDF	8/17/2015	15290	63.0949	-149.4789	U	N/A	II C 1, I A 3
W85HT007_OP	OP	8/17/2015	15290	63.0957	-149.4776	R4UBH	N/A	NONE
W85HT008	WDF	8/17/2015	15070	63.0959	-149.4744	PFO4/SS1C	RIVERINE	I A 2, II B 2
W85HT009	WDF	8/17/2015	15069	63.0923	-149.4725	PSS1C	SLOPE	IIB2
W85HT010	WDF	8/18/2015	15071	63.1111	-149.4644	PSS1/FO4B	SLOPE	II B 2, I A 3
W85HT010_OP	OP	8/18/2015	15071	63.1114	-149.4605	R3UBH	N/A	NONE
W85HT011	WDF	8/18/2015	15072	63.1133	-149.4556	PSS1B	RIVERINE	IIB2
W85HT011_OP	OP	8/18/2015	15072	63.1115	-149.4551	PEM1/SS1E	SLOPE	III A 3, II C 2
W85HT012	WDF	8/18/2015	15066	63.0202	-149.5362	PSS1B	SLOPE	II B 1, III A 2
W85IN001	WDF	6/22/2015	15326	60.6580	-151.3546	U	N/A	IB1
W85IN002	WDF	6/22/2015	15323	60.6584	-151.3563	U	N/A	I C 3, III B 2
W85IN003	WDF	6/22/2015	15325	60.6599	-151.3545	U	N/A	III B 2, I A 3
W85IN003_OP	OP	6/22/2015	15325	60.6590	-151.3552	U	N/A	I C 3, III B 2
W85IN004	WDF	6/23/2015	15329	60.6747	-151.3628	U	N/A	I C 3, III B 2
W85IN005	WDF	6/23/2015	15335	60.6709	-151.3141	U	N/A	I C 2, III B 2

	Data		Field				HGM	Vegetation
FEATURE ID	Type <sup>1</sup>	SURVEY_DATE	Target #	LATITUDE	LONGITUDE	Cowardin Code	Classification*	Classification
W85IN006	WDF	6/23/2015	15320	60.6636	-151.3444	U	N/A	I C 2, III A 2
W85IN006_OP	OP	6/23/2015	15319	60.6643	-151.3441	U	N/A	IB1
W85IN007	WDF	6/24/2015	15318	60.6782	-151.3471	U	N/A	I C 2, III B 2
W85IN007_OP	OP	6/24/2015	15318	60.6779	-151.3455	PUBH	N/A	NONE
W85IN008	WDF	6/24/2015	15321	60.6608	-151.3442	U	N/A	I C 2
W85IN009	WDF	6/24/2015	15327	60.6601	-151.3617	U	N/A	I C 3, III A 2
W85IN010	WDF	6/24/2015	15324	60.6609	-151.3637	U	N/A	I C 3, III B 2
W85IN011	WDF	6/24/2015	15328	60.6563	-151.3489	U	N/A	I C 3, III B 2
W85IN012	WDF	6/25/2015	15002	60.7367	-151.3046	U	N/A	I B 3, II B 1
W85IN013	WDF	6/25/2015	15269	60.6811	-151.3563	U	N/A	I C 2, III A 2
W85IN014	WDF	6/25/2015	15336	60.6457	-151.3437	U	N/A	III B 2
W85IN015	WDF	6/25/2015	15331	60.6555	-151.3358	U	N/A	III A 2
W85IN016	WDF	6/26/2015	15270	60.7568	-151.2578	U	N/A	III B 1
W85IN016_OP	OP	6/26/2015	15270	60.7561	-151.2518	PEM1E	N/A	III A 3
W85IN016_OP2	OP	6/26/2015	15270	60.7547	-151.2505	PSS1/EM1B	DEPRESSIONAL	II C 2, III A 2
W85IN017	WDF	6/26/2015	15003	60.7536	-151.2495	PSS1/EM1B	DEPRESSIONAL	II B 2, III A 2
W85IN017_OP	OP	6/26/2015	15003	60.7520	-151.2550	PFO4/1B	N/A	I C 2, III A 2
W85IN017_OP2	OP	6/26/2015	15003	60.7516	-151.2532	PFO4/1B	N/A	I C 3, II B 2
W85IN017_OP3	OP	6/26/2015	15003	60.7526	-151.2541	PFO1/SS1A	N/A	I B 2, II B 2
W85IN018	WDF	9/8/2015	15338	60.6437	-151.3485	PSS4/EM1B	DEPRESSIONAL	II A 3, III A 3
W85IN019	WDF	9/8/2015	15322	60.6560	-151.3549	PEM1E	DEPRESSIONAL	III A 3
W85IN020	WDF	9/8/2015	15240	60.7089	-151.3550	U	N/A	I C 3, III B 2
W85IN021	WDF	9/8/2015	15004	60.7669	-151.2513	PEM1C	DEPRESSIONAL	III A 3
W85IN022	WDF	9/8/2015	15271	60.7660	-151.2533	PEM1F	DEPRESSIONAL	III A 3
W85IN023	WDF	9/9/2015	15001	60.6908	-151.3815	PEM1E	SLOPE	III A 3
W85IN023_OP	OP	9/9/2015	15001	60.6908	-151.3815	U	N/A	IB1
W85IN024	WDF	9/9/2015	15332	60.6492	-151.3528	U	N/A	I C 2, III B 2

	Data		Field				HGM	Vegetation
FEATURE ID	Type <sup>1</sup>	SURVEY_DATE	Target #	LATITUDE	LONGITUDE	Cowardin Code	Classification*	Classification
W85IN024_OP	OP	9/9/2015	15338	60.6448	-151.3465	U	N/A	I C 3, III B 2
W85IN024_OP2	OP	9/9/2015	15338	60.6437	-151.3471	U	N/A	I C 2, II C 2
W85IN025	WDF	9/9/2015	15334	60.6609	-151.3367	U	N/A	I C 2, III A 2
W85IN026	WDF	9/9/2015	15333	60.6877	-151.3465	U	N/A	IC1
W85LH001	WDF	7/9/2015	15179	64.9090	-148.6807	U	N/A	IIB2
W85LH002	WDF	7/9/2015	15180	64.9106	-148.6807	U	N/A	IC2
W85LH003	WDF	7/9/2015	15314	64.6761	-149.0171	PSS1/EM1B	FLAT	II B 2, III A 2
W85LH004	WDF	7/10/2015	15188	65.0648	-148.6692	PSS1C	FLAT	IIB2, IIC2
W85LH004_OP	OP	7/10/2015	15188	65.0655	-148.6672	PFO4/1B	FLAT	IC2
W85LH005	WDF	7/10/2015	15187	65.0688	-148.6691	PEM1C	DEPRESSIONAL	III A 3
W85LH006	WDF	7/10/2015	15298	64.9260	-148.6983	U	N/A	IC1
W85LH007	WDF	7/10/2015	15183	64.9297	-148.6959	U	N/A	I A 2
W85LH008	WDF	7/11/2015	15177	64.8920	-148.6784	U	N/A	IC3
W85LH009	WDF	7/11/2015	15176	64.8943	-148.6774	U	N/A	IIB1
W85LH010	WDF	7/11/2015	15178	64.9000	-148.6793	U	N/A	I A 2
W85LH010_OP	OP	7/11/2015	15178	64.8985	-148.6780	U	N/A	I A 3, II C 2
W85LH011	WDF	7/12/2015	15175	64.8741	-148.7074	U	N/A	I A 2
W85LH012	WDF	7/12/2015	15174	64.8458	-148.7607	U	N/A	I A 2
W85LH013	WDF	7/12/2015	15172	64.8078	-148.7760	U	N/A	I A 3, II C 2
W85LH014	WDF	7/13/2015	15149	64.4522	-149.2164	PSS1B	SLOPE	II C 1
W85LH015	WDF	7/13/2015	15150	64.4530	-149.2153	PFO1/4B	FLAT	I C 2, II B 2
W85LH016	WDF	7/13/2015	15151	64.4637	-149.2037	PFO4/SS1B	FLAT	I C 2, II B 2
W85LH017	WDF	7/13/2015	15152	64.4636	-149.2022	U	N/A	I C 2, II B 2
W85LH018	WDF	7/14/2015	15173	64.8155	-148.7774	U	N/A	I A 2, II A 2
W85LH019	WDF	7/14/2015	15310	64.6510	-149.0458	PSS1/EM1E	FLAT	II C 1, III A 3
W85LH020	WDF	7/14/2015	15171	64.6408	-149.0711	U	N/A	I B 2, II B 2
W85LH021	WDF	7/15/2015	15136	64.3535	-149.2940	U	N/A	I A 3, II C 2

	Data		Field				HGM	Vegetation
FEATURE ID	Type <sup>1</sup>	SURVEY_DATE	Target #	LATITUDE	LONGITUDE	Cowardin Code	Classification*	Classification
W85LH022	WDF	7/15/2015	15138	64.3762	-149.2786	U	N/A	I C 2, II B 2
W85LH023	WDF	7/15/2015	15137	64.3747	-149.2800	U	N/A	I C 2, II C 2
W85LH024	WDF	7/15/2015	15145	64.4310	-149.2378	U	N/A	I B 2, II B 2
W85LH025	WDF	7/17/2015	15135	64.3445	-149.3065	U	N/A	I A 2, II B 2
W85LH026	WDF	7/17/2015	15134	64.3322	-149.3060	U	N/A	I A 2, II B 2
W85LH027	WDF	7/17/2015	15311	64.6575	-149.0353	U	N/A	I C 3, II B 2
W85LH028	WDF	7/18/2015	15154	64.4888	-149.1822	U	N/A	I C 2, II B 2
W85LH029	WDF	7/18/2015	15153	64.4881	-149.1828	PSS1/EM1B	FLAT	II C 2, III A 2
W85LH030	WDF	7/19/2015	15133	64.2843	-149.3022	U	N/A	IIC2
W85LH031	WDF	7/19/2015	15132	64.2810	-149.3021	U	N/A	IB1
W85LH032	WDF	7/19/2015	15128	64.2361	-149.2987	PSS1B	FLAT	II B 1
W85LH033	WDF	7/19/2015	15139	64.3780	-149.2737	U	N/A	I A 2, II C 2
W85LH034	WDF	7/20/2015	15158	64.5204	-149.1492	U	N/A	I A 2, II B 2
W85LH035	WDF	7/20/2015	15157	64.5194	-149.1490	PSS1B	FLAT	IIB2, IIC2
W85LH036	WDF	7/20/2015	15160	64.5517	-149.1301	PSS1B	RIVERINE	IIB2
W85LH037	WDF	7/20/2015	15161	64.5506	-149.1309	PFO4/SS1B	SLOPE	I A 2, II B 2
W85LH038	WDF	7/21/2015	15191	65.1218	-148.6851	U	N/A	II A 2, II C 2
W85LH039	WDF	7/21/2015	15192	65.1229	-148.6857	U	N/A	IIB2
W85LH040	WDF	7/21/2015	15193	65.1294	-148.6881	U	N/A	IIC2
W85LH041	WDF	7/21/2015	15194	65.1241	-148.6813	U	N/A	II A 2, II B 2
W85LH041_OP	OP	7/21/2015	15241	65.1245	-148.6803	PSS1B	FLAT	II D 2
W85LH042	WDF	7/22/2015	15204	65.2539	-148.5865	U	N/A	I A 2
W85LH043	WDF	7/22/2015	15212	65.2501	-148.6038	U	N/A	I A 2
W85LH044	WDF	7/22/2015	15199	65.2506	-148.6037	PSS4/1B	FLAT	II A 2, II C 2
W85LH045	WDF	7/23/2015	15164	64.5614	-149.1203	U	N/A	IB1
W85LH046	WDF	7/23/2015	15163	64.5629	-149.1182	PSS1A	SLOPE	IIB2
W85LH047	WDF	7/23/2015	15162	64.5651	-149.1177	U	N/A	I C 1, I C 2

	Data		Field				HGM	Vegetation
FEATURE ID	Type <sup>1</sup>	SURVEY_DATE	Target #	LATITUDE	LONGITUDE	Cowardin Code	Classification*	Classification
W85LH048	WDF	7/30/2015	15195	65.1792	-148.6736	U	N/A	IA2
W85LH049	WDF	7/30/2015	15196	65.1781	-148.6735	U	N/A	IIB1
W85LH050	WDF	7/30/2015	15197	65.1739	-148.6808	U	N/A	I A 2
W85LH051	WDF	7/31/2015	15186	64.9420	-148.6970	PSS4/1B	FLAT	II A 2, II A 3
W85LH052	WDF	7/31/2015	15185	64.9416	-148.6978	PEM1/SS1B	SLOPE	III A 2, I C 3
W85LH052_OP	OP	7/31/2015	15184	64.9410	-148.6976	PEM1E	N/A	III A 3
W85LH053	WDF	7/31/2015	15184	64.9424	-148.6999	U	N/A	I A 2
W85LH054	WDF	7/31/2015	15313	64.6432	-149.0454	PFO1B	SLOPE	IB2
W85LH055	WDF	8/1/2015	15169	64.6207	-149.0871	PFO1/SS1A	SLOPE	I B 3, II B 2
W85LH056	WDF	8/1/2015	15170	64.6227	-149.0862	PFO1/SS1A	SLOPE	I B 2, II B 2
W85LH057	WDF	8/1/2015	15181	64.9139	-148.6806	U	N/A	I A 2
W85LH058	WDF	8/5/2015	15182	64.9091	-148.6816	PSS1/EM1C	RIVERINE	II B 2, III A 2
W85LH059	WDF	8/2/2015	15167	64.5947	-149.1139	U	N/A	I B 2, II B 2
W85LH060	WDF	8/2/2015	15166	64.5956	-149.1127	PFO1B	SLOPE	I B 1, II B 2
W85LH061	WDF	8/2/2015	15165	64.5913	-149.1173	U	N/A	I B 2, II B 2
W85LH062	WDF	8/2/2015	15258	64.5845	-149.1119	U	N/A	IB1
W85LH063	WDF	8/13/2015	15296	64.1189	-149.2426	PSS1/EM1Cb	RIVERINE	II C 1, III A 2
W85LH064	WDF	8/13/2015	15125	64.1021	-149.2185	PFO4B	FLAT	I A 2
W85LH064_OP	OP	8/13/2015	15125	64.1014	-149.2185	PFO4B	N/A	IA2
W85LH065	WDF	8/13/2015	15123	64.0378	-149.1520	U	N/A	I A 2, II C 2
W85LH066	WDF	8/14/2015	15120	63.9212	-149.0804	U	N/A	I A 2, II C 2
W85LH066_OP	OP	8/14/2015	15120	63.9205	-149.0812	U	N/A	I A 2, II C 2
W85LH067	WDF	8/14/2015	15124	64.0665	-149.1843	PSS1/4E	SLOPE	II C 2, II A 3
W85LH067_OP	OP	8/21/2015	15124	64.0689	-149.1863	PSS4/1E	N/A	II A 2, II C 2
W85LH067_OP2	OP	8/14/2015	15124	64.0694	-149.1961	R3UBH	N/A	NONE
W85LH068	WDF	8/14/2015	15121	64.0204	-149.1384	U	N/A	IA2
W85LH069	WDF	8/14/2015	15122	64.0222	-149.1400	PFO4B	SLOPE	I A 2, II C 2

	Data		Field				HGM	Vegetation
FEATURE ID	Type <sup>1</sup>	SURVEY_DATE	Target #	LATITUDE	LONGITUDE	Cowardin Code	Classification*	Classification
W85LH070	WDF	8/15/2015	15119	63.9115	-149.0761	U	N/A	II C 1, I A 3
W85LH071	WDF	8/15/2015	15295	63.9106	-149.0723	PSS1B	SLOPE	II C 1
W85LH071_OP	OP	8/15/2015	15295	63.9108	-149.0739	U	N/A	II C 1
W85TI001	WDF	6/5/2015	15050	61.5509	-150.5406	PEM1B	SLOPE	III A 2
W85TI002	WDF	6/6/2015	15021	61.3007	-151.0357	PSS4/1B	DEPRESSIONAL	II A 2, II C 2
W85TI003	WDF	6/6/2015	15022	61.3020	-151.0313	PFO4/SS1B	FLAT	I A 2, II B 2
W85TI003_OP	OP	6/6/2015	15022	61.3022	-151.0309	R4SB	N/A	NONE
W85TI004	VEG	6/14/2015	15008	61.1669	-151.1493	None	*	I B 3, II B 2
W85TI004_OP	OP	6/14/2015	15008	61.1695	-151.1486	PEM1B	N/A	III A 3
W85TI005	WDF	6/7/2015	15042	61.4099	-150.7342	PEM1/SS1A	SLOPE	III A 2, II B 2
W85TI005_OP	OP	6/7/2015	15042	61.4097	-150.7344	R4SB	N/A	NONE
W85TI006	WDF	6/14/2015	15023	61.3081	-151.0242	PSS1C	DEPRESSIONAL	IIC2
W85TI007	VEG	6/7/2015	15043	61.4112	-150.7299	None	*	II B 2, III A 2
W85TI008	WDF	6/7/2015	15046	61.4421	-150.6612	PFO4/1A	SLOPE	I C 2, II C 2
W85TI009	WDF	6/8/2015	15273	61.3522	-150.8788	U	N/A	I C 2, II B 2
W85TI009_OP	OP	6/8/2015	15273	61.3545	-150.8779	PSS4/1C	FLAT	II A 3, II C 2, III A 3
W85TI010	WDF	6/9/2015	15014	61.2401	-151.1120	U	N/A	I C 2, II C 1
W85TI010_OP	OP	6/9/2015	15014	61.2423	-151.1105	PFO4/1B	N/A	I C 2, II C 2
W85TI011	VEG	6/9/2015	15013	61.2395	-151.1123	None	*	I C 2, II B 2
W85TI011_OP	OP	6/9/2015	15013	61.2391	-151.1119	PFO4/1B	N/A	I C 2, II C 2
W85TI012	VEG	6/9/2015	15012	61.2372	-151.1145	None	*	1 C 2 , II C 2
W85TI013	VEG	6/9/2015	15012	61.2383	-151.1144	None	*	I C 2, II C 3
W85TI014	WDF	6/10/2015	15059	61.7200	-150.3879	PSS1/EM1C	DEPRESSIONAL	II C 1, III A 2
W85TI014_OP	OP	6/10/2015	15060	61.7203	-150.3858	PFO4/SS1B	FLAT	I A 2, II C 2
W85TI015	WDF	6/10/2015	15061	61.7210	-150.3816	PSS4/1B	DEPRESSIONAL	II A 2, II C 2
W85TI016	WDF	6/11/2015	15056	61.6536	-150.4870	U	N/A	I C 2, II B 2
W85TI017	WDF	6/11/2015	15019	61.2909	-151.0529	PFO1/4C	SLOPE	I C 2, II C 2

	Data		Field				HGM	Vegetation
FEATURE ID	Type <sup>1</sup>	SURVEY_DATE	Target #	LATITUDE	LONGITUDE	Cowardin Code	Classification*	Classification
W85TI018	VEG	6/14/2015	15024	61.3129	-151.0107	None	*	I C 2, II C 2
W85TI018_OP	OP	6/14/2015	15024	61.3131	-151.0092	PFO4/1A	N/A	I C 2, II B 2
W85TI019	WDF	6/15/2015	15242	61.3460	-150.8844	U	N/A	I C 2, II B 2
W85TI020	VEG	6/15/2015	15026	61.3260	-150.9840	None	*	III A 2
W85TI020_OP	OP	6/15/2015	15026	61.3260	-150.9840	R2UBH	N/A	NONE
W85TI020_OP2	OP	6/15/2015	15026	61.3257	-150.9842	R4SB	N/A	NONE
W85TI020_OP3	OP	6/15/2015	15025	61.3253	-150.9845	PFO1/EM1B	N/A	I B 3, III A 2
W85TI021	WDF	6/16/2015	15045	61.4436	-150.6601	U	N/A	I B 2, III A 2
W85TI021_OP	OP	6/16/2015	15045	61.4437	-150.6623	PSS1/EM1B	N/A	II C 2, III A 3
W85TI022	WDF	6/16/2015	15034	61.3559	-150.8726	PFO1/4B	SLOPE	I C 2, II B 2
W85TI022_OP	OP	6/16/2015	15034	61.3575	-150.8706	PFO1/4B	N/A	I C 2, II B 2
W85TI023	WDF	6/17/2015	15049	61.5498	-150.5462	PSS4/1B	SLOPE	II A 3, II C 2
W85TI024	WDF	6/17/2015	15035	61.3546	-150.8732	U	N/A	I C 2, II C 2
W85TI024_OP	OP	6/17/2015	15035	61.3544	-150.8730	PFO1B	N/A	I B 2, II B 2
W85TI024_OP2	OP	6/17/2015	15035	61.3546	-150.8736	U	N/A	I C 2, II C 2
W85TI025	WDF	6/18/2015	15058	61.7131	-150.4020	U	N/A	I C 2, II B 2
W85TI026	WDF	6/18/2015	15015	61.2469	-151.1099	U	N/A	I C 2, II B 2
W85TI026_OP	OP	6/18/2015	15015	61.2471	-151.1098	PFO1/4B	N/A	I C 2, II B 2
W85TI027	WDF	6/18/2015	15016	61.2501	-151.1086	U	N/A	I C 2, II B 2
W85TI028	WDF	6/19/2015	15277	61.8565	-150.2684	U	N/A	IB3, IIC2
W85TI029	WDF	6/19/2015	15276	61.8554	-150.2644	U	N/A	I C 2, II C 2
W85TI030	WDF	6/19/2015	15279	61.8842	-150.2210	U	N/A	IA2
W85TI030_OP	OP	6/19/2015	15279	61.8835	-150.2200	U	N/A	IA2
W85TI031	WDF	6/20/2015	15053	61.6434	-150.4883	U	N/A	IC2
W85TI031_OP	OP	6/20/2015	15053	61.6424	-150.4874	U	N/A	I A 2, II B 2
W85TI032	WDF	6/20/2015	15243	61.5994	-150.5107	U	N/A	I B 2, II B 2
W85TI032_OP	OP	6/20/2015	15243	61.5994	-150.5081	R4SB	N/A	NONE

FEATURE ID	Data Type <sup>1</sup>	SURVEY_DATE	Field Target #	LATITUDE	LONGITUDE	Cowardin Code	HGM Classification*	Vegetation Classification
W85TI033	WDF	7/3/2015	15274	61.3846	-150.7949	U	N/A	IB2
W85TI034	WDF	7/5/2015	15278	61.9052	-150.2074	U	N/A	III A 2
W85TI034_OP	OP	7/5/2015	15278	61.9054	-150.2098	U	N/A	II C 2
W85TI035	WDF	7/5/2015	15040	61.3772	-150.7988	PSS4B	FLAT	II A 2
W85TI036	WDF	7/5/2015	15044	61.4127	-150.7270	U	N/A	I B 2, III A 2
W85TI036_OP	OP	7/5/2015	15044	61.4126	-150.7277	PSS1/EM1C	SLOPE	III A 2, II B 2
W85TI036_OP1	OP	7/5/2015	15044	61.4123	-150.7287	R4SB	N/A	NONE
W85TI036_OP2	OP	7/5/2015	15044	61.4121	-150.7290	R3UBH	N/A	NONE
W85TI037	WDF	7/6/2015	15045	61.4435	-150.6630	PEM1E	SLOPE	III A 3
W85TI038	WDF	7/7/2015	15245	62.1978	-150.2131	U	N/A	IC1
W85TI039	WDF	8/6/2015	15007	61.1516	-151.1322	PEM1/SS1E	FLAT	III A 3, II C 2
W85TI039_OP	OP	8/11/2015	15007	61.1509	-151.1336	PSS4/1B	N/A	I C 2
W85TI040	WDF	8/6/2015	15006	61.1514	-151.1299	PFO1/4B	FLAT	I C 2, II C 2
W85TI040_OP	OP	8/6/2015	15006	61.1518	-151.1280	PSS1/EM1E	N/A	II C 2, III A 3
W85TI041	WDF	8/6/2015	15241	61.1304	-151.0850	U	N/A	I B 2, III A 2
W85TI041_OP	OP	8/6/2015	15241	61.1316	-151.0885	PSS1/EM1A	N/A	II C 2, III A 2
W85TI042	WDF	8/7/2015	15272	61.1426	-151.1040	U	N/A	I C 2, II B 2
W85TI042_OP	OP	8/7/2015	15272	61.1436	-151.1110	PSS1/EM1B	N/A	II C 2, III A 2
W85TI043	WDF	8/7/2015	15005	61.1451	-151.1109	PSS1/EM1C	RIVERINE	II B 2, III A 2
W85TI044	WDF	8/7/2015	15017	61.2861	-151.0605	PFO4B	FLAT	I A 2
W85TI044_OP	OP	8/7/2015	15017	61.2849	-151.0629	R3UBH	N/A	NONE
W85TI044_OP2	OP	8/7/2015	15017	61.2831	-151.0676	PSS4/1B	N/A	II A 2, II C 2
W85TI044_OP3	OP	8/7/2015	15017	61.2827	-151.0694	PSS1/EM1B	N/A	II C 2, III A 2
W85TI045	WDF	7/3/2015	15041	61.3916	-150.7781	U	N/A	II B 2, III A 2

<sup>&</sup>lt;sup>1</sup>WDF = Wetland Determination Data Form Completed; Veg = Vegetation Classification Data Form Completed

OP = Observation Point. No Data Form Completed. \*HGM Classification was not collected on Vegetation Forms or at Observation points

SITE DESCRIPTION		S CHARLES	THE PARTY		15 C. C.	THE SHEET WAS INCHES
Survey Type: Centerline Acces	s Road (explain)	Other (expla	nin)	Field Targ	et: 15225	Map #: 27 Map Date: 6/29
Date: 7/1/15	Project Name & No.: /	Alaska LNG	60418403	4	Feature Id:	W84A4001
Investigators: Bryan S	trong, Abia	aute	Fishe	6		Team No.: W84
State: Alaska	Region: Alaska	) 0	Milepost:	244.	55	The State of the
Latitude: 67° 13' 25,78	", 1)	Longitude:	150° 13	6.4	5"W	Datum: WGS84
Logbook No.:	Logbook Page No.:	27	Picture No.:	P-W8	34AYOO	11-VEG-VEG-PIT
SITE PARAMETERS	NAME OF TAXABLE PARTY.		Sales Sales	Real Property	-	
Subregion: ( Aterior			Landform (hill	slope, terrac	e, hummocks	s, etc.): Terrace
Slope (%): 3 - measured			Local relief (co	oncave, con	vex, none):	flat to slightly concare
Pre-mapped Alaska LNG/NWI classificati	ion: 1/ (2 1/	72	Evidence of V	Vildlife Use:	No	
Are climatic/hydrologic conditions on the Yes No K (if no expla	site typical for this time o	of year?	Are "No		stances" pres	sent: plain in Notes.)
Are Vegetation, Soil, or Hydronia					lain in Notes)	AND AMERICAN PROPERTY.
Are Vegetation, Soil, or Hydr	rology Naturally Pr	oblematic?	No	_(If yes, exp	lain in Notes.	)
SUMMARY OF FINDINGS	NAME OF STREET	SP 10/12	PARTY IN		Wat Print	
Hydrophytic Vegetation Present? Yes	No	_ ls t	he Sampled A	rea within a	Wetland?	YesNo
Hydric Soil Present? Yes		_ We	tland Type:	2551/4	B	
Wetland Hydrology Present? Yes	X No	Ala	ska Vegetation	Classification	on (Viereck):	11CZ 11A3
Notes and Site Sketch: Please include Di corridor. Marginal and pote highway to 2°% below concave site with mode but not saturated. Act and this material is to 18 inches. Permetros alpha alpha in the cy Low chroma soil is parent	the print whereat whereate humanick we later is slapped alpha part frozen act process of a riches	hallow live law (<60%	c. Slope cmar c- a few with sad . Perma me has	decree.	ses from immaish, tussed above t has mode It y pos	es. Flat to slightly us. Organics must be frost table (1.5") crate ice content down the reaction to

VEGETATION (use scientific names of plant	s)			
1. Pices Mariana 2.	Absolute % Cover	Dominant Species? (Y/N)	Indicator Status	Dominance Test worksheet:  No. of Dominant Species that are OBL, FACW, or FAC: (A)  Total Number of Dominant Species Across All Strata: (B)  % Dominant Species that are OBL, FACW, or FAC: (A/B)
3.				THE RESIDENCE OF THE PERSON OF
4.			-	Prevalence Index worksheet:
Total Cover	c_ 7			Total % Cover of: Multiply by:
50% of total cove	r: 20	% of total cov	rer:	OBL species: X1=
Sapling/Shrub_Stratum ( 26 )	Absolute % Cover	Dominant Species? (Y/N)	Indicator Status	FACW species:
1. Betwee Malendon	18	4	Fac	UPL species X 5 =
3. accinum a lainosum	antown#		Fac	Column Totals: \ \ \( \frac{3}{4} \) (A) \ \( \frac{3}{4} \) (B)  PI = B/A = \( \frac{3}{4} \) (B)
4. Vaccinum Oxycoccus	7		OBL	77-5/1
5. Vaccioum votis-idaea	3		Fac	
6. Picea mariana	12		Fach	
7. Salix pulchra	2		Fach	
8. Picea alauca	2		Far II	
9. Empetrom negrom	2		Fac	
Total Cover		% of total cov	er. 17.4	
VEGETATION (use scientific names of plant	s)	Spille vo	and the same	
Herb Stratum ( 20)	Absolute % Cover	Dominant Species? (Y/N)	Indicator Status	Hydrophytic Vegetation Indicators:  Dominance Test is > 50%  Resolution Indicators:
1. Carex bigelowin	30	У	Fac	Prevalence Index is ≤ 3.0  Morphological Adaptations¹ (Provide supporting data in
2. Petasites frigides	12		Fach	Notes)
3. Rubus Chamaemory			Fach	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
4. Friophorum Vaginetia	. 3		Form	<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present unless disturbed or problematic.
6.				Charles and the Control of the Contr
7.				% Bare Ground
8. Featral MOSS	80			% Cover of Wetland Bryophytes
9. 50/2000	3			Total Cover of Bryophytes
10.	17		-	
Total Cover	36			Hydrophytic Vegetation Present (Y/N):
50% of total cover		% of total cov	er: <u>9.</u> 2	Notes: (If observed, list morphological adaptations below):

SOIL			Date_		eature I			-		Soil Pit Required (Y/N)
SOIL PROFIL	LE DESCRIPTION:	Describe	_		d to doc	ument the	indicator or c	onfirm the abse	nce of ind	licatora.)
Depth	Matrix		Red	ox Features			To a			
(inches)	Color (moist)	%	Colo	r (moist)	%	Type <sup>1</sup>	Loc²	Texture	Note	98
0-7								Hemic	no	ist not schorate
7-9	1072 2/2	100						MKS.L	Fie	ld capacity-near so
- /	1 11	0.	- 1	.17	1			0	1-1	
1-10.3	515/1	96	7.5.	124/6	4	C	PL	SIL	Lile	a alpha positive say
31-2,0	5-15/1	97	2	7e4/6	1	c	n /	e .		A. C.
			-		2		PL/M	SIL		cen. First -3 inch
Type: C=Co	ncentration, D=Depl	etion, RI	M=Red	uced Matrix. 0	S=Cov	ered or Co	ated Sand Gr	ains. <sup>2</sup> Location	on: PL=Po	ore Lining, M=Matrix alpha
	LINDICATORS		TO DE			127170				ROBLEMATIC HYDRIC SOIL
listosol or Hi	stel (A1) N			Alaska Gleyed	(A13)	N				(TA4)⁴ N
Section and Desired Control of the C	on (A2) I Mag	Sina 1		Alaska Redox				Alaska Alpin		
The Hallocate	ck Histic (A3) N			Alaska Gleyed				Alaska Redo		
	ffide (A4)				Later Control	, , , , , , ,				5Y Hue or Redder Underlying
	The state of the s							Layer_ N		
The second second	urface (A12)	ntation o	on nei	many indicator	of wotlo	and hudrala	at and an or	Other (Expla	S-23,140/11/2015-33,5026	ition must be present unless
bore th	yer (if present): Typ	act.	ive l	POSITIVE	reac	to abo	ove the f	rozen Ma	tenal	Alpha alpha posi
bore the	a Crost table	act.	ive l	positive Dry site.	reac cond. A m	tion is times .	ove the fat time of margin	rozen ma	e vis	I Less than 60% of 17. Problematic M SIL. Frozen maderia
Hydric Soil P	resent (Y/N): 7 m	action	1+1-1	Positive Dry site. has	reac cond. A m node	tion is tion is tuns interin rate i ss - lo	ove the for the formal marginal continuation of said of the continuation of said of the continuation of th	rozen ma and sit and as m and Low	e vis ucley, chrom clay	Less than 60% of 1t. Problematic M SIL. Frozen mad a perent material content
HYDROLOG)	resent (Y/N): 7 m	TORS (a	any one	Positive Dry site. has	reac cond, A made c loe	tion is the state of the state	ove the for the formal marginal continuation of said of the continuation of said of the continuation of th	notes made and sold as ment. Low notes low	tenal e vis ucky i chrom uky (2 or more	Less than 60% of 1t. Problematic M SIL. Frozen mad a perent material content
HYDROLOG)	resent (Y/N): 7 m	TORS (a	any one	Positive Positive Site. has Silt- e indicator is s	A mode ( loe utilicient	tion is the state of the state	ore the frat the frat the frat the continue cont	notes made and sold as ment. Low notes low	tenal vis	Less than 60% of 14. Problematic M SIL. Frozen material content erequired) Stunted or Stressed
HYDROLOGY Surface Water Ta	resent (Y/N): + M  conditions  PRIMARY INDICA  (A1) N  able (A2) N	TORS (a Su Inu	any one sindation of the same	Positive  Positive  Site  Los  Silt  e indicator is s  Soil Cracks (Be	A mode (loe ufficient	tion is the state of the state	exe the fat time I marginal was continued to the continue continue continued to the continu	INDICATORS  Perms (B10) N	chrom chay	Less than 60% of 14. Problematic M SIL. Frozen media percent meterial content e required) Stunted or Stressed Plants (D1)
Hydric Soil P Notes: Dry HYDROLOG) Surface Water High Water Ta	resent (Y/N): 7 m  conditions  PRIMARY INDICA  (A1) N  able (A2) N	TORS (a Suu Inu (B7 Sp. Co	any one rface S indatio 7) 1 arsely ncave	Positive  Positive  Site  Silt  e indicator is s  soil Cracks (Be  n Visible on Ae  Vegetated	A mode loe ufficient (max)	tion is the state of the state	ECONDARY Vater-stained eaves (B9) _ Orainage Patter iving Roots (C	INDICATORS  N  perms (B10) _N  pospheres along  C3) _N	chrom clay	Less than 60% of 14. Problematic M SIL. Frozen med a percent material content e required) Stunted or Stressed Plants (D1) Geomorphic Position (D2)
HYDROLOG) Surface Water High Water Ta	resent (Y/N): 7 m  conditions  PRIMARY INDICA  (A1) N  able (A2) N	TORS (a Sun Inu (B7 Co Ma	any one rface S indatio 7) arsely ncave url Depo	Positive  Positive  Site  Las  Silt  e indicator is s  Soil Cracks (B6  n Visible on Ai  Vegetated  Surface (B8)	A mode loe ufficient (max)	tion is the state of the state	ECONDARY Vater-stained eaves (B9) _ Orainage Patter iving Roots (C	INDICATORS  Perms (B10) _ N  pospheres along  C3) _ N  educed  educed  educed  educed  educed	tenal ve vis ucky i chrom vay (2 or more	Less than 60% of 14. Problematic M  SIL. Frozen made a parent material content  e required)  Stunted or Stressed  Plants (D1)  Geomorphic Position (D2)  Shallow Aquitard (D3)  Microtopographic
HYDROLOG) Surface Water Ta Saturation (A3 Vater Marks ( Sediment Dep	PRIMARY INDICA  (A1) N  (B1) N  Oosits (B2) N	TORS (a Sun Inu (B7 Co Ma Hy)	any one rface S indatio 7) 1 arsely ncave drogen for (C1) y-Seas	Positive Pos	A mode loe ufficient (max)	tion is thought the state of th	ECONDARY Vater-stained eaves (B9) _ Orainage Patter Dividized Rhizziving Roots (Coresence of Roon (C4)	INDICATORS  INDICATORS  Serins (B10) 12  Despheres along  C5) 12  C5) 12	chrom chay (2 or more	Less than 60% of 14. Problematic M  SIL Frozen media percent meterial content  e required)  Stunted or Stressed  Plants (D1)  Geomorphic Position (D2)  Shallow Aquitard (D3)  Microtopographic  Relief (D4)
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Hydric Soil P Notes: 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	PRIMARY INDICA  (A1) N  (B1) N  (B3) N  (B3) N	TORS (a Sun Inu (B) Sp. Co	any one rface S indatio 7) ) arsely ncave irl Dependrogen for (C1) y-Seas tter Tal	Positive Pos	A mode loe ufficient	tion is thought the state of th	ECONDARY Vater-stained eaves (B9) _ Orainage Patter Dividized Rhizziving Roots (Coresence of Roon (C4)	INDICATORS  INDICATORS  Serins (B10) 12  Despheres along  C5) 12  C5) 12	chrom chay (2 or more	Less than 60% of 14. Problematic M  Sil. Frozen made a percent material content e required)  Stunted or Stressed Plants (D1)  Geomorphic Position (D2)  Shallow Aquitard (D3)  Microtopographic Relief (D4)  FAC-Neutral Test (D5)
Hydric Soil P Notes: Dry HYDROLOG) Surface Water High Water Ta Saturation (A3 Vater Marks ( Sediment Deposits High Mat or Coop Deposits To Deposits	Present (Y/N): Y M  conditions  PRIMARY INDICA  (A1) N  able (A2) N  (B1) N  (B3) N  (B5) N	TORS (a Sun Inu (B) Sp. Co	any one rface S indatio 7) ) arsely ncave inl Depidrogen or (C1) y-Seas ater Tal	Positive Pos	reac cond.  A mode loe ufficient with the cond of the	tion is thought the state of th	ECONDARY Vater-stained eaves (B9) _ Orainage Patter Dividized Rhizziving Roots (Coresence of Roon (C4)	INDICATORS  INDICATORS  Serins (B10) N  Cospheres along  Cospheres along  Cospheres along	chrom chay (2 or more	Less than 60% of 14. Problematic M  Sil. Frozen made a percent material content e required)  Stunted or Stressed Plants (D1)  Geomorphic Position (D2)  Shallow Aquitard (D3)  Microtopographic Relief (D4)  FAC-Neutral Test (D5)
Hydric Soil P Notes: Dry Hydric Soil P Notes:	Present (Y/N): Y M  conditions  PRIMARY INDICA  (A1) N  able (A2) N  (B1) N  (B3) N  (B3) N  (B5) N  Present (Y/N): N	TORS (a Sun Inu (B) Sp. Co	any one rface S indatio 7) ) arsely ncave in Deport drogen or (C1) /-Seas ater Tal her (Ex	Positive Pos	A mode loe ufficient	tion is the second seco	ECONDARY Vater-stained eaves (B9) Drainage Patter iving Roots (Coresence of Roon (C4) Calt Deposits (Coresence Service) Calt Deposits (Coresence Service)	INDICATORS  INDICATORS  Serins (B10) N  Cospheres along  Cospheres along  Cospheres along	ternal e vis ucky i chrom chay (2 or more	Less than 60% of 14. Problematic M  Sil. Frozen made a percent material content e required)  Stunted or Stressed Plants (D1)  Geomorphic Position (D2)/  Shallow Aquitard (D3)/  Microtopographic Relief (D4)/  FAC-Neutral Test (D5)/
Hydric Soil P Notes: Dry HYDROLOG) Surface Water High Water Ta Saturation (A3 Water Marks ( Sediment Dep Drift Deposits Mgal Mat or C ron Deposits Surface Water	Present (Y/N): Y M  Conditions  PRIMARY INDICA  (A1) N  able (A2) N  (B1) N  (B3) N  (B3) N  Present (Y/N): N  Present (Y/N): N	TORS (a Sun Inu (B) Sp. Co	any one rface S indatio 7) arsely ncave irl Deprindre (C1) y-Seas ter Tal her (Ex	Positive Pos	reac cond.  A mode loe ufficient with the cond of the	tion is the second seco	ECONDARY Vater-stained eaves (B9) Drainage Patter iving Roots (Coresence of Roon (C4) Calt Deposits (Coresence Service) Calt Deposits (Coresence Service)	INDICATORS  INDICATORS  Perms (B10) _ N  pospheres along  23) _ N  educed  - 10	tenal e vis ucky i chrom chay (2 or more	Less than 60% of 14. Problematic M  Sil. Frozen made a percent material content e required)  Stunted or Stressed Plants (D1)  Geomorphic Position (D2)/  Shallow Aquitard (D3)/  Microtopographic Relief (D4)/  FAC-Neutral Test (D5)/

# AQUATIC SITE ASSESSMENT DATA FORM

VEGETATION VARIABLES P= Plot, M= Matrix	
Primary Vegetation Type (P): Vegetation Lacking     Forested-Deciduous-Needle-leaved     Forested-Deciduous-Broad-leaved       Forested-Evergreen-Needle-leaved     Scrub Shrub-Deciduous-Needle-leaved     Scrub Shrub-Deciduous-Broad-leaved       Scrub Shrub-Evergreen-Broad-leaved     Scrub Shrub-Evergreen-Needle-leaved     Emergent-Non-persistent       Persistent     Aquatic Bed	
Percent Cover (P): Tree (>5 dbh, >6m tall)    Sapling (<5 dbh, <6m tall)    Tall shrub (2-6m)    Short shrub (0.5-2m)    Submerged	5_
Number of Wetland Types (M): Evenness of Wetland Type Distribution (M): Even Highly Uneven Moderately even	
Vegetation Density/Dominance (P): Sparse (0-20%)         Low Density (20-40%)         Medium Density (40-60%)         High Density (680-100%)           80%)         Very High Density (80-100%)         X	60-
Interspersion of Cover & Open Water (P): 100% Cover or Open Water <25% Scattered/Peripheral Cover 26-75% Scattered or Peripheral Cover N/A	d or
Plant Species Diversity (P): Low (< 5 plant species) Medium (5-25 species) High (>25)	
Presence of Islands (M): Absent (none)K One or Few Several to Many N/A	
Cover Distribution of Dominant Layer (P): No Veg Solitary, Scattered Stems 1 or More Large Patches; Parts of Site Open Small Scattered Patches Continuous Cover_X	
Dead Woody Material (P): Low Abundance (0-25% of surface) Moderately Abundant (25-50% of surface) Abundant (>50% of surface)	
Vegetative Interspersion (P):       Low (large patches, concentric rings)       Moderate (broken irregular rings)         High (small groupings, diverse and interspersed)	
HGM Class (P): Slope Flat Lacustrine Fringe Depressional Riverine Estaurine Fringe	
SOIL VARIABLES	
Soil Factors (P): Soil Lacking Histosol:Fibric Histosol:Hemic Histosol: Sapric Mineral: Gravelly Mineral: Sandy Mineral: Silty Mineral: Clayey	
HYDROLOGIC VARIABLES	
Inlet/Outlet Class (P): No Inlet/Outlet \( \times \) No Inlet/Intermittent Outlet \( \times \) No Inlet/Perennial Outlet \( \times \) Intermittent Inlet/Intermittent Inlet/Intermittent Inlet/Perennial Outlet \( \times \) Perennial Inlet/No Outlet \( \times \) Perennial Inlet/Perennial Outlet \( \t	nnial
Wetland Water Regime (P): Drier: Seasonally Flooded, Temporarily Flooded, Saturated Wet: Perm. Flooded, Intermittently Exposed, Semiperm. Flooded	
Evidence of Sedimentation (P): No Evidence Observed Sediment Observed on Wetland Substrate Fluvaquent Soils Sediment Created	t
Microrelief of Wetland Surface (P): Absent Poorly Developed (6in.) Well Developed (6-18in.) Pronounced (>18in.)	
Frequency of Overbank Flooding (P): No Overbank Flooding Return Interval 1-2 yrs Return Interval 2-5 yrs Return Interval >5 yrs Return Interval Yrs Return In	
Degree of Outlet Restriction (P): No Outflow Restricted Outflow Unrestricted Outflow	
Water pH (P): No surface water Circumneutral (5.5-7.4) Alkaline (>7.4) Acid (<5.5) pH Reading	
Surficial Geologic Deposit Under Wetland (P): High Permeability Stratified Deposits Low Permeability Stratified Deposits Glacial Till/Not Permeable	W
Basin Topographic Gradient (M): Low Gradient (<2%) High Gradient (≥2%) X ( Seeps or Springs X Seeps Observed Intermittent Spring Perennial Spring Y Seeps Observed Intermittent Spring Perennial Spring Y Seeps Observed Intermittent Spring Perennial Spring No. 1 Seeps Observed Intermittent Spring No. 1 Seeps Observed Intermitten	
LANDSCAPE VARIABLES (M)	
Wetland Juxtaposition: Wetland Isolated Wetlands within 400m, Not Connected Only Connected Below Only Connected Upstream & Downstream Unknown	
Wetland Land Use: High Intensity (i.e., ag.) Moderate Intensity (i.e., forestry) Low Intensity (i.e. open space)	
Watershed Land Use: 0-5% Rural 5-25% Urbanized 25-50% Urbanized >50% Urbanized >50% Urbanized	
Size: Small (<10 acres) Medium (10-100 acres) Large (>100 acres)	

#### Wetland Determination Form QA/QC Checklist

This form to be completed before leaving the field site.

Feature ID: W84 A700 I	Field Target: 15225	Date: 7/1/15
	_	

For all items not checked, please provide detailed explanation in the notes section of data form.

#### 1. Site Description

- Site description, site parameters and summary of findings are complete?
- ☑ A detailed site sketch is included in logbook?

#### 2. Vegetation

- At least 80% of onsite vegetation has been keyed to species, or collected for later identification?
- ☑ Vegetation names are entered legibly for all strata present?
- □ Cover calculations are complete and correct?
- ☑ Indicator status is correct for each species?
- □ Dominance Test and Prevalence Index have been completed?

#### 3. Soil

- Soil profile is complete?
- Appropriate hydric soil indicators are marked?

#### 4. Hydrology

- Appropriate hydrology indicators are marked?
- Surface water, water table, and saturation depths are recorded if present?

#### 5. Functions and Values

✓ Vegetation, soil, hydrologic variables, and landscape variables complete if site is a wetland?

#### 6. Field Logbook

- Notes have been recorded at each site, including general description, sketch, and accuracy of pre-mapped wetland boundary as appropriate?
- Each logbook page is initialed and dated?

#### 7. Maps

- Wetland boundaries have been corrected if necessary?
- ☑ Maps are initialed and dated?

#### 8. Photos

Field Crew Chief (print)

- Four photos were taken for each Wetland Determination Data Form (2 vegetation, 1 soil pit, 1 soil plug)?
- Two photos were taken for each Observation Point (vegetation/site overview)?

X Abigayle Tisher	× allem 75/19
Wetland Scientist (print)	Signature / Date
XR- SI	X 12 3/12/15

Signature / Date

SITE DESCRIPTION						
Survey Type: Centerline Acces	ss Road (explain)	Other (expla	ain)	Field Targ	get: 15224	Map #: 27 Map Date: 6/29
Date: 7/1/15	Project Name & No.:	Alaska LNG	60418403		Feature Id:	W84A4002
Investigators: Bryan St	rong Abia.	aus (=	Fisher			Team No.: W84
State: Alaska	Region: Alaska		Milepost:	144.5		-American American
Latitude: 626 [3133.8	76"N	Longitude	150°1	311/3.	OS"W	Datum: WGS84
Logbook No.:	Logbook Page No.: (	27	Picture No.:	P-W8	SYAYOC	2-VEG_UFG_PIT-
SITE PARAMETERS					ALICE TO SELLE HAVE	CONTRACTOR OF THE PARTY OF THE PARTY.
Subregion: \ \ +erior			Landform (hill	slope terra	ce hummocks	s, etc.): Tees(ope
Slope (%): 1 - 2						Tat to slightly concave i
Pre-mapped Alaska LNG/NWI classifica	tion: II ( ) [	250/2-	Evidence of V		1/0) "	noderate tussocles
	11001	of year?		rmal Circun	nstances" pres	mose trucks near rooms
Are climatic/hydrologic conditions on the Yes No Ye (if no expl			Yes	No	(If no, exp	lain in Notes.) a low snow year
Are Vegetation, Soil, or Hyd		ly Disturbed?	No	Vision	olain in Notes)	
Are Vegetation, Soil, or Hyd	drology Naturally P	roblematic?	No	_ (If yes, ex	plain in Notes.	
SUMMARY OF FINDINGS						
Hydrophytic Vegetation Present? Yes_	No	Is 1	the Sampled A	rea within	a Wetland?	Yes X No
Hydric Soil Present? Yes_	X No	We	etland Type:	emys	SIB	
Wetland Hydrology Present? Yes_	× No_	— Ala	ska Vegetation	Classificati	on (Viereck):	11142,1102
corridor. Dry conditions love Alpha alpha positive in BETNAN 1-2.5' above	trozen A mat	erial (	11-15") >	60% 0	f Uinch	es. See soil/h-201997.
Tollor Hail BS W	×15224 omsst		Hur	Prs Bsu		A7002 OMSST

0.1	Absolute	Dominant	Indicator	Dominance Test worksheet:
Tree Stratum (Plot sizes: \( \)	% Cover	Species? (Y/N)	Status	No. of Dominant Species that are OBL, FACW, or FAC: (A
1. Picea mariana		NC -	Facle	% Dominant Species that are OBL, FACW, or FAC: 100 (A/I
2.				
3.				
i.		0		Prevalence Index worksheet:
Total Cov		movedto	o shrub)	Total % Cover of: Multiply by:
50% of total cov		% of total cov		OBL species: X1= X1= X2= X1=
Sapling/Shrub Stratum ( 26 PP)	Absolute % Cover	Dominant Species? (Y/N)	Indicator Status	FAC species 58 x 3 = 174
Betula Mana	7	4	Fac	UPL species X 5 =
Vaccinum vitis-idas	1		Tac	Column Totals: (A)(B) PI = B/A =(B)
Dicea maciona	3		Facil	PI = BIA =
Betula neoalastia	A T	- F-11	Facil	
Andromeda polifo	1	ATAL TERRE	FacW	
: Phododendrum to	mentosur	25 /	Facu	
3.	THE WAY	3 1		
9.	91			
Total Cov	er: XV			
The same of the sa	Umm AF	South tipe towers and	W	
50% of total cov	Umm AF	% of total cov	er:16	formation plant with the same of
THE RESERVE TO SHARE THE PARTY OF THE PARTY	er: 40 20	% of total cov	er:	
EGETATION (use scientific names of plan	er: 40 20	Dominant	er: 16	Hydrophytic Vegetation Indicators:
EGETATION (use scientific names of plan	er: 40 34 20	Dominant Species?		Hydrophytic Vegetation Indicators:  Dominance Test is > 50%
EGETATION (use scientific names of plan	er: 40 20	Dominant	Indicator Status	
regeration (use scientific names of planterb Stratum ( )	er: 40 20	Dominant Species?	Indicator Status	Dominance Test is > 50%  ➤ Prevalence Index is ≤ 3.0  — Morphological Adaptations¹ (Provide supporting data in
Tegetation (use scientific names of planter Stratum ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) (	Absolute % Cover	Dominant Species?	Indicator Status Fac	Dominance Test is > 50%  Prevalence Index is ≤ 3.0  Morphological Adaptations¹ (Provide supporting data in Notes)
Legetation (use scientific names of plantier Stratum ( ) ()	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test is > 50%  ➤ Prevalence Index is ≤ 3.0  — Morphological Adaptations¹ (Provide supporting data in Notes)  — Problematic Hydrophytic Vegetation¹ (Explain)
Legetation (use scientific names of plantier Stratum ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) (	Absolute % Cover	Dominant Species?	Indicator Status Fac	Dominance Test is > 50%  Prevalence Index is ≤ 3.0  Morphological Adaptations¹ (Provide supporting data in Notes)
Lerb Stratum ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) (	Absolute % Cover	Dominant Species?	Indicator Status Fac	Dominance Test is > 50%  Prevalence Index is ≤ 3.0  Morphological Adaptations¹ (Provide supporting data in Notes)  Problematic Hydrophytic Vegetation¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present unless
1. Corey Digelowie 2. Rubus chamae More 3. Ecophorum vaagnest 4.	Absolute % Cover	Dominant Species?	Indicator Status Fac	Dominance Test is > 50%  Prevalence Index is ≤ 3.0  Morphological Adaptations¹ (Provide supporting data in Notes)  Problematic Hydrophytic Vegetation¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present unless
1. Carey Digelowing 2. Rubus chamae Maria 3. Ecophorum vagnet 4. 5.	Absolute % Cover	Dominant Species?	Indicator Status Fac	Dominance Test is > 50%  Prevalence Index is ≤ 3.0  Morphological Adaptations¹ (Provide supporting data in Notes)  Problematic Hydrophytic Vegetation¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present unless disturbed or problematic.
1. Corey Digelowing 2. Rubus chamae Maria 3. Ecophorum varynest 4. 5. 6. 7.	Absolute % Cover	Dominant Species?	Indicator Status Fac	Dominance Test is > 50%  Prevalence Index is ≤ 3.0  Morphological Adaptations¹ (Provide supporting data in Notes)  Problematic Hydrophytic Vegetation¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present unless disturbed or problematic.  **Bare Ground**  **Cover of Wetland Bryophytes**  Total Cover of Bryophytes**  **Total Cover of Bryophytes**
1. Cocky Digelowin  2. Rulous wanted	Absolute % Cover	Dominant Species?	Indicator Status Fac	Dominance Test is > 50%  Prevalence Index is ≤ 3.0  Morphological Adaptations¹ (Provide supporting data in Notes)  Problematic Hydrophytic Vegetation¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present unless disturbed or problematic.  Bare Ground  Cover of Wetland Bryophytes

50% of total cover: 30 20% of total cover: 12

Notes: (If observed, list morphological adaptations below):

		1,322				maliantar as a	againma tha abaan	ice of indicators )
l A		escribe	to the depth neede	a to doct	ument the	indicator or (	committe abser	oc or maloutors.y
/epui	Matrix	%	20.00	redox Features				Notes
,	Color (moist)	70	Color (moist)	%	Type <sup>3</sup>	Loc²	Texture	Notes
-6		-					_	moist. Lest inch frozen
1-15 7.	San 23/2	100				1	SIL	frozen alpha alpha positive
-13 1.	312 20/2	(1)	7-2-	7			3,6	- not quite much sit
-18 5	4 5/1	GOI					5.2	ice leases parent material
		100						No redox features obser
e Deserta E								No positive ixa to alpha al
ype: C=Concer	ntration, D=Deplet	ion, RM	1=Reduced Matrix, (	CS=Cove	ered or Co	ated Sand G	rains. <sup>2</sup> Locatio	n: PL=Pore Lining, M=Matrix.
PORIC SOIL IN	DICATORS		CONTRACTOR OF THE PARTY OF THE				INDICATORS	FOR PROBLEMATIC HYDRIC SOILS3
stosol or Histel	11717-11-11-11-11-11-11-11-11-11-11-11-1		Alaska Gleyed	d (A13) _	N		Alaska Color	Change (TA4) <sup>4</sup>
stic Epipedon (A	A2) Tomars	sinal	Alaska Redox	(A14) _	N		Alaska Alpine	Swales (TA5)
ack Histic (A3)	N		Alaska Gleyer	d Pores (	(A15)	)		with 2.5Y Hue N
ydrogen Sulfide	(A4) N							d without 5Y Hue or Redder Underlying
hick Dark Surfac	A CONTRACT OF THE PARTY OF THE	Y					Other (Explai	n in Notes) \
		ation, o	ne primary indicator	of wetla	nd hydrolo	gy, and an a	The Control of the Co	cape position must be present unless
isturbed or probl	lematic.					1		SOF NATURE AND ACCUSED TO THE SECOND STATE OF
	olor change in Note		nafrost	Depth (in	iches):	1		
	ent (Y/N): 1							es in frozen material (>60) when above the frost table
otes: Organic	s not setu nons in a li	ons s		e of satural ternal	Satura tion as (11-15	tion from sumes e nehes)	om 6-11 in the 1s alpha al	es in frozen material (>60) ches above the frost table growing season and during pha positive. Low chroma par 2 or more required)
lotes: Organic ory conditional pres	s not sets	ons (a	ed. Evidence inow year, S Frozen A ma	e of Satura Sternal	Satura tran as (11-15	tion from sumes e nehes)	om 6-11 in the is alpha al	ches above the frost table growing scaron and during pla positive. Low chroma par
lotes: Organic organic	s not setuines in a li ripitation re- RIMARY INDICATION 1) N	ORS (a	Frezer A mainty one indicator is stated Soil Cracks (Bondation Visible on A	satura sufficient)	Satura tion as (11-15	SECONDAR Vater-stained eaves (B9)	om 6-11 in the is alpha al	ches above the frost table growing season and during the pasitive. Low chrome man 2 or more required)  Stunted or Stressed
YDROLOGY PRurface Water (A'	S not seturns in a lightedian recommendation recomm	ORS (a Sur Inu (B7	Frezer A mainty one indicator is stated Soil Cracks (Bondation Visible on A	sufficient)  Serial Ima	Satura tron as (11-15)	SECONDAR' Vater-stained eaves (B9) Drainage Pat	Y INDICATORS (  terns (B10) N  zospheres along	ches above the frost table growing scason and during pha positive. Low chrome par 2 or more required)  Stunted or Stressed Plants (D1) \( \text{L} \)
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YDROLOGY PR urface Water (A' igh Water Table aturation (A3)	S not seturns in a limited in a	ORS (a Sur Inu (B7 Spa Cor Mai	iny one indicator is s face Soil Cracks (Brindation Visible on A arsely Vegetated incave Surface (B8)	sufficient)  erial Ima	Satura tran as (11-15)  S  U  L  gery  D  L  I  I  I  I  I  I  I  I  I  I  I  I	SECONDAR' Vater-stained eaves (B9) Orainage Pate Oxidized Rhiziving Roots Presence of F	r INDICATORS (	ches above the frost table growing season and during the pasitive. Low chrome the pasitive. Low chrome the plants (D1)  Geomorphic Position (D2)  Shallow Aquitard (D3)  Microtopographic
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YDROLOGY PR urface Water (A' igh Water Table aturation (A3) /ater Marks (B1) ediment Deposit rift Deposits (B3)	RIMARY INDICATO	ORS (a Sur Inu (B7 Spa Cor Mai Hyo Odd Dry Wa	iny one indicator is s face Soil Cracks (Bi indation Visible on A ) arsely Vegetated incave Surface (B8) if Deposits (B15) drogen Sulfide or (C1) -Season	sufficient N	Satural   Satu	ECONDAR' Vater-stained eaves (B9) Drainage Pate Dividized Rhiziving Roots Presence of Fron (C4)	r INDICATORS (	ches above the frost table growing season and during the positive. Low chrome man 2 or more required)  Stunted or Stressed Plants (D1)  Geomorphic Position (D2)  Shallow Aquitard (D3)  Microtopographic Relief (D4)
YDROLOGY PR urface Water (A' igh Water Table aturation (A3) /ater Marks (B1) ediment Deposit rift Deposits (B3)	RIMARY INDICATOR	ORS (a Sur Inu (B7 Spa Cor Mai Hyo Odd Dry Wa	iny one indicator is state of the state of t	sufficient N	Satural   Satu	ECONDAR' Vater-stained eaves (B9) Drainage Pate Dividized Rhiziving Roots Presence of Fron (C4)	r INDICATORS (	ches above the frost table growing season and during the positive. Low chrome man 2 or more required)  Stunted or Stressed Plants (D1)  Geomorphic Position (D2)  Shallow Aquitard (D3)  Microtopographic Relief (D4)
YDROLOGY PR urface Water (A' igh Water Table aturation (A3) /ater Marks (B1) ediment Deposit rift Deposits (B3) lgal Mat or Crust on Deposits (B5)	RIMARY INDICATOR	ORS (a Sur Inu (B7 Spa Cor Ma Hyd Odd Dry Wa Oth	iny one indicator is state of the state of t	sufficient N	Satural   Satu	ECONDAR' Vater-stained eaves (B9) Drainage Pate Dividized Rhiziving Roots Presence of Fron (C4)	r INDICATORS (	ches above the frost table growing season and during the positive. Low chrome man 2 or more required)  Stunted or Stressed Plants (D1)  Geomorphic Position (D2)  Shallow Aquitard (D3)  Microtopographic Relief (D4)
YDROLOGY PR urface Water (A' igh Water Table aturation (A3) /ater Marks (B1) ediment Deposit rift Deposits (B3) lgal Mat or Crust on Deposits (B5) urface Water Pre	RIMARY INDICATOR  (A2) N  (S (B2) N  (B4) N  esent (Y/N): N	ORS (a Sur Inu (B7 Spa Cor Ma Hyd Odd Dry Wa Oth	iny one indicator is state of the second of	sufficient N erial Ima  N	Satura tron as (11-15)  S  V L  Igery  D  In  S  N	ECONDAR' Vater-stained eaves (B9) Drainage Pat Dividized Rhiziving Roots Presence of Fron (C4) Salt Deposits Hotes:	r INDICATORS (	ches above the frost table growing season and during the positive. Low chrome the positive (D1)
HYDROLOGY PR Surface Water (A' High Water Table Saturation (A3) Water Marks (B1) Sediment Deposit Orift Deposits (B3) Algal Mat or Crust ron Deposits (B5)	RIMARY INDICATOR  (A2) _ N  (A2) _ N  (B4) _ N  esent (Y/N): N  ent (Y/N): N	ORS (a Sur Inu (B7 Spa Cor Ma Hyo Odo Dry Wa Oth	iny one indicator is state of the second of	sufficient, No.	Satural Strong as (11-15)  Superior Control of the strong as (11-15)  Superior Control of the strong as (11-15)  West	ECONDAR' Vater-stained eaves (B9) Drainage Pat Dividized Rhiziving Roots Presence of Fron (C4) Salt Deposits Hotes:	r INDICATORS (  Is alpha at  Y INDICATORS (  Is alpha at  Y INDICATORS (  Cospheres along (C3) N  Reduced  (C5) N	ches above the frost table growing season and during the positive. Low chrome the positive (D1)

## AQUATIC SITE ASSESSMENT DATA FORM

VEGETATION VARIABLES P= Plot, M= Matrix
Primary Vegetation Type (P): Vegetation LackingForested-Deciduous-Needle-leavedForested-Deciduous-Broad-leavedForested-Evergreen-Needle-leavedScrub Shrub-Deciduous-Needle-leavedScrub Shrub-Deciduous-Broad-leavedScrub Shrub-Evergreen-Broad-leavedScrub Shrub-Evergreen-Needle-leavedEmergent-Non-persistentEmergent-PersistentAquatic Bed
Percent Cover (P): Tree (>5 dbh, >6m tall)     Sapling (<5 dbh, <6m tall)
Number of Wetland Types (M): Evenness of Wetland Type Distribution (M): EvenKHighly UnevenModerately even
Vegetation Density/Dominance (P): Sparse (0-20%)         Low Density (20-40%)         Medium Density (40-60%)         High Density (60-80%)           80%)         Very High Density (80-100%)         X
Interspersion of Cover & Open Water (P): 100% Cover or Open Water <a href="#">25% Scattered/Peripheral Cover</a> 26-75% Scattered or Peripheral Cover N/A
Plant Species Diversity (P): Low (< 5 plant species) Medium (5-25 species) High (>25)
Presence of Islands (M): Absent (none) One or Few Several to Many N/A
Cover Distribution of Dominant Layer (P): No Veg Solitary, Scattered Stems 1 or More Large Patches; Parts of Site Open Small Scattered Patches Continuous Cover
Dead Woody Material (P): Low Abundance (0-25% of surface) Moderately Abundant (25-50% of surface) Abundant (>50% of surface)
Vegetative Interspersion (P):     Low (large patches, concentric rings)     ✓     Moderate (broken irregular rings)       High (small groupings, diverse and interspersed)
HGM Class (P): Slope Flat Lacustrine Fringe Depressional Riverine Estaurine Fringe
SOIL VARIABLES
Soil Factors (P): Soil Lacking Histosol:Fibric Histosol:Hemic Histosol: Sapric Mineral: Gravelly Mineral: Sandy Mineral: Silty Mineral: Clayey
HYDROLOGIC VARIABLES
Inlet/Outlet Class (P): No Inlet/Outlet No Inlet/Intermittent Outlet No Inlet/Perennial Outlet Intermittent Inlet/Intermittent Inlet/Intermittent Inlet/Intermittent Inlet/Perennial Outlet Perennial Inlet/Intermittent Outlet Perennial Inlet/Intermittent Outlet Perennial Inlet/Perennial Outlet
Wetland Water Regime (P): Drier: Seasonally Flooded, Temporarily Flooded, Saturated Wet: Perm. Flooded, Intermittently Exposed, Semiperm. Flooded
Evidence of Sedimentation (P): No Evidence Observed Sediment Observed on Wetland Substrate Fluvaquent Soils Sediment Created
Microrelief of Wetland Surface (P): Absent Poorly Developed (6in.) Well Developed (6-18in.) Pronounced (>18in.)
Frequency of Overbank Flooding (P): No Overbank Flooding Return Interval 1-2 yrs Return Interval 2-5 yrs Return Interval >5 yrs
Degree of Outlet Restriction (P): No Outflow Restricted Outflow Unrestricted Outflow
Water pH (P): No surface water Circumneutral (5.5-7.4) Alkaline (>7.4) Acid (<5.5) PH Reading
Surficial Geologic Deposit Under Wetland (P): High Permeability Stratified Deposits Low Permeability Stratified Deposits Glacial Till/Not Permeable
Basin Topographic Gradient (M):       Low Gradient (<2%)
LANDSCAPE VARIABLES (M)
Wetland Juxtaposition: Wetland Isolated Wetlands within 400m, Not Connected Only Connected Below
Only Connected Above Connected Upstream & Downstream_ > Unknown
Wetland Land Use: High Intensity (i.e., ag.) Moderate Intensity (i.e., forestry) Low Intensity (i.e. open space)
Watershed Land Use: 0-5% Rural 5-25% Urbanized 25-50% Urbanized >50% Urbanized

Page 4 of 4

#### Wetland Determination Form QA/QC Checklist

This form to be completed before leaving the field site.

Feature ID: W84 AT 002	Field Target: 15224	Date: 7/1/15

For all items not checked, please provide detailed explanation in the notes section of data form.

#### 1. Site Description

- ☑ Site description, site parameters and summary of findings are complete?
- A detailed site sketch is included in logbook?

#### 2. Vegetation

- At least 80% of onsite vegetation has been keyed to species, or collected for later identification?
- ☑ Vegetation names are entered legibly for all strata present?
- Cover calculations are complete and correct?
- All dominant species have been determined and recorded per strata?
- ☑ Indicator status is correct for each species?
- Dominance Test and Prevalence Index have been completed?

#### 3. Soil

- ☑ Soil profile is complete?
- Appropriate hydric soil indicators are marked?

#### 4. Hydrology

- Appropriate hydrology indicators are marked?
- Surface water, water table, and saturation depths are recorded if present?

#### 5. Functions and Values

✓ Vegetation, soil, hydrologic variables, and landscape variables complete if site is a wetland?

#### 6. Field Logbook

- Notes have been recorded at each site, including general description, sketch, and accuracy of pre-mapped wetland boundary as appropriate?
- **E** Each logbook page is initialed and dated?

#### 7. Maps

- ☑ Wetland boundaries have been corrected if necessary?
- Maps are initialed and dated?

#### 8. Photos

- Four photos were taken for each Wetland Determination Data Form (2 vegetation, 1 soil pit, 1 soil plug)?
- ☑ Two photos were taken for each Observation Point (vegetation/site overview)?

X Abigayle Fisher	X alles Sh 7/2/1
Wetland Scientist (print)	Signature / Date
XBrean Strong	X & Omy 7/2/15
Field Crew Chief (print)	Signature / Date
	T T

Team No.: WSC/ State: Alaska  Region: Alaska	SITE DESCRIPTION		1940 . Jan 185 . 2		
Toam No.: VJ SZJ  Toam No.: VJ SZJ  State: Alaska  Region: Alaska  Region: Alaska  Region: Alaska  Region: Alaska  Region: Alaska  Region: Alaska  Longbude: LG 37 56, JS Datum: WGS84  Logbook No.: V Legbook Page No.: 28 Picture No.: Pusy JADO3 JEG JEG JEG  Subregion: Jaccie  Landform (fillistope, terrace, hummocks, etc.): Terrace  Landform (fillistope, terrace, hummocks, etc.): Terrace  Subregion: Jaccie  Landform (fillistope, terrace, hummocks, etc.): Terrace  Landform (fillistope, terrace, hummocks,	Survey Type: Centerline Acce	ss Road (explain) Other (	explain)Fi	eld Target: <u>1523</u> 2	Map #: 29 Map Date: 6/29/15
State: Alaska  Region: Alaska  Logbook No.: 1  Logbook No.: 2  Picture No.: W344003_VEC_VEC_PTC  Site PARAMETERS  Subregion: Jaccie  Landform (hillislope, terrace, hummocks, etc.): Terrace  Logbook No.: 1  Logbook No.: 2  Pre-maped Alaska LNGNWI classification: D544644 Jaccie Relief (concave, convex, none): Site Hir convex tesselve research none of the site typical for this time of year?  Pre-maped Alaska LNGNWI classification: D544644 Jaccie Relief (concave, convex, none): Site Hir convex tesselve research none of the site typical for this time of year?  Pre-maped Alaska LNGNWI classification: D544644 Jaccie Relief (concave, convex, none): Site Hir convex tesselve research none of the site typical for this time of year?  Pre-maped Alaska LNGNWI classification: D544644 Jaccie Relief (concave, convex, none): Site Hir convex tesselve relief (recave, convex, none): Site H	Date: + ( (6	Project Name & No.: Alaska	LNG 60418403	Feature Id	:W84A4003
State: Alaska  Region: Alaska  Milepost: 274.7  Longitude: 669 Mile 73 Logbook Page No.: 28 Picture No.: 1524 AND 3 LEGITED PICTURE  SIFE PARAMETERS  Subregion: Alaska LNGNWi classification: 054 Miles of this time of year?  Free mapped Alaska LNGNWi classification: 054 Miles of the time of year?  Free Me Wegetation of Soil of the time of year?  Free No X (if no explain in Notes) dry candidate.  Are climatichydrologic conditions on the site Spicial for this time of year?  Free No X (if no explain in Notes) dry candidate.  Are Vegetation of Soil of thydrology Dispificantly Disturbed?  No Wegetation of Soil of thydrology Dispificantly Disturbed?  No Wegetation of Soil of thydrology Dispificantly Disturbed?  No Wegetation of Soil of thydrology Dispificantly Disturbed?  No Wetland Type: PSS V [Miles]  Notes and Site Sketch: Please include Directional & North Arrow, Centerline, Length of feature, Distances from Centerline, Photo Locations, and Survey Condidor.  Notes and Site Sketch: Please include Directional & North Arrow, Centerline, Length of feature, Distances from Centerline, Photo Locations, and Survey Condidor.  Part of Carlot Soil of Soi	Investigators: Brun 51	rong Abiarule	Fisher	-	Team No.: WSC
Logbook No.: 1   Logbook Page No.: 28   Picture No.: PURY AND SEGUEGATE   Step Parameters   Subregion:   Marcia     Local relief (concave, convex, none): Simple II convex to social and climatichydrologic conditions on the site typical for this time of year?     See No.	State: Alaska	1 - Y 1	Milepost: 27	1.7	
Subregion: Jaccie Landform (Nillslope, terrace, hummooks, etc.): Terrace Slope (%): 3  Pre-mapped Alaska LNG/NWI classification: DST/FMB North Personal Evidence of Wildlife Use: // Are climaticity/drologic conditions on the site object for this time of year?  Are climaticity/drologic conditions on the site object for this time of year?  Are vogetation D. Soil D. or Hydrology D. Significantly Disturbed?  No. M. (If no explain in Notes) J. (If no. explain in Notes)  Are Vegetation D. Soil D. or Hydrology D. Naturally Problematic?  No. M. (If yes, explain in Notes)  SumMARY OF FINDINGS  Is the Sampled Area within a Wetland? Yes. No.  Wetland Type: PSS J. (EM. I.)  Alaska Vegetation Classification (Viereck): II. A. J.  Notes and Site Sketch: Please include Directional & North Arrow. Centerline, Length of feature, Distances from Centerline, Photo Locations, and Survey portlood.  Alaska Vegetation Classification (Viereck): II. A. J.  Notes and Site Sketch: Please include Directional & North Arrow. Centerline, Length of feature, Distances from Centerline, Photo Locations, and Survey portlood.  Alaska Vegetation Classification (Viereck): II. A. J.  Notes and Site Sketch: Please include Directional & North Arrow. Centerline, Length of feature, Distances from Centerline, Photo Locations, and Survey portlood.  Alaska Vegetation Classification (Viereck): II. A. J.  Notes and Site Sketch: Please include Directional & North Arrow. Centerline, Length of feature, Distances from Centerline, Photo Locations, and Survey portlood.  Alaska Vegetation Classification (Viereck): II. A. J.  Notes and Site Sketch: Please include Directional & North Arrow. Centerline, Length of feature, Distances from Centerline, Photo Locations, and Survey portlood.  Alaska Vegetation Classification (Viereck): II. A. J.  Notes and Site Sketch: Please include Directional & North Arrow. Centerline, Length of feature, Distances from Centerline, Photo Locations, and Survey portlood.  Alaska Vegetation Classification (Viereck): II. A. J.  Arrow Transpect Ala	Latitude: 66 651 46.7	3° N Longit	tude: 156 0 37	156,45	Datum: WGS84
Subregion: Jacks Commences, burninocks, etc.): Terrace  Slope (%): 3  Coal relief (concave, convex, none): Startly convex to social none): Startly convex to social relief (concave, convex to social relief (concave, convex to social relief (concave, convex to social relief (conca	Logbook No.: \	Logbook Page No.: 2 🙎	Picture No.:	W84 AYOO	3_VEG_VEG_PIT_PI
Local relief (concave, convex, none): Strict to convex to society please in the standard proposed Alaska LNG/NWI classification: DSSM/FMPS None of Wilding Use: //d  Are climatichydrologic conditions on the site typical for this time of year?   Are "Normal Circumstances" present: No.	SITE PARAMETERS	MATERIAL PROPERTY AND ADDRESS OF	MINISTERNATION OF STREET	Control of the Landson	the sufficient or market will be spill
Local relief (concave, convex, none): Strict to convex to society please in the standard proposed Alaska LNG/NWI classification: DSSM/FMPS None of Wilding Use: //d  Are climatichydrologic conditions on the site typical for this time of year?   Are "Normal Circumstances" present: No.	Subregion: Interior	3 12 1-5	Landform (hillslop	e, terrace, hummock	s, etc.): Terrace
Are climatichydrologic conditions on the site typical for this time of year?  Are climatichydrologic conditions on the site typical for this time of year?  Are climatichydrologic conditions on the site typical for this time of year?  Are involved conditions on the site typical for this time of year?  Are Vegetation D. Soil D. or Hydrology D. Significantly Disturbed?  No. (If yes, explain in Notes)  Are Vegetation D. Soil D. or Hydrology D. Naturally Problematic?  No. (If yes, explain in Notes)  No. (If ye	Slope (%): 3		Local relief (conca	ave, convex, none):	Slightly convex tossacky
res No X (if no explain in Notes) dry conditions  Yes No X (if no explain in Notes) dry conditions  No X (if no explain in Notes) dry conditions  No X (if yes, explain in Notes)  No Yes Vegetation D Soil Y or Hydrology D Naturally Problematic?  No Yes (if yes, explain in Notes)  No Yes X No Is the Sampled Area within a Wetland? Yes X No Hydrophytic Vegetation Present?  Yes X No Wetland Type: PSS (EMIS)  Notes and Site Sketch: Please include Directional & North Arrow, Centerline, Length of feature, Distances from Centerline, Photo Locations, and Survey promision of the standard over the foot table. Organic alpha positive in a positive in the soft organic mat is at field capacity (near satisfic for the foot table) organic alpha positive in the foot two inches indicating recent satisfication. No themsel material at the time of sate visit Saturation assumed early in the growing Season and large marked periods of precipitation.  No X (if no explain in Notes) Ary canditions  No X (if yes, explain in Notes)  No X (if yes, explain in Notes)  No X (if yes, explain in Notes)  No Yes X No X No X (if yes, explain in Notes)  No Yes X No X N	Pre-mapped Alaska LNG/NWI classifica	ation: PSS4/EMIR MOUL	Evidence of Wildli	fe Use: //d	moderat
Are Vegetation). Soil	Are climatic/hydrologic conditions on the Yes No_& (if no exp	e site typical for this time of year? lain in Notes)	Are "Norma Yes	l Circumstances" pre No (If no, ex	esent: plain in Notes.) Lry conditions
SumMary OF FINDINGS  Hydrophytic Vegetation Present? Yes No Wetland Type: PSSY/EMIB  Netland Hydrology Present? Yes No No Alaska Vegetation Classification (Viereck): MAR, III AZ  Notes and Site Sketch: Please include Directional & North Arrow, Centerline, Length of feature, Distances from Centerline, Photo Locations, and Survey vooridor)  The conditions Low show year, Lower of Inches of organic mark is at field capacity (near subtraction) over the first table. Organic alpha alpha positive in a position two inches indication recent subtration. No themsel marked soil material at the time of site visit. Subtration assumed early in the growing season and during marked typical periods of precipitation.	Are Vegetation <u>N</u> , Soil <u>N</u> , or Hy	drology <u>ル</u> Significantly Disturb	oed? No(If	yes, explain in Notes	
Hydrophytic Vegetation Present? Yes No Is the Sampled Area within a Wetland? Yes No No Netland Type: PSS4/EMIB  Netland Hydrology Present? Yes No No Alaska Vegetation Classification (Viereck): 11 A2  Notes and Site Sketch: Please include Directional & North Arrow, Centerline, Length of feature, Distances from Centerline, Photo Locations, and Survey porridor.  In conditions Low snow year, Lower of inches of organic mat is at field capacity (near satiration) over the first table Organic alpha alpha positive in softon two inches indication recent satiration. No themself marked soil material at the time of sate visit. Saturation assumed early in the growing season and during more tripical periods of precipitation.  Atoms  PSS-4/EMIB Storetine  Atoms  Atom	Are Vegetation 🗘, Soil 🧡 or Hy	drology Naturally Problema	tic? No Les (If	yes, explain in Notes	ś.)
Netland Hydrology Present?  Yes X No Metland Type: PSSY/EMIB  Netland Hydrology Present?  Yes X No Alaska Vegetation Classification (Viereck): MAB*, III AZ  Notes and Site Sketch: Please include Directional & North Arrow, Centerline, Length of feature, Distances from Centerline, Photo Locations, and Survey porridor.  The conditions Low snow year hower of inches of organic mat is at field capacity (near sabration) over the frost table. Organic alpha alpha positive in pottom two inches indicating recent saturation. No theweld marral soil material at the time of site visit. Saturation assumed early in the growing season and during more tepical periods of precipitation.  Aroo3  PSSY/EMIB Started Picmae Weeven to show the server and low shorts continued to the server and low shorts and low shorts continued to the server and low shorts and low shorts are server and low shorts and low shorts and low shorts are server and low shorts and low shorts are server and low shorts are server and low shorts and low shorts are s	SUMMARY OF FINDINGS	The state of the state of	HEROTE HE CONTRACTOR	Was Market	
Notes and Site Sketch: Please include Directional & North Arrow, Centerline, Length of feature, Distances from Centerline, Photo Locations, and Survey Dorridor.  Dry cond, times Low snow year, Lower of makes of organic mat is at field capacity (near subtration) over the frost table. Organic alpha pasitive in pottom two inches indicating recent subtration. No there is mineral soil material at the time of site visit. Subtration assumed early in the growing season and during more tepical periods of precipitation.  Atoo3  PSSU/ID  Shorter Picmae w/ Eriva	Hydrophytic Vegetation Present? Yes_		Is the Sampled Area	within a Wetland?	Yes No
Notes and Site Sketch: Please include Directional & North Arrow, Centerline, Length of feature, Distances from Centerline, Photo Locations, and Survey corridor. ) ry conditions Low snow year. Lower of inches of organic mat is at field capacity (near subtration) over the frost table. Organic alpha alpha positive in pottom two inches indicating recent subtration. No thewest mineral soil material at the time of site visit. Subtration assumed early in the growing season and during more typical periods of precipitation.  Atoo3 PSSU/EMID Shorter Picmae Werva to short continued to sh	Hydric Soil Present? Yes_	× No	Wetland Type:	ss4/Emil	3
capacity (near subration) over the first table. Organic alpha alpha positive in pottom two inches indicating recent subration. No thanks mineral soil material at the time of site visit. Subration assumed early in the growing season and during more typical periods of precipitation:  Atoos  PSSU/EMIS Started PICMAR WERING  Lupland  1-Upland  1-Up	Wetland Hydrology Present? Yes_	× No	Alaska Vegetation Cla	ssification (Viereck):	11 A /2, 111 A2
	capacity (new salva loot form two inches in the time of site value) when your typical	-on snow year, how from over the fros dicating recent so	tration. No summed early Atlana	of organic anic alpha there & min the s borde	rline  The PICMAR WERLYAGE  Material Services  The PICMAR WERLYAGE  TO PICMAR WERLYAGE  THE P

VEGETATION (use scientific names of plants	)			
Tree Stratum (Plot sizes: \ \ \ \ \ )	Absolute % Cover	Dominant Species? (Y/N)	Indicator Status	Dominance Test worksheet:  No. of Dominant Species that are OBL, FACW, or FAC:
1. Picea mariana	2	(1714)	Fach	Total Number of Dominant Species Across All Strata: 3 (B)
2.				% Dominant Species that are OBL, FACW, or FAC: 100 (A/B
3.				
4.				Prevalence Index worksheet:
Total Cover	,,	added to s		Total % Cover of: Multiply by:
50% of total cover	ř –	% of total cov	rer:	OBL species: X1=
Sapling/Shrub Stratum (	Absolute % Cover	Dominant Species? (Y/N)	Indicator Status	FACW species:
1. Prododendrum tomen	105Um 2	JY	Fach	UPL species X 5 =
2. Picea moriana	26	Y	FacW	Column Totals: 95 (A) 199 (B)
3. Vaccinium uliginosum	3		Foc	PI = B/A =
4. Vaccinum vitis-idaec	2 4		Fac	
5. Betila nana	1	2.	Fac	
6. Chamaedaphne caly	-		Fach	
AND CHARGE DOUGHE			Fork	
9. Vaccinium oxycoco	5		061	
Total Cover		)% of total cov	ver: 11.4	
VEGETATION (use scientific names of plants	)			
Herb Stratum ( )	Absolute % Cover	Dominant Species? (Y/N)	Indicator Status	Hydrophytic Vegetation Indicators:  Dominance Test is > 50%
1. Rubus changemorus	3		Facely	Prevalence Index is ≤ 3.0  Morphological Adaptations¹ (Provide supporting data in
2. Friophrum vaginatum	35.	7	FacW	Notes)
3.				Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
4.				Indicators of hydric soil and wetland hydrology must be present unless
5.				disturbed or problematic.
6.				E ISBN MERCEUTER AND MARKET
7.				% Bare Ground
8. Feather Mass	5	- (4		Cover of Wetland Bryophytes
	20			Total Cover of Bryophytes
9. Cichen	00		<del>                                     </del>	( ) % Cover of Water
10. Sohoanum	90			% Cover of Water Hydrophytic Vegetation Present (Y/N):

171	ILL DESCRIPTION. (L	Describe	to the depth needed to	docu	iment the	indicator or o	confirm the abser	nce of indicators.)
Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Notes
0-5							fibrie	slightly moist
5-9							hem, c	field capacity - near
9-125	7.54R 2.5/2	100					5.2	Frozen Alpha Alpha
	1,1,							Darker band (1°) at bot.
25-16	25-14/1	100			23(		5.L	frozen Alpha Alpha po
		-						Ice lenses a fairly
Type: C=C	oncentration D=Denk	ation RN	l ∕l=Reduced Matrix, CS=	=Cove	ered or Co	ated Sand G	Grains <sup>2</sup> Locatio	n: PL=Pore Lining, M=Matrix.
	IL INDICATORS	zilon, ren	N-1000000 Matrix, 00-	0070	area or oo	ated dana e		S FOR PROBLEMATIC HYDRIC SOIL
APPORT A PARTY	listel (A1)		Alaska Gleyed (A	(13)	N		E I COLL AT SELECT	Change (TA4) <sup>4</sup> \(\begin{align*}{c}\blue{c}\\ \\ \end{align*}
		امما						e Swales (TA5)
	ic Epipedon (A2) $\checkmark$ Marshall Alaska Redox (A14) $\land$ Sk Histic (A3) $\land$ Alaska Gleyed Pores (A15) rogen Sulfide (A4) $\land$					7		x with 2.5Y Hue \(\int\)
					· · · · /			ed without 5Y Hue or Redder Underlyin
Thick Dark S	Surface (A12)							in in Notes) 7
Give details	problematic. s of color change in No ayer (if present): Type	otes. e: Per	mafost Dep	oth (ir	nches):	٩		T 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
Notes: Ev	Present (Y/N):	tura	tion from 8-16	9 1	nehes ches.	IN Oc Alpha	material alpha ren	Reduced matrix. A
Notes: Ev.	itence of so in frozen m	atura ateri cent	Saturation 1	~ :	the lo	wer 4	of organ	ics
Notes: Even	itence of so in frozen m indicating (c	atora ateri cent	Saturation i	icient	the (c	SECONDAR Vater-staine	Y INDICATORS	(2 or more required)  Stunted or Stressed
Notes: Events with the Notes: Events with the Notes	in frozen mindications (C	tora ateri cent TORS (a	saturation is suffi any one indicator is suffi rface Soil Cracks (B6)	~ · icient	the (c)	SECONDAR Vater-staine Leaves (B9)	Y INDICATORS	(2 or more required)  Stunted or Stressed Plants (D1)
Notes: Events with the Notes: Events with the Notes	itence of so in frozen m indicating (c	tora ateric cent  TORS (i	any one indicator is suffi rface Soil Cracks (B6) _ indation Visible on Aeria	~ · icient	the (c)	SECONDAR Vater-staine Leaves (B9) Orainage Pat	Y INDICATORS  d  \( \text{\terms} \)  tterms (B10) \( \text{\terms} \)	(2 or more required)  Stunted or Stressed
Notes: Events in the Control of the	in frozen mindications (C	tora ateria cent TORS (a Su Inu (B)	any one indicator is suffi rface Soil Cracks (B6) _ Indation Visible on Aeria	icient	the (a)	SECONDAR Vater-staine Leaves (B9) Orainage Par Oxidized Rhi Living Roots	Y INDICATORS  d  Lterns (B10)   zospheres along (C3)	(2 or more required)  Stunted or Stressed Plants (D1)  Geomorphic Position (D2)  Shallow Aquitard (D3)
Notes: Constitution (A	in frozen mindications (A1) D  Table (A2) N	TORS (a Su Inu (B) Co	any one indicator is suffirface Soil Cracks (B6) indation Visible on Aeria  7) arsely Vegetated ncave Surface (B8) int Deposits (B15)	icient	the (c)  S  V L  agery [ L  F	SECONDAR Vater-staine Leaves (B9) Drainage Pat Dxidized Rhi	Y INDICATORS  d  Lterns (B10)  zospheres along (C3)  Reduced	(2 or more required)  Stunted or Stressed Plants (D1)  Geomorphic Position (D2)
HYDROLOG Surface Water High Water Saturation (A	Table (A2) N	TORS (a Su Inu (BT) Sp Co	any one indicator is suffirface Soil Cracks (B6) indation Visible on Aeria 7) arsely Vegetated ncave Surface (B8) int Deposits (B15) drogen Sulfide or (C1)	icient	S   S   S   S   S   S   S   S   S   S	SECONDAR  Water-staine Leaves (B9)  Orainage Pat  Oxidized Rhi Living Roots  Presence of fron (C4)  Salt Deposits	Y INDICATORS  d  Literns (B10)  Zospheres along (C3)  Reduced  (C5)  L  (C5)	(2 or more required)  Stunted or Stressed Plants (D1)  Geomorphic Position (D2)  Shallow Aquitard (D3)  Microtopographic Relief (D4)  FAC-Neutral Test (D5)
HYDROLOG Surface Water High Water Saturation (A	Table (A2) N	TORS (a Su Inu (B) Co Ma	any one indicator is suffirface Soil Cracks (B6) indation Visible on Aeria  // arsely Vegetated ncave Surface (B8) int Deposits (B15) drogen Sulfide	icient	S   S   S   S   S   S   S   S   S   S	SECONDAR  Water-staine Leaves (B9)  Orainage Pat  Oxidized Rhi Living Roots  Presence of fron (C4)  Salt Deposits	Y INDICATORS  d  Literns (B10)  Zospheres along (C3)  Reduced  (C5)  L  (C5)	(2 or more required)  Stunted or Stressed Plants (D1)  Geomorphic Position (D2)  Shallow Aquitard (D3)  Microtopographic Relief (D4)  FAC-Neutral Test (D5)
HYDROLOG Surface Water High Water Saturation (A Water Marks Sediment De	Table (A2) N  (B1) N  (B1) N  (B1) N  (B2) N	TORS (a Su Inu (B) Sp Co Ma Hy	any one indicator is suffirface Soil Cracks (B6) indation Visible on Aeria  7) arsely Vegetated ncave Surface (B8) irl Deposits (B15) drogen Sulfide or (C1) /-Season	icient	S	SECONDAR  Water-staine Leaves (B9)  Orainage Pai  Oxidized Rhi Living Roots  Presence of fron (C4)  Salt Deposits  Notes:	Y INDICATORS  d  Literns (B10)  Zospheres along (C3)  Reduced  (C5)  L  (C5)  L  (C5)	(2 or more required)  Stunted or Stressed Plants (D1)  Geomorphic Position (D2)  Shallow Aquitard (D3)  Microtopographic Relief (D4)
HYDROLOG Surface Water High Water Saturation (A Water Marks Sediment De Drift Deposit Algal Mat or	Table (A2) N  BY PRIMARY INDICA  TO ZELL M  TO ZELL M	TORS (a Su Inu (B) Sp Co Ma Hy	any one indicator is suffirface Soil Cracks (B6)	icient	S	SECONDAR  Vater-staine Leaves (B9)  Orainage Par  Oxidized Rhi Living Roots  Presence of fron (C4)  Salt Deposits  Notes:	Y INDICATORS  d  Atterns (B10)  Zospheres along (C3)  Reduced  (C5)  A7003	(2 or more required)  Stunted or Stressed Plants (D1)  Geomorphic Position (D2)  Shallow Aquitard (D3)  Microtopographic Relief (D4)  FAC-Neutral Test (D5)
HYDROLOG Surface Wat High Water Saturation (A Water Marks Sediment De Drift Deposit Algal Mat or	Table (A2) N  Exposits (B2) N  Crust (B4) N	Sulling (B) Sp Co	any one indicator is suffirface Soil Cracks (B6)	icient	the (a)	Nater-staine Leaves (B9) Drainage Paticiving Roots Presence of ron (C4) Salt Deposits Notes:	Y INDICATORS  d  Literns (B10) \( \)  zospheres along (C3) \( \)  Reduced  (C5) \( \)  (C5) \( \)  A7003	(2 or more required)  Stunted or Stressed Plants (D1)  Geomorphic Position (D2)  Shallow Aquitard (D3)  Microtopographic Relief (D4)  FAC-Neutral Test (D5)  FAC-Neutral Test (D5)  Slightly convex
HYDROLOG Surface Wat High Water Saturation (A Water Marks Sediment De Drift Deposit Algal Mat or Iron Deposits	Table (A2) N  apposits (B2) N  Crust (B4) N  s (B5) N	Sulling (B) Sp Co	any one indicator is suffirface Soil Cracks (B6) indation Visible on Aeria // arsely Vegetated incave Surface (B8) intl Deposits (B15) drogen Sulfide or (C1) /-Season atter Table (C2) iner (Explain in Notes):	icient	the (a)	Nater-staine Leaves (B9) Drainage Paticiving Roots Presence of ron (C4) Salt Deposits Notes:	Y INDICATORS  d  Literns (B10) \( \)  zospheres along (C3) \( \)  Reduced  (C5) \( \)  (C5) \( \)  A7003	(2 or more required)  Stunted or Stressed Plants (D1)  Geomorphic Position (D2)  Shallow Aquitard (D3)  Microtopographic Relief (D4)  FAC-Neutral Test (D5)  FAC-Neutral Test (D5)  Slightly convex
HYDROLOG Surface Wat High Water Saturation (A Water Marks Sediment De Drift Deposit Algal Mat or Iron Deposit: Surface Wat Water Table Saturation P (includes cap	Table (A2) N  A3) N  Exposits (B2) N  Crust (B4) N  Present (Y/N): N  Present (Y/N): N  Present (Y/N): N  Present (Y/N): N	TORS (a Su Inu (B) Sp Co	any one indicator is suffirface Soil Cracks (B6) Indation Visible on Aeria  7) arsely Vegetated ncave Surface (B8) Int Deposits (B15)  drogen Sulfide or (C1) /-Season atter Table (C2) ner (Explain in Notes):  Depth (in): A  Depth (in): A	icient A	We EC	Presence of ron (C4) Salt Deposits Notes:	Y INDICATORS  d  Literns (B10) N  zospheres along (C3) N  Reduced  A(C5) N  A(O)  A(O)  Pland on S  plongy Present (Y	(2 or more required)  Stunted or Stressed Plants (D1)  Geomorphic Position (D2)  Shallow Aquitard (D3)  Microtopographic Relief (D4)  FAC-Neutral Test (D5)  FAC-Neutral Test (D5)  Slightly convex

# AQUATIC SITE ASSESSMENT DATA FORM

VEGETATION VARIABLES P= Plot, M= Matrix
Primary Vegetation Type (P):       Vegetation Lacking Forested-Deciduous-Needle-leaved Forested-Deciduous-Broad-leaved         Forested-Evergreen-Needle-leaved Scrub Shrub-Deciduous-Needle-leaved Scrub Shrub-Evergreen-Broad-leaved Scrub Shrub-Evergreen-Needle-leaved Emergent-Non-persistent Aquatic Bed
Percent Cover (P): Tree (>5 dbh, >6m tall)       Sapling (<5 dbh, <6m tall)
Number of Wetland Types (M): Evenness of Wetland Type Distribution (M): Even Highly Uneven Moderately even
Wegetation Density/Dominance (P): Sparse (0-20%) Low Density (20-40%) Medium Density (40-60%) High Density (60-80%) Very High Density (80-100%)
Interspersion of Cover & Open Water (P): 100% Cover or Open Water X <25% Scattered/Peripheral Cover 26-75% Scattered or Peripheral Cover N/A
Plant Species Diversity (P): Low (< 5 plant species)
Presence of Islands (M): Absent (none) One or Few Several to Many N/A
Cover Distribution of Dominant Layer (P): No Veg Solitary, Scattered Stems 1 or More Large Patches; Parts of Site Open Small Scattered Patches Continuous Cover_ Ot
Dead Woody Material (P): Low Abundance (0-25% of surface) Moderately Abundant (25-50% of surface) Abundant (>50% of surface)
Vegetative Interspersion (P): Low (large patches, concentric rings)   Moderate (broken irregular rings)  High (small groupings, diverse and interspersed)
HGM Class (P): Slope Flat_x   Lacustrine Fringe Depressional   Riverine   Estaurine Fringe
SOIL VARIABLES
SOIL VARIABLES  Soil Factors (P): Soil Lacking Histosol: Fibric Histosol: Hemic Histosol: Sapric
Mineral: Gravelly Mineral: Sandy Mineral: Silty Mineral: Clayey
HYDROLOGIC VARIABLES
Inlet/Outlet Class (P): No Inlet/Outlet  No Inlet/Intermittent Outlet  No Inlet/Perennial Outlet  Intermittent Inlet/No Outlet  Intermittent Inlet/Intermittent Outlet  Perennial Inlet/Intermittent Outlet  Perennial Inlet/Intermittent Outlet  Perennial Inlet/Intermittent Outlet  Intermittent Outlet  Int
Inlet/Outlet Class (P): No Inlet/Outlet No Inlet/Intermittent Outlet No Inlet/Perennial Outlet Intermittent Inlet/No Outlet Intermittent Inlet/Intermittent Outlet Perennial Inlet/Intermittent Outlet Perennial Inlet/Perennial Outlet Perennial Outlet Perennial Inlet/Perennial Outle
Inlet/Outlet Class (P): No Inlet/Outlet _k No Inlet/Intermittent Outlet _ No Inlet/Perennial Outlet _ Intermittent Inlet/No Outlet _ Intermittent Inlet/Intermittent Inlet/Intermittent Inlet/Intermittent Inlet/Perennial Outlet _ Perennial Inlet/No Outlet _ Perennial Inlet/Perennial Inlet/Perennial Inlet/No Outlet _ Perennial Inlet/No Outlet _ Perennial Inlet/Perennial Inlet/Perennial Inlet/No Outlet _ Perennial Inlet/No Outl
Inlet/Outlet Class (P): No Inlet/Outlet _k No Inlet/Intermittent Outlet No Inlet/Perennial Outlet Intermittent Inlet/No Outlet Intermittent Inlet/Intermittent Outlet Intermittent Inlet/Perennial Outlet Perennial Inlet/No Outlet Perennial Inlet/Perennial Inlet/Perennial Outlet Perennial Inlet/Perennial Outlet Perennial Inlet/Perennial Inlet/Perennial Outlet Perennial Inlet/Perennial Inlet/Perenn
Inlet/Outlet Class (P): No Inlet/Outlet _k No Inlet/Intermittent Outlet No Inlet/Perennial Outlet Intermittent Inlet/No Outlet Intermittent Inlet/Intermittent Outlet Intermittent Inlet/Perennial Outlet Perennial Inlet/No Outlet Perennial Inlet/Perennial Outlet Perennial Inlet/No Outlet Perennial Inlet/Perennial Outlet Perennial Inlet/No Outlet Perennial Inlet/Perennial Outlet Perennial Inlet/Perennial Outlet Perennial Inlet/No Outlet Perennial Inlet/Perennial Outlet
Inlet/Outlet Class (P): No Inlet/OutletK No Inlet/Intermittent Outlet No Inlet/Perennial Outlet Intermittent Inlet/No Outlet Intermittent Inlet/Intermittent Outlet Intermittent Inlet/Perennial Outlet Perennial Inlet/No Outlet Perennial Inlet/Perennial Outlet Perennial Inlet/No Outlet
Inlet/Outlet Class (P): No Inlet/OutletK No Inlet/Intermittent Outlet No Inlet/Perennial Outlet Intermittent Inlet/No Outlet Intermittent Inlet/Intermittent Inlet/Intermittent Inlet/Intermittent Inlet/Intermittent Inlet/Intermittent Inlet/Intermittent Inlet/Intermittent Inlet/Intermittent Inlet/Intermittent Outlet Perennial Inlet/Perennial Outlet Perennial Inlet/Perennial Outlet Perennial Inlet/Perennial Outlet Perennial Inlet/Perennial Outlet Perennial Inlet/No Outlet Perennial Outlet Perennial Inlet/No Outlet Perennial Outlet Perennial Outlet Perennial Inlet/No Outlet Perennial Inlet/No Outlet Perennial Outlet Perennial Outlet Perennial Inlet/No Outlet Perennial Inlet/No Outlet Perennial O
Inlet/Outlet Class (P): No Inlet/Outlet
Inlet/Outlet Class (P): No Inlet/Outlet ★ No Inlet/Intermittent Outlet
Inlet/Outlet Class (P): No Inlet/Outlet
Inlet/Outlet Class (P): No Inlet/Outlet ★ No Inlet/Intermittent Outlet
Inlet/Outlet Class (P): No Inlet/Outlet  No Inlet/Intermittent Outlet  Intermittent Inlet/Indermittent Inlet/Intermittent Inlet
Inlet/Outlet Class (P): No Inlet/Outlet  No Inlet/Intermittent Outlet  Intermittent Inlet/No Outlet  Intermittent Inlet/Intermittent Inlet/Intermi
Inlet/Outlet Class (P): No Inlet/Outlet  No Inlet/Intermittent Outlet  Intermittent Inlet/No Outlet  Intermittent Inlet/Intermittent Inlet/Intermi
Inlet/Outlet Class (P): No Inlet/Outlet No Inlet/Intermittent Outlet No Inlet/Perennial Outlet Intermittent Inlet/Intermittent Inlet/Intermittent Inlet/Intermittent Outlet Perennial Inlet/Perennial Outlet Perennial Inlet/No Outlet Perennial Inlet/No Outlet Perennial Inlet/Intermittent Outlet Perennial Inlet/Perennial Outlet Perennial Inlet/Perennial Outlet Perennial Inlet/Perennial Outlet Perennial Inlet/No Outlet Perennial Sediment Perennial Sediment Perennial Sediment Perennial Sediment

Page 4 of 4

#### Wetland Determination Form QA/QC Checklist

This form to be completed before leaving the field site.

Feature ID: W84A7003	Field Target: 15 222	Date: 7/1/15
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For all items not checked, please provide detailed explanation in the notes section of data form.

#### 1. Site Description

- A detailed site sketch is included in logbook?

#### 2. Vegetation

- At least 80% of onsite vegetation has been keyed to species, or collected for later identification?
- ☑ Vegetation names are entered legibly for all strata present?
- □ Cover calculations are complete and correct?
- All dominant species have been determined and recorded per strata?
- ☑ Indicator status is correct for each species?

#### 3. Soil

- Soil profile is complete?
- Appropriate hydric soil indicators are marked?

#### 4. Hydrology

- Appropriate hydrology indicators are marked?
- 因 Surface water, water table, and saturation depths are recorded if present?

#### 5. Functions and Values

☼ Vegetation, soil, hydrologic variables, and landscape variables complete if site is a wetland?

#### 6. Field Logbook

- 权 Notes have been recorded at each site, including general description, sketch, and accuracy of pre-mapped wetland boundary as appropriate?
- ☑ Each logbook page is initialed and dated?

#### 7. Maps

- ☑ Wetland boundaries have been corrected if necessary?
- Maps are initialed and dated?

#### 8. Photos

- Four photos were taken for each Wetland Determination Data Form (2 vegetation, 1 soil pit, 1 soil plug)?
- ☑ Two photos were taken for each Observation Point (vegetation/site overview)?

Wetland Scientist (print)	X May Hall Hall Signature / Date
Field Crew Chief (print)	X 2 7/2/15 Signature / Date

SITE DESCRIPTION	(A)A(B)(些)(是)(A)	THE WAR	THE WALL THE	· 3/10/23		
Survey Type: Centerline Acce	ss Road (explain)	Other (expla	ain)	Field Targ	get: 15223	Map #: 29 Map Date: 6/29
Date: 7/1/15	Project Name & No.:	Alaska LNG	LNG 60418403 Feature Id			W8YAYOOU
Investigators: Bryan Strone	Abigayle F	isher				Team No.: W84
State: Alaska	Region: Alaska	151	Milepost:	274.6	7	
Latitude: 66° 51 '51 7	Du N	Longitude	: 15003	2.46	MUN	Datum: WGS84
Logbook No.:	Logbook Page No.:	18	Picture No.:	PW8	4A4009	Y_VEG_VFG_PIT_PILL
SITE PARAMETERS		NAME OF TAXABLE PARTY.	THE PERSON NAMED IN	NAME OF THE PARTY	THE PARTY NAMED IN	TOPATHE ENGINEERING WOMAN
Subregion: ( Aterior			Landform (hil	Islope, terrac	ce, hummocks	s, etc.): Terrace
Slope (%):   - 2	Date (		Local relief (c	concave, con	vex, none): T	- lat to slightly convex tussocky-moderat
Pre-mapped Alaska LNG/NWI classifica	ation: PEM1/SSLB H	11A2 11C2	Evidence of V	Vildlife Use:	110	tussocky-modera-
Are climatic/hydrologic conditions on the Yes No & (if no exp	e site typical for this time		Are "No	ormal Circum	nstances" pres	sent: plain in Notes.)
Are Vegetation, Soil, or Hy	drology Significantly	y Disturbed?	No_X	_(If yes, exp	lain in Notes)	
Are Vegetation, Soil, or Hy	drology Naturally P	roblematic?	No Tes	(If yes, exp	olain in Notes.	Refused matrix
SUMMARY OF FINDINGS	<b>加克克里克克克</b> 克克克克克克克克克克克克克克克克克克克克克克克克克克克克克克克	in which the			DEFEN.	APPEARING THE PARTY OF
Hydrophytic Vegetation Present? Yes_	No	Is t	the Sampled A	Area within a	Wetland?	Yes_K No
Hydric Soil Present? Yes_	X No	We	etland Type:	PSS4/E	EMIĞ	The state of the s
Wetland Hydrology Present? Yes_	У Nо	- Ala	iska Vegetation	Classification	on (Viereck):	11 AZ , 111 AZ
In classification, PICMAN Sap snag	Alpha alpha er here due idence of a Less cover of Borderline T line west dwarf ericac Point in a	positi to an very of sphi of the burn os. Con.	old for old for old for strains strains	Picma Picma	A fe socks o ere and (1B. A) e walle eight s ery old	o normal periods  11 (>60% of 4")  we premare snays  are larger here  more feather  11 wet between  12 a section line to  13 born with scattered  tuller before born
		->	w	150m	1+W-	

VEGETATION (use scientific names of plants	)			
Tree Stratum (Plot sizes: 100f1)	Absolute % Cover	Dominant Species? (Y/N)	Indicator Status	Dominance Test worksheet:  No. of Dominant Species that are OBL, FACW, or FAC: 3 (A)  Total Number of Dominant Species Across All Strata: (B)
1. Vicea mariana	4	The second	Face	% Dominant Species that are OBL, FACW, or FAC: (A/B)
2.		17 14	The street	70 Dollmant Openes that are obe, 17011, 51776.
3.				
4.				Prevalence Index worksheet:
Total Cover:			shrub)	Total % Cover of: Multiply by:
50% of total cover:	Transcription of the last	% of total cov	A A STATE OF THE S	OBL species: X1 = X1 = X2 = 274
Sapling/Shrub Stratum ( 261)	Absolute % Cover	Dominant Species? (Y/N)	Indicator Status	FACW species: 137 X 2 = 279  FAC species
1. Vaccinium uliainosum	3		Fac	UPL speciesX 5 =
2. Rhododendrum tomento	sum 50	Y	Facw	Column Totals: 150 (A) 313 (B)
3. Vaccinium vitis idaea	6		Fac	PI = B/A = 2.09
4. Betwa nana	4		tac	
5. Chanaedaghne Calycula		-/	FueW	
6. Picea mariana	30	Y	Fach	
7. Vaccinum Oxycoccus	T		OBL	
8.				
9.				
Total Cover:	The second second		2007	
50% of total cover:	51.5 20	% of total cov	er: 10.6	
VEGETATION (use scientific names of plants)	Para de la		Selection of the second	<b>国际基础的基础的企业,但是国际政策的企业。</b>
Herb Stratum ( 26+2 )	Absolute % Cover	Dominant Species? (Y/N)	Indicator Status	Hydrophytic Vegetation Indicators:  Dominance Test is > 50%  Prevalence Index is ≤ 3.0
1. Eriophorum vaginatum	47	Y	Fach	
2. Rubus chamaemorus	T		Fach	Morphological Adaptations¹ (Provide supporting data in Notes)
3.				Problematic Hydrophytic Vegetation¹ (Explain)
4.				<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present unless
5.				disturbed or problematic.
6.				<b>经基本可能</b> 在公司等的通信与经济。这些
7.	19-10	3-24-		% Bare Ground
8.				% Cover of Wetland Bryophytes
9				
10.			7 9	% Cover of Water
Total Cover:_ 50% of total cover:_	47 35 20	% of total cove	er:_9,4_	Hydrophytic Vegetation Present (Y/N):  Notes: (If observed, list morphological adaptations below):

	ILE DESCRIPTION: (D		to the depth needed to docum	ent the indic	ator or confirm	the absence	Soil Pit Required (Y/N)
lanth	Matrix	20301100	Redox Features	ient the maic	ator or commit	the absence	or indicators.)
Depth inches)	Color (moist)	%	Control of Cold	Type <sup>1</sup> L	.oc² Tex	ture	Notes
7			7777	.,,,,,		bric	11000
- 6						enic	Market Company of the
-11	7.5-122.5/2	1400					Althe alpha Positive
-11	1.300072	100				COBA-1	Ice lenses
-14	25-1.4/1	100			5,1	FI.	Alpha alpha positive
1		100			7/1	Lagra	No ree lenses
r 0-0	and a second sec	ties DM	- Badward Makin OC - Ca	1 0 1 - 1	010	211'	W. MILESON ENGLISHED
O LI THE REAL PROPERTY.		tion, RM	=Reduced Matrix, CS=Covere	ed or Coated			PL=Pore Lining, M=Matrix.
the Salahana Makaga	DIL INDICATORS	E MA	Aleste Oler Addition	A PROPERTY AND ADDRESS OF			FOR PROBLEMATIC HYDRIC SOILS
Mark Street Control of the Control o	distel (A1)	. /	Alaska Gleyed (A13)				hange (TA4) <sup>4</sup>
	don (A2) 1 mars	mail	Alaska Redox (A14) N			-	Swales (TA5) N
ack Histic	(A3) ~		Alaska Gleyed Pores (A	15)			vith 2.5Y Hue N
ydrogen Si	ulfide (A4) N		18		Alas		without 5Y Hue or Redder Underlying
nick Dark S	Surface (A12) N	_ /			Oth	er (Explain i	in Notes) y Reduced marks
otes: 🛆	Present (Y/N): 7  Phe alpha P  Lost Lable.	005,4	ve in frozen u	nateria	1; Some	evide	nee of saturation
VDROL OC	SY PRIMARY INDICAT	ORS (a	ny one indicator is sufficient)	SECO	NDARY INDIC	ATORS (2	or more required)
DROLOG							
	er (A1)	T	ace Soil Cracks (B6) N	10,197,000,000	r-stained es (B9)(_)		Stunted or Stressed Plants (D1)
urface Wate	er (A1)\/	Sur	dation Visible on Aerial Image	Leave		10) <u>N</u>	Stunted or Stressed
urface Wate	Table (A2)	Suri Inur (B7) Spa	dation Visible on Aerial Image	Leave Pry Drains Oxidiz	es (B9) N	es along	Stunted or Stressed Plants (D1)
urface Water Taturation (A	Table (A2) _ N	Inur (B7) Spa Con	dation Visible on Aerial Image	Draina Oxidiz Living Prese	es (B9) age Patterns (B zed Rhizospher	es along	Stunted or Stressed Plants (D1)  Geomorphic Position (D2)
urface Water Taturation (A	Table (A2) _ N	Surf Inur (B7) Spa Con Mar	dation Visible on Aerial Image	Oxidiz Living Prese Iron (6	age Patterns (B zed Rhizospher Roots (C3)i nce of Reduced	es along	Stunted or Stressed Plants (D1)  Geomorphic Position (D2)  Shallow Aquitard (D3)  Microtopographic
urface Water T aturation (A /ater Marks ediment De	Table (A2) _ N	Surfice Surfic	rsely Vegetated cave Surface (B8)  Deposits (B15)	Drains Oxidiz Living Prese Iron ((  Salt D	age Patterns (Bage Patterns (Bage Patterns (C3)	es along	Stunted or Stressed Plants (D1)  Geomorphic Position (D2)  Shallow Aquitard (D3)  Microtopographic Relief (D4)  FAC-Neutral Test (D5)  Assign of a law grazu
iurface Water T ligh Water T aturation (A Vater Marks ediment De	Table (A2) _ N	Surdinur (B7) Spa Con Mar Hydo Odo Dry- Wat	rsely Vegetated cave Surface (B8)  Deposits (B15)  rogen Sulfide r (C1)  Season	Draina Oxidia Living Prese Iron (0 Salt D Notes	age Patterns (Bage Patterns (Bage Patterns (Bage Patterns (C3)	es along	Stunted or Stressed Plants (D1)  Geomorphic Position (D2)  Shallow Aquitard (D3)  Microtopographic Relief (D4)
urface Water Taturation (A Jater Marks ediment De rift Deposits	Table (A2) _ N	Surdinur (B7) Spa Con Mar Hydo Odo Dry- Wat	rsely Vegetated cave Surface (B8)  Deposits (B15)  rogen Sulfide r (C1)  Season er Table (C2)	Draina Oxidia Living Prese Iron (0 Salt D Notes	age Patterns (Bage Patterns (Bage Patterns (Bage Patterns (C3)	es along	Stunted or Stressed Plants (D1)  Geomorphic Position (D2)  Shallow Aquitard (D3)  Microtopographic Relief (D4)  FAC-Neutral Test (D5)  Aough of a low gradue Phic Position although
urface Water Taturation (A later Marks ediment De rift Deposits on Deposits	Table (A2) _ N	Surfice Spanners Span	rsely Vegetated cave Surface (B8)  Deposits (B15)  rogen Sulfide r (C1)  Season er Table (C2)	Drains Oxidiz Living Prese Iron (0 Salt D Notes	age Patterns (Bage Patterns (Bage Patterns (Bage Patterns (Bage Patterns (C3)	es along	Stunted or Stressed Plants (D1)  Geomorphic Position (D2)  Shallow Aquitard (D3)  Microtopographic Relief (D4)  FAC-Neutral Test (D5)  FAC-Neutral Test (D5)  Phic Position although the convex at poin
urface Water Taturation (A Jater Marks ediment De rift Deposits on Deposits urface Water Water Water Water Water Marks and Deposits was a superface Water Wa	Table (A2) _ \( \bar{N} \) _ \	Surfice Span Con Marris Hyd Oddo Dry-Wat Other	rsely Vegetated cave Surface (B8)  Deposits (B15)  rogen Sulfide r (C1)  Season er Table (C2)  er (Explain in Notes):	Drains Oxidiz Living Prese Iron (0 Salt D Notes	age Patterns (Bage Patterns (Bage Patterns (Bage Patterns (C3)	es along	Stunted or Stressed Plants (D1)  Geomorphic Position (D2)  Shallow Aquitard (D3)  Microtopographic Relief (D4)  FAC-Neutral Test (D5)  FAC-Neutral Test (D5)  Phic Position although the convex at poin
Surface Water To Saturation (A Vater Marks Sediment De Drift Deposits Surface Water Table Saturation Programme Control of the	Table (A2) _ N	Surri Inur (B7) Spa Con Mar Hyd Oddo Dry- Wat	rsely Vegetated cave Surface (B8)  Deposits (B15)  rogen Sulfide r (C1)  Season er Table (C2)  Per (Explain in Notes):	Drains Oxidiz Living Prese Iron (0 Salt D Notes	age Patterns (Butterns (Butterns (Butterns (C3)	es along	Stunted or Stressed Plants (D1)  Geomorphic Position (D2)  Shallow Aquitard (D3)  Microtopographic Relief (D4)  FAC-Neutral Test (D5)  Y  A augh of a low graze  Phic Position although the convex at poin

# AQUATIC SITE ASSESSMENT DATA FORM

VEGETATION VARIABLES P= Plot, M= Matrix
Primary Vegetation Type (P):       Vegetation Lacking Forested-Deciduous-Needle-leaved Forested-Deciduous-Broad-leaved         Forested-Evergreen-Needle-leaved Scrub Shrub-Deciduous-Needle-leaved Scrub Shrub-Deciduous-Broad-leaved         Scrub Shrub-Evergreen-Broad-leaved Scrub Shrub-Evergreen-Needle-leaved Emergent-Non-persistent Emergent-Persistent Aquatic Bed
Percent Cover (P): Tree (>5 dbh, >6m tall)         Sapling (<5 dbh, <6m tall)
Number of Wetland Types (M): Evenness of Wetland Type Distribution (M): Even Highly Uneven Moderately even
Vegetation Density/Dominance (P): Sparse (0-20%)       Low Density (20-40%)       Medium Density (40-60%)       High Density (60-80%)         80%)       Very High Density (80-100%)       Very High Density (80-100%)
Interspersion of Cover & Open Water (P): 100% Cover or Open Water <25% Scattered/Peripheral Cover 26-75% Scattered or Peripheral Cover N/A
Plant Species Diversity (P): Low (< 5 plant species) Medium (5-25 species) High (>25)
Presence of Islands (M): Absent (none) One or Few Several to Many N/A
Cover Distribution of Dominant Layer (P): No Veg Solitary, Scattered Stems 1 or More Large Patches; Parts of Site Open Small Scattered Patches Continuous Cover X
Dead Woody Material (P): Low Abundance (0-25% of surface) Moderately Abundant (25-50% of surface) Abundant (>50% of surface)
Vegetative Interspersion (P): Low (large patches, concentric rings) Moderate (broken irregular rings) High (small groupings, diverse and interspersed)
HGM Class (P): Slope Flat_X Lacustrine Fringe Depressional Riverine Estaurine Fringe
SOIL VARIABLES
Soil Factors (P): Soil Lacking Histosol: Fibric Histosol: Hemic Histosol: Sapric Mineral: Gravelly Mineral: Sandy Mineral: Silty Mineral: Clayey
HYDROLOGIC VARIABLES
Inlet/Outlet Class (P): No Inlet/Outlet No Inlet/Intermittent Outlet No Inlet/Perennial Outlet Intermittent Inlet/No
Outlet Intermittent Inlet/Intermittent Outlet Perennial Outlet Perennial Inlet/
Wetland Water Regime (P): Drier: Seasonally Flooded, Temporarily Flooded, Saturated
Evidence of Sedimentation (P): No Evidence Observed Sediment Observed on Wetland Substrate Fluvaquent Soils Sediment Created
Microrelief of Wetland Surface (P): Absent Poorly Developed (6in.) Well Developed (6-18in.) Pronounced (>18in.)
Frequency of Overbank Flooding (P): No Overbank Flooding X Return Interval 1-2 yrs Return Interval 2-5 yrs Return Interval 2-5 yrs
Degree of Outlet Restriction (P): No Outflow Restricted Outflow Unrestricted Outflow
Water pH (P): No surface water Circumneutral (5.5-7.4) Alkaline (>7.4) Acid (<5.5) pH Reading
Surficial Geologic Deposit Under Wetland (P): High Permeability Stratified Deposits Low Permeability Stratified Deposits Glacial Till/Not Permeable
Basin Topographic Gradient (M):       Low Gradient (<2%)
LANDSCAPE VARIABLES (M)
Wetland Juxtaposition: Wetland Isolated Wetlands within 400m, Not Connected Only Connected Below Only Connected Above Connected Upstream & Downstream K Unknown
Wetland Land Use: High Intensity (i.e., ag.) Moderate Intensity (i.e., forestry) Low Intensity (i.e. open space) X
The state of the s
Watershed Land Use: 0-5% Rural 5-25% Urbanized 25-50% Urbanized >50% Urbanized >50% Urbanized
Watershed Land Use:         0-5% Rural         5-25% Urbanized         25-50% Urbanized         >50% Urbanized           Size:         Small (<10 acres)

Page 4 of 4

#### Wetland Determination Form QA/QC Checklist

This form to be completed before leaving the field site.

Feature ID:	W84	AT004	_

Field Target: 15223 Date: 7/1/15

For all items not checked, please provide detailed explanation in the notes section of data form.

#### 1. Site Description

- Site description, site parameters and summary of findings are complete?
- A detailed site sketch is included in logbook?

#### 2. Vegetation

- At least 80% of onsite vegetation has been keyed to species, or collected for later identification?
- ☑ Vegetation names are entered legibly for all strata present?
- Cover calculations are complete and correct?
- ☑ All dominant species have been determined and recorded per strata?
- Indicator status is correct for each species?
- Dominance Test and Prevalence Index have been completed?

#### 3. Soil

- 图 Soil profile is complete?
- Appropriate hydric soil indicators are marked?

#### 4. Hydrology

- ☒ Appropriate hydrology indicators are marked?
- Surface water, water table, and saturation depths are recorded if present?

#### 5. Functions and Values

🗷 Vegetation, soil, hydrologic variables, and landscape variables complete if site is a wetland?

#### 6. Field Logbook

- 🛮 Notes have been recorded at each site, including general description, sketch, and accuracy of pre-mapped wetland boundary as appropriate?
- Each logbook page is initialed and dated?

#### 7. Maps

- Wetland boundaries have been corrected if necessary?
- Maps are initialed and dated?

#### 8. Photos

- Four photos were taken for each Wetland Determination Data Form (2 vegetation, 1 soil pit, 1 soil plug)?

X Abigayle Fisher	X allegan 7/1/6
Wetland Scientist (print)	Signature / Date
X Breen Strong	X & 8 mg 7/1/15
Field Crew Chief (nvint)	Signature / Date

SITE DESCRIPTION	以此。其中,是他们是这种的。如果是一个一个一个一个一个一个一个一个一个一个一个一个一个一个一个一个一个一个一个
Survey Type: Centerline Access Road (explain) Other (explain)	explain) Field Target: \_522 Map #: \_5_Map Date: \_5/29
Date: 7/3/15 Project Name & No.: Alaska I	LNG 60418403 Feature Id: W84/A4/005
Investigators: Bryan Strong Asignyl	2 Fisher Team No.: (N84)
State: Alaska Region: Alaska	Milepost: 244,5
Latitude: 67° 13° 57 93° N Longit	ude: (50° 17° () ( 55° () Datum: WGS84
Logbook No.: ( ) Logbook Page No.: 29	Picture No.: P W84A400S-VEG-VEG-PIT-
	TO THE TOTAL TO THE TOTAL TOTA
SITE PARAMETERS	
Subregion: The recor	Landform (hillslope, terrace, hummocks, etc.): 72, 32400
Slope (%): L measured Aspect N 20"	Local relief (concave, convex, none): 51-51-44 Convex
Pre-mapped Alaska LNG/NWI classification: Q 954/13 \\A2_1	Evidence of Wildlife Use:
Are climatic/hydrologic conditions on the site typical for this time of year?  Yes No (if no explain in Notes) dry (and the	Are "Normal Circumstances" present: Yes X No (If no, explain in Notes.)
Are Vegetation, Soil, or Hydrology Significantly Disturb	
Are Vegetation, Soil, or Hydrology Naturally Problemat	ic? NoX_ (If yes, explain in Notes.)
SUMMARY OF FINDINGS	
Hydrophytic Vegetation Present? Yes No	Is the Sampled Area within a Wetland? Yes NoX
Hydric Soil Present? Yes No	Wetland Type:
Wetland Hydrology Present? Yes No	Alaska Vegetation Classification (Viereck): 11 C2, ++42057 A3
Point Spruce woodland with end Meet or exceed 30% Mostly Pic the area. Feather moss dominate and occational sphannum pillows	ne, Length of feature, Distances from Centerline, Photo Locations, and Survey  ex with a north trending aspect at the  son spree saplings in the understory to  mare with Dichur scattered throughout  as bryophyte stretom (-75%) with licher (5  s. Shrob layer is 2.5-3' tall with BETTA  cominctes the herb layer with 15-30% core

VEGETATION (use scientific names of plants	)			
Tree Stratum (Plot sizes:)	Absolute % Cover	Dominant Species? (Y/N)	Indicator Status	Dominance Test worksheet:  No. of Dominant Species that are OBL, FACW, or FAC:
1. Picea mariang	17	7	Foel	Total Number of Dominant Species Across All Strata:(B)  % Dominant Species that are OBL, FACW, or FAC:(A/B)
2.		// ·		To the second se
3.				
4. Total Cover:	13			Prevalence Index worksheet:  Total % Cover of: Multiply by:
50% of total cover.		% of total cov	er:	OBL species: X1 =
Sapling/Shrub Stratum ( )	Absolute % Cover	Dominant Species? (Y/N)	Indicator Status	FACW species: 59 X 2 = 118  FAC species 79 X 3 = 225
10	3	(mag)	FarW	FACU species
2. Be fula nava 23'	18	Y	Fac	UPL species
3. Thododendrom tohen	osum do		Fach	PI = B/A =
5. Vaccinium alginosum	6	Y	Fac	Shrubs Empetrum nigrum T Fac
6. Spirala stevenii	1	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Tracu	
7. Betula glanduloson			tac	
8. Salix polchra 3'	3		Fach	PICMAR-T (>3"DBH) are between 20-35"+
9. Salix glavica	80		Fac	less than 2 % sphagnon p. llows in 26 " adu
Vaccinium oxycoccus Total Cover: 50% of total cover:	44.5 20	% of total cov	er: 17.8	Plot. A few of these pillows support
		20 A 10 PH 10 PH 10 PH		
VEGETATION (use scientific names of plants  Herb Stratum ()	Absolute	Dominant	Indicator	Hydrophytic Vegetation Indicators:
nero stratum (	% Cover	Species?	Status	Dominance Test is > 50%  Prevalence Index is < 3.0
1. Vetasites frigidus	3		Fach	Morphological Adaptations¹ (Provide supporting data in
2. Carex bigelowin	30	×	FOC	Notes)
3. Equisatum sylvation	7			Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
4. Calamagostis canaden	is T			1 Indicators of hydric soil and wetland hydrology must be present unless
5.	and when the			disturbed or problematic.
6.				
7.				
8.				
9.				O % Cover of Water
10.			9-	Hydrophytic Vegetation Present (Y/N):
Total Cover: 50% of total cover:		% of total cov	er: <u>6 . 4</u>	Notes: (If observed, list morphological adaptations below):

A SPANIE AND ADDRESS OF THE PARTY OF THE PAR		2 0	The second second			V VI V		Soil Pit Required (Y/N)_	
OIL PROF	ILE DESCRIPTION: (	Describe		to docu	ment the	indicator or co	nfirm the absent	ce of indicators.)	
epth nches)	Matrix	0/	Redox Features	10/	<b>-</b> 1	. 2	-	W.	_
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc²	Texture	Notes	_
0-6	21	- Lunase					f.bric	measures 4" OI in	MI
-9	10723/1	100	1.1	7	7	0. / -	SIL	not mucky	
-11.5	2574/2		10-124/4	7	0	PL/RC	2.5	Alpha alpha Posit	Ne
15-19	2.5-15/3	100	1072779	2		M	SIL	depletions	
1311	2-24-21-2	100					216	fozen Dot positive alpha claha Fer	
	W						11121	no ice leases	2. 0.
ype: C=C	oncentration, D=Deple	etion, RI	M=Reduced Matrix, C	S=Cove	red or Co	ated Sand Gra	ins. <sup>2</sup> Location	: PL=Pore Lining, M=Matrix.	
	IL INDICATORS	No. of the	Blow Mary Control		TO YOU	DEN REVER		FOR PROBLEMATIC HYDRIC SOI	LS <sup>3</sup>
istosol or H	listel (A1) N		Alaska Gleyed	(A13) _	1)		Alaska Color (	Change (TA4) <sup>4</sup>	
istic Epiped	don (A2) N		Alaska Redox	A14) _/	U		Alaska Alpine	Swales (TA5)	
lack Histic	(A3) N		Alaska Gleyed			)	Alaska Redox	with 2.5Y Hue	
vdrogen Su	ulfide (A4)		41					without 5Y Hue or Redder Underlyin	ng
The later was	2. 0.00	-	2				Cther (Evaluin	in Notes	
	Surface (A12)	atation o	ne primary indicator	of wetter	nd hydrolo	ay and an an	Other (Explain	ape position must be present unless	
ydric Soil l	Present (Y/N): \text{A}	دد سا	nere organic	mat	15 54	mewhat	thinner.	(hummack microlows)	Sich
lotes: From	m 9-11 Sinch, PIC, Saturate - Alpha al	es who	Positive in	leta	is th	an 60%	n2 RC 7	(hummock microlows) hat are sometimes all above the frost tal	ble
lotes: From	m 9-11 Sinch, PIC, Saturate - Alpha al	es who 2, 2.	Positive in theleer, 9-	leta les	is th	ong PL =	12, not 5	hat are simetimes all	ble
otes: From	m 9-11. Sinch, PIC, Seturate Alpha al organic anat	Pha Pha TORS (a	Positive in theleer, 9-	letia les 11.5 in	aches	ong PL =	/Z / AS+ S NDICATORS (2	above the frost tal	ble
otes: Franchixotra	M 9-11. Sinche PIC, Seturate Alpha al organic mat	Pha Pha TORS (a	any one indicator is surface Soil Cracks (B6)	letules les ifficient)	s the	ECONDARY I	NDICATORS (2	above the frost tale aturated Na positive or more required)  Stunted or Stressed	als
ydric Soil I otes: Frank hixotra yDROLOG yDROLOG urface Water	M 9-11. Sincher PIC, Saturate Alpha al Dorganic mat EY PRIMARY INDICA  er (A1) 1)	TORS (a Suu Inu (B7	any one indicator is surface Soil Cracks (B6)	letules les ifficient)	s the series of	ECONDARY I Vater-stained eaves (B9)	NDICATORS (2	or more required)  Stunted or Stressed Plants (D1)	ali
ydric Soil I  otes:  YDROLOG  yrdrace Water T  aturation (A	or (A1) 1)  Table (A2) 1	TORS (a Suu Inu (B7 Sp. Co	any one indicator is surface Soil Cracks (B6)	ifficient)	gery D	ECONDARY I Vater-stained eaves (B9)	NDICATORS (2	or more required)  Stunted or Stressed Plants (D1)  Geomorphic Position (D2)  Shallow Aquitard (D3)	ali
ydric Soil I otes: From XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX	M 9-11.5 mehrer pic, saturate al pha al proportion and al proportion and al proportion and all proportions are (A1) N Table (A2) N	TORS (a Su Inu (B7 Co Ma	any one indicator is surface Soil Cracks (B6) Indation Visible on Ae arsely Vegetated Incave Surface (B8)	ifficient)	gery D	ECONDARY I Vater-stained eaves (B9)	ns (B10) N spheres along duced	or more required)  Stunted or Stressed Plants (D1)  Geomorphic Position (D2)  Shallow Aquitard (D3)  Microtopographic	ali
ydric Soil I otes: From h (xotro) yDROLOG yDROLOG urface Water igh Water T aturation (A	or 9-11. Sincher of 10, Saturate of 10, Satura	TORS (8 Su Inu (87 Sp. Co Ma Hyy Od	any one indicator is surface Soil Cracks (B6) indation Visible on Ae (Contract) in the contract of the contrac	ifficient)	gery D	ECONDARY I Vater-stained eaves (B9) Prainage Patter Oxidized Rhizor iving Roots (C Presence of Re on (C4)	ns (B10) N spheres along duced	or more required)  Stunted or Stressed Plants (D1)  Geomorphic Position (D2)  Shallow Aquitard (D3)  Microtopographic Relief (D4)	ali
ydric Soil I otes:  Ote	M 9-11.5 inches  PIC, Saturate  AI Pha al  EXY PRIMARY INDICA  er (A1) 1)  Table (A2) 1  (B1) 1  Exposits (B2) 1  S (B3) 1	Su Inu (B7 Sp. Co Ma Hywa	any one indicator is surface Soil Cracks (B6) andation Visible on Ae arsely Vegetated incave Surface (B8) ard Deposits (B15) ard Deposits (B15) argent Sulfide or (C1) argent Sulfide o	I control of the cont	gery D	ECONDARY I Vater-stained eaves (B9) Prainage Patter Oxidized Rhizor iving Roots (C Presence of Re on (C4) ralt Deposits (C	ns (B10) N spheres along duced	or more required)  Stunted or Stressed Plants (D1)  Geomorphic Position (D2)  Shallow Aquitard (D3)  Microtopographic Relief (D4)	ali
ydric Soil I otes:  Ote	M 9-11.5 inches  PIC, Saturate  AI Pha al  EXY PRIMARY INDICA  er (A1) 1)  Table (A2) 1  (B1) 1  Exposits (B2) 1  S (B3) 1	Su Inu (B7 Sp. Co Ma Hywa	any one indicator is surface Soil Cracks (B6) indation Visible on Ae (P) indicator is surface Soil Cracks (B6) indation Visible on Ae (P) indicator Surface (B8) indicator Surface (B8) indicator Surface (B8) indicator (B15)	I control of the cont	gery D	ECONDARY I Vater-stained eaves (B9) Prainage Patter Oxidized Rhizor iving Roots (C Presence of Re on (C4) ralt Deposits (C	ns (B10) N spheres along duced	or more required)  Stunted or Stressed Plants (D1)  Geomorphic Position (D2)  Shallow Aquitard (D3)  Microtopographic Relief (D4)	als
ydric Soil I otes:  yDROLOG  yDROLOG  yPDROLOG  urface Water  aturation (A /ater Marks  ediment De  rift Deposits  gal Mat or (A)  on Deposits	M 9-11.5 inches of the party primary indicater (A1) 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Su Inu (B7 Sp. Co Ma Hywa	any one indicator is surface Soil Cracks (B6) indation Visible on Ae (P) indicator is surface Soil Cracks (B6) indation Visible on Ae (P) indicator Surface (B8) indicator Surface (B8) indicator Surface (B8) indicator (B15)	I control of the cont	gery D	ECONDARY I Vater-stained eaves (B9) Prainage Patter Oxidized Rhizor iving Roots (C Presence of Re on (C4) ralt Deposits (C	ns (B10) N spheres along duced	or more required)  Stunted or Stressed Plants (D1)  Geomorphic Position (D2)  Shallow Aquitard (D3)  Microtopographic Relief (D4)	als
ydric Soil I otes: From ix of root yDROLOG urface Water igh Water T aturation (A /ater Marks ediment De rift Deposits on Deposits urface Water	PIC Saturates  A I Pha al  PIC Saturates  A I Ph	Su Inu (B7 Sp. Co Ma Hywa	any one indicator is surface Soil Cracks (B6) indation Visible on Ae (P) indicator is surface Soil Cracks (B6) indation Visible on Ae (P) indicator Surface (B8) indicator Surface (B8) indicator (B15) indica	I control of the cont	gery D	Parameter State of the Control of th	ns (B10) N spheres along duced	or more required)  Stunted or Stressed Plants (D1)  Geomorphic Position (D2)  Shallow Aquitard (D3)  Microtopographic Relief (D4)  FAC-Neutral Test (D5)	als
ydric Soil I otes: From ix of root yDROLOG urface Water igh Water T aturation (A /ater Marks ediment De rift Deposits lgal Mat or o on Deposits /ater Table /ater Table	G-ILS inches of the Saturate o	Su Inu (B7 Sp. Co Ma Hywa	any one indicator is surface Soil Cracks (B6) indation Visible on Ae (P) indicator is surface Soil Cracks (B6) indation Visible on Ae (P) indicator Surface (B8) indicator Surface (B8) indicator (B15) indica	I es III. S ifficient)	gery D	Parameter State of the Control of th	NDICATORS (2  Ins (B10) N  spheres along  duced 4 4"	or more required)  Stunted or Stressed Plants (D1)  Geomorphic Position (D2)  Shallow Aquitard (D3)  Microtopographic Relief (D4)  FAC-Neutral Test (D5)	ali

4005

# AQUATIC SITE ASSESSMENT DATA FORM

VEGETATION VARIABLES P= Plot, M= Matrix
Primary Vegetation Type (P): Vegetation Lacking Forested-Deciduous-Needle-leaved Forested-Deciduous-Broad-leaved Forested-Evergreen-Needle-leaved Scrub Shrub-Deciduous-Needle-leaved Scrub Shrub-Deciduous-Broad-leaved Scrub Shrub-Evergreen-Broad-leaved Emergent-Non-persistent Emergent-Persistent Aquatic Bed
Percent Cover (P): Tree (>5 dbh, >6m tall)         Sapling (<5 dbh, <6m tall)         Tall shrub (2-6m)         Short shrub (0.5-2m)           Dwarf shrub (<0.5m)
Number of Wetland Types (M): Evenness of Wetland Type Distribution (M): EvenHighly UnevenModerately even
Vegetation Density/Dominance (P):         Sparse (0-20%)         Low Density (20-40%)         Medium Density (40-60%)         High Density (60-80%)
Interspersion of Cover & Open Water (P): 100% Cover or Open Water <25% Scattered/Peripheral Cover 26-75% Scattered or Peripheral Cover N/A_
Plant Species Diversity (P): Low (< 5 plant species) Medium (5-25 species) High (>25)
Presence of Islands (M): Absent (none) One or Few Several to Many N/A
Cover Distribution of Dominant Layer (P): No Veg. Solitary, Scattered Stems 1 or More Large Patches; Parts of Site Open Small Scattered Patches Continuous Cover
Dead Woody Material (P): Low Abundance (0-25% of surface) Moderately Abundant (25-50% of surface) Abundant (>50% of surface)
Vegetative Interspersion (P): Low (large patches, concentric rings) Moderate (broken irregular rings) High (small groupings, diverse and interspersed)
HGM Class (P): Slope Flat Lacustrine Fringe Depressional Riverine Estaurine Fringe
SOIL VARIABLES
Soil Factors (P): Soil Lacking Histosol:Fibric Histosol:Hemic Histosol: Sapric Mineral: Gravelly Mineral: Sandy Mineral: Silty Mineral: Clayey
HYDROLOGIC VARIABLES
Inlet/Outlet Class (P): No Inlet/Outlet No Inlet/Intermittent Outlet No Inlet/Perennial Outlet Intermittent Inlet/Intermittent Inlet/Intermittent Inlet/Intermittent Inlet/Perennial Outlet Perennial Outlet
Wetland Water Regime (P): Drier: Seasonally Flooded, Temporarily Flooded, Saturated Wet: Perm. Flooded, Intermittently Exposed, Semiperm. Flooded
Evidence of Sedimentation (P): No Evidence Observed Sediment Observed on Wetland Substrate Fluvaquent Soils Sediment Created
Microrelief of Wetland Surface (P): Absent Poorly Developed (6in.) Well Developed (6-18in.) Pronounced (>18in.)
Frequency of Overbank Flooding (P): No Overbank Flooding Return Interval 1-2 yrs Return Interval 2-5 yrs
Degree of Outlet Restriction (P): No Outflow Restricted Outflow Unrestricted Outflow
Water pH (P): No surface water Circumneutral (5.5-7.4) Alkaline (>7.4) Acid (<5.5) pH Reading pH Reading
Surficial Geologic Deposit Under Wetland (P): High Permeability Stratified Deposits Low Permeability Stratified Deposits Glacial Till/Not Permeable
Basin Topographic Gradient (M): Low Gradient (<2%) High Gradient (≥2%)  Evidence of Seeps and Springs (P): No Seeps or Springs Seeps Observed Intermittent Spring Perennial Spring
LANDSCAPE VARIABLES (M)
Wetland Juxtaposition: Wetland Isolated Wetlands within 400m, Not Connected Only Connected Below Only Connected Above Connected Upstream & Downstream Unknown
Wetland Land Use: High Intensity (i.e., ag.) Moderate Intensity (i.e., forestry) Low Intensity (i.e. open space)
Wetland Land Use: High Intensity (i.e., ag.) Moderate Intensity (i.e., forestry) Low Intensity (i.e. open space) Watershed Land Use: 0-5% Rural 5-25% Urbanized 25-50% Urbanized >50% Urbanized >50% Urbanized

Page 4 of 4

### Wetland Determination Form QA/QC Checklist

This form to be completed before leaving the field site.

Feature ID: W84 AT 005	Field Target: 15226	Date: 7/2/15
------------------------	---------------------	--------------

For all items not checked, please provide detailed explanation in the notes section of data form.

### 1. Site Description

- ☑ Site description, site parameters and summary of findings are complete?
- LK A detailed site sketch is included in logbook?

form

### 2. Vegetation

- At least 80% of onsite vegetation has been keyed to species, or collected for later identification?
- ☑ Vegetation names are entered legibly for all strata present?
- ☑ Cover calculations are complete and correct?
- All dominant species have been determined and recorded per strata?
- ☑ Indicator status is correct for each species?
- ☑ Dominance Test and Prevalence Index have been completed?

#### 3. Soil

- ☑ Soil profile is complete?
- Appropriate hydric soil indicators are marked?

### 4. Hydrology

- Appropriate hydrology indicators are marked?
- Surface water, water table, and saturation depths are recorded if present?

#### 5. Functions and Values

Vegetation, soil, hydrologic variables, and landscape variables complete if site is a wetland?

#### 6. Field Logbook

- Notes have been recorded at each site, including general description, sketch, and accuracy of pre-mapped wetland boundary as appropriate?
- Each logbook page is initialed and dated?

#### 7. Maps

- Wetland boundaries have been corrected if necessary?
- Maps are initialed and dated?

## 8. Photos

- Four photos were taken for each Wetland Determination Data Form (2 vegetation, 1 soil pit, 1 soil plug)?
- Two photos were taken for each Observation Point (vegetation/site overview)?

X Abigayle Fisher	× allesola	7/5/15
Wetland Scientist (print)	Signature / Date	
XBren Strong	X R Styr	7/2/15
Field Crew Chief (print)	Signature / Date	

SITE DESCRIPTION	THE PROPERTY AND ADDRESS.		THE PERSON	SIN STATE			
Survey Type: Centerline / Acce	ss Road (explain)	Other (expla	in)	Field Targ	et: <u>1530</u> (	Map #: <u>28</u> Map Date: <u>6/29</u>	
Date: 7/2/15	Project Name & No.: Alaska LNG 60418403 Feature Id:					W84A4006	
Investigators: Bryan St.	rong Abigau	de Fist	her			Team No.: W84/	
State: Alaska	Region: Alaska	7-	Milepost:	763			
Latitude: 67° 07' 56.4	8"N	Longitude:	ude: 50° 26' 49 59' 4 Datum: WGS84			Datum: WGS84	
Logbook No.:	Logbook Page No.:	30	Picture No.:	PW	18477	1006-VEG_VEG	
SITE PARAMETERS	Charles Service	AND DATE	STEAL PROPERTY.			ME COMPANDE NOTE	
Subregion: Interior			Landform (hill	slope, terrac	e, hummocks	i, etc.): Terrace	
Slope (%):			Local relief (co	oncave, con	vex, none):	issocky-large to mode	
Pre-mapped Alaska LNG/NWI classifica	ation: PSSI/3B	1162	Evidence of W				
Are climatic/hydrologic conditions on the Yes No (if no expl		of year?	and X	rmal Circum	stances" pres (If no, exp	sent: lain in Notes.)	
Are Vegetation, Soil, or Hyd	10.01	ly Disturbed?	No.X	(If yes, exp	lain in Notes)		
Are Vegetation, Soil, or Hyd	drology Naturally F	Problematic?	No_C	(If yes, exp	olain in Notes.	)	
SUMMARY OF FINDINGS				THE PERSON NAMED IN	WAR WELL		
Hydrophytic Vegetation Present? Yes_	X No	Is t	Is the Sampled Area within a Wetland? Yes No				
Hydric Soil Present? Yes_	X No	_ We	Wetland Type: PSS1/EMIB				
Wetland Hydrology Present? Yes_	No	Ala	ska Vegetation	Classification	on (Viereck):	11C2 111A2	
Notes and Site Sketch: Please include Decorridor.  Tossocle are 15-20" to between a few tusson BETNAN/ BRTGLAN  Dalton	cks. Shrub stover is 25.	modera	rises 1-	ome ev	Jener pore Er	of standing water	
TAPS Tall shrib disturbed  TAPS  PEMISSIC OF F							
OMSST, PSSI/EMIB IICZ, III AZ  X AYOOG							

	Absolute	Demirest	Indiactor	Dominance Test works best
Free Stratum (Plot sizes: (00)	Absolute % Cover	Dominant Species? (Y/N)	Indicator Status	Dominance Test worksheet:  No. of Dominant Species that are OBL, FACW, or FAC: (A)
8		(1/N)	-	Total Number of Dominant Species Across All Strata: (B)
· Value of			7	% Dominant Species that are OBL, FACW, or FAC:(A/B)
	1.0			A STATE OF THE STA
				Prevalence Index worksheet:
Total Cover				Total % Cover of: Multiply by:
50% of total cover	: 20	0% of total cov	er:	OBL species:X 1 =
apling/Shrub Stratum ( 26 ft)	Absolute	Dominant	Indicator	FACW species: \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \
	% Cover	Species? (Y/N)	Status	FAC species
Betwa nana	540	Y	Fac	UPL species X 5 =
Vaccinium Uliainosum	10-		Fac	Column Totals: \67 (A) 396 (B)
Dasphora faticosa	9		Fac	PI = B/A = 2.37
Phododendrum graen	andicum	1	Fac	(x)
Salix pulchra	10		Fach	
Salix richardsoni	64 5	apply helican	Facul	management of the state of the
Betula glandulosa	2		Fac	
0				
	100			
	-0			The second secon
Total Cover 50% of total cover		0% of total cov	er: \U . <b>L</b>	
Total Cover 50% of total cover	365 20	0% of total cov	er: \U .Q	
Total Cover 50% of total cover EGETATION (use scientific names of plants	365 20 s) Absolute	Dominant	Indicator	Hydrophytic Vegetation Indicators:
Total Cover 50% of total cover EGETATION (use scientific names of plants	365 20	Dominant Species?		Dominance Test is > 50%
50% of total cover	365 20 s) Absolute	Dominant	Indicator Status	Dominance Test is > 50%  Prevalence Index is ≤ 3.0
Total Cover 50% of total cover  EGETATION (use scientific names of plants erb Stratum ( 36 FT )	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test is > 50%  Prevalence Index is ≤ 3.0  Morphological Adaptations¹ (Provide supporting data in
Total Cover. 50% of total cover.  EGETATION (use scientific names of plants erb Stratum ( 36 FT )  Ericphorum Valinatum Carex bigelomi	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test is > 50%  Prevalence Index is ≤ 3.0  Morphological Adaptations¹ (Provide supporting data in Notes)
Total Cover. 50% of total cover.  EGETATION (use scientific names of plants erb Stratum ( 36 ft))  Ericphorum Valinatum Carex biaelomi Rubus Chamerorus	Absolute % Cover	Dominant Species?	Indicator Status  Fac (1)  Fac  Fac (2)	Dominance Test is > 50%  Prevalence Index is ≤ 3.0  Morphological Adaptations¹ (Provide supporting data in
Total Cover. 50% of total cover. 50% of total cover.  EGETATION (use scientific names of plants erb Stratum ( 36 ft).)  Ecophorum Valinatum Casex big elami. Rubus Chameron Manatifalium.	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test is > 50%  Prevalence Index is ≤ 3.0  Morphological Adaptations¹ (Provide supporting data in Notes)  Problematic Hydrophytic Vegetation¹ (Explain)
Total Cover. 50% of total cover. 50% of total cover.  EGETATION (use scientific names of plants erb Stratum ( 36 ft).)  Ericephorum Valinatum Carex bia e loini. Rubus Chameron Mayolifolium.	Absolute % Cover	Dominant Species?	Indicator Status  Fac (1)  Fac  Fac (2)	Dominance Test is > 50%  Prevalence Index is ≤ 3.0  Morphological Adaptations¹ (Provide supporting data in Notes)  Problematic Hydrophytic Vegetation¹ (Explain)  ¹ Indicators of hydric soil and wetland hydrology must be present unless
Total Cover. 50% of total cover. 50% of total cover.  EGETATION (use scientific names of plants erb Stratum ( 36 ft).)  Ecophorum Valginatum Cacex bigelaini Rubus chameron mystifolium.	Absolute % Cover	Dominant Species?	Indicator Status  Fac (1)  Fac  Fac (2)	Dominance Test is > 50%  Prevalence Index is ≤ 3.0  Morphological Adaptations¹ (Provide supporting data in Notes)  Problematic Hydrophytic Vegetation¹ (Explain)  ¹ Indicators of hydric soil and wetland hydrology must be present unless
Total Cover. 50% of total cover.  EGETATION (use scientific names of plants erb Stratum ( 36 ft).)  Ecophocum Valinatum Casex big elomi. Rubus Chameron Mayotifulium.	Absolute % Cover	Dominant Species?	Indicator Status  Fac (1)  Fac  Fac (2)	Dominance Test is > 50%  Prevalence Index is ≤ 3.0  Morphological Adaptations¹ (Provide supporting data in Notes)  Problematic Hydrophytic Vegetation¹ (Explain)  ¹ Indicators of hydric soil and wetland hydrology must be present unless disturbed or problematic.
Total Cover. 50% of total cover.  EGETATION (use scientific names of plants erb Stratum ( 36 ft).)  Ficephorum Valginatum Carex bigelowin  Rubus chameron mayolifolium  Chamerion Mayolifolium	Absolute % Cover	Dominant Species?	Indicator Status  Fac (1)  Fac  Fac (2)	Dominance Test is > 50%  Prevalence Index is ≤ 3.0  Morphological Adaptations¹ (Provide supporting data in Notes)  Problematic Hydrophytic Vegetation¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present unless disturbed or problematic.  Means of the problematic of the prob
Total Cover. 50% of total cover. 50% of total cover.  EGETATION (use scientific names of plants. lerb Stratum ( 36 ft).  Licephorum Valginatum. Carex big e lami.  Linamerion Mayolifolium.	Absolute % Cover	Dominant Species?	Indicator Status  Fac (1)  Fac  Fac (2)	Dominance Test is > 50%  Prevalence Index is ≤ 3.0  Morphological Adaptations¹ (Provide supporting data in Notes)  Problematic Hydrophytic Vegetation¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present unless disturbed or problematic.   ——————————————————————————————————
Total Cover. 50% of total cover.  EGETATION (use scientific names of plants lerb Stratum ( 36 th )  Ecophorum Valinatum Carex bigeloini Rubus Chameron Mayolifolium in the control of the	Absolute % Cover	Dominant Species?	Indicator Status  Fac (1)  Fac  Fac (2)	Dominance Test is > 50%  Prevalence Index is ≤ 3.0  Morphological Adaptations¹ (Provide supporting data in Notes)  Problematic Hydrophytic Vegetation¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present unless disturbed or problematic.   ——————————————————————————————————
50% of total cover  /EGETATION (use scientific names of plants Herb Stratum ( )  1. Frieghorum Vaginatum 2. Carex bigelowin 3. Rubus Chamerorus 4.	Absolute % Cover	Dominant Species? (Y/N)	Indicator Status  Fac W  Fac  Fac  Fac  Fac  Fac  Fac  Fac  Fa	Dominance Test is > 50%  Prevalence Index is ≤ 3.0  Morphological Adaptations¹ (Provide supporting data in Notes)  Problematic Hydrophytic Vegetation¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present unless disturbed or problematic.   ——————————————————————————————————

Iron Deposits (B5)

SOIL	THE STATE OF THE PARTY OF THE P	WE WANTED	Date Feature II		1001	PHILIPPE V	Soil Pit Required (Y/N)
SOIL PROF	ILE DESCRIPTION:	(Describe	to the depth needed to docu	ment the	indicator or	confirm the absen	
Depth	Matrix		Redox Features		V		
(inches)	Color (moist)	%	Color (moist) %	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Notes
)-5				101		F.bsic	IERIVAG tussock top/
-8	O Links					Sapric	iron stained - high water
-12	104e 2/1	(00)				MICS.L	mixed with organic det
2-15	2545/3	20				5.1	Alpha alpha positive
	25-14/1	80					
		_					
						2	Total Land Land Co. Co.
		letion, RN	1=Reduced Matrix, CS=Cove	red or Co	ated Sand C		n: PL=Pore Lining, M=Matrix.
tight and a fixed by the same	IL INDICATORS		ALL OF TAXABLE PARTY.				FOR PROBLEMATIC HYDRIC SOILS
	Histel (A1) N	-	Alaska Gleyed (A13) _				Change (TA4) <sup>4</sup> N
	don (A2)		Alaska Redox (A14)		1	Alaska Alpine Swales (TA5) N	
	(A3) N		Alaska Gleyed Pores (	A15)	)	Alaska Redox with 2.5Y Hue  Alaska Gleyed without 5Y Hue or Redder Underlyin	
Hydrogen Sulfide (A4) N		The state of the s			Layer_	without 51 Flue of Redder Oridenying	
hick Dark S	Surface (A12)	STATE OF	10000000000000000000000000000000000000		Other (Explain in Notes) All mucker SiL		
lydric Soil	Present (Y/N):	7	5-8" , ndicative	ches): 1		a+ la a la u	when table
			ny one indicator is sufficient)				2 or more required)
urface Wat	er (A1)	Sur	face Soil Cracks (B6) N		Water-stained Leaves (B9)		Stunted or Stressed Plants (D1)
igh Water	Table (A2)	Inui (B7	ndation Visible on Aerial Ima	ann.	Drainage Patterns (B10) _ N		Geomorphic Position (D2)
aturation (A	N *	Spa	arsely Vegetated acave Surface (B8)		Oxidized Rhizospheres along Living Roots (C3)		Shallow Aquitard (D3)
ater Marks	(B1) <u>(</u>	Mai	I Deposits (B15)	10.74	resence of on (C4)		Microtopographic Relief (D4)
ediment De	eposits (B2)		drogen Sulfide or (C1)	s	alt Deposits	s (C5) <u>N</u>	FAC-Neutral Test (D5)
rift Deposit	s (B3)N		-Season ter Table (C2)	L	lotes:	RIVAC tus	soclas 18-24" with water
I TEMENOUS TO	Crust (B4)	Other (Explain in Notes):			trined	leaves be	tween tussacks

Surface Water Present (Y/N): 
Water Table Present (Y/N): 
Depth (in): 
Depth (in): 
Saturation Present (Y/N): 
Depth (in): 
Depth (in):

Notes: 5.8" is at field capacity - near saturation. Dry conditions, Iron staining from 5-8 indicates high water table is persistent during normal periods of rainfall.

## AQUATIC SITE ASSESSMENT DATA FORM

Primary Vegetation Type (P): Vegetation Lacking     Forested-Deciduous-Needle-leaved     Forested-Deciduous-Broad-leaved       Forested-Evergreen-Needle-leaved     Scrub Shrub-Deciduous-Needle-leaved     Scrub Shrub-Deciduous-Broad-leaved       Scrub Shrub-Evergreen-Broad-leaved     Scrub Shrub-Evergreen-Needle-leaved     Emergent-Non-persistent       Persistent     Aquatic Bed
Percent Cover (P): Tree (>5 dbh, >6m tall)     O     Sapling (<5 dbh, <6m tall)
Number of Wetland Types (M): Evenness of Wetland Type Distribution (M): Even Highly Uneven Moderately even
Vegetation Density/Dominance (P): Sparse (0-20%)         Low Density (20-40%)         Medium Density (40-60%)         High Density (60-80%)           80%)
Interspersion of Cover & Open Water (P): 100% Cover or Open Water <a href="#"> </a> <25% Scattered/Peripheral Cover 26-75% Scattered or Peripheral Cover N/A
Plant Species Diversity (P): Low (< 5 plant species) Medium (5-25 species) High (>25)
Presence of Islands (M): Absent (none) One or Few Several to Many N/A
Cover Distribution of Dominant Layer (P): No Veg Solitary, Scattered Stems 1 or More Large Patches; Parts of Site Open Small Scattered Patches Continuous CoverX
Dead Woody Material (P): Low Abundance (0-25% of surface) Moderately Abundant (25-50% of surface) Abundant (>50% of surface)
Vegetative Interspersion (P): Low (large patches, concentric rings) Moderate (broken irregular rings) High (small groupings, diverse and interspersed)
HGM Class (P): Slope Flat Lacustrine Fringe Depressional Riverine Estaurine Fringe
SOIL VARIABLES  Soil Footons (D): Soil Locking History Fibric History History History Conde
Soil Factors (P): Soil Lacking Histosol:Fibric Histosol:Hemic Histosol: Sapric Mineral: Gravelly Mineral: Sandy Mineral: Silty Mineral: Clayey
HYDROLOGIC VARIABLES
Inlet/Outlet Class (P): No Inlet/OutletX No Inlet/Intermittent Outlet No Inlet/Perennial Outlet Intermittent Inlet/No Outlet Intermittent Inlet/Intermittent Outlet Perennial Inlet/Intermittent Outlet Perennial Inlet/Perennial Outlet Perenni
Wetland Water Regime (P): Drier: Seasonally Flooded, Temporarily Flooded, Saturated Wet: Perm. Flooded, Intermittently Exposed, Semiperm. Flooded
Wet: Perm. Flooded, Intermittently Exposed, Semiperm. Flooded
Wet: Perm. Flooded, Intermittently Exposed, Semiperm. Flooded
Wet: Perm. Flooded, Intermittently Exposed, Semiperm. Flooded  Evidence of Sedimentation (P): No Evidence Observed Sediment Observed on Wetland Substrate Fluvaquent Soils Sediment Created
Wet: Perm. Flooded, Intermittently Exposed, Semiperm. Flooded
Wet: Perm. Flooded, Intermittently Exposed, Semiperm. Flooded
Wet: Perm. Flooded, Intermittently Exposed, Semiperm. Flooded
Wet: Perm. Flooded, Intermittently Exposed, Semiperm. Flooded
Wet: Perm. Flooded, Intermittently Exposed, Semiperm. Flooded
Wet: Perm. Flooded, Intermittently Exposed, Semiperm. Flooded
Wet: Perm. Flooded, Intermittently Exposed, Semiperm. Flooded
Wet: Perm. Flooded, Intermittently Exposed, Semiperm. Flooded  Evidence of Sedimentation (P): No Evidence Observed
Wet: Perm. Flooded, Intermittently Exposed, Semiperm. Flooded  Evidence of Sedimentation (P): No Evidence Observed
Wet: Perm. Flooded, Intermittently Exposed, Semiperm. Flooded  Evidence of Sedimentation (P): No Evidence Observed  Sediment Observed on Wetland Substrate Fluvaquent Soils Sediment Created  Microrelief of Wetland Surface (P): Absent Poorly Developed (6in.) Well Developed (6-18in.) Pronounced (>18in.) Frequency of Overbank Flooding (P): No Overbank Flooding Return Interval 1-2 yrs Return Interval 2-5 yrs  Degree of Outlet Restriction (P): No Outflow Restricted Outflow Unrestricted Outflow  Water pH (P): No surface water Circumneutral (5.5-7.4) Alkaline (>7.4) Acid (<5.5) pH Reading  Surficial Geologic Deposit Under Wetland (P): High Permeability Stratified Deposits Low Permeability Stratified Deposits  Glacial Till/Not Permeable Permeable High Gradient (<2%) High Gradient (≥2%)  Evidence of Seeps and Springs (P): No Seeps or Springs Seeps Observed Intermittent Spring Perennial Spring  LANDSCAPE VARIABLES (M)  Wetland Juxtaposition: Wetland Isolated Wetlands within 400m, Not Connected Only Connected Below Only Connected Above Connected Upstream & Downstream Vunknown  Wetland Land Use: High Intensity (i.e., ag.) Moderate Intensity (i.e., forestry) Low Intensity (i.e. open space)

Page 4 of 4

### Wetland Determination Form QA/QC Checklist

This form to be completed before leaving the field site.

Feature ID: W84 A7006	Field Target: 15301	Date: 7/2/15
- ""	the detailed a standard to the co	

For all items not checked, please provide detailed explanation in the notes section of data form.

### 1. Site Description

- Site description, site parameters and summary of findings are complete?
- A detailed site sketch is included in logbook?

### 2. Vegetation

- At least 80% of onsite vegetation has been keyed to species, or collected for later identification?
- ☑ Vegetation names are entered legibly for all strata present?
- All dominant species have been determined and recorded per strata?
- ☑ Indicator status is correct for each species?
- ☑ Dominance Test and Prevalence Index have been completed?

#### 3. Soil

- Soil profile is complete?
- Appropriate hydric soil indicators are marked?

#### 4. Hydrology

- Appropriate hydrology indicators are marked?
- Surface water, water table, and saturation depths are recorded if present?

#### 5. Functions and Values

Vegetation, soil, hydrologic variables, and landscape variables complete if site is a wetland?

### 6. Field Logbook

- Notes have been recorded at each site, including general description, sketch, and accuracy of pre-mapped wetland boundary as appropriate?
- Each logbook page is initialed and dated?

#### 7. Maps

- Wetland boundaries have been corrected if necessary?
- Maps are initialed and dated?

## 8. Photos

- Four photos were taken for each Wetland Determination Data Form (2 vegetation, 1 soil pit, 1 soil plug)?
- Two photos were taken for each Observation Point (vegetation/site overview)?

X Abigagle Fish	x ally 3/2/15
Wetland Scientist (print)	Signature / Date
X Bryan Strong	X By 7/21.5
Field Crew Chief (print)	Signature / Date
	( )

SITE DESCRIPTION	THE PARTY OF THE P	进口的最高的	THE SERVICE OF STATE	(1) 15 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
Survey Type: Centerline Acces	ss Road (explain) Other (e	explain)F	ield Target: 5300	Map #: 3   Map Date: 29
Date: 7/2/15	Project Name & No.: Alaska L	NG 60418403	Feature Id:	W84A4007
Investigators: Zwan Stro	oner Abragulo F	ishe!		Team No.: W84
State: Alaska	Region: Alaska	Milepost:	/A -	Acum will
Latitude: 66°90'11.4	Longitu	ude: 196 30	5'5456"W	Datum: WGS84
Logbook No.:	Logbook Page No.: 30	Picture No.:	W84A405=	7_VEG_VEG_PIT-PLVC
SITE PARAMETERS	Maria Carlo	THE PARTY OF THE P	Contract of the last	AND DESCRIPTION OF THE PARTY OF
Subregion: ( Lerior		Landform (hillslo	pe, terrace, hummocks	s, etc.): Terrace
Slope (%): 3 measured		Local relief (cond	cave, convex, none): U	neulating, hummoder-
Pre-mapped Alaska LNG/NWI classifica	ation: PTOUB 1A2	Evidence of Wild	W /	heaves
Are climatic/hydrologic conditions on the Yes No (if no expl	lain in Matas)	Vac V	al Circumstances" pres	sent: plain in Notes.)
Are Vegetation, Soil, or Hyd	(Mr) Corto	1975	f yes, explain in Notes)	
Are Vegetation, Soil, or Hyd	drology Naturally Problemat	ic? No_X(I	f yes, explain in Notes.	)
SUMMARY OF FINDINGS	THE SHAPE SERVICE IN SHIP	NATIONAL PROPERTY.		
Hydrophytic Vegetation Present? Yes_	K No	Is the Sampled Area	a within a Wetland?	Yes No ×
Hydric Soil Present? Yes_	No ≮	Wetland Type: 🔾		
Wetland Hydrology Present? Yes_	No	Alaska Vegetation Cl	assification (Viereck):	1AZ; 11BZ
Notes and Site Sketch: Please include Decorridor.	200 Maria Daner	15-	ally floor	
N				to high water
Tel Vision State of the Control of t		cross	ng/access	issues.

VEGETATION (use scientific names of plants	)			
Tree Stratum (Plot sizes:)	Absolute % Cover	Dominant Species? (Y/N)	Indicator Status	Dominance Test worksheet:  No. of Dominant Species that are OBL, FACW, or FAC: (A)  Total Number of Dominant Species Across All Strata: (B)
1. Ticea Mariana	15	Y	tac W	% Dominant Species that are OBL, FACW, or FAC: 66.7 (A/B)
2. Vicea alauca	10	7	Facl	
3.				
4.				Prevalence Index worksheet:
Total Cover:	10 67	% of total cov	er: 与	Total % Cover of: Multiply by:  OBL species: X 1 =
Sapling/Shrub Stratum ( 26 )	Absolute % Cover	Dominant Species? (Y/N)	Indicator Status	FACW species: 39 x 2 = 66  FAC species 95 x 3 = 385  FACU species 64
1. Vaccinium in lain 050M	75	Y	Fac	UPL species X 5 =
2. Empetrum nigrum 3. Variation	A 24	N. A.	Fac	Column Totals: 145 (A) 417 (B)
4. Picea mariana	14		FAC	PI = B/A = 3.0%
5. Picea alauca	-		Facily	Phododendrum tomentosom TFacW
6. Alnus Vividis ssp. fute	coco 100		Fix	Phododendrum groenlandicum I Fac
7. Change dadine Calvall			Fach	
8. Betula glandulosa	T		Fac	
9. Salv pulcher	3		Foch	The state of the s
Total Cover:	- DE W D. Y.	120 % of total cov	er: 23-8	24
VEGETATION (use scientific names of plants	60	- The 188	-MENOSIA	
Herb Stratum ( 26 )	Absolute % Cover	Dominant Species? (Y/N)	Indicator Status	Hydrophytic Vegetation Indicators:  Dominance Test is > 50%
1. Equisation prateins		7 -0	Face	Prevalence Index is ≤ 3.0  Morphological Adaptations¹ (Provide supporting data in
2. Calamagnistis ranadensis			Fac	Notes)
3.				Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
4.				<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present unless
5.				disturbed or problematic.
6.				<b>代的是不在的</b> 的是代码。于2018年1日的1日20
7.				
8.				% Cover of Wetland Bryophytes
9.				Total Cover of Bryophytes  % Cover of Water
10.		. 0 .		Hydrophytic Vegetation Present (Y/N):
Total Cover: 50% of total cover:		% of total cov	o Shrub) er:	Notes: (If observed, list morphological adaptations below):

			7/2/15		M84	AY 007	1	
SOIL	AND THE RESERVE	THE RESERVE OF THE PARTY OF THE	ISHESH MARKE	ature ID		CO FOR	<b>为此一种原来型</b> 的	Soil Pit Required (Y/N)
SOIL PROFI	LE DESCRIPTION: (	Describe		to docu	ment the	indicator or	confirm the abser	nce of indicators.)
Depth	Matrix	1	Redox Features	Total T		1 . 2		
inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc²	Texture	Notes
1-8.5		1,000						libric- no cuidence of:
12-9	1072 2/2	100		-			S-2	0
- 13	107R 5/4	100	-				Sevi	or sixuels - clear sa
3-25	10 yr 5/3	60					San 2	or Dievels - clean sa
23	107R 5/2	40					320	17
							2	n - hwo i - de stan
	oncentration, D=Deple	etion, RN	1=Reduced Matrix, C	S=Cove	red or Co	ated Sand C		n: PL=Pore Lining, M=Matrix.
The party of the last of the l	IL INDICATORS		Altaka Olavad	(442)	-	THE BULL	THE RESERVE TO SERVE THE PARTY NAMED IN	S FOR PROBLEMATIC HYDRIC SOILS <sup>3</sup>
CONTRACT PRODUCT	istel (A1) N		Alaska Gleyed		-			Change (TA4) <sup>4</sup>
Control Control Property	Ion (A2) N	_	Alaska Redox	A		(	Present property	Swales (TA5) N
	(A3) N		Alaska Gleyed	Pores (/	A15)	2		x with 2.5Y Hue
lydrogen Su	Ilfide (A4) N		**				Layer N	- Willout 51 Flue of Redder Orderlying
	urface (A12)	_ '					Other (Explai	in in Notes) cape position must be present unless
lotes Org		14.	uith silty	TAIL WALL				the roal or lare ove
YDROLOG	Y PRIMARY INDICA	TORS (a	ny one indicator is s	ufficient)	II SHALL SERVICE	Company of the last of the las	CONTRACTOR OF THE ACTION	(2 or more required)
urface Wate	er (A1) N	Sur	face Soil Cracks (B6	)_N_	_ \\	Vater-staine Leaves (B9)	d N	Stunted or Stressed Plants (D1)
ligh Water T	able (A2) N	Inui (B7	ndation Visible on Ae	erial Imag	gery	Drainage Patterns (B10)N		Geomorphic Position (D2)
aturation (A	3) _ N	Spa	arsely Vegetated acave Surface (B8) _	N		Oxidized Rhizospheres along Living Roots (C3)		Shallow Aquitard (D3)
later Marks	(B1) N	Mai	rl Deposits (B15)	N	100	Presence of Reduced Iron (C4)		Microtopographic Relief (D4)
ediment De	posits (B2)		lrogen Sulfide or (C1)			Salt Deposits (C5) FAC-Neutral Test (D		FAC-Neutral Test (D5)
rift Deposits	s (B3) N	Dry	-Season ter Table (C2)		1	Notes:	A management	
Igal Mat or (	Crust (B4)	Oth	er (Explain in Notes)	;				
on Deposits	(B5) <u>N</u>				7 10 10		Minania i	of the second second second
urface Wate	er Present (Y/N): N	4725	Depth (in): NA			THE REAL PROPERTY.		<b>建设公约</b> 5.3万里以及公公公司已设计
ater Table I	Present (Y/N): N		Depth (in): ~~		We	tland Hydro	ology Present (Y/	N):
aturation Pr	esent (Y/N): illary fringe)		Depth (in): NA		EC	NA.	G-4 may be	
12	ieral small	Seeso	mal chann	els j	ust	ecs+ o	of the	olo+

## AQUATIC SITE ASSESSMENT DATA FORM

VEGETATION VARIABLES P= Plot, I	M= Matrix
Forested-Evergreen-Needle-leaved	acking Forested-Deciduous-Needle-leaved Forested-Deciduous-Broad-leaved Scrub Shrub-Deciduous-Needle-leaved Scrub Shrub-Deciduous-Broad-leaved Scrub Shrub-Evergreen-Needle-leaved Emergent-Non-persistent Emergent-
Percent Cover (P): Tree (>5 dbh, >6m tall)_ Dwarf shrub (<0.5m) Tall herb (≥1	Sapling (<5 dbh, <6m tall)
Number of Wetland Types (M):	Evenness of Wetland Type Distribution (M): EvenHighly UnevenModerately even
Vegetation Density/Dominance (P): Sparse 80%) Very High Density (80-100%)	e (0-20%) Low Density (20-40%) Medium Density (40-60%) High Density (60-
Interspersion of Cover & Open Water (P): Peripheral Cover >75% Scattered	100% Cover or Open Water <25% Scattered/Peripheral Cover 26-75% Scattered or ed or Peripheral Cover N/A
Plant Species Diversity (P): Low (< 5 plant	species) Medium (5-25 species) High (>25)
Presence of Islands (M): Absent (none) _	One or Few Several to Many N/A
Cover Distribution of Dominant Layer (P): Open Small Scattered Patches	No Veg Solitary, Scattered Stems 1 or More Large Patches; Parts of Site
Dead Woody Material (P): Low Abundance Abundant (>50% of surface)	(0-25% of surface) Moderately Abundant (25-50% of surface)
Vegetative Interspersion (P): Low (large High (small groupings, diverse and interspers	e patches, concentric rings) Moderate (broken irregular rings) sed)
HGM Class (P): Slope Flat	Lacustrine Fringe Depressional Riverine Estaurine Fringe
SOIL VARIABLES	MANAGEMENT AND
	Histosol: Fibric Histosol: Hemic Histosol: Sapric Mineral: Silty Mineral: Clayey
HYDROLOGIC VARIABLES	The second secon
	No Inlet/Intermittent Outlet No Inlet/Perennial Outlet Intermittent Inlet/No t Outlet Intermittent Inlet/Perennial Outlet Perennial Inlet/No Outlet Perennial nlet/Perennial Outlet
Wetland Water Regime (P): Drier: Seas Wet: Perm. Flooded, Intermittently Exposed,	sonally Flooded, Temporarily Flooded, Saturated Semiperm. Flooded
Evidence of Sedimentation (P): No Evident	nce Observed Sediment Observed on Wetland Substrate Fluvaquent Soils Sediment
	Poorly Developed (6in.) Well Developed (6-18in.) Prohounced (>18in.)
Frequency of Overbank Flooding (P): No C Return Interval >5 yrs	Overbank Flooding Return Interval 1-2 yrs Return Interval 2-5 yrs
Degree of Outlet Restriction (P): No Outflow	
	Circumneutral (5.5-7.4) Alkaline (>7.4) Acid (<5.5) pH Reading (P): High Permeability Stratified Deposits Low Permeability Stratified Deposits
Glacial Till/Not Permeable	
Basin Topographic Gradient (M): Low Evidence of Seeps and Springs (P): No See	
LANDSCAPE VARIABLES (M)	THE REPORT OF THE PERSON NAMED IN COLUMN TWO IS NOT THE PERSON OF THE PE
Wetland Juxtaposition: Wetland Isolate Only Connected Above Connected	ed Wetlands within 400m, Not Connected Only Connected Below ed Upstream & Downstream Unknown
Wetland Land Use: High Intensity (i.e.,	ag.) Moderate Intensity (i.e., forestry) Low Intensity (i.e. open space)
Watershed Land Use: 0-5% Rural	5-25% Urbanized 25-50% Urbanized >50% Urbanized
Size: Small (<10 acres) Medi	ium (10-100 acres) Large (>100 acres)

Crew Chief QA/QC check:

PS Technician QA/QC check:

### Wetland Determination Form QA/QC Checklist

This form to be completed before leaving the field site.

Feature ID: W84A7067

Field Target: 15300 Date: 7/2/15

For all items not checked, please provide detailed explanation in the notes section of data form.

### 1. Site Description

- Site description, site parameters and summary of findings are complete?
- ✓ A detailed site sketch is included in logbook?

### 2. Vegetation

- At least 80% of onsite vegetation has been keyed to species, or collected for later identification?
- ☑ Vegetation names are entered legibly for all strata present?
- All dominant species have been determined and recorded per strata?
- ☑ Indicator status is correct for each species?
- ☑ Dominance Test and Prevalence Index have been completed?

#### 3. Soil

- Soil profile is complete?
- Appropriate hydric soil indicators are marked?

### 4. Hydrology

- Appropriate hydrology indicators are marked?
- Surface water, water table, and saturation depths are recorded if present?

#### 5. Functions and Values

Vegetation, soil, hydrologic variables, and landscape variables complete if site is a wetland?

### 6. Field Logbook

- Notes have been recorded at each site, including general description, sketch, and accuracy of pre-mapped wetland boundary as appropriate?
- Exact logbook page is initialed and dated?

### 7. Maps

- ☑ Wetland boundaries have been corrected if necessary?
- Maps are initialed and dated?

### 8. Photos

- Four photos were taken for each Wetland Determination Data Form (2 vegetation, 1 soil pit, 1 soil plug)?
- Two photos were taken for each Observation Point (vegetation/site overview)?

Signature / Date

Signature / Date

7/2/15

SITE DESCRIPTION	是\$2.000 (1000 \$200 000 000 000 000 000 000 000 000
Survey Type: Centerline Access Road (explain) Other (	(explain) Field Target: 15262 Map #: 34 Map Date: 6/29
Date: 7/3/15 Project Name & No.: Alaska	LNG 60418403 Feature ld: W84A1608
Investigators: Bryan Strong Abianul	e Fight Team No.: W84
State: Alaska Region: Alaska	Milepost: N/A
Latitude: 66° 49° 09,94° N Longit	tude: 150 40 172 7 Datum: WGS84
Logbook No.: O	Picture No.: PW84A46084EGJEGJEGPIJ-PU
SITE PARAMETERS	Company of the second s
Subregion: The Carl	Landform (hillslope, terrace, hummocks, etc.): Backstore
Slope (%):7-8% Aspect : E	Local relief (concave, convex, none): Flat to slightly conse
Pre-mapped Alaska LNG/NWI classification: \$550 / 13 \A	Evidence of Wildlife Use: 1/0 Honnoclay - small
Are climatic/hydrologic conditions on the site typical for this time of year? YesNo(if no explain in Notes)	
Are Vegetation, Soil, or Hydrology Significantly Disturb	
Are Vegetation, Soil, or Hydrology Naturally Problema	atic? No (If yes, explain in Notes.)
SUMMARY OF FINDINGS	
Hydrophytic Vegetation Present? Yes No	Is the Sampled Area within a Wetland? Yes NoX
Hydric Soil Present? Yes NoX	Wetland Type:
Wetland Hydrology Present? Yes No	Alaska Vegetation Classification (Viereck): 11 C 2 , 111 A 2
corridor. Dry conditions, low snow year, old Standing Jead Picmar-Sars und CARBIG, CHARAGE Regen, PICMAR	

VEGETATION (use scientific names of plants	s)			
Tree Stratum (Plot sizes: 190 C+)	Absolute % Cover	Dominant Species? (Y/N)	Indicator Status	Dominance Test worksheet:  No. of Dominant Species that are OBL, FACW, or FAC:
1,	_			Total Number of Dominant Species Across All Strata: (B.
2.				% Dominant Species that are OBL, FACW, or FAC: (A/E
3.				
4.				Prevalence Index worksheet:
Total Cover	-	A.		Total % Cover of: Multiply by:
50% of total cover	20	% of total cov	er;	OBL species:X 1 =
Pices glasca (5')	Absolute % Cover	Dominant Species? (Y/N)	Indicator Status	FACW species:
1. Vaccinium alianosur 2. Knodedendrum tomentos	8 12	, 7	Far Forly	UPL species
3. Picea mariana (6') 4. Voccinium Vitis-idaea	3		Facili	PI = B/A =
6. Alnus Viriais sep. Pristic	11	V	Fach	Salix bebsiana 3 Fac Spirca stevenii 1 Facu
8. Betula nana (2) 8. Betula negalastana 9. Setula negalastana	T	7	Fac V	Jaco Hall
Total Cover	1.00	% of total cov	er: 9,2	
VEGETATION (use scientific names of plants	3)			是在自己的學術,所謂為自己的主義的語言。
1. Overell on averagitalis	Absolute % Cover	Dominant Species? (Y/N)	Indicator Status	Hydrophytic Vegetation Indicators:  Dominance Test is > 50%  Prevalence Index is ≤ 3.0
2. Cares Daelowil	25	Y	Fac	Morphological Adaptations¹ (Provide supporting data in Notes)
3. Calemagnostis lapponica	4		Fae	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
4. Rubus Champiemorus	T		Fach	<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present unless
5. Festuca altarca	T		Fac	disturbed or problematic.
6.				
7.				% Bare Ground
8.				% Cover of Wetland Bryophytes
9. Polytachum se	5		/	
10. FIRE MOSS	60			% Cover of Water
Latter 309 Total Cover				Aydrophytic Vegetation Present (Y/N):/  Notes: (If observed, list morphological adaptations below):
1) Un	A.V			THOUSE OF COSCIVED BUT THUI DIDUCTION AND AUXIONATIONS OF THE

PROFILE DESCRIPTION: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)	SOIL PROFIL			Date Fe	ature ID	1 18C	CLUTTER OF THE	CONTRACTOR OF THE	Soil Pit Required (Y/N)
Matrix Redox Features Color (moist)  % Color (moist)  % Type' Loc' Texture Notes    Color (moist)		E DESCRIPTION			of Distribution		indicator or	confirm the abser	
Color (moist)  % Color (moist)  % Type' Loc' Texture Notes    1	-	1 02 17	Describe		to docu	nent the	indicator or t	Committe abser	ice of indicators.)
Cyc.   Special		TRACTION TO THE RESIDENCE	0/	-5177 - V 5777	0/	Tune!	12	Tautura	Natas
Secret   S		Color (moist)	- %	Color (moist)	%	Туре	Loc		(VISINE)
Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. *Location: PL=Pore Lining, M=Matrix.  Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. *Location: PL=Pore Lining, M=Matrix.  Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. *Location: PL=Pore Lining, M=Matrix.  Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. *Location: PL=Pore Lining, M=Matrix.  Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. *Location: PL=Pore Lining, M=Matrix.  Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. *Location: PL=Pore Lining, M=Matrix.  Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. *Location: PL=Pore Lining, M=Matrix.  Type: Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. *Location: PL=Pore Lining, M=Matrix.  Type: Concentration Pl=Pore Lining, M=Matrix.								THE RESERVE THE PERSON NAMED IN COLUMN TWO IS NOT THE PERSON NAMED IN COLUMN TWO IS NAMED IN COLUMN TWO I	
Cyc. 3/4   Cyc.   Concentration. D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. *Location: PL=Port Lining, M=Matrix.	1 27 22 3		_		-				
Cycle   1/4   20   Chercocl   at   a   8"	-		_						
Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. *Location: PL=Pore Lining, M=Matrix.  YDRIC SOIL INDICATORS    INDICATORS FOR PROBLEMATIC HYDRIC SOILS'	-		100000		1			Sal	
Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.  **PORIC SOIL INDICATORS**    INDICATORS FOR PROBLEMATIC HYDRIC SOILS'	-20		80		-				
MDICATORS FOR PROBLEMATIC HYDRIC SOILS'		10-1e 3/4	20						low ice content
NDICATORS FOR PROBLEMATIC HYDRIC SOILS'			51					2,	
Alaska Gloyed (A13) N Alaska Color Change (TA4) N Alaska Color Change (TA4) N Alaska Alpine Swales (TA5) N Alaska Gloyed without 5Y Hue or Redder Underfying Layer N Alaska Gloyed without 5Y Hue or Redder Underfying Layer N Alaska Gloyed without 5Y Hue or Redder Underfying Layer N Alaska Gloyed without 5Y Hue or Redder Underfying Layer N Alaska Gloyed without 5Y Hue or Redder Underfying Layer N Alaska Gloyed without 5Y Hue or Redder Underfying Layer N Alaska Gloyed without 5Y Hue or Redder Underfying Layer N Alaska Gloyed without 5Y Hue or Redder Underfying Layer N Alaska Gloyed without 5Y Hue or Redder Underfying Layer N Alaska Gloyed without 5Y Hue or Redder Underfying Layer N Alaska Gloyed without 5Y Hue or Redder Underfying Layer N Alaska Gloyed without 5Y Hue or Redder Underfying Layer N Alaska Gloyed without 5Y Hue or Redder Underfying Layer N Alaska Gloyed without 5Y Hue or Redder Underfying Layer N Alaska Gloyed without 5Y Hue or Redder Underfying Layer N Alaska Gloyed without 5Y Hue or Redder Underfying Layer N Alaska Gloyed without 5Y Hue or Redder Underfying Layer N Alaska Gloyed without 5Y Hue or Redder Underfying Layer N Alaska Gloyed without 5Y Hue or Redder Underfying Layer N Alaska Gloyed without 5Y Hue Or Redder Underfying Layer N Alaska Gloyed without 5Y Hue Or Redder Underfying Layer N Alaska Gloyed without 5Y Hue Or Redder Underfying Layer N Alaska Gloyed without 5Y Hue Or Redder Underfying Layer Layer N Alaska Gloyed without 5Y Hue Or Redder Underfying Layer Layer N Alaska Gloyed without 5Y Hue Or Redder Underfying Layer Layer N Alaska Gloyed without 5Y Hue Or Redder Underfying Layer Layer N Alaska Gloyed without 5Y Hue Or Redder Underfying Layer Layer N Alaska Gloyed Without 5Y Hue Or Redder Underfying Layer Layer N Alaska Gloyed Without 5Y Hue Or Redder Underfyi			etion, RN	I=Reduced Matrix, C	S=Cover	ed or Coa	ated Sand G		
Alaska Alpine Swales (TA5) Alaska Redox with 2.5Y Hue or Redder Underlying Layer Alaska Gleyed Without 5Y Hue or Redder Underlying Layer Alaska Gleyed Without 5Y Hue or Redder Underlying Layer Alaska Gleyed Without 5Y Hue or Redder Underlying Layer Alaska Gleyed without 5Y Hue or Redder Underlying Layer Alaska Gleyed without 5Y Hue or Redder Underlying Layer (Alaska Gleyed without 5Y Hue or Redder Underlying Layer (Alaska Gleyed without 5Y Hue or Redder Underlying Layer (Alaska Gleyed Without 5Y Hue or Redder Underlying Layer (Alaska Gleyed without 5Y Hue or Redder Underlying Layer (Alaska Gleyed without 5Y Hue or Redder Underlying Layer (Alaska Gleyed without 5Y Hue or Redder Underlying Layer (Alaska Gleyed without 5Y Hue or Redder Underlying Layer (Alaska Gleyed without 5Y Hue or Redder Underlying Layer (Alaska Gleyed without 5Y Hue or Redder Underlying Layer (Alaska Gleyed without 5Y Hue or Redder Underlying Layer (Alaska Gleyed without 5Y Hue or Redder Underlying Layer (Alaska Gleyed without 5Y Hue or Redder Underlying Layer (Alaska Gleyed without 5Y Hue or Redder Underlying Layer (Alaska Gleyed without 5Y Hue or Redder Underlying Layer (Alaska Gleyed without 5Y Hue or Redder Underlying Layer (Alaska Gleyed Without 5Y Hue or Redder Underlying Layer (Alaska Gleyed Without 5Y Hue or Redder Underlying Layer (Alaska Gleyed Without 5Y Hue or Redder Underlying Layer (Alaska Gleyed Without 5Y Hue or Redder Underlying Layer (Alaska Gleyed Without 5Y Hue or Redder Underlying Layer (Alaska Gleyed Inderes) Layer (Alaska Gleyed Virla) Secondary Milloar Care Scannar (Alaska Gleyed Without 5Y Hue or Redder Underlying Layer (Alaska Gleyed Without 5Y Hue Other (Alaska G			-			Marin Co.	Contract of the last		
Alaska Gleyed Pores (A15) Alaska Redox with 2.5Y Hue Vydrogen Sulfide (A4) Alaska Gleyed Without 5Y Hue or Redder Underlying Layer Alaska Gleyed without 5Y Hue or Redder Underlying Layer (A12) Alaska Gleyed without 5Y Hue or Redder Underlying Layer (A15) Other (Explain in Notes)  Other (Explain in Notes	a contact of the contract of		-						COLUMN SAN MICHAEL SAN
Alaska Gleyed without 5Y Hue or Redder Underlying Layer Cother (Explain in Notes)  Other (Explain in Notes):	Andrew Windowski				C. C				
Layer   Continued   Continue	lack Histic (A	A3) N		Alaska Gleyed	Pores (A	(15) N			
Other (Explain in Notes)  One indicator of hydrophytic vegetation, one primary indicator of wetland hydrology, and an appropriate landscape position must be present unless issurbed or problematic.  Situe details of color change in Notes.  Situe details of color change in Notes.  Sestrictive Layer (if present): Type: Cranford Depth (inches):  Sydric Soil Present (Y/N):  Dotes: Organics of dots of the present	lydrogen Sul	fide (A4) _ /J							ed without 5Y Hue or Redder Underlying
One indicator of hydrophytic vegetation, one primary indicator of wetland hydrology, and an appropriate landscape position must be present unless issurbed or problematic.  Siture details of color change in Notes.  Sestrictive Layer (if present): Type: Contact Depth (inches): Depth (inc	hick Dark Su	urface (A12)					-		in in Notes)
sturbed or problematic.  Since details of color change in Notes.  estrictive Layer (if present): Type:	-		etation or	ne primary indicator of	of wetlan	d hydrolo	gy and an a		CONTRACTOR OF THE PROPERTY OF
Surface Water (A1) Surface Soil Cracks (B6) Surface Soil Cracks (B6) Surface Water (A1) Surface Water (A1) Surface Soil Cracks (B6) Surface Soil Cracks (B6) Surface (B7) Surface (B8) Surf	hes. No	Donnies of	ampos	es of spins		01 -	-		
Surface Water (A1)	- contra	I LA L	sturb	ance above	Point	tion	s. Perm	afrost table as Soil We watered	e appears to have dropped il drained Sat. Before fire an periodically safered for
aturation (A3) Normal Sparsely Vegetated Concave Surface (B8) Normal Sparsely Vegetated Concave Sparsely Vegeta	CONTRO	- with the	ac +s	ost table	106	evider	ice ux	MUNICIPAL ?	ATURATE TAY EXTENDED FO
Address (B1) And Deposits (B15) And Deposits (B15) And Deposits (B15) And Deposits (B15) And Deposits (B2) And Deposits	YDROLOGY	Y PRIMARY INDICA	TORS (a	ny one indicator is su	ifficient)	S	ECONDAR Vater-staine	Y INDICATORS	(2 or more required)  Stunted or Stressed
rift Deposits (B2) \( \text{D} \) \( \text{Dry-Season} \) \( \text{Vater Table (C2)} \( \text{D} \) \( \text{Dry-Season} \) \( \text{Vater Table (Relief (N))} \( \text{D} \) \( \text{Deposits (B5)} \( \text{D} \) \( \text{Deposits (B5)} \( \text{D} \) \( \text{Deposits (B5)} \) \( \text{Deposits (B6)} \) \( Dep	YDROLOGY urface Water	PRIMARY INDICA	Sur	ny one indicator is su face Soil Cracks (B6)	ifficient)	S V L	ECONDAR Vater-stained eaves (B9)	Y INDICATORS	(2 or more required)  Stunted or Stressed Plants (D1)
PAC-Neutral Test (DS)  Odor (C1)	Surface Water	r (A1) Nable (A2)	Sur Inur (B7 Spa	ny one indicator is su face Soil Cracks (B6) ndation Visible on Ae	rial Imag	sery D	Vater-stained eaves (B9) drainage Pat exidized Rhiz iving Roots	terns (B10) zospheres along (C3)	(2 or more required)  Stunted or Stressed Plants (D1)  Geomorphic Position (D2)
Water Table (C2)  Igal Mat or Crust (B4) Other (Explain in Notes):  on Deposits (B5)  urface Water Present (Y/N): Depth (in): Depth	Surface Water ligh Water Ta saturation (A3	Y PRIMARY INDICA r (A1) N able (A2) N	Sur Inui (B7 Spa Cor	face Soil Cracks (B6) Indation Visible on Ae Inarsely Vegetated Incave Surface (B8)	rial Imag	gery D	Vater-stained eaves (B9) drainage Pat dividized Rhiz iving Roots dresence of I	terns (B10) zospheres along (C3) Reduced	(2 or more required)  Stunted or Stressed Plants (D1)  Geomorphic Position (D2)  Shallow Aquitard (D3)  Microtopographic
on Deposits (B5)  urface Water Present (Y/N):   Depth (in):   Wetland Hydrology Present (Y/N):  Vater Table Present (Y/N):   Depth (in):   Dept	Surface Water ligh Water Ta Saturation (A3	r (A1) Nable (A2) Nable (A2) Nable (B1) Nable (B1) Nable (B1)	Sur Inui (B7 Spa Cor Mai	ry one indicator is surface Soil Cracks (B6) Indation Visible on Ae Inarsely Vegetated Incave Surface (B8) Independent of the surface (B15) Income Sulfide	rial Imag	s v L L C L C L C L S S S S S S S S S S S S	Vater-stained eaves (B9) or ainage Pat exidized Rhiziving Roots resence of I on (C4) alt Deposits	tterns (B10) zospheres along (C3) Reduced	(2 or more required)  Stunted or Stressed Plants (D1)  Geomorphic Position (D2)  Shallow Aquitard (D3)  Microtopographic Relief (D4)
urface Water Present (Y/N): Depth (in): De	YDROLOGY urface Water ligh Water Ta aturation (A3 Vater Marks ( ediment Dep	Y PRIMARY INDICA  r (A1)  able (A2)  (B1)  posits (B2)	Sur Inui (B7 Spa Cor Mai Hyd Odd Dry	ry one indicator is sufface Soil Cracks (B6) Indation Visible on Ae Indicator	rial Imag	s v L L C L C L C L S S S S S S S S S S S S	Vater-stained eaves (B9) or ainage Pat exidized Rhiziving Roots resence of I on (C4) alt Deposits	tterns (B10) zospheres along (C3) Reduced	(2 or more required)  Stunted or Stressed Plants (D1)  Geomorphic Position (D2)  Shallow Aquitard (D3)  Microtopographic Relief (D4)
Atter Table Present (Y/N):  Depth (in):  Dep	Surface Water Talesturation (A3 Vater Marks ( Sediment Deposits	PRIMARY INDICA  r (A1)  able (A2)  (B1)  posits (B2)  (B3)	Sur Inui (B7 Spa Cor Mai Hyd Odd Dry Wai	ry one indicator is sufface Soil Cracks (B6) Indation Visible on Ae In Service (B8) In Deposits (B15) In Deposits (B15) In Open Sulfide In Crack (B8) In Deposits (B15) In Deposits (B15) In Deposits (B15) In Deposits (B15)	ifficient)	s v L L C L C L C L S S S S S S S S S S S S	Vater-stained eaves (B9) or ainage Pat exidized Rhiziving Roots resence of I on (C4) alt Deposits	tterns (B10) zospheres along (C3) Reduced	(2 or more required)  Stunted or Stressed Plants (D1)  Geomorphic Position (D2)  Shallow Aquitard (D3)  Microtopographic Relief (D4)
aturation Present (Y/N):  Depth (in):  Depth (in):  Depth (in):  Depth (in):	Surface Water Talesturation (A3 Vater Marks ( Sediment Deposits  Ugal Mat or C	PRIMARY INDICA  (A1)  able (A2)  (B1)  posits (B2)  (B3)  Crust (B4)	Sur Inui (B7 Spa Cor Mai Hyd Odd Dry Wai	ry one indicator is sufface Soil Cracks (B6) Indation Visible on Ae In Service (B8) In Deposits (B15) In Deposits (B15) In Open Sulfide In Crack (B8) In Deposits (B15) In Deposits (B15) In Deposits (B15) In Deposits (B15)	ifficient)	s v L L C L C L C L S S S S S S S S S S S S	Vater-stained eaves (B9) or ainage Pat exidized Rhiziving Roots resence of I on (C4) alt Deposits	tterns (B10) zospheres along (C3) Reduced	(2 or more required)  Stunted or Stressed Plants (D1)  Geomorphic Position (D2)  Shallow Aquitard (D3)  Microtopographic Relief (D4)
	Surface Water ligh Water Ta saturation (A3 Vater Marks ( Sediment Dep Prift Deposits Ligal Mat or C on Deposits	(B1) (B3) (B3) (B3) (B5)	Sur Inui (B7 Spa Cor Mai Hyd Odd Dry Wat	ny one indicator is sufface Soil Cracks (B6) Indation Visible on Ae Indicator	ifficient)	gery D	Vater-stained eaves (B9) Prainage Pat Dividized Rhiziving Roots Presence of Fon (C4) Lalt Deposits Total Control Contr	tterns (B10) zospheres along (C3) Reduced	(2 or more required)  Stunted or Stressed Plants (D1)  Geomorphic Position (D2)  Shallow Aquitard (D3)  Microtopographic Relief (D4)  FAC-Neutral Test (D5)
	AYDROLOGY Surface Water High Water Ta Saturation (A3 Vater Marks ( Sediment Dep Orift Deposits Algal Mat or C Fron Deposits Surface Water	PRIMARY INDICA  (A1)  able (A2)  (B1)  (B1)  (B3)  (B3)  (B3)  (B5)  Present (Y/N):	Sur Inui (B7 Spa Cor Mai  Hyd Odd Dry Wat  Oth	ry one indicator is sufface Soil Cracks (B6) Indation Visible on Ae Indicator	ifficient)	gery D	Vater-stained eaves (B9) Prainage Pat Dividized Rhiziving Roots Presence of Fon (C4) Lalt Deposits Total Control Contr	tterns (B10) zospheres along (C3) Reduced	(2 or more required)  Stunted or Stressed Plants (D1)  Geomorphic Position (D2)  Shallow Aquitard (D3)  Microtopographic Relief (D4)  FAC-Neutral Test (D5)

# AQUATIC SITE ASSESSMENT DATA FORM

VEGETATION VARIABLES P= Plot, M= Matrix
Primary Vegetation Type (P): Vegetation Lacking Forested-Deciduous-Needle-leaved Forested-Deciduous-Broad-leaved Forested-Deciduous-Broad-leaved Scrub Shrub-Deciduous-Needle-leaved Scrub Shrub-Deciduous-Broad-leaved Scrub Shrub-Evergreen-Broad-leaved Scrub Shrub-Evergreen-Needle-leaved Emergent-Non-persistent Emergent-Persistent Aquatic Bed
Percent Cover (P): Tree (>5 dbh, >6m tall)         Sapling (<5 dbh, <6m tall)         Tall shrub (2-6m)         Short shrub (0.5-2m)           Dwarf shrub (<0.5m)
Number of Wetland Types (M): Evenness of Wetland Type Distribution (M): Even Highly Uneven Moderately even
Vegetation Density/Dominance (P): Sparse (0-20%)         Low Density (20-40%)         Medium Density (40-60%)         High Density (60-80%)
Interspersion of Cover & Open Water (P): 100% Cover or Open Water <25% Scattered/Peripheral Cover 26-75% Scattered or Peripheral Cover N/A
Plant Species Diversity (P): Low (< 5 plant species) Medium (5-25 species) High (>25)
Presence of Islands (M): Absent (none) One or Few Several to Many N/A
Cover Distribution of Dominant Layer (P): No Veg. Solitary, Scattered Stems 1 or More Large Patches; Parts of Site Open Small Scattered Patches Continuous Cover
Dead Woody Material (P): Low Abundance (0-25% of surface) Moderately Abundant (25-50% of surface)
Vegetative Interspersion (P): Low (large patches, concentric rings) Moderate (broken irregular rings) High (small groupings, diverse and interspersed)
HGM Class (P): Slope Flat Lacustrine Fringe Depressional Riverine Estaurine Fringe
SOIL VARIABLES  Soil Factors (P): Soil Lacking Histosol:Fibric Histosol:Hemic Histosol: Sapric
Mineral: Gravelly Mineral: Sandy Mineral: Silty Mineral: Olayey
HYDROLOGIC VARIABLES
HYDROLOGIC VARIABLES  Inlet/Outlet Class (P): No Inlet/Outlet No Inlet/Intermittent Outlet No Inlet/Perennial Outlet Intermittent Inlet/No Outlet Intermittent Inlet/Intermittent Outlet Perennial Inlet/Intermittent Outlet Perennial Inlet/Perennial Outlet Perennial Outlet
Inlet/Outlet Class (P): No Inlet/OutletNo Inlet/Intermittent Outlet No Inlet/Perennial Outlet Intermittent Inlet/No Outlet Intermittent Inlet/Intermittent Inlet/Perennial Outlet Perennial Inlet/No Outlet Perennial Inlet/Perennial Outlet Perennial Inlet/Perennial Outlet Perennial Outlet Perennial Outlet Wetland Water Regime (P): Drier: Seasonally Flooded, Temporarily Flooded, Saturated Wet: Perm. Flooded, Intermittently Exposed, Semiperm. Flooded
Inlet/Outlet Class (P): No Inlet/OutletNo Inlet/Intermittent Outlet No Inlet/Perennial Outlet Intermittent Inlet/Intermittent Inlet/Intermittent Inlet/Perennial Outlet Perennial Inlet/Intermittent Outlet Perennial Inlet/Perennial Inlet/Peren
Inlet/Outlet Class (P): No Inlet/Outlet
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Inlet/Outlet Class (P): No Inlet/Outlet

Crew Chief QA/QC check:

GPS Technician QA/QC check:

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### Wetland Determination Form QA/QC Checklist

This form to be completed before leaving the field site.

Feature ID: W84 A4008	Field Target: L5262	Date: 7/3/15

For all items not checked, please provide detailed explanation in the notes section of data form.

### 1. Site Description

- ☑ Site description, site parameters and summary of findings are complete?
- A detailed site sketch is included in logbook?

### 2. Vegetation

- ☑ At least 80% of onsite vegetation has been keyed to species, or collected for later identification?
- ☑ Vegetation names are entered legibly for all strata present?
- Cover calculations are complete and correct?
- All dominant species have been determined and recorded per strata?
- ☑ Indicator status is correct for each species?
- Dominance Test and Prevalence Index have been completed?

#### 3. Soil

- Appropriate hydric soil indicators are marked?

### 4. Hydrology

- Appropriate hydrology indicators are marked?
- Surface water, water table, and saturation depths are recorded if present?

#### 5. Functions and Values

✓ Vegetation, soil, hydrologic variables, and landscape variables complete if site is a wetland?

### 6. Field Logbook

- Notes have been recorded at each site, including general description, sketch, and accuracy of pre-mapped wetland boundary as appropriate?
- □ Each logbook page is initialed and dated?

#### 7. Maps

- Wetland boundaries have been corrected if necessary?
- Maps are initialed and dated?

### 8. Photos

Four photos were taken for each Wetland Determination Data Form (2 vegetation, 1 soil pit, 1 soil plug)?

Two photos were taken for each Observation Point (vegetation/site overview)?

Wetland Scientist (print) Signature / Date

Field Crew Chief (print) Signature / Date

Survey Type: Centerline Access Road (explain) Other (explain) Field Target: 15234 Map #: 18 Map Date: 6/25  Date: 7/3/5 Project Name & No.: Alaska LNG 60418403 Feature Id: W8444009  Investigators: 8 Gray State: Alaska Region: Alaska Milepost: Team No.: W844  Latitude: 6/25/5/5/5/5/5/5/5/5/5/5/5/5/5/5/5/5/5/5
Investigators: Bryan Strong Absquite Falson Team No.: W&Y  State: Alaska Region: Alaska Milepost:  Latitude: 676 361 08 681 Longitude: 149° 51 19 99 14 Datum: WGS84  Logbook No.: 0 Logbook Page No.: 30 Picture No.: Page A 1009 A 160 A
State: Alaska  Region: Alaska  Milepost:  Latitude: 6763610810810  Longitude: 149°51199910 Datum: WGS84  Logbook No.: 0 Logbook Page No.: 30 Picture No.: PWGAY009-XEG-XEG-P
Latitude: 67°36' 08,68" N Longitude: 129°51' 19,99" Datum: WGS84  Logbook No.: 01 Logbook Page No.: 30 Picture No.: PWS4AY009-VE6-VE6-P
Logbook No.: O Logbook Page No.: 30 Picture No.: PWS4AY009_VEG_VEG_P
SITE PARAMETERS
Subregion: Landform (hillslope, terrace, hummocks, etc.): Toeslope/Swal-
Slope (%): 2 Aspect W 3000 Local relief (concave, convex, none): Stight Concavo across  Pre-mapped Alaska LNG/NWI classification: DCC 1 / M II C (In Evidence of Wildlife Use: 1) 1550ct - 5 mail
Pre-mapped Alaska LNG/NWI classification: PSS 1 KB   C2   Evidence of Wildlife Use:
Are climatic/hydrologic conditions on the site typical for this time of year?  Yes No (if no explain in Notes)  Are "Normal Circumstances" present:  Yes No (If no, explain in Notes.)
Are Vegetation, Soil, or Hydrology Significantly Disturbed? No (If yes, explain in Notes)
Are Vegetation, Soil, or Hydrology Naturally Problematic? No (If yes, explain in Notes.)
SUMMARY OF FINDINGS
Hydrophytic Vegetation Present? Yes No Is the Sampled Area within a Wetland? Yes No
Hydric Soil Present?  Yes No Wetland Type: PCM1/4B
Wetland Hydrology Present? Yes No Alaska Vegetation Classification (Viereck):     A 3 ,       A 2 ,
Notes and Site Sketch: Please include Directional & North Arrow, Centerline, Length of feature, Distances from Centerline, Photo Locations, and Survey corridor.  Cal carcous soils. Gletch soil matrix with reducing conditions. High dive white spruce are chloratic-likely due to calcareous soils in addition to we. Conditions. Dr. conditions. Trickly this site would support pairs is tent water than soil surface. No classification fall on the border with a high propor of seedes mixed with a significant dwarf cricaccous, dwarf drias shrub charact Seedes (Erivac, carros etc) have a more proposacce vertical presence therefore this site was characterized as emurgent persistent/struce woodland.  Allowal sands are gravelly sands throughout area. Wet condition structly do but subtle changes in troops apply with interflued convex sites non-wetland.  Alonger Atoon water care sr.

Page 1 of 4

Page 1 of 4

VEGETATION (use scientific names of plant	s)			
1. Picea Mariano  2. Glavia	Absolute % Cover	Dominant Species? (Y/N)	Indicator Status	Dominance Test worksheet:  No. of Dominant Species that are OBL, FACW, or FAC:  (A)  Total Number of Dominant Species Across All Strata:  (B)  % Dominant Species that are OBL, FACW, or FAC:
3.				Lawrence of the supplied by the supplied by
4.		1 2000 EV		Prevalence Index worksheet:
Total Cover	r: 3 (	added to	shrub)	Total % Cover of: Multiply by:
50% of total cover	r: 20	% of total cov	er:	OBL species: X 1 = X
Sapling/Shrub Stratum ( 26 f4)	Absolute % Cover	Dominant Species? (Y/N)	Indicator Status	FACW species:
1. Dosiphora fauticosa	4		Fac	UPL speciesX 5 =
2. Betala glandulosa	2		Fac	Column Totals: 81 (A) 315 (B)
3. Picea mariana	T		FacW	PI = B/A =
4. Picea glavia	7	Y	FacU	Shrub
5. Androndeda politolia	3		F 11	Salix reticulate 3 Fac
6. Arctous suber	5	Y	Fac	Vaccinium uliginosen I Fac AFSalix richardsonii 2 Fac W Rhododendron lapponium 2 Fac
785 honordanine cal	116/6		Local	AFSalix richardson a Fac W
8. Duras interritolia	8	1	Facu	Rhododendron Capponium 2 Fac
9. Salie pulchra	5	4	Fach	Rhododendron groenlandicum T Fac Betula Nama
Total Cover 50% of total cover		10% of total cov	or: 9.4	Betula Mana & Fac
		70 OI LOLAI COV	el	
VEGETATION (use scientific names of plants		770 OI total COV		miannae mensimalah bahar
VEGETATION (use scientific names of plants Herb Stratum ( 36 + )		Dominant	Indicator	Hydrophytic Vegetation Indicators:
	Absolute	Dominant Species?		Hydrophytic Vegetation Indicators: Dominance Test is > 50%
Herb Stratum ( 36 f + )	Absolute % Cover	Dominant	Indicator Status	J
1. Ericipharum Vagnatur	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test is > 50%  Prevalence Index is ≤ 3.0  Morphological Adaptations¹ (Provide supporting data in
1. Ericiphorum Vagnatur 2. Garex biaelouri	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test is > 50%  Prevalence Index is ≤ 3.0  Morphological Adaptations¹ (Provide supporting data in Notes)
1. Ericiphorum Vagnatur 2. Carex bigelousi 3. Kymar accticus	Absolute % Cover	Dominant Species?	Indicator Status  Facult	Dominance Test is > 50%  Prevalence Index is ≤ 3.0  Morphological Adaptations¹ (Provide supporting data in Notes)  Problematic Hydrophytic Vegetation¹ (Explain)
1. Ericiphorum Vagnatur 2. Carex biaelousi 3. Krmar accticus 4. Festuca altaica	Absolute % Cover	Dominant Species?	Indicator Status  Factor  Fac  Fac	Dominance Test is > 50%  Prevalence Index is ≤ 3.0  Morphological Adaptations¹ (Provide supporting data in Notes)  —Problematic Hydrophytic Vegetation¹ (Explain)  ¹ Indicators of hydric soil and wetland hydrology must be present unless
1. Ericophorum Vagnatur 2. Carex bigelouis 3. Kymar accticus	Absolute % Cover	Dominant Species?	Indicator Status  Fac Fac Fac FACW	Dominance Test is > 50%  Prevalence Index is ≤ 3.0  Morphological Adaptations¹ (Provide supporting data in Notes)  Problematic Hydrophytic Vegetation¹ (Explain)
1. Ericopharum Vaginatur 2. Carex bigelouii 3. Krmar arcticus 4. Festuca altarca 5. Corex membranacea 6. Carex arnocrates	Absolute % Cover	Dominant Species?	Indicator Status  Fac Fac Fac FACW OBL	Dominance Test is > 50%  Prevalence Index is ≤ 3.0  Morphological Adaptations¹ (Provide supporting data in Notes)  Problematic Hydrophytic Vegetation¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present unless disturbed or problematic.
1. Ericophorum Vaginatur  2. Carex biaelouii  3. Rymay accticus  4. Festuca altaica  5. Carex membranacea  6. Carex gynocrates  7. perturblaris sys.	Absolute % Cover 20 16 mss	Dominant Species?	Indicator Status  Fac Fac Fac Fac Fac Fac Fac Fac Fac Fa	Dominance Test is > 50%  Prevalence Index is ≤ 3.0  Morphological Adaptations¹ (Provide supporting data in Notes)  —Problematic Hydrophytic Vegetation¹ (Explain)  ¹ Indicators of hydric soil and wetland hydrology must be present unless disturbed or problematic.  ———————————————————————————————————
1. Ericophorum Vagnatur 2. Carex biggeloui 3. Rymax arcticus 4. Festuca altarca 5. Corex membranacea 6. (arex arnocrates 7. perturblaris sp. 8. Fauischim parilyatur	Absolute % Cover 20 + 6 mss  7  8 5 mss 2 + 8 mss	Dominant Species?	Indicator Status  Fac Fac Fac FACW OBL	Dominance Test is > 50%  Prevalence Index is ≤ 3.0  Morphological Adaptations¹ (Provide supporting data in Notes)  —Problematic Hydrophytic Vegetation¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present unless disturbed or problematic.  ———————————————————————————————————
1. Ericiphorum Vagnatur 2. Carex biggelouii 3. Rymay arcticus 4. Festuca altaica 5. Carex membranacea 6. Carex gynocrates 7. perluidlaris syn.	Absolute % Cover 20 + 6 mss  7  8 5 mss 2 + 8 mss	Dominant Species?	Indicator Status  Fac Fac Fac Fac Fac Fac Fac Fac Fac Fa	Dominance Test is > 50%  Prevalence Index is ≤ 3.0  Morphological Adaptations¹ (Provide supporting data in Notes)  —Problematic Hydrophytic Vegetation¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present unless disturbed or problematic.  ——% Bare Ground ?————————————————————————————————————
1. Ericophorum Vagnatur 2. Carex biggeloui 3. Rymax arcticus 4. Festuca altarca 5. Corex membranacea 6. (arex arnocrates 7. perturblaris sp. 8. Fauischim parilyatur	Absolute % Cover 20 + 6 mss  7  8 5 mss 2 + 8 mss	Dominant Species?	Indicator Status  Fac Fac Fac Fac Fac Fac Fac Fac Fac Fa	Dominance Test is > 50%  Prevalence Index is ≤ 3.0  Morphological Adaptations¹ (Provide supporting data in Notes)  —Problematic Hydrophytic Vegetation¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present unless disturbed or problematic.  ———————————————————————————————————
1. Ericiphorum Vagnatur 2. Carex biggelouii 3. Rymax arcticus 4. Festuca altaica 5. Carex membranacea 6. (arex arnocrates 7. perluidaris sp. 8. tauisetim varildatur 9. Toticidia sp.	Absolute % Cover 20 16 mss 2 1 sss	Dominant Species?	Indicator Status  Fac Fac Fac Fac Fac Fac Fac Fac Fac Fa	Dominance Test is > 50%  Prevalence Index is ≤ 3.0  Morphological Adaptations¹ (Provide supporting data in Notes)  —Problematic Hydrophytic Vegetation¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present unless disturbed or problematic.  ———————————————————————————————————
1. Ericiphorum Vagnatur 2. Carex biaelouii 3. Krmar arcticus 4. Festuca altaica 5. Carex membranacea 6. Carex arnocrates 7. perluidaris sp. 8. † quisetum varildatur 9. Toticidia sp. 10. Pristarta Vivipara	Absolute % Cover 20 15 TTSS  T T T T T T T T T T T T T T T T T	Dominant Species?	Indicator Status  Fac Fac Fac Fac Fac Fac Fac Fac Fac Fa	Dominance Test is > 50%  Prevalence Index is ≤ 3.0  Morphological Adaptations¹ (Provide supporting data in Notes)  —Problematic Hydrophytic Vegetation¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present unless disturbed or problematic.  ———————————————————————————————————
1. Ericipharum Vaginatur 2. Carex biaelouri 3. Rymar arcticus 4. Festuca altarca 5. Carex membranacea 6. Carex arnocrates 7. perludlaris sys. 8. † quisetum varilgatur 9. Total Cover	Absolute % Cover 20 15 TTSS  T T T T T T T T T T T T T T T T T	Dominant Species? (Y/N)	Indicator Status  Fac Fac Fac Fac Fac Fac Fac Fac Fac Fa	Dominance Test is > 50%  Prevalence Index is ≤ 3.0  Morphological Adaptations¹ (Provide supporting data in Notes)  —Problematic Hydrophytic Vegetation¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present unless disturbed or problematic.  ———————————————————————————————————
1. Ericipharum Vaginatur 2. Carex biaelouri 3. Rymar accticus 4. Festuca altarca 5. Carex membranacea 6. Carex arnocrates 7. perludlaris sys. 8. tauisetum varilgatur 9. Toticidia sp. 10. Bistarta Vivipara Total Cover	Absolute % Cover 20 15 TTSS  T T T T T T T T T T T T T T T T T	Dominant Species? (Y/N)	Indicator Status  Fac Fac Fac Fac Fac Fac Fac Fac Fac Fa	Dominance Test is > 50%  Prevalence Index is ≤ 3.0  Morphological Adaptations¹ (Provide supporting data in Notes)  —Problematic Hydrophytic Vegetation¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present unless disturbed or problematic.  ———————————————————————————————————
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			7/3/15		W84	AY000	1	
SOIL		QV L	DateFe	ature II				Soil Pit Required (Y/N)
SOIL PROFI	LE DESCRIPTION: (D	escribe		to doc	ument the	indicator or c	onfirm the abser	nce of indicators.)
Depth	Matrix		Redox Features			1 .		
inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Notes
0-3				4				
3-5	5-12 2-5/2		7 N 12/				MICSIL	from stained - high was
	121/2	0/	C 11/1	+		1	1.00	table iron staining
1-14	N4/0		5-4/4	5		M	VISAL	Alpha alpha positive
14	N3/0	75	27414	3		101	UfSal	Alpha alpha positive creaturbated w/oe+A ma
1-16	N3/0	95	C+ 4/.1-	13	C.	m	fsaL	Alpha alpha positive
	oncentration, D=Deple	1.5	M=Reduced Matrix, C					n: PL=Pore Lining, M=Matrix.
	IL INDICATORS	100, 11	Troughout Manny	150 VIV			10 0000000	S FOR PROBLEMATIC HYDRIC SOILS
	istel (A1)/		Alaska Gleyed	(A13)	R)	The state of		Change (TA4) <sup>4</sup>
istic Epiped			Alaska Redox			•		e Swales (TA5) N
lack Histic	<u> </u>	Α.	Alaska Gleyed					x with 2.5Y Hue
		.1 1		, 5163	v (10)			d without 5Y Hue or Redder Underlying
	ılfide (A4) <u>⅓ - ≶ (</u> ,	DUT					Layer_ 🖟	
	urface (A12)/\							in in Notes) Reduce 2 matrix cape position must be present unless
ydric Soil	sand devosion	ts t	nfile at for hroughout a mafrost ta	ald area ble	capa. Crr	ce ty - turbate	2 with c	Auration. Art condition De and mader A materia
YDROLOG	Y PRIMARY INDICAT	ORS (	any one indicator is s	ufficient	9	SECONDARA	/ INDICATORS (	2 or more required)
surface Wat	er (A1)		rface Soil Cracks (B6		<u> </u>	Vater-stained eaves (B9) _		Stunted or Stressed Plants (D1)
ligh Water 1	able (A2) N	(B		erial Ima	1		terns (B10)	Geomorphic Position (D2)
aturation (A	.3)	Sp Co	arsely Vegetated ncave Surface (B8) _	N	[	iving Roots (	1.1	Shallow Aquitard (D3)
Vater Marks	(B1) <u>V</u>	Ma	arl Deposits (B15)	7		Presence of Fron (C4)	Reduced	Microtopographic Relief (D4)
ediment De	posits (B2)		drogen Sulfide lor (C1)			Salt Deposits	(C5) <u>N</u>	FAC-Neutral Test (D5)
rift Deposit	s (B3)	Dr. Wa	y-Season ater Table (C2)		1	Notes:		
lgal Mat or	Crust (B4)	Ot	her (Explain in Notes)	1		" "	1	× .
on Deposits	i (B5)		VS J ZOM					
urface Wate	er Present (Y/N):		Depth (in): NA	WIND I	- TO 18 Bit 1			
/ater Table	Present (Y/N):		Depth (in): ~A		We	tland Hydro	logy Present (Y	/N):
	resent (Y/N):	ы	Depth (in): NA		EC	NA		- No.
Notes:	r condition	٤						

# AQUATIC SITE ASSESSMENT DATA FORM

VEGETATION VARIABLES P= Plot, M= Matrix
Primary Vegetation Type (P):       Vegetation Lacking Forested-Deciduous-Needle-leaved Forested-Deciduous-Needle-leaved Scrub Shrub-Deciduous-Needle-leaved Scrub Shrub-Deciduous-Broad-leaved Scrub Shrub-Evergreen-Broad-leaved Emergent-Non-persistent Emergent-Non-persistent Aquatic Bed
Percent Cover (P): Tree (>5 dbh, >6m tall)       Sapling (<5 dbh, <6m tall)       Tall shrub (2-6m)       Short shrub (0.5-2m)         Dwarf shrub (<0.5m)
Number of Wetland Types (M): Evenness of Wetland Type Distribution (M): Even Highly Uneven Moderately even
Vegetation Density/Dominance (P): Sparse (0-20%) Low Density (20-40%) Medium Density (40-60%) High Density (60-80%)         Very High Density (80-100%)
Interspersion of Cover & Open Water (P): 100% Cover or Open Water \( \sqrt{2} \) <25% Scattered/Peripheral Cover \( 26-75\) Scattered or Peripheral Cover \( \sqrt{N/A} \)
Plant Species Diversity (P): Low (< 5 plant species) Medium (5-25 species) High (>25)
Presence of Islands (M): Absent (none) One or Few Several to Many N/A
Cover Distribution of Dominant Layer (P): No Veg Solitary, Scattered Stems 1 or More Large Patches; Parts of Site Open Small Scattered Patches Continuous Cover
Dead Woody Material (P): Low Abundance (0-25% of surface) Moderately Abundant (25-50% of surface) Abundant (>50% of surface)
Vegetative Interspersion (P): Low (large patches, concentric rings) Moderate (broken irregular rings) High (small groupings, diverse and interspersed)
HGM Class (P): Slope Flat_X_ Lacustrine Fringe Depressional Riverine Estaurine Fringe
SOIL VARIABLES
Soil Factors (P): Soil Lacking Histosol:Fibric Histosol:Hemic Histosol: Sapric Mineral: Gravelly Mineral: Sandy Mineral: Silty Mineral: Clayey
HYDROLOGIC VARIABLES
Inlet/Outlet Class (P): No Inlet/Outlet No Inlet/Intermittent Outlet No Inlet/Perennial Outlet Intermittent Inlet/Incompleted in Intermittent Inlet/Intermittent Outlet Perennial Inlet/Intermittent Outlet Perennial Inlet/Perennial Outle
Wetland Water Regime (P): Drier: Seasonally Flooded, Temporarily Flooded, Saturated Wet: Perm. Flooded, Intermittently Exposed, Semiperm. Flooded
Evidence of Sedimentation (P): No Evidence Observed Sediment Observed on Wetland Substrate Fluvaquent Soils Sediment
Evidence of Sedimentation (P): No Evidence Observed Sediment Observed on Wetland Substrate Fluvaquent Soils Sediment Created Wetland Surface (P): Absent Poorly Developed (6in.) Well Developed (6-18in.) Pronounced (>18in.)
Created
Created  Microrelief of Wetland Surface (P): Absent Poorly Developed (6in.) Well Developed (6-18in.) Pronounced (>18in.)  Frequency of Overbank Flooding (P): No Overbank Flooding Return Interval 1-2 yrs Return Interval 2-5 yrs  Return Interval >5 yrs  Degree of Outlet Restriction (P): No Outflow Restricted Outflow Unrestricted Outflow
Created  Microrelief of Wetland Surface (P): Absent Poorly Developed (6in.) Well Developed (6-18in.) Pronounced (>18in.)  Frequency of Overbank Flooding (P): No Overbank Flooding Return Interval 1-2 yrs Return Interval 2-5 yrs  Return Interval >5 yrs  Degree of Outlet Restriction (P): No Outflow Restricted Outflow Unrestricted Outflow  Water pH (P): No surface water Circumneutral (5.5-7.4) Alkaline (>7.4) Acid (<5.5) pH Reading
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Created  Microrelief of Wetland Surface (P): Absent Poorly Developed (6in.) Well Developed (6-18in.) Pronounced (>18in.)  Frequency of Overbank Flooding (P): No Overbank Flooding Return Interval 1-2 yrs Return Interval 2-5 yrs  Return Interval >5 yrs  Degree of Outlet Restriction (P): No Outflow Restricted Outflow Unrestricted Outflow  Water pH (P): No surface water Circumneutral (5.5-7.4) Alkaline (>7.4) Acid (<5.5) pH Reading  Surficial Geologic Deposit Under Wetland (P): High Permeability Stratified Deposits Low Permeability Stratified Deposits
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Microrelief of Wetland Surface (P): Absent Poorly Developed (6in.) Well Developed (6-18in.) Pronounced (>18in.)  Frequency of Overbank Flooding (P): No Overbank Flooding Return Interval 1-2 yrs Return Interval 2-5 yrs  Return Interval >5 yrs Return Interval 2-5 yrs Ret
Created         Microrelief of Wetland Surface (P): Absent Poorly Developed (6in.) Well Developed (6-18in.) Pronounced (>18in.)         Frequency of Overbank Flooding (P): No Overbank Flooding Return Interval 1-2 yrs Return Interval 2-5 yrs         Return Interval >5 yrs         Degree of Outlet Restriction (P): No Outflow Restricted Outflow       Unrestricted Outflow         Water pH (P): No surface water Circumneutral (5.5-7.4) Alkaline (>7.4) Acid (<5.5) pH Reading         Surficial Geologic Deposit Under Wetland (P): High Permeability Stratified Deposits Low Permeability Stratified Deposits         Glacial Till/Not Permeable       Image: Permeable Permeability Stratified Deposits         Basin Topographic Gradient (M): Low Gradient (<2%)       High Gradient (≥2%)         Evidence of Seeps and Springs (P): No Seeps or Springs       Seeps Observed

Page 4 of 4

## Wetland Determination Form QA/QC Checklist

This form to be completed before leaving the field site.

1. Site Description  ☐ Site description, site parameters and summary of findings are complete? ☐ A detailed site sketch is included in Hogbook? ☐ At least 80% of onsite vegetation has been keyed to species, or collected identification? ☐ Vegetation ☐ At least 80% of onsite vegetation has been keyed to species, or collected identification? ☐ Vegetation names are entered legibly for all strata present? ☐ Cover calculations are complete and correct? ☐ All dominant species have been determined and recorded per strata? ☐ Indicator status is correct for each species? ☐ Dominance Test and Prevalence Index have been completed?  3. Soil ☐ Soil profile is complete? ☐ Appropriate hydric soil indicators are marked? ☐ Appropriate hydrology indicators are marked? ☐ Surface water, water table, and saturation depths are recorded if present?  5. Functions and Values ☐ Vegetation, soil, hydrologic variables, and landscape variables complete if wetland?  6. Field Logbook ☐ Notes have been recorded at each site, including general description, sket accuracy of pre-mapped wetland boundary as appropriate? ☐ Each back bear in this lead details.	
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identification?  ✓ Vegetation names are entered legibly for all strata present?  Cover calculations are complete and correct?  All dominant species have been determined and recorded per strata?  Indicator status is correct for each species?  Dominance Test and Prevalence Index have been completed?  3. Soil  ✓ Soil profile is complete?  Appropriate hydric soil indicators are marked?  Appropriate hydrology indicators are marked?  Surface water, water table, and saturation depths are recorded if present?  5. Functions and Values  ✓ Vegetation, soil, hydrologic variables, and landscape variables complete if wetland?  6. Field Logbook  ✓ Notes have been recorded at each site, including general description, sket accuracy of pre-mapped wetland boundary as appropriate?	
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wetland?  6. Field Logbook  区 Notes have been recorded at each site, including general description, sker accuracy of pre-mapped wetland boundary as appropriate?	
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accuracy of pre-mapped wetland boundary as appropriate?	
☑ Each logbook page is initialed and dated?	etch, and
7. Maps	

Maps are initialed and dated?

## 8. Photos

Four photos were taken for each Wetland Determination Data Form (2 vegetation, 1 soil pit, 1 soil plug)?

Two photos were taken for each Observation Point (vegetation/site overview)?

X Wetland Scientist (print) Signature / Date

Field Crew Chief (print)

Signature / Date

SITE DESCRIPTION		AND THE STATE OF T		
Survey Type: Centerline Acce	ss Road (explain) Oth	ner (explain)	Field Target: (5)	Map #: 4 Map Date: 6/29
Date: 7/3/15	Project Name & No.: Alas	ska LNG 60418403	Feature Id	W84A4010
Investigators: Bryan 9	strong, Abi	gayle F	isher	Team No.: W89
State: Alaska	Region: Alaska	Milepost:	121,2	
Latitude: G 7 28 59.0	7 "N Lo	ongitude:   49°	51'54,12'	Datum: WGS84
Logbook No.: ( )	Logbook Page No.: 37	Picture No.:	P-W84AY	GLO VEG-VEG-PIT-A
SITE PARAMETERS	TO SEE BY SERVED	SPHERMAN AND A	Men in the second	
Subregion: Interior		Landform (hil	llslope, terrace, hummock	s, etc.): Terrace
Slope (%): 4		Local relief (c	concave, convex, none):	Polling undulating
Pre-mapped Alaska LNG/NWI classifica	ition: Upland, IA2,	Evidence of V	Wildlife Use: No S	mall Trummocks
Are climatic/hydrologic conditions on the Yes No (if no exp		11 1 352	ormal Circumstances" pre No (If no, exp	sent: plain in Notes.)
Are Vegetation, Soil, or Hy			_(If yes, explain in Notes)	Pagisales
Are Vegetation, Soil, or Hy	drologyNaturally Proble	ematic? No	(If yes, explain in Notes	.)
SUMMARY OF FINDINGS	Contract to		ALL THE PARTY OF THE PARTY.	
Hydrophytic Vegetation Present? Yes_	× No_	is the Sampled A	Area within a Wetland?	Yes NoK
Hydric Soil Present? Yes_	No_X	Wetland Type: (	)	
Wetland Hydrology Present? Yes_	No	Alaska Vegetation	n Classification (Viereck):	1A3, 11A3, 4/2
Notes and Site Sketch: Please include Ecorridor. A few localize Two soil pits dus Microsites more trans Atolowse Primary pit	ed closed der at site Pit a cal of notes	described describing	thedree son depical of the Second soul	e area with concer p. + dog 10% mixed sprace to 2 but many (>20')

Page 1 of 4

	s)			
Tree Stratum (Plot sizes: 100 )	Absolute % Cover	Dominant Species? (Y/N)	Indicator Status	Dominance Test worksheet:  No. of Dominant Species that are OBL, FACW, or FAC:
1. Vicea Mariana 20.56		Y	Fach	Total Number of Dominant Species Across All Strata:  "Dominant Species that are OBL, FACW, or FAC: 75 (A
2. Picea glavra (20-60)	2	7	FacU	
4.				Prevalence Index worksheet:
Total Cove	of the same of the	)% of total cov	ver: 2	Total % Cover of: Multiply by:  OBL species: X 1 =
Sapling/Shrub Stratum ( 2 6 )	Absolute % Cover	Dominant Species? (Y/N)	Indicator Status	FACW species: 40 x 2 = 80  FAC species 40 x 3 = 120  FACU species 2 x 4 = 26
1. Vaccinium Wiginosum 2. Vaccinium vitis-idaea 3. Dinaina vitis-idaea	9		Fac.	UPL species X 5 =  Column Totals:
4. Phodolendrum tomento	ondicint	У	Fach	PIEBA = 16 Showb Picea Mariana (2-19) 16 Y Fa
6. Betula glandalosa	13	Y	Fac	Picea Mariane (2-19") 16 y Fa Empetrum nigrum 2 Fas Salix reticulata 2 E
7. Propas integrifolia 8. Salix glavear	8		Fac	Salix reficulate 2 Fa
9. Picea glavea (2-19')			Facel	and the state of t
9. Picea glauca (2-19')  Total Cove  50% of total cove	-	% of total cov	310	20% spruce sapling 10% spruce
Total Cove	7:39 20	% of total cov	310	20% spruce sapling 10% spruce
Total Cove 50% of total cove  VEGETATION (use scientific names of plant	7:39 20	Dominant Species?	310	Hydrophytic Vegetation Indicators:  Dominance Test is > 50%
Total Cove 50% of total cove  VEGETATION (use scientific names of plant Herb Stratum ( 26 )	s) Absolute	Dominant	Indicator Status	Hydrophytic Vegetation Indicators:
Total Cove 50% of total cove  VEGETATION (use scientific names of plant Herb Stratum ( 26 )  1. Festuca altaica 2. Saussurea angustifal	s) Absolute	Dominant Species?	Indicator Status	Hydrophytic Vegetation Indicators:  ∠ Dominance Test is > 50%  ∠ Prevalence Index is ≤ 3.0  _ Morphological Adaptations¹ (Provide supporting data in Notes)
Total Cove 50% of total cove  VEGETATION (use scientific names of plant Herb Stratum ( 26 )  1. Festuca altaica 2. Saussurea angust fol	s) Absolute	Dominant Species?	Indicator Status	Hydrophytic Vegetation Indicators:  Dominance Test is > 50%  Prevalence Index is ≤ 3.0  Morphological Adaptations¹ (Provide supporting data in
Total Cove 50% of total cove  VEGETATION (use scientific names of plant Herb Stratum ( 26 )  1. Fest uca altaica 2. Saussurea angustifal 3. Equise fum arvense 4. Carex vaginal 5. Equise fum pratens	s) Absolute	Dominant Species?	Indicator Status  Fac Fac	Hydrophytic Vegetation Indicators:  Dominance Test is > 50%  Prevalence Index is ≤ 3.0  Morphological Adaptations¹ (Provide supporting data in Notes)  Problematic Hydrophytic Vegetation¹ (Explain)
Total Cove 50% of total cove  VEGETATION (use scientific names of plant Herb Stratum ( 26 )  1. Fest uca altaica 2. Saussurea angustifat 3. Equise fum arvense 4. Carex vaginat 5. Equise fum pratens 6. Bistorta plumasa	s) Absolute	Dominant Species?	Indicator Status  Fac  Fac  OBL	Hydrophytic Vegetation Indicators:  Dominance Test is > 50%  Prevalence Index is ≤ 3.0  Morphological Adaptations¹ (Provide supporting data in Notes)  Problematic Hydrophytic Vegetation¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present unless disturbed or problematic.
Total Cove 50% of total cove  VEGETATION (use scientific names of plant Herb Stratum ( 26 )  1. Fest uca altaica 2. Saussurea angustifal 3. Equise fum arvense 4. Carex vaginal 5. Equise fum pratens 6. Bistorta plumosa 7.	s) Absolute	Dominant Species?	Indicator Status  Fac Fac OBL FacU	Hydrophytic Vegetation Indicators:  ∠ Dominance Test is > 50%  ∠ Prevalence Index is ≤ 3.0  _ Morphological Adaptations¹ (Provide supporting data in Notes)  _ Problematic Hydrophytic Vegetation¹ (Explain)  ¹ Indicators of hydric soil and wetland hydrology must be present unless
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Total Cove 50% of total cove  VEGETATION (use scientific names of plant Herb Stratum ( 26 )  1. Fest us altaica 2. Saussurea angust fol 3. Equise fun arvense 4. Carex vaginal 5. Equise fun pratens 6. Bistorta plunasa 7. 8.	s) Absolute	Dominant Species?	Indicator Status  Fac Fac OBL FacU	Hydrophytic Vegetation Indicators:  Dominance Test is > 50%  Prevalence Index is ≤ 3.0  Morphological Adaptations¹ (Provide supporting data in Notes)  Problematic Hydrophytic Vegetation¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present unless disturbed or problematic.  Bare Ground  Medicators of Wetland Bryophytes

		Describe	to the death seeds	d to doc	ument the	indicator or o	onfirm the abser	ce of indicators.)	
OIL PROFI	ILE DESCRIPTION:	Describe	to the depth neede	A STATE OF THE PARTY OF THE PAR		ALL REAL PROPERTY AND ADDRESS OF THE	The second secon		
epth	Matrix		Redox Features			14			
nches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Notes	
)-3									
-11	10-12 4/3	98	10-12 4/4	2	C	M	Sal	interface with	th rourser
1-18	5-14/1	100					LSa	Perent Mate	rist color
8-20	5-14/1	(00)					LSa	Perent mate	
Tuno: C=C	oncentration, D=Depl	otion PA	A=Daduced Matrix (	25=00//	ared or Co	ated Sand G	rains <sup>2</sup> l ocatio	n: PL=Pore Lining, M=M:	
Christian Paris Paris Property	IL INDICATORS	etion, Ki	vi-Reduced Matrix, V	J3-00V6	ered or Co.	aleu Sanu G		S FOR PROBLEMATIC H	
distribute the same	SECTION OF THE PROPERTY OF THE PERSON OF THE		Alaska Olasa	1 (440)	N. Comments		S. CHARLES AND CO.	CONTRACTOR OF THE PARTY AND TH	TURIC SUILS
A AL DESCRIPTION	Histel (A1) N		Alaska Gleyer					Change (TA4) <sup>4</sup> N	_
	don (A2)		Alaska Redox					Swales (TA5) N	_
lack Histic	(A3)		Alaska Gleyer	Pores	(A15)	)		x with 2.5Y Hue N	
ydrogen Su	ulfide (A4) N						Alaska Gleyed without 5Y Hue or Redder Underlying Layer  Other (Explain in Notes)		
hick Dark S	Surface (A12) N								
a a Aut a At	of color change in N	-	- (		anhant I	D			
ydric Soil I	Present (Y/N): N	n a	wetter con Saidy loan	ovial neare below	Jepa Mici	rosite or	-10'awy	hat co-500	15-9 Oa
lotes: 2 -	Present (Y/N): N	on a ches,	wetter con Saide loan be satura	neare below ted	Jepa dorga un con	rosits or rosite rosis cave noccurs	- 10'away freens	had co-50i	15.9 Oa
otes: 2 - 1 erm fos five	Present (Y/N): N	ohes May TORS (a	wetter con Saide loan be satura	below teduc	Jepa Songer Song	rosits or rosite rosis cave noccurs	facens facens nicrosites	had : 0-5 01	15-9 Oa 11 Pha alph of the gr
ydric Soil I otes: 2 - 1 er m f os five as an YDROLOG urface Water	Present (Y/N): N	TORS (a	All wetter con Said loan / be satural appear any one indicator is strace Soil Cracks (Bundation Visible on A	below ted reductions	Jepa Jepa Jepa Jepa Jepa Jepa Jepa Jepa	ECONDARY Vater-stained eaves (B9)	facens facens nicrosites	2 or more required)  Stunted or Stress Plants (D1)	15-9 Oa 19ha alph of the gr
ydric Soil I otes: 2 - 1 er - 1 os + 1 ve er - 1 os + 1 ve yDROLOG urface Water igh Water T	Present (Y/N): No present (Y/N	TORS (a Sun Inu (B7	All wetter con Said loan / be satural appear any one indicator is strace Soil Cracks (Bundation Visible on A	care below tedured in Marcare	Jepa Sorgan chan  L  agery  C	SECONDAR) Vater-stained eaves (B9)	r INDICATORS  derns (B10)	2 or more required)  Stunted or Stress Plants (D1)	sed
ydric Soil I otes: 2 YDROLOG Wrface Water T aturation (A	Present (Y/N): _N  Present (Y/N)	TORS (a Sui	All wetter considered to a satural appears any one indicator is surface Soil Cracks (Bundation Visible on Ary)	below below tedured or	Jepa Jepa Jepa Jepa Jepa Jepa Jepa Jepa	ECONDARY Vater-stained eaves (B9) Drainage Patt iving Roots (Presence of F	r INDICATORS  I INDICATORS  Terns (B10)  cospheres along (C3)  Reduced	2 or more required)  Stunted or Stress Plants (D1)  Geomorphic Pos	sed  I (D3) Y
ydric Soil lotes: 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	Present (Y/N): _N  Present (Y/N)	TORS (a Sui Inu (B7 Co	All wetter con Said I loan I l	below below tedured or	Jepa Jepa	ECONDARY Vater-stained eaves (B9) Drainage Patt	r INDICATORS  VINDICATORS  VINDICATORS  Sterns (B10)	2 or more required)  Stunted or Stress Plants (D1)  Geomorphic Pos  Shallow Aquitard  Microtopographic	sed  sed  stition (D2) N
ydric Soil I otes: 2 YDROLOG urface Water T aturation (A /ater Marks	Present (Y/N): No per (A1) No per (A2) No per (A2) No per (A1) No	Sullar Su	All wetter considered to a section of the satural to a sec	below below tedured or	Jepa Jepa	ECONDAR) Vater-stained eaves (B9) Prainage Patt Oxidized Rhiziving Roots (Presence of Fron (C4) Salt Deposits Votes:	rindicators  for each s  rindicators  for each s  rindicators  for indicators	2 or more required)  Stunted or Stress Plants (D1)  Geomorphic Pos  Shallow Aquitard  Microtopographic Relief (D4)  FAC-Neutral Tes	sed  (D3) Y  c  st (D5)
ydric Soil I otes: 2 YDROLOG urface Water T aturation (A /ater Marks ediment De	Present (Y/N):	Sullar Spico	All wetter considered to a section of the section o	below ted wifficient Ima	Jepa Jepa	ECONDAR) Vater-stained eaves (B9) Prainage Patt Oxidized Rhiziving Roots (Presence of Fron (C4) Salt Deposits Votes:	rindicators  (INDICATORS  VINDICATORS  (INDICATORS  (INDI	2 or more required)  Stunted or Stress Plants (D1)  Geomorphic Pos  Shallow Aquitard  Microtopographic Relief (D4)	sed  (D3) Y  c  st (D5)
ydric Soil I otes: 2 YDROLOG urface Water T aturation (A /ater Marks ediment De rift Deposits	Present (Y/N):	Sullar Spico	All wetter considered to a section of the satural to any one indicator is surface Soil Cracks (Brandation Visible on Arr).  All wetter considered to a section of the satural to a section of the satu	below ted wifficient Ima	Jepa Jepa	ECONDAR) Vater-stained eaves (B9) Orainage Patt Dividized Rhiz iving Roots ( Presence of Fron (C4) Stalt Deposits lotes:	rindicators  (INDICATORS  VINDICATORS  (INDICATORS  (INDI	2 or more required)  Stunted or Stress Plants (D1)  Geomorphic Pos  Shallow Aquitard  Microtopographic Relief (D4)  FAC-Neutral Tes	sed  (D3) Y  c  st (D5)
lotes: 2 - 1 - 2 - 2 - 2 - 2 - 2 - 2 - 2 - 2 -	Present (Y/N):	Sullar Spico	All wetter considered to a section of the satural to any one indicator is surface Soil Cracks (Brandation Visible on Arr).  All wetter considered to a section of the satural to a section of the satu	below ted wifficient Ima	Jepa Jepa	ECONDAR) Vater-stained eaves (B9) Orainage Patt Dividized Rhiz iving Roots ( Presence of Fron (C4) Stalt Deposits lotes:	rindicators  (INDICATORS  VINDICATORS  (INDICATORS  (INDI	2 or more required)  Stunted or Stress Plants (D1)  Geomorphic Pos  Shallow Aquitard  Microtopographic Relief (D4)  FAC-Neutral Tes	sed  (D3) Y  c  st (D5)
Interest of the Interest of th	Present (Y/N):	Sullar Spico	All wetter considered to any one indicator is strace Soil Cracks (Bindation Visible on Ar)  Arrange Soil Cracks (Bindat	below ted wifficient Ima	Jepan Con Con Con Con Con Con Con Con Con Co	ECONDARY Vater-stained eaves (B9) Drainage Patt Dividized Rhiz iving Roots (Presence of Fron (C4) Ealt Deposits lotes:	rindicators  (INDICATORS  VINDICATORS  (INDICATORS  (INDI	2 or more required)  Stunted or Stress Plants (D1)  Geomorphic Pos  Shallow Aquitard  Microtopographic Relief (D4)  FAC-Neutral Tes	sed  (D3) Y  c  st (D5)

# AQUATIC SITE ASSESSMENT DATA FORM

VEGETATION VARIABLES P= Plot, M	= Matrix
Forested-Evergreen-Needle-leaved	cking Forested-Deciduous-Needle-leaved Forested-Deciduous-Broad-leaved Scrub Shrub-Deciduous-Needle-leaved Scrub Shrub-Evergreen-Needle-leaved Emergent-Non-persistent Emergent-
Percent Cover (R): Tree (>5 dbh, >6m tall)_ Dwarf shrub (<0.5m) Tall herb (≥1m	Sapling (<5 dbh, <6m tall)
Number of Wetland Types (M):	Evenness of Wetland Type Distribution (M): EvenHighly UnevenModerately even
Vegetation Density/Dominance (P): Sparse 80%) Very High Density (80-100%)_	(0-20%) Low Density (20-40%) Medium Density (40-60%) High Density (60-
Interspersion of Cover & Open Water (P): Peripheral Cover >75% Scattered	100% Cover or Open Water <25% Scattered/Peripheral Cover 26-75% Scattered or d or Peripheral Cover N/A
Plant Species Diversity (P): Low (< 5 plant s	pecies) Medium (5-25 species) High (>25)
Presence of Islands (M): Absent (none)	One or Few Several to Many N/A
Cover Distribution of Dominant Layer (P): Open Small Scattered Patches	No Veg Solitary, Scattered Stems 1 or More Large Patches; Parts of Site  Continuous Cover
Dead Woody Material (P): Low Abundance ( Abundant (>50% of surface)	0-25% of surface) Moderately Abundant (25-50% of surface)
Vegetative Interspersion (P): Low (large High (small groupings, diverse and intersperse	patches, concentric rings) Moderate (broken irregular rings)
HGM Class (P): Slope Flat	Lacustrine Fringe Depressional Riverine Estaurine Fringe
A COLUMN TO THE REAL PROPERTY OF THE PARTY O	
SOIL VARIABLES	· · · · · · · · · · · · · · · · · · ·
Soil Factors (P): Soil Lacking Mineral: Gravelly Mineral: Sandy	Histosol:FibricHistosol:HemicHistosol: Sapric Mineral: SiltyMineral: Clayey
HYDROLOGIC VARIABLES	
Inlet/Outlet Class (P): No Inlet/Outlet	No Inlet/Intermittent Outlet No Inlet/Perennial Outlet Intermittent Inlet/No Outlet Perennial Inlet/No Outlet Perennial Inlet/No Outlet Perennial Inlet/No Outlet Perennial Inlet/Perennial Outlet Perennial Inlet/No Outlet Perennial Inlet/Perennial Inlet/Perennial Inlet/No Outlet Perennial Inlet/N
Wetland Water Regime (P): Drier: Seaso Wet: Perm. Flooded, Intermittently Exposed, S	onally Flooded, Temporarily Flooded, Saturated
Evidence of Sedimentation (P): No Evidence Created	De Observed Sediment Observed on Wetland Substrate Fluvaquent Soils Sediment
	Poorly Developed (6in.) Well Developed (6-18in.) Pronounced (>18in.)
Frequency of Overbank Flooding (P): No Overb	verbank Flooding Return Interval 1-2 yrs Return Interval 2-5 yrs
Degree of Outlet Restriction (P): No Outflow	Restricted Outflow Unrestricted Outflow
	rcumneutral (5.5-7.4) Alkaline (>7.4) Acid (<5.5) pH Reading
Glacial Till/Not Permeable	P): High Permeability Stratified Deposits Low Permeability Stratified Deposits
Basin Topographic Gradient (M): Low C Evidence of Seeps and Springs (P): No See	Sradient (<2%) High Gradient (≥2%) ps or Springs Seeps Observed Intermittent Spring Perennial Spring
LANDSCAPE VARIABLES (M)	CALLS EVEN TO STATE OF THE PARTY OF THE PART
Wetland Juxtaposition: Wetland Isolate Only Connected Above Connected	d Wetlands within 400m, Not Connected Only Connected Below  Upstream & Downstream Unknown
Wetland Land Use: High Intensity (i.e., a	g.) Moderate Intensity (i.e., forestry) Low Intensity (i.e. open space)
Watershed Land Use: 0-5% Rural	5-25% Urbanized >50% Urbanized
Size: Small (<10 acres) Mediu	ım (10-100 acres) Large (>100 acres)

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## Wetland Determination Form QA/QC Checklist

This form to be completed before leaving the field site.

Feature	Field Target: 15272 Date: 7/3/5 Date: 15273 Date: 1527
roi aii	items not checked, please provide detailed explanation in the notes section of data form.
1.	Site Description
-	Site description, site parameters and summary of findings are complete?  A detailed site sketch is included in logbook?
•	Form
2.	Vegetation
	At least 80% of onsite vegetation has been keyed to species, or collected for later identification?
	Vegetation names are entered legibly for all strata present?
	Cover calculations are complete and correct?
	All dominant species have been determined and recorded per strata?  Indicator status is correct for each species?
	Dominance Test and Prevalence Index have been completed?
3.	Soil
	Soil profile is complete?
	Appropriate hydric soil indicators are marked?
4	Hedrala m.
4.	Hydrology
	Appropriate hydrology indicators are marked?  Surface water, water table, and saturation depths are recorded if present?
5.	Functions and Values
	ヤ Vegetation, soil, hydrologic variables, and landscape variables complete if site is a wetland?
6.	Field Logbook
	Notes have been recorded at each site, including general description, sketch, and
	accuracy of pre-mapped wetland boundary as appropriate?  Each logbook page is initialed and dated?
7.	Maps
	Wetland boundaries have been corrected if necessary?
	Maps are initialed and dated?

## 8. Photos

Field Crew Chief (print)

- Four photos were taken for each Wetland Determination Data Form (2 vegetation, 1 soil pit, 1 soil plug)?
- Two photos were taken for each Observation Point (vegetation/site overview)?

X Abigaule ligher	× Allegan 7/	1/15
Wetland Scientist (print)	Signature / Date	
	U	
XBs-can Strong	X 8 3 m 7/	4/15

Signature / Date

SITE DESCRIPTION	ALL ME TO SEE THE PERSON		
Survey Type: Centerline Acce	ss Road (explain) X Other (ex	plain) Field Target:	15300 Map #: 16 Map Date: 6/0 9
Date: 7/4/15	Project Name & No.: Alaska LN	IG 60418403 F	eature Id: WSYA/OII
Investigators: Bracen St.	rong Abigayeti	shor	Team No.: Wg 4
State: Alaska	Region: Alaska	Milepost: 206 . 6	-0
Latitude: 67° 40' 38,47	Longitud	de: 1019°43'48.	
Logbook No.:	Logbook Page No.: 32	Picture No.: P-W81/A	OII-VEG_VEG_PIT_PLUG
SITE PARAMETERS	ACTOR AND STREET	<b>可用的原始性的</b>	1000香水菜里 1000000000000000000000000000000000000
Subregion: Traterior		Landform (hillslope, terrace,	hummocks, etc.): Terrace
Slope (%): 1 . 2		Local relief (concave, convex	x, none): Flat, small hummoutes
Pre-mapped Alaska LNG/NWI classifica	ation: PSSI/EMID 11(2,11	Evidence of Wildlife Use:	ucles, passerine birds
Are climatic/hydrologic conditions on the Yes No (if no exp	e site typical for this time of year? lain in Notes)	Are "Normal Circumsta Yes No	ances" present: _(If no, explain in Notes.)
Are Vegetation, Soil, or Hy	drology Significantly Disturbe	d? No(If yes, explain	n in Notes)
Are Vegetation, Soil, or Hy	drology Naturally Problematic	? No_x (If yes, explai	in in Notes.)
SUMMARY OF FINDINGS		with the transfer of the state	支持1000 发展情况自然性发展
Hydrophytic Vegetation Present? Yes_		s the Sampled Area within a W	Vetland? Yes No
Hydric Soil Present? Yes_	✓ No	Wetland Type: PSSI/EM	18
Wetland Hydrology Present? Yes_	Y No No	Alaska Vegetation Classification	(Viereck): 11 C2 , 111 A 2
Notes and Site Sketch: Please include corridor.	W84A7011		rom Centerline, Photo Locations, and Survey
TAPS PONT PONT		dend picture	
PEMI/SSIE  PEMIE PSS Slove	Annalyte received	130eM	
Was a white spruce Site may be wetter a water table near EC 507MS PH 7.23.	the surface Te.	or sound. No free	has mostly stending dead c, high a-value soils with of table in ~30" Slope HG
Calcareous soils.			1
			Al

VEGETATION (use scientific names of plants	9)		PI WEEK	
Tree Stratum (Plot sizes: 100 ft)	Absolute % Cover	Dominant Species? (Y/N)	Indicator Status	Dominance Test worksheet:  No. of Dominant Species that are OBL, FACW, or FAC:(A)
1. Picea glavca	2		Fac	Total Number of Dominant Species Across All Strata: (B)  % Dominant Species that are OBL, FACW, or FAC: (A/B)
2.				% Dominant Species that are OBL, FACW, or FAC(AVB)
3. Standing head picea	5			
4.	- 1	44 0		Prevalence Index worksheet:
Total Cover	- Dr	added to	shrub)	Total % Cover of: Multiply by:
50% of total cover	: 20	% of total cov	er:	OBL species: X 1 = X
Sapling/Shrub Stratum ( 26++)	Absolute % Cover	Dominant Species?	Indicator Status	FACW species: $1/3 \times 2 = \frac{1}{3} \times 2 = \frac{1}{3} \times 2 = \frac{1}{3} \times 3 = \frac{1}$
7.1.1		(Y/N)	THE RESERVE	FACU species X 4 = 60
1. Betula nana	AF		Fac	UPL speciesX 5 =
2. Betula glandulosa	263	PY	Fac	Column Totals: 106 (A) 268 (B)
3. Dryas integritation	8		Face	PI = B/A =
4. Arctous ruber	5		Fac	3hras
5. Salix pulchra			Fach	Picea Mariana T Factor
6. Salix richardsonin	5		FacW	
7. Galix reticulata	2		Fac	
8. Vaccinum uliginosum			Fac	
9. Pilea glavea	5		Face	The state of the s
Total Cover	/		11.0	
50% of total cover	:18_ 20	% of total cov	er: 11,	- A
VESETATION (use scientific names of plants	3)		Son Carlot	ALCOHOL SERVICE SERVIC
Herb Stratum ( 26++ )	Absolute	Dominant	Indicator	Hydrophytic Vegetation Indicators:
4470 - 470	% Cover	Species?	Status	Dominance Test is > 50%
		(Y/N)	-	Prevalence Index is ≤ 3.0
1. Eriophorum vaginatum			Fach	Morphological Adaptations <sup>1</sup> (Provide supporting data in
2. Carex membranacea		7	tacV	Notes)
3. Eriophorum angustif	num!		001	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
4. Cocey Vaginata	3	/	GW	Indicators of hydric soil and wetland hydrology must be present unless disturbed or problematic.
5. Favisetur palustre	(20)	<del>-</del> <del>-</del> <del>-</del> <del>-</del> <del>-</del> -	FacW	
6. Gistorta vivipara			Fac	A Para Cround
7. Fquisatum Variençtu	n il		tacW	% Bare Ground
8. Peducularis labratori	a		Fach	———— % Cover of Wetland Bryophytes ———— % Cover of Bryophytes
9. Carex aquatilis	*		064	% Cover of Water
10. Equisetum arvense			Fac	Hydrophytic Vegetation Present (Y/N):
Total Cover	50		311	Notes: (If observed, list morphological adaptations below):
50% of total cover	: 35 20	% of total cov	er:	
	×.			

SOIL PROFI Depth (inches)	Matrix Color (moist)	(Describe	to the depth needed Redox Features	to docur	ment the	indicator or co	nfirm the absence	Soil Pit Required (Y/N)ee of indicators.)
Depth (inches)	Matrix Color (moist)		Redox Features					
(inches)		%						
)-3 }-30	10-ye 2/1		Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Notes
3-30		100				- N-	MICS.L	
2.34	N4/0	97	10425/6	3	<u></u>	RC/PL	VF Sal	Alpha altha positiv
				5-4)				Massive - restrictive
								later
						-		277
Type: C=C	oncentration, D=Depl	etion, RM	l=Reduced Matrix, C\$	S=Cover	ed or Co	ated Sand Gra	ains. <sup>2</sup> Location	: PL=Pore Lining, M=Matrix.
YDRIC SO	IL INDICATORS	10 4/10		1 (43)	12114	THE REAL PROPERTY.	I DESCRIPTION OF THE PARTY OF T	FOR PROBLEMATIC HYDRIC SOILS
listosol or H	listel (A1) 📣		Alaska Gleyed	(A13) _	N		Alaska Color (	Change (TA4) <sup>4</sup>
listic Epipec	ام (A2) ما		Alaska Redox (	(A14)	N		Alaska Alpine	Swales (TA5) _ \( \sum
lack Histic (	(A3)		Alaska Gleyed	Pores (A	م_ (15)	<u> </u>	Alaska Redox	with 2.5Y Hue
lydrogen Sı	ulfide (A4) \(\begin{align*} \begin{align*}						Alaska Gleyed	without 5Y Hue or Redder Underlying
hick Dark S	Surface (A12)						1	in Notes) Reduced matrix
listurbed or	problematic.		ne primary indicator o	of wetlan	d hydrolo	gy, and an ap	propriate landsc	ape position must be present unless
	of color change in No		sive of Sal D	enth (inc	hes).	2		
					20103437			
lydric Soil	Present (Y/N):	/						
					^		\0.	(e-4)
IN	Xalvaric - 1	rish	n-value soil	SXX	والم حرا	st table	C 400 ~ 5	12 25
						7		
WDROLGG	Y PRIMARY INDICA	TORS (	my one indicator is su	iffice(conf)	14 1 8	HECONDARY	INDICATORS (	2 or more required)
T. Dura						Vater-stained		Stunted or Stressed
Surrace vvate	er (A1) M-7		face Soil Cracks (B6)		—   L	.eaves (B9) _	<u> </u>	Plants (D1) _ Y
ligh Water T	Γable (A2)		ndation Visible on Ae	rial Imag	gery	Prainage Patte	erns (B10) <u>J</u>	Geomorphic Position (D2)
Saturation (A	(3)		arsely Vegetated ncave Surface (B8)	N.		Oxidized Rhizo iving Roots (C	ospheres along	Shallow Aquitard (D3)
Vater Marks	(B1) <b>\(\)</b>	Ma	rl Deposits (B15) <b>p</b>	<u></u>		Presence of Renon (C4)	educed ——	Microtopographic Relief (D4)
Sediment De	posits (B2)		drogen Sulfide or (C1)		S	Salt Deposits (	C5)	FAC-Neutral Test (D5)
	s (B3)\		-Season ter Table (C2)		1 0	lotes: Smal	structus 1	of planding water. Mo
Orift Deposits			(F)-!- !- N-4>				,	, wanted tr
	Crust (B4) _ ル	_ Oth	er (Explain in Notes):					
Algal Mat or		_ Oth	er (Explain in Notes):					1
		_ Ott	er (Explain in Notes):			TE TO SE	4 :01 The	

Saturation Present (Y/N): (includes capillary fringe)

Notes:

Depth (in):

EC: 508@ 11.70 C soil pit pH 6.8 +C Suiface: 507@ 9.4°C pH 7.23

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## AQUATIC SITE ASSESSMENT DATA FORM

VEGETATION VARIABLES P= Plot, M= Matrix
Primary Vegetation Type (P):       Vegetation Lacking Forested-Deciduous-Needle-leaved Forested-Deciduous-Broad-leaved       Forested-Deciduous-Broad-leaved         Forested-Evergreen-Needle-leaved Scrub Shrub-Deciduous-Needle-leaved Scrub Shrub-Deciduous-Broad-leaved       Scrub Shrub-Deciduous-Broad-leaved         Scrub Shrub-Evergreen-Broad-leaved Aquatic Bed       Scrub Shrub-Evergreen-Needle-leaved       Emergent-Non-persistent
Percent Cover (P): Tree (>5 dbh, >6m tall)         Sapling (<5 dbh, <6m tall)         Tall shrub (2-6m)         Short shrub (0.5-2m)         Short shrub (0.5-2m)           Dwarf shrub (<0.5m)
Number of Wetland Types (M): 3 Evenness of Wetland Type Distribution (M): Even _K_Highly UnevenModerately even
Vegetation Density/Dominance (P): Sparse (0-20%)       Low Density (20-40%)       Medium Density (40-60%)       High Density (60-80%)         80%)       X       Very High Density (80-100%)       Very High Density (80-100%)
Interspersion of Cover & Open Water (P): 100% Cover or Open Water X <25% Scattered/Peripheral Cover 26-75% Scattered or Peripheral Cover N/A
Plant Species Diversity (P): Low (< 5 plant species) Medium (5-25 species) High (>25)
Presence of Islands (M): Absent (none) One or Few Several to Many N/A
Cover Distribution of Dominant Layer (P): No Veg. Solitary, Scattered Stems 1 or More Large Patches; Parts of Site Open Small Scattered Patches Continuous Cover X
Dead Woody Material (P): Low Abundance (0-25% of surface) Moderately Abundant (25-50% of surface) Abundant (>50% of surface)
Vegetative Interspersion (P): Low (large patches, concentric rings) Moderate (broken irregular rings) High (small groupings, diverse and interspersed)
HGM Class (P): Slope 🐰 Flat Lacustrine Fringe Depressional Riverine Estaurine Fringe
SOIL VARIABLES
Soil Factors (P): Soil Lacking Histosol:Fibric Histosol:Hemic Histosol: Sapric Histosol: Sapric Histosol:
Mineral: Gravelly Mineral: Sandy Mineral: Silty Mineral: Clayey
HYDROLOGIC VARIABLES
HYDROLOGIC VARIABLES  Inlet/Outlet Class (P): No Inlet/Outlet   No Inlet/Intermittent Outlet   No Inlet/Perennial Outlet   Intermittent Inlet/Intermittent Inlet/Intermittent Outlet   Perennial Inlet/Intermittent Outlet   Perennial Inlet/Perennial Outlet   Perennial Outlet   Perennial Inlet/Perennial Outlet   Perennial Outlet   Perennial Inlet/Perennial Outlet   P
Inlet/Outlet Class (P): No Inlet/Outlet No Inlet/Intermittent Outlet No Inlet/Perennial Outlet Intermittent Inlet/Intermittent Inlet/Intermittent Inlet/Intermittent Outlet Perennial Inlet/Perennial Inlet/Intermittent Outlet Perennial Inlet/Perennial Inle
Inlet/Outlet Class (P): No Inlet/Outlet No Inlet/Intermittent Outlet No Inlet/Perennial Outlet Intermittent Inlet/Intermittent Inlet/Intermittent Inlet/Intermittent Inlet/Intermittent Inlet/Perennial Outlet Perennial Inlet/Intermittent Outlet Perennial Inlet/Perennial Outlet Perennial Inlet/Perennial Outlet Perennial Inlet/Perennial Outlet Perennial Inlet/Perennial Outlet Perennial Outlet Perennial Inlet/Perennial Outlet Perennial Outlet Perennial Outlet Perennial Inlet/Perennial Inlet/Perennial Inlet/Perennial Inlet/Perennial Outlet Perennial Inlet/Perennial
Inlet/Outlet Class (P): No Inlet/Outlet No Inlet/Intermittent Outlet No Inlet/Perennial Outlet Intermittent Inlet/Intermittent Inlet/Intermittent Inlet/Intermittent Inlet/Intermittent Inlet/Intermittent Inlet/Perennial Outlet Perennial Inlet/Perennial Inlet/Intermittent Outlet Perennial Inlet/Perennial Outlet Perennial Inlet/Perennial Inlet/Perennial Inlet/Perennial Inlet/Perennial Inlet/Perennial Inlet/Perennial Inlet/Perennial Inlet/Perennial Outlet Perennial Inlet/Perennial Outlet Perennial Inlet/Perennial Inlet/Peren
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Inlet/Outlet Class (P): No Inlet/Outlet  No Inlet/Intermittent Outlet  Intermittent Inlet/Intermittent Inlet
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Inlet/Outlet Class (P): No Inlet/Outlet  No Inlet/Intermittent Outlet  Intermittent Inlet/Intermittent Inlet
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#### Wetland Determination Form QA/QC Checklist

This form to be completed before leaving the field site.

Feature	e ID: W84AY01 Field Target: \5300 Date: 7/4/15
For all	items not checked, please provide detailed explanation in the notes section of data form.
1.	Site Description
	Site description, site parameters and summary of findings are complete?  A detailed site sketch is included in logbook?
2.	Vegetation
	At least 80% of onsite vegetation has been keyed to species, or collected for later identification?  Vegetation names are entered legibly for all strata present?  Cover calculations are complete and correct?
	All dominant species have been determined and recorded per strata?  Indicator status is correct for each species?  Dominance Test and Prevalence Index have been completed?
3.	Soil
	Soil profile is complete?  Appropriate hydric soil indicators are marked?
4.	Hydrology
	Appropriate hydrology indicators are marked?  Surface water, water table, and saturation depths are recorded if present?
5.	Functions and Values
	Vegetation, soil, hydrologic variables, and landscape variables complete if site is a wetland?
6.	Field Logbook
	Notes have been recorded at each site, including general description, sketch, and accuracy of pre-mapped wetland boundary as appropriate?  Each logbook page is initialed and dated?
7.	Maps
	Wetland boundaries have been corrected if necessary?  Mans are initialed and dated?

8.	Photos
NA	Four photos were taken for each Wetland Determination Data Form (2 vegetation, 1 soil pit, 1 soil plug)?  Two photos were taken for each Observation Point (vegetation/site overview)?
X	Horoayle Fisher X allefahur F/4/1
Wetlar	d Scientist (print) Signature / Date

SITE DESCRIPTION	AND SALES AND	nise in	CONTROL OF STREET			A STATE OF CHARLES
Survey Type: Centerline Acces	ss Road (explain) Oth	ner (explai	n) X-focelish	Field Targe	et:15263	Map #: 15 Map Date: 6/29
Date: 7/4/15	Project Name & No.: Alas	ska LNG	60418403		Feature Id:	W84/AY012
Investigators: Brush Ston	ishe(	nel			Team No.: W84	
State: Alaska	Region: Alaska		Milepost: 人	//A		
Latitude: 67 53' 17, 4	11' N) Lo	ongltude:	14904	9:25.	99	Datum: WG\$84
Logbook No.:	Logbook Page No.: 32		Picture No.: (	J-M80	1AYOT	2- VEG-VFG-PIT-PILL
SITE PARAMETERS	<b>有人的</b> 在中心中,只有一种				A THE WAY	Mar allamatications.
Subregion: Interior			Landform (hills	slope, terrac	e, hummocks	s, etc.): Lane terrace
Slope (%): 97 \ 3(10° =	Aspect	1	Local relief (co	ncave, conv	/ex, none): ≤	Blightly convex hummer
Pre-mapped Alaska LNG/NWI classifica	ation: Upland IA2	)	Evidence of W		Vo	Wolcat
Are climatic/hydrologic conditions on the Yes No (if no exp	e site typical for this time of y lain in Notes)			rmal Circum ✓ No		sent: Dre conditions plain in Notes.) Low show con
Are Vegetation, Soil, or Hy			No×	_(If yes, expl	ain in Notes	4-111
Are Vegetation, Soil, or Hy	drology Naturally Probl	lematic?	No_X	(If yes, exp	lain in Notes	.)
SUMMARY OF FINDINGS			MAJESTY	( Mary Stern		
Hydrophytic Vegetation Present? Yes_	No_ X	ls t	ne Sampled A	rea within a	Wetland?	Yes No
Hydric Soil Present? Yes_	No_ 🗶 🗮	We	tland Type: 🔾	4,		7.7
Wetland Hydrology Present? Yes_	No	Ala	ska Vegetation	Classification	on (Viereck):	1 AZ, 11 CZ
Notes and Site Sketch: Please include I corridor.  Clacial terrace United Include I corridor.  Clar Loan (massive) on and more gravelly  Nearby areas with criteria with 74"  PICGLA Tore most  BET GLA ~2.5-3.	estating and int described lacial till. The material below the concave stoy of low chron	convergence convex	2.5° low s as an inches, e eaper ducting sarling: Cypreast Carex	form in chrom in Point the 2 + and s	has complete to mee	isbtle swales hosting in alpha positive er to the looser onvex slope shape. It reduced material.
	1 100 -	relair	4			

Page 1 of 4

VEGETATION (use scientific names of plant	ts)			
Tree Stratum (Plot sizes: 100 ft)	Absolute % Cover	Dominant Species? (Y/N)	Indicator Status	Dominance Test worksheet:  No. of Dominant Species that are OBL, FACW, or FAC:
1. Picea glavea	20	4	FacU	Total Number of Dominant Species Across All Strata:(E
		/		W Bornmant operior that are obt., 17701, 01770.
•				
				Prevalence Index worksheet:
Total Cove	r:			Total % Cover of: Multiply by:
50% of total cove	r: 20	% of total cov	er:	OBL species: X1 =
apling/Shrub Stratum ( 26 )	Absolute % Cover	Dominant Species? (Y/N)	Indicator Status	FACW species:
Vaccinium uliginosum Betula erlandulosa	40	Y	Fac	UPL species
Rhododendrum to mento. Empetrum nigrum	sm 2		Face	PI = B/A = 3, 29
Drivas integrifolia	4		Facu	Alnus virdis serfroticosa 8 Fac
Sally reliculata			Fac	Alnus virdis serfruticosa 8 Fac Rhododendion lapponicum T Fac Artous ruber a Fac
Salix glavea	13	7	Y-BE	Artous ruber a For
				St. Line
3. Vaccinium vitistidala	134		Fac	A TOO
Picea glavca	5 90		Face	
2		0% of total cov	Face	
Total Cove 50% of total cove	r: <u>(</u> S 20	0% of total cov	Face	
Total Cove 50% of total cove	r: <u>(</u> S 20	Dominant Species? (Y/N)	Face	Hydrophytic Vegetation Indicators:Dominance Test is > 50%
Total Cove 50% of total cove  EGETATION (use scientific names of plant erb Stratum ( 36 ft )	Absolute % Cover	Dominant Species?	er: 18	Hydrophytic Vegetation Indicators: Dominance Test is > 50% Prevalence Index is ≤3.0
Total Cove 50% of total cove  50% of total cove  EGETATION (use scientific names of plant erb Stratum ( 26 ft )  Sangar (ea manstifolia )  Caggio Te tetrado na	Absolute % Cover	Dominant Species?	er: 18  Indicator Status	Hydrophytic Vegetation Indicators:Dominance Test is > 50%
Total Cove 50% of total cove  50% of total cove  EGETATION (use scientific names of plant erb Stratum ( Hoff )  Sausaucea manstifolia Cagsiage tetradora Festuca alfaica	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Indicators:  Dominance Test is > 50%  Prevalence Index is ≤3.0  Morphological Adaptations¹ (Provide supporting data in Notes)  Problematic Hydrophytic Vegetation¹ (Explain)
Total Cove 50% of total cove  50% of total cove  EGETATION (use scientific names of plant erb Stratum ( Hoff)  Sausancea mansifolia Cagsia pe tetradona Festuca altaica Cager Vaginata	Absolute % Cover	Dominant Species?	Indicator Status  Fac  OBL	Hydrophytic Vegetation Indicators:  Dominance Test is > 50%  Prevalence Index is ≤3.0  Morphological Adaptations¹ (Provide supporting data in Notes)  Problematic Hydrophytic Vegetation¹ (Explain)  ¹ Indicators of hydric soil and wetland hydrology must be present unless
Total Cove 50% of total cove  50% of total cove  EGETATION (use scientific names of plant erb Stratum ( Hoff)  Sangan (ea manstifolia Caggiorre tetranona Estuca altrica Carex Sangan	Absolute % Cover	Dominant Species?	Indicator Status  Fac  Fac  OBL  FAC  FAC  OBL	Hydrophytic Vegetation Indicators:  Dominance Test is > 50%  Prevalence Index is ≤3.0  Morphological Adaptations¹ (Provide supporting data in Notes)  Problematic Hydrophytic Vegetation¹ (Explain)
Total Cove 50% of total cove 50% of total cove  EGETATION (use scientific names of plant erb Stratum ( 26 ft )  Sangan (ea manst folia Cagain te terradora Festura altaica Carex Sanganana	Absolute % Cover	Dominant Species?	Indicator Status  Fac  OBL	Hydrophytic Vegetation Indicators:  Dominance Test is > 50%  Prevalence Index is ≤3.0  Morphological Adaptations¹ (Provide supporting data in Notes)  Problematic Hydrophytic Vegetation¹ (Explain)  ¹ Indicators of hydric soil and wetland hydrology must be present unless disturbed or problematic.
Total Cove 50% of total cove 50% of total cove  EGETATION (use scientific names of plant erb Stratum ( Hoff)  Sangar (ea manstifolia Cagsia Te tetradona Fentuca altrica Carex Sangarata Carex Sangarata Carex Caracrana Hedysana alpana	Absolute % Cover	Dominant Species?	Indicator Status  Fac OBL Fac Fac Yacy	Hydrophytic Vegetation Indicators:  Dominance Test is > 50%  Prevalence Index is ≤3.0  Morphological Adaptations¹ (Provide supporting data in Notes)  Problematic Hydrophytic Vegetation¹ (Explain)  ¹ Indicators of hydric soil and wetland hydrology must be present unless
Total Cove 50% of total cove 50% of total cove  EGETATION (use scientific names of plant erb Stratum ( Hoff)  Sausancea ananstifolia Caggioge tetradona Lestuca altaica Carex Sarpaidae Carex Sarpaidae Lestus alpana Hedysarm alpana Pedicularis Cagidata	Absolute % Cover	Dominant Species?	Indicator Status  Fac OBL Fac Fac V Fac V Fac V	Hydrophytic Vegetation Indicators:  Dominance Test is > 50% Prevalence Index is ≤3.0 Morphological Adaptations¹ (Provide supporting data in Notes) Problematic Hydrophytic Vegetation¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present unless disturbed or problematic % Bare Ground % Cover of Wetland Bryophytes Total Cover of Bryophytes
Total Cove 50% of total cove 50% of total cove  EGETATION (use scientific names of plant erb Stratum ( 26 ft )  Sausaurea mansifolia Cagsiape tetrazona Festura altaira Carex sarrana Carex sarrana Carex sarrana Pedicularis capitata Pedicularis lappania	Absolute % Cover	Dominant Species?	Indicator Status  Fac OBL Fac Fac Yacy	Hydrophytic Vegetation Indicators:  Dominance Test is > 50%  Prevalence Index is ≤3.0  Morphological Adaptations¹ (Provide supporting data in Notes)  Problematic Hydrophytic Vegetation¹ (Explain)  ¹ Indicators of hydric soil and wetland hydrology must be present unless disturbed or problematic.  % Bare Ground  % Cover of Wetland Bryophytes  Total Cover of Bryophytes  % Cover of Water
Total Cove 50% of total cove 50% of total cove  EGETATION (use scientific names of plant erb Stratum ( Hoff)  Sangar (ea manstifolia Cagair tetradona Fentuca altrica Carex Sangarata Carex Sangarata Carex Sangarata Pedicularis Cagitata Pedicularis Cagitata	Absolute % Cover	Dominant Species?	Indicator Status  Fac OBL Fac Fac V Fac V Fac V Fac V Fac V	Hydrophytic Vegetation Indicators:  Dominance Test is > 50%  Prevalence Index is ≤3.0  Morphological Adaptations¹ (Provide supporting data in Notes)  Problematic Hydrophytic Vegetation¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present unless disturbed or problematic.  % Bare Ground % Cover of Wetland Bryophytes % Cover of Bryophytes % Cover of Water Hydrophytic Vegetation Present (Y/N):
Total Cove 50% of total cove 50% of total cove  /EGETATION (use scientific names of plant Herb Stratum ( )	Absolute % Cover	Dominant Species?	Indicator Status  Fac OBL Fac	Hydrophytic Vegetation Indicators:  Dominance Test is > 50%  Prevalence Index is ≤ 3.0  Morphological Adaptations¹ (Provide supporting data in Notes)  Problematic Hydrophytic Vegetation¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present unless disturbed or problematic.  % Bare Ground % Cover of Wetland Bryophytes % Cover of Bryophytes % Cover of Water Hydrophytic Vegetation Present (Y/N):  Notes: (If observed, list morphological adaptations below):
Total Cove 50% of total cove 50% of total cove  *EGETATION (use scientific names of plant Herb Stratum ( Hoff )  1. Sansancea ananstifolia 2. Cagarage tetrangona 3. Fertuca altaica 4. Carex Sangarata 5. Carex Sangarata 6. Carex Sangarata 7. Hedysam alpana 8. Pedicularis Capitata 9. Pedicularis Capitata 9. Pedicularis Capitata 10. Pedicularis Capitata	Absolute % Cover	Dominant Species? (Y/N)	Indicator Status  Fac OBL Fac	Hydrophytic Vegetation Indicators:  Dominance Test is > 50%  Prevalence Index is ≤3.0  Morphological Adaptations¹ (Provide supporting data in Notes)  Problematic Hydrophytic Vegetation¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present unless disturbed or problematic.  % Bare Ground % Cover of Wetland Bryophytes % Cover of Bryophytes % Cover of Water Hydrophytic Vegetation Present (Y/N):

			7/4/15		W841	47012		7	
SOIL	C VIII TIME TO	i i	DateF	eature II	AT CHARLES			Soil Pit Required (Y/N)	
OIL PROFIL	E DESCRIPTION:	(Describe	to the depth needed	to doc	ument the	indicator or cor	nfirm the absence	of indicators.)	
Depth	Matrix		Redox Features						
inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc²	Texture	Notes	
- 2							Henric	14	
-3	107x 2/2	100					S.L		
-6.5	N510	95	2.54 564	5		M/TL/CC		Alpha alpha positive Moist	
5-8	2.543/1	100					WS.L	Walt boundary A few o	
کا -	57561	८०५					GRLoan	Stanular structure -25% gr	
1-19	2.54 5/1	(00)					GRSAL	loose-Somewhat ganula	
11									
Гуре: С=Со	ncentration, D=Dep	letion, RM	=Reduced Matrix, 0	CS=Cov	ered or Co	ated Sand Gra		PL=Pore Lining, M=Matrix.	
YDRIC SOI	L INDICATORS		THE RESIDENCE OF THE PARTY OF T	TY S	le visil			OR PROBLEMATIC HYDRIC SOILS	
istosol or Hi	istel (A1)		Alaska Gleyed	d (A13)	N		Alaska Color Ch	nange (TA4) <sup>4</sup>	
istic Epiped	on (A2)		Alaska Redox	(A14)_	N		Alaska Alpine S	wales (TA5)	
Black Histic (	A3) \(\lambda\)		Alaska Gleyed	Pores	(A15)			vith 2.5Y Hue _\(\)	
lydrogen Su	Ifide (A4)			1				without 5Y Hue or Redder Underlying	
							Cthor (Explain i	in Notes	
	urface (A12)	etation o	no primoni indicator	of woth	and hydrol	ogy and an an	Other (Explain i	pe position must be present unless	
lotes: 61a	572 4/6 con	ow ch centr	tions n/20	130 H	has a	1. By col	lors due to	reduced matrix. Along & s Clar loan with a massivi during normal Periods of	
TECIPITO	Y PRIMARY INDIC	ATORS (	eha aleha F	os ifi	10	SECONDARY	INDICATORS (2	t 4" in deph needed for	
Surface Wate	(		face Soil Cracks (B		1 6	Water-stained Leaves (B9)		Stunted or Stressed Plants (D1)	
High Water T	able (A2) <u>\( \)</u>	Inu (B7	ndation Visible on A	erial Im	agery	Drainage Patterns (B10)		Geomorphic Position (D2) N	
Saturation (A	(s) N	Spa	arsely Vegetated ncave Surface (B8)	7		Oxidized Rhizospheres along Living Roots (C3)		Shallow Aquitard (D3)	
Water Marks	(B1) <b>N</b>	Ma	rl Deposits (B15)	N	_	Presence of Re Iron (C4) N	educed / " >60	Microtopographic Moderate Relief (D4)	
Sediment De	eposits (B2) N		drogen Sulfide or (C1)			Salt Deposits (	C5) N	FAC-Neutral Test (D5)	
Orift Deposits	s (B3) N	Dry Wa	/-Season ater Table (C2) <b>I</b> ^			Notes: Satiration	~ will occu	er in upper 6.5 inches	
Algal Mat or Crust (B4) N Other (Explain in Notes): 7						die to an		og laver - clare Loom	
ron Deposits	s (B5) N				er		3,110		
Thren's	SHEW TO SHEW	MARKED ST.	SIGHS REMAINS TO	P. C. C.	NOTES OF	The state of the s	Fig. C. Williams		
Surface Water	er Present (Y/N):	N	Depth (in): ~↓ ♣			adlamat the store t	Descrit (MA)	n. \( \square \)	
Water Table	Present (Y/N):		Depth (in):	4	W	etland Hydrolo	ogy Present (Y/N	);	
	resent (Y/N):		Depth (in): ~A		E	EC: NA			
Notes: 5.+	vation will	be	Present in	1	U UPP	es 4 inc	hes of h	with reducing	

# AQUATIC SITE ASSESSMENT DATA FORM

VEGETATION VARIABLES P= Plot, M= Matrix
Primary Vegetation Type (P): Vegetation Lacking       Forested-Deciduous-Needle-leaved       Forested-Deciduous-Broad-leaved         Forested-Evergreen-Needle-leaved       Scrub Shrub-Deciduous-Broad-leaved       Scrub Shrub-Deciduous-Broad-leaved         Scrub Shrub-Evergreen-Broad-leaved       Scrub Shrub-Evergreen-Needle-leaved       Emergent-Non-persistent         Persistent       Aquatic Bed
Percent Cover (P):         Tree (>5 dbh, >6m tall)         Sapling (<5 dbh, <6m tall)
Number of Wetland Types (M): Evenness of Wetland Type Distribution (M): EvenHighly UnevenModerately even
Vegetation Density/Dominance (P):         Sparse (0-20%)         Low Density (20-40%)         Medium Density (40-60%)         High Density (60-80%)
Interspersion of Cover & Open Water (P): 100% Cover or Open Water <a href="tel://www.esatered/englisheral-cover">&lt;25% Scattered/Peripheral Cover</a> 26-75% Scattered or Peripheral Cover N/A
Plant Species Diversity (P): Low (< 5 plant species) Medium (5-25 species) High (>25)
Presence of Islands (M): Absent (none) One or Few Several to Many N/A
Cover Distribution of Dominant Layer (P): No Veg Solitary, Scattered Stems 1 or More Large Patches; Parts of Site Open Small Scattered Patches Continuous Cover
Dead Woody Material (P): Low Abundance (0-25% of surface) Moderately Abundant (25-50% of surface) Abundant (>50% of surface)
Vegetative Interspersion (P): Low (large patches, concentric rings) Moderate (broken irregular rings) High (small groupings, diverse and interspersed)
HGM Class (P): Slope Flat Lacustrine Fringe Depressional Riverine Estaurine Fringe
SOIL VARIABLES
Soil Factors (P): Soil Lacking Histosol: Fibric Histosol: Hemic Histosol: Sapric Mineral: Gravelly Mineral: Sandy Mineral: Silty Mineral: Clayey
LIVEROL OCIC VARIARI EC
HYDROLOGIC VARIABLES
Inlet/Outlet Class (P): No Inlet/Outlet No Inlet/Intermittent Outlet No Inlet/Perennial Outlet Intermittent Inlet/No Outlet Intermittent Inlet/Intermittent Outlet Perennial Inlet/Intermittent Outlet Perennial Inlet/Perennial Outlet Perennial Out
Inlet/Outlet Class (P): No Inlet/Outlet No Inlet/Intermittent Outlet No Inlet/Perennial Outlet Intermittent Inlet/No Outlet Perennial Inlet/No Outlet Perennial Inlet/No Outlet Perennial Outlet Perennial Inlet/No Outlet Perennial Outlet Peren
Inlet/Outlet Class (P): No Inlet/Outlet No Inlet/Intermittent Outlet No Inlet/Perennial Outlet Intermittent Inlet/No Outlet Intermittent Inlet/Intermittent Outlet Intermittent Inlet/Perennial Outlet Perennial Inlet/No Outlet Perennial Inlet/Perennial Outlet Perennial Outlet Perennial Inlet/Perennial Outlet Perennial Outlet
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Inlet/Outlet Class (P): No Inlet/Outlet No Inlet/Intermittent Outlet Intermittent Inlet/Intermittent Inlet/Intermit
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Inlet/Outlet Class (P): No Inlet/Outlet No Inlet/Intermittent Outlet Intermittent Inlet/Indermittent Inlet/Intermittent Inlet/Intermitte
Inlet/Outlet Class (P): No Inlet/Outlet       No Inlet/Outlet       No Inlet/Perennial Outlet       Intermittent Inlet/No         Outlet       Intermittent Inlet/Intermittent Outlet       Intermittent Inlet/Intermittent Outlet       Perennial Inlet/No Outlet       Perennial Outlet       Perennial Inlet/No Outlet       Perennial Outlet       Perenni
Inlet/Outlet Class (P): No Inlet/Outlet
Inlet/Outlet Class (P): No Inlet/Outlet
Inlet/Outlet Class (P): No Inlet/Outlet       No Inlet/Outlet       No Inlet/Perennial Outlet       Intermittent Inlet/No         Outlet       Intermittent Inlet/Intermittent Outlet       Intermittent Inlet/Intermittent Outlet       Perennial Inlet/No Outlet       Perennial Outlet       Perennial Inlet/No Outlet       Perennial Outlet       Perenni
Inlet/Outlet Class (P): No Inlet/Outlet
Inlet/Outlet Class (P): No Inlet/Outlet
Inlet/Outlet Class (P): No Inlet/Outlet

#### Wetland Determination Form QA/QC Checklist

This form to be completed before leaving the field site.

Feature ID: WOMAYOV Field Target: Sab Date: 7/4/15
For all items not checked, please provide detailed explanation in the notes section of data form.
1. Site Description
Site description, site parameters and summary of findings are complete?  A detailed site sketch is included in logbook?
2. Vegetation
At least 80% of onsite vegetation has been keyed to species, or collected for later identification?  Vegetation names are entered legibly for all strata present?  Cover calculations are complete and correct?  All dominant species have been determined and recorded per strata?  Indicator status is correct for each species?  Dominance Test and Prevalence Index have been completed?
3. Soil
Soil profile is complete? Appropriate hydric soil indicators are marked?
4. Hydrology
Appropriate hydrology indicators are marked?  Surface water, water table, and saturation depths are recorded if present?
5. Functions and Values
Vegetation, soil, hydrologic variables, and landscape variables complete if site is a wetland?
6. Field Logbook
Notes have been recorded at each site, including general description, sketch, and accuracy of pre-mapped wetland boundary as appropriate?  Each logbook page is initialed and dated?
7. Maps
Wetland boundaries have been corrected if necessary?  Maps are initialed and dated?

#### 8. Photos

Four photos were taken for each Wetland Determination Data Form (2 vegetation, 1 soil pit, 1 soil plug)?

Two photos were taken for each Observation Point (vegetation/site overview)?

Signature / Date /

SITE DESCRIPTION		10 - 80 - M.B.		C BE	" and of"	The State of the S
Survey Type: Centerline 😾 Acces	ss Road (explain)	Other (expla	in)	Field Targ	et: <u>15316</u>	Map #: 17 Map Date: 6/29
Date: 7/4/15	Project Name & No.:	Alaska LNG	60418403		Feature Id:	W84A4013
Investigators: Segan Strong	a. Abigayle F.	shel.				Team No.: \\8 \
State: Alaska	Region: Alaska		Milepost:	45.8		
Latitude: 67°35'47.6	6"N)	Longitude:	1490419	120.	311W	Datum: WGS84
Logbook No.: () (	Logbook Page No.:	33	Picture No.:	P-W84/	74013-	VEG-VEG-PIT_PIUG
SITE PARAMETERS		All Way	- sittle and	HATE WE		NO LISTA ME LA PROPE
Subregion: Interiol		350	Landform (hills	slope, terrac	e, hummocks	s, etc.): Backslope - con
Slope (%): 19 % Aspect	· W		Local relief (co	oncave, con	vex, none): (	Indulating hummocky
Pre-mapped Alaska LNG/NWI classifica	tion: $()$ $(3$		Evidence of W		11/0	
Are climatic/hydrologic conditions on the Yes No (if no expl		of year?	Are "No Yes	rmal Circum No	nstances" pre	sent: Dry conditions plain in Notes.) Law show see
Are Vegetation, Soil, or Hyd		ly Disturbed?	No_X	(If yes, exp	lain in Notes)	
Are Vegetation, Soil, or Hyd		Problematic?	No	_ (If yes, exp	olain in Notes	,
SUMMARY OF FINDINGS			all the said			MARKACIA III.
Hydrophytic Vegetation Present? Yes_	No	Is 1	the Sampled A	rea within a	a Wetland?	Yes No_ 💥
Hydric Soil Present? Yes_	No	We	etland Type:	5	άx	
Wetland Hydrology Present? Yes_	No	— Ala	ıska Vegetation	Classification	on (Viereck):	11 A3 ,11 CZ
Notes and Site Sketch: Please include I corridor. Soil pit has been so moust but not sort. Tresocky below Point alpha alpha alpha or evider	en open and wrested. No fi where the	melting ree water slope t	under for at the	he ho	t sun	Soil above frost table to visit
Dras appears to	behabad.	212				

VEGETATION (use scientific names of plants	)			· · · · · · · · · · · · · · · · · · ·
Tree Stratum (Plot sizes: 100 H)	Absolute % Cover	Dominant Species? (Y/N)	Indicator Status	Dominance Test worksheet:  No. of Dominant Species that are OBL, FACW, or FAC: (A)
1. Picea alauca (20.56)	3		Fac()	Total Number of Dominant Species Across All Strata: (B) % Dominant Species that are OBL, FACW, or FAC: (A/B)
2. Picea Meriana (20'	T		Faclu	76 Dominant Species that are OBL, FACVY, OF FAC (AVB)
3.			3 77 30	
4.		000		Prevalence Index worksheet:
Total Cover	/ -	dded t	a shrub)	Total % Cover of: Multiply by:
50% of total cover		% of total cov		OBL species: X1=
Sapling/Shrub Stratum ( 26 ++ )	Absolute % Cover	Dominant Species? (Y/N)	Indicator Status	FACW species X 2 = T T X 3 = T X 3 = T X 4 = 5 M A T X 4 = 5 M A T X 5 T
1. Satix alauca (3')	10	Y	Fac	UPL species X 5 =
2. Vaccivium Wiginosum	13	Y	Fac	Column Totals: 76 (A) 770 (B)
3. Vaccinium vitistidaca	6		Fac	PI = B/A = 2.82
4. Rhedodendrum aroenlar	dicont		Fac	Shrub
5. Andromeda palitolia	1		Fach	Arctous ruber 2 Fac
6. Alous vicintis sop. totice	50 4		Fac	Salix richardsonii. T Factor
1. Vicea glavca	10 × 11		FacU	Empelrum nigrum 2 Fac
8. Sain reticulata	1		Fac	Empelrum rigrum 2 Fac
9. Petula glandulosa. Total Cover	78		tac	Picea Mariana 22 Y Fach
50% of total cover	- 495	% of total cov	er: 15,8	Dryas Sp. T fact
VEGETATION / 15 / 15 /	V N. 17 - F F S. 17	1987-1	Co. Paris Inc.	
VEGETATION (use scientific names of plants Herb Stratum (		Dansinant	tudiostas	Under physics Versatation Indicators
Herb Stratum (	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Indicators:  Dominance Test is > 50%
		(Y/N)		Prevalence Index is ≤ 3.0
1. Equisitur Scirpoide	1		FacU	Morphological Adaptations¹ (Provide supporting data in
2. Sausaurea anavstitolia	1	16	Fac	Notes)
3. Carey higelowing	2	<del>-                                    </del>	Fac	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
4. Boschnialia rossic			tacu	Indicators of hydric soil and wetland hydrology must be present unless disturbed or problematic.
5. Parola a seritor			FacU	disturbed of problematic.
6. Priophorum varina	m		Tack	
7. Caren scirpoides	-2	7	tad	% Bare Ground
8. Bistorta plumosa	1		foc	——————————————————————————————————————
lotieldia sp	T			Cover of Water
10.		100		Hydrophytic Vegetation Present (Y/N):
Total Cover:	122 /W	added	Toshrug	Notes: (If observed, list morphological adaptations below):
50% of total cover	20	% of total cov	er: 1 + OX	
				S——

	Matrix		Redox Features					
Depth (inches)	Color (moist)	1 %	Color (moist)	% Туре	1 Loc²	Texture	Notes	
5-4	Color (Itiolst)	70	Color (moist)	70 1900		TOMUS		
	T							
1.7	10-12/2	100						
2-12	2545/3	00				Loan	-7% savels	
7 12	2.31 213	100				E02.741		
2-16+	2545/3	19				GRLOAM	16 lithochromic not	
						157-51avel	rotten rock fragmen	
<sup>1</sup> Type: C=C	oncentration, D=Dep	etion, RN	I=Reduced Matrix, CS	=Covered or	Coated Sand	Grains. <sup>2</sup> Location	n: PL=Pore Lining, M=Matrix. 🕂 🕫 🤉	
	IL INDICATORS	PART DEST	Cate Comment	To Back	Secretary 3		FOR PROBLEMATIC HYDRIC SOIL	
Histosol or H	listel (A1)	-:	Alaska Gleyed (	A13) <i>\</i> \		Alaska Color	Change (TA4) <sup>4</sup>	
Histic Epiped	don (A2) N		Alaska Redox (A	A14) N		Alaska Alpine	Swales (TA5)	
Black Histic	(A3) N		Alaska Gleyed F	Pores (A15)	N	Alaska Redox	with 2.5Y Hue	
	ulfide (A4) N					Alaska Gleyed without 5Y Hue or Redder Underlying		
	Surface (A12) N		- V			Other (Explai	n in Notes) cape position must be present unless	
	Present (Y/N):	Moto	les. No po	sitive	reaction	- to alpha	alpha. Soil is moist	
Hydric Soil		Motor ore	les No Porox features	sitive observe in micr	reactions. No evolutions and	to alpha	alpha. So. 1 is moist seturation in the o if hummock microhis	
Hydric Soil  Notes:	hochromic rost table, N Dance mat	er.	les No Portes able = ~6°				alpha. Soil is moist saturation in the o it hummock microhis	
Hydric Soil  Notes:	hochromic rost table, N Dance mat	ATORS (a		fficient)		RY INDICATORS (	Wasser Walk & World III	
Hydric Soil Notes: しまった。 かった かった かった かった かった かった かった かった ひまれ	ho chromic Just table, N Dunie mat	ATORS (a	iny one indicator is sui rface Soil Cracks (B6) ndation Visible on Aer	fficient)	SECONDAI Water-stain Leaves (B9	RY INDICATORS (	2 or more required) Stunted or Stressed Plants (D1)	
Hydric Soil Notes: しまった。 かった かった かった かった かった かった かった かった ひまれ	er (A1) N	Su Inu (B)	iny one indicator is sui rface Soil Cracks (B6) ndation Visible on Aer	fficient)  N ial Imagery	SECONDAI Water-stain Leaves (B9) Drainage Pa	edatterns (B10)	Stunted or Stressed Plants (D1) Geomorphic Position (D2) Shallow Aquitard (D3)	
Hydric Soil Notes: しょうしゃ かんしゃ かんしゃ かんしゃ かんしゃ かんしゃ いっぱい いっぱい いっぱい いっぱい いっぱい いっぱい いっぱい いっぱ	PRIMARY INDICATE (A1) N  Table (A2) N  A3) N	Su Inu (B) Sp Co	rface Soil Cracks (B6)	ial Imagery	SECONDAI Water-stain Leaves (B9) Drainage Pa	ed	Stunted or Stressed Plants (D1) Geomorphic Position (D2)	
Hydric Soil  Notes:  A bode  HYDROLOG  Surface Water  High Water  Saturation (/	PRIMARY INDICATE (A1) N  Table (A2) N  A3) N	Su Inu (B7 Co Ma	rface Soil Cracks (B6) Indation Visible on Aer Arsely Vegetated Incave Surface (B8) Incomparise (B15)	ial Imagery	SECONDAI  Water-stain Leaves (B9)  Drainage Pa  Oxidized Ri Living Roots  Presence of Iron (C4)  Salt Deposi	ed hatterns (B10)	Stunted or Stressed Plants (D1)  Geomorphic Position (D2)  Shallow Aquitard (D3)  Microtopographic	
Hydric Soil  Notes:  Notes:  Hydric Soil  Notes:  Hydric Soil  Hydric	PRIMARY INDICATE (A1) N  Table (A2) N  A3) N  (B1) N	Su Inu (B) Sp Co	ring one indicator is suffice Soil Cracks (B6)  Indation Visible on Aer  Parsely Vegetated incave Surface (B8)  In Deposits (B15)	ial Imagery	SECONDAI  Water-stain Leaves (B9)  Drainage Pa  Oxidized Ri Living Roots  Presence of Iron (C4)	ed hatterns (B10)	Stunted or Stressed Plants (D1)  Geomorphic Position (D2)  Shallow Aquitard (D3)  Microtopographic Relief (D4)	
Hydric Soil  Notes:  Notes:  Hydric Soil  Notes:  Hydric Soil  Hydric Soil  Hydric Soil  Hydric Surface Wat  High Water  Saturation (/  Water Marks  Sediment De  Drift Deposit	Table (A2) N  So (B1) N  eposits (B2) A	Su Inu (Bi Sp Co Ma Hy Od Dn Wa	riny one indicator is sufface Soil Cracks (B6) Indation Visible on Aer Or Arsely Vegetated Incave Surface (B8) Indrogen Sulfide Incorrection or (C1) Incorrection of the sufface or (C1) Incorrection of the suffa	ial Imagery	SECONDAI  Water-stain Leaves (B9)  Drainage Pa  Oxidized Ri Living Roots  Presence of Iron (C4)  Salt Deposi	ed hatterns (B10)	Stunted or Stressed Plants (D1)  Geomorphic Position (D2)  Shallow Aquitard (D3)  Microtopographic Relief (D4)	
Hydric Soil  Notes:  Notes:  Hydric Soil  Notes:  Hydric Soil  Hydric Soil  Hydric Soil  Hydric Surface Wat  High Water  Saturation (/  Water Marks  Sediment De  Drift Deposit	PRIMARY INDICATE  Table (A2) N  A3) N  Eposits (B2) N  Crust (B4) N	Su Inu (Bi Sp Co Ma Hy Od Dn Wa	riny one indicator is sufface Soil Cracks (B6) Indation Visible on Aer O	ial Imagery	SECONDAI  Water-stain Leaves (B9)  Drainage Pa  Oxidized Ri Living Roots  Presence of Iron (C4)  Salt Deposi	ed hatterns (B10)	Stunted or Stressed Plants (D1)  Geomorphic Position (D2)  Shallow Aquitard (D3)  Microtopographic Relief (D4)	
Hydric Soil  Notes:  A bode  HYDROLOG  Surface Water  High Water  Saturation (A  Water Marks  Sediment De  Drift Deposit  Algal Mat or  Iron Deposit	PRIMARY INDICATE  Table (A2) N  A3) N  Eposits (B2) N  Crust (B4) N	Su Inu (Bi Sp Co Ma Hy Od Dn Wa	riny one indicator is sufface Soil Cracks (B6) Indation Visible on Aer O	ial Imagery	SECONDAI Water-stain Leaves (B9) Drainage Pa Oxidized Ri Living Roots Presence of Iron (C4) Salt Deposi Notes:	ed	Stunted or Stressed Plants (D1)  Geomorphic Position (D2)  Shallow Aquitard (D3)  Microtopographic Relief (D4)  FAC-Neutral Test (D5)	
Hydric Soil Notes:  HYDROLOG Surface Wat High Water Saturation (// Water Marks Sediment De Drift Deposit Algal Mat or Iron Deposit Surface Wat	PRIMARY INDICATION OF (A1) Notes (A2) Notes (B2) Notes (B2) Notes (B3) Notes (B4) Notes (B5) Notes	Su Inu (Bi Sp Co Ma Hy Od Dn Wa	rface Soil Cracks (B6) Indation Visible on Aer One of the control	ial Imagery	SECONDAI Water-stain Leaves (B9) Drainage Pa Oxidized Ri Living Roots Presence of Iron (C4) Salt Deposi Notes:	ed hatterns (B10)	Stunted or Stressed Plants (D1)  Geomorphic Position (D2)  Shallow Aquitard (D3)  Microtopographic Relief (D4)  FAC-Neutral Test (D5)	

# AQUATIC SITE ASSESSMENT DATA FORM

VEGETATION VARIABLES P= Plot, I	M= Matrix
Forested-Evergreen-Needle-leaved	acking Forested-Deciduous-Needle-leaved Forested-Deciduous-Broad-leaved Scrub Shrub-Deciduous-Broad-leaved Scrub Shrub-Evergreen-Needle-leaved Emergent-Non-persistent Emergent-
Percent Cover (P): Tree (>5 dbh, >6m tall)_ Dwarf shrub (<0.5m) Tall herb (≥1	Sapling (<5 dbh, <6m tall) Tall shrub (2-6m) Short shrub (0.5-2m) Moss-Lichen Floating Submerged
Number of Wetland Types (M):	Evenness of Wetland Type Distribution (M): EvenHighly UneverModerately even
Vegetation Density/Dominance (P): Sparse 80%) Very High Density (80-100%)	(0-20%) Low Density (20-40%) Medium Density (40-60%) High Density (60-
Interspersion of Cover & Open Water (P): Peripheral Cover75% Scattered	100% Cover or Open Water <25% Scattered/Peripheral Cover 26-75% Scattered or ed or Peripheral Cover N/A
Plant Species Diversity (P): Low (< 5 plant	species) Medium (5-25 species) High (>25)
Presence of Islands (M): Absent (none) _	One or Few Several to Many N/A
Cover Distribution of Dominant Layer (P): Open Small Scattered Patches	No Veg Solitary, Scattered Stems 1 or More Large Patches; Parts of Site
Dead Woody Material (P): Low Abundance Abundant (>50% of surface)	(0-25% of surface) Moderately Abundant (25-50% of surface)
Vegetative Interspersion (P): Low (large High (small groupings, diverse and interspers	e patches, concentric rings) Moderate (broken irregular rings)
HGM Class (P): Slope Flat	Lacustrine Fringe Depressional Riverine Estaurine Fringe
SOIL VARIABLES	
Mineral: Gravelly Mineral: Sandy	Histosol:FibricHistosol:HemicHistosol: Sapric Mineral: SiltyMineral: Clayey
HYDROLOGIC VARIABLES	STEELING THE STATE OF THE STATE
Inlet/Outlet Class (P): No Inlet/Outlet	No Inlet/Intermittent OutletNo Inlet/Perennial Outlet Intermittent Inlet/No t Outlet Intermittent Inlet/Perennial Outlet Perennial Inlet/No Outlet Perennial nlet/Perennial Outlet
Inlet/Outlet Class (P): No Inlet/Outlet Intermittent Inlet/Intermitten Inlet/Intermittent Outlet Perennial I	t Outlet Intermittent Inlet/Perennial Outlet Perennial Inlet/No Outlet Perennial Inlet/Perennial Outlet Perennial Outlet Perennial Outlet Perennial Outlet Perennial Outlet Perennial Outlet Perennial Inlet/No Outlet Perennial Outlet Perennial Inlet/No Out
Inlet/Outlet Class (P): No Inlet/Outlet_ Outlet Intermittent Inlet/Intermittent Inlet/Intermittent Outlet Perennial I  Wetland Water Regime (P): Drier: Seas Wet: Perm. Flooded, Intermittently Exposed,  Evidence of Sedimentation (P): No Evider	t Outlet Intermittent Inlet/Perennial Outlet Perennial Inlet/No Outlet Perennial Inlet/Perennial Outlet Perennial Outlet Perennial Outlet Perennial Outlet Perennial Outlet Perennial Outlet Perennial Inlet/No Outlet Perennial Outlet Perennial Inlet/No Out
Inlet/Outlet Class (P): No Inlet/OutletOutlet Intermittent Inlet/Intermittent Inlet/Intermittent Inlet/Intermittent Outlet Perennial I  Wetland Water Regime (P): Drier: Sea: Wet: Perm. Flooded, Intermittently Exposed,  Evidence of Sedimentation (P): No Evider Created	t Outlet Intermittent Inlet/Perennial Outlet Perennial Inlet/No Outlet Perennial Inlet/Perennial Outlet Perennial Outlet Perennial Inlet/No Outlet Perennial
Inlet/Outlet Class (P): No Inlet/OutletOutletIntermittent Inlet/Intermittent Inlet/Intermittent Inlet/Intermittent OutletPerennial I  Wetland Water Regime (P): Drier: Sea: Wet: Perm. Flooded, Intermittently Exposed,  Evidence of Sedimentation (P): No Evider Created  Microrelief of Wetland Surface (P): Absent	t Outlet Intermittent Inlet/Perennial Outlet Perennial Inlet/No Outlet Perennial Inlet/Perennial Outlet Perennial Inlet/Perennial Outlet Perennial Inlet/Perennial Outlet Perennial Inlet/No O
Inlet/Outlet Class (P): No Inlet/Outlet_Outlet_Intermittent Inlet/Intermittent Inlet/Intermittent Inlet/Intermittent Outlet_Perennial I  Wetland Water Regime (P): Drier: Sea: Wet: Perm. Flooded, Intermittently Exposed, Evidence of Sedimentation (P): No Evider Created  Microrelief of Wetland Surface (P): Absent Frequency of Overbank Flooding (P): No Commentation (P	t Outlet Intermittent Inlet/Perennial Outlet Perennial Inlet/No Outlet Perennial Inlet/Perennial Outlet Perennial Inlet/Perennial Outlet Perennial Inlet/Perennial Outlet Perennial Inlet/No Outlet Perennial Inlet/N
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Inlet/Outlet Class (P): No Inlet/OutletOutletIntermittent Inlet/Intermittent Inlet/Intermittent Inlet/Intermittent Inlet/Intermittent OutletPerennial I  Wetland Water Regime (P): Drier: Sea: Wet: Perm. Flooded, Intermittently Exposed, Evidence of Sedimentation (P): No Evider Created  Microrelief of Wetland Surface (P): Absented Frequency of Overbank Flooding (P): No Created Return Interval >5 yrs  Degree of Outlet Restriction (P): No Outflow Water pH (P): No surface water C	t Outlet Intermittent Inlet/Perennial Outlet Perennial Inlet/No Outlet Perennial Inlet/Perennial Outlet Perennial Inlet/No Outlet Perennial Inlet/Perennial Outlet Perennial Inlet/Perennial Inlet
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Inlet/Outlet Class (P): No Inlet/Outlet_Outlet_Intermittent Inlet/Intermittent Inlet/Intermittent Inlet/Intermittent Inlet/Intermittent Inlet/Intermittent Inlet/Intermittent Inlet/Intermittent Outlet_Perennial I Wetland Water Reglme (P): Drier: Sea: Wet: Perm. Flooded, Intermittently Exposed, Evidence of Sedimentation (P): No Evider Created  Microrelief of Wetland Surface (P): Absent Frequency of Overbank Flooding (P): No Creater Interval >5 yrs_Degree of Outlet Restriction (P): No Outflow Water pH (P): No surface water Outlet Glacial Till/Not Permeable_Basin Topographic Gradient (M): Low Evidence of Seeps and Springs (P): No Segment Index (P): N	t Outlet
Inlet/Outlet Class (P): No Inlet/Outlet_Outlet_Intermittent Inlet/Intermittent Intermittent Intermitten	t Outlet
Inlet/Outlet Class (P): No Inlet/Outlet_Outlet_Intermittent Inlet/Intermittent Intermittent Inte	t Outlet

#### Wetland Determination Form QA/QC Checklist

This form to be completed before leaving the field site.

Feature	Field Target: 536 Date: 7/4/15
For all	items not checked, please provide detailed explanation in the notes section of data form.
1.	Site Description
	Site description, site parameters and summary of findings are complete?  A detailed site sketch is included in logbook?
2.	Vegetation
	At least 80% of onsite vegetation has been keyed to species, or collected for later identification?
	Vegetation names are entered legibly for all strata present?  Cover calculations are complete and correct?
	All dominant species have been determined and recorded per strata?  Indicator status is correct for each species?
	Dominance Test and Prevalence Index have been completed?
3.	Soil
	Soil profile is complete?  Appropriate hydric soil indicators are marked?
4.	Hydrology
	Appropriate hydrology indicators are marked? Surface water, water table, and saturation depths are recorded if present?
5.	Functions and Values
	Vegetation, soil, hydrologic variables, and landscape variables complete if site is a wetland?
6.	Field Logbook
	Notes have been recorded at each site, including general description, sketch, and accuracy of pre-mapped wetland boundary as appropriate?
	Each logbook page is initialed and dated?
7.	Maps
	Wetland boundaries have been corrected if necessary?  Maps are initialed and dated?

soil pit, 1 soil plug)?	each Wetland Determination Data Form (2 vegetation, 1 each Observation Point (vegetation/site overview)?
X Abiquile Fisher	× Myshizales
Wetland Scientist (print)	Signature / Date
Field Crew Chief (print)	Signature/Date

8. Photos

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SITE DESCRIPTION	ATTENDED TO	A STATE OF THE PARTY OF	<b>松 性                                   </b>
Survey Type: Centerline Access Road (explain) Other	er (explain)	Field Target: 1503	Map #: 21 Map Date: 6/29
Date: 7/5/15 Project Name & No.: Alas	ka LNG 60418403	Feature Id	: W84AY014
Investigators: Brian Strong, Abiday	le fisher		Team No.: W82/
State: Alaska Region: Alaska	Milepost:	224.	
Latitude: 670275706" Lor	ngitude: /49°	57'06.86"4	Datum: WGS84
Logbook No.: O Logbook Page No.: P 3	Picture No.:	P-W84AY01	Y-VEG_VEG_PIT_PLU
SITE PARAMETERS	TOTAL PROPERTY.	<b>建筑以内外地外外</b>	HATTER TO WORK THE
Subregion: Interior	Landform (hi	llslope, terrace, hummock	is, etc.): Toeslope
Slope (%): 2 Asrect: Northwest	Local relief (d	concave, convex, none):	Flat, tussocky-moder
Pre-mapped Alaska LNG/NWI classification: PSSI/EMIB	102,11 (Evidence of )	Wildlife Use: No	
Are climatic/hydrologic conditions on the site typical for this time of yet Yes No (if no explain in Notes)	Are "N	ormal Circumstances" pre	
Are Vegetation, Soil, or Hydrology Significantly Dis	Y 2	_(If yes, explain in Notes	3)
Are Vegetation, Soil, or Hydrology Naturally Proble	matic? No	(If yes, explain in Notes	s.)
SUMMARY OF FINDINGS	4-7-48-9-7-7		
Hydrophytic Vegetation Present? Yes No	Is the Sampled A	Area within a Wetland?	Yes No
Hydric Soil Present? Yes No	Wetland Type:	PSSI/EMIB	
Wetland Hydrology Present? Yes No	Alaska Vegetation	n Classification (Viereck):	11C2, 111 AZ OMSST
Notes and Site Sketch: Please include Directional & North Arrow, Cencorridor.  Open mixed shoub-tussock sedge. Le Dry conditions. Very shallow permators; the area / polyson but not in the west around omset	uge hamos	eneous tursocl	e-shrib wetland.

- 7	Absolute	Dominant	Indicator	Dominance Test worksheet:
Tree Stratum (Plot sizes: 100 (Y)	% Cover	Species? (Y/N)	Status	No. of Dominant Species that are OBL, FACW, or FAC:
	_			Total Number of Dominant Species Across All Strata:
				% Dominant Species that are OBL, FACW, or FAC:
				Prevalence Index worksheet:
Total Cove	r			Total % Cover of: Multiply by:
50% of total cove	r: 20	% of total cov	er:	OBL species: X 1 =X
apling/Shrub Stratum ( )	Absolute % Cover	Dominant Species? (Y/N)	Indicator Status	FACW species: 8 + X 2 = 1 + 4   FAC species
Betula nama			Fac	UPL species X 5 =
Betula glandulosa	25	7	Fac	Column Totals: 135 (A) 318 (B)
Rhod a desidrum tom	antosum		Foch	PI = B/A = 2.36
· Vaccinium uliainosur	7	1	Fac	
· Vaccinium VIF: 5-idae	3		Fac	The second secon
	1.0		1	
Salix nchardsonii			Tach	
MIX I ICHAINSONN	4		Fac	
· Salix glave -	4			
: Salix alaura Andromeda polifoli	a T		Fac	
Salix glave - B. Androme da polifoli	r. 45		Face	
· Salix alaura · Andromeda polifoli	r. 45	0% of total cov	Face	
Total Cove 50% of total cove	r:_45 r:_45_20	0% of total cov	Face	
Total Cove 50% of total cove	r:_ 45 r:_ 45_20	Dominant Species?	Face	Hydrophytic Vegetation Indicators: Dominance Test is > 50%
Total Cove 50% of total cove  EGETATION (use scientific names of plant lerb Stratum ( 2644)	r:	Dominant	Fac W er: 9	Dominance Test is > 50%  Prevalence Index is ≤ 3.0
Total Cove  50% of total cove  EGETATION (use scientific names of plant lerb Stratum ( 2654)	r: US 20	Dominant Species?	Fac W er: Indicator Status	Dominance Test is > 50%  Prevalence Index is ≤ 3.0  Morphological Adaptations¹ (Provide supporting data in
Total Cove 50% of total cove  EGETATION (use scientific names of plant erb Stratum ( 2654)  Eriophorum vaginatu, Carex biosclowii	r:	Dominant Species?	Fac W  Indicator Status  Fac W	Dominance Test is > 50%  Prevalence Index is ≤ 3.0  Morphological Adaptations¹ (Provide supporting data in Notes)
Total Cove  50% of total cove  50% of total cove  EGETATION (use scientific names of plant erb Stratum ( 264 )  Eriophorum vacinatus  Garex picyclowii  Archaerostis latifali	r:	Dominant Species?	Fac W  Indicator Status  Fac W	Dominance Test is > 50%  Prevalence Index is ≤ 3.0  Morphological Adaptations¹ (Provide supporting data in Notes)  Problematic Hydrophytic Vegetation¹ (Explain)
Total Cove  50% of total cove  50% of total cove  EGETATION (use scientific names of plant lerb Stratum ( 265+)  Eriophorum vaginatu.  Carex bigclown  Acctagrastis (afifali	r:	Dominant Species?	Fac W  Indicator Status  Fac W	Dominance Test is > 50%  Prevalence Index is ≤ 3.0  Morphological Adaptations¹ (Provide supporting data in Notes)
Total Cove  50% of total cove  50% of total cove  EGETATION (use scientific names of plant erb Stratum ( 26,4)  Ericphorum vacinatus Carex bioyelowin Acctagy astis latitali	r:	Dominant Species?	Fac W  Indicator Status  Fac W	Dominance Test is > 50%  Prevalence Index is ≤ 3.0  Morphological Adaptations¹ (Provide supporting data in Notes)  Problematic Hydrophytic Vegetation¹ (Explain)  ¹ Indicators of hydric soil and wetland hydrology must be present unless
Total Cove  Solit a lau ( a  Angliome da polifoli  Total Cove  50% of total cove  EGETATION (use scientific names of plant erb Stratum ( 2654)  Eriophorum vaginatu,  Garez biosclowin  Acctagrastis latifoli  .	r:	Dominant Species?	Fac W  Indicator Status  Fac W	Dominance Test is > 50%  Prevalence Index is ≤ 3.0  Morphological Adaptations¹ (Provide supporting data in Notes)  Problematic Hydrophytic Vegetation¹ (Explain)  ¹ Indicators of hydric soil and wetland hydrology must be present unless
Total Cove  Solix a lau ( a  Anglisome da polifoli  Total Cove  50% of total cove  EGETATION (use scientific names of plant lerb Stratum ( 2614)  Eriophorum vacinatus  Carex bioyelowin  Acchagy astis latifali	r:	Dominant Species?	Fac W  Indicator Status  Fac W	Dominance Test is > 50%  Prevalence Index is ≤ 3.0  Morphological Adaptations¹ (Provide supporting data in Notes)  Problematic Hydrophytic Vegetation¹ (Explain)  ¹ Indicators of hydric soil and wetland hydrology must be present unles disturbed or problematic.
Total Cove  Androme da polifoli  Total Cove  50% of total cove  (EGETATION (use scientific names of plant lerb Stratum ( 261)  1. Eriophorum vaginatu, 2. Garez bioyelowin 3. Arctagrastis latifoli 4. 5. 6. 6. 6. 6. 6. 6. 6. 6. 6. 6. 6. 6. 6.	r:	Dominant Species?	Fac W  Indicator Status  Fac W	Dominance Test is > 50%  Prevalence Index is ≤ 3.0  Morphological Adaptations¹ (Provide supporting data in Notes)  Problematic Hydrophytic Vegetation¹ (Explain)  ¹ Indicators of hydric soil and wetland hydrology must be present unless disturbed or problematic.  ———————————————————————————————————
· Salix glave - Androme da polifoli	r:	Dominant Species?	Fac W  Indicator Status  Fac W	Dominance Test is > 50%  Prevalence Index is ≤ 3.0  Morphological Adaptations¹ (Provide supporting data in Notes)  Problematic Hydrophytic Vegetation¹ (Explain)  ¹ Indicators of hydric soil and wetland hydrology must be present unles disturbed or problematic.  Bare Ground  Cover of Wetland Bryophytes

SOIL PROFIL Depth (inches)	E DESCRIPTION:	(Describe		to docum			Distriction Designation	Soil Pi	t Required (Y/N)
		(	to the depth needed	to docum	nent the i	ndicator or o	confirm the absence	ce of indicators.)	
inches)	Matrix		Redox Features						
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Notes	
>-5							fibric	Sphagun	and feather.
-8							Sapric	Serve-b	orderline Mic
-12	5-15/1	(00					5,41	mast 1	
							1	Alchall	the positive
2-14	5+ 5/1	100					Sel- \	11.2(24 4)	1 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7
	51 -11						211- 7	faren A	ipha alpha p
Type: C=Cor	ncentration, D=Dep	letion, RM	=Reduced Matrix, C	S=Covere	ed or Coa	ated Sand G	grains. <sup>2</sup> Location	: PL=Pore Lining.	, M=Matrix.
YDRIC SOIL	INDICATORS				LI THE L		INDICATORS	FOR PROBLEM	ATIC HYDRIC SOILS
listosol or His	stel (A1) N		Alaska Gleyed	(A13)	N		Alaska Color (	Change (TA4)4^	7
listic Epipedo	on (A2) <u></u>		Alaska Redox					Swales (TA5) N	
	A3) N		Alaska Gleyed					with 2.5Y Hue	
	fide (A4)								or Redder Underlying
	200 MOCORD TO	-					Layer_ N		-
	ırface (A12) N								seed matrix
One indicator disturbed or pr		etation, or	ne primary indicator	of wetland	d hydrolo	gy, and an a	appropriate landsc	ape position must	be present unless
Give details o	of color change in N								
lestrictive Lay	yer (if present): Typ	e: Yern	nafrost [	epth (inc	hes):	2			
011. Ru	Ptic histic	1-11	rically, Sat	1 ratio	in wi	9 616	e presen	formall + small	is < 1" Jeer s vs mineral amounts of
YDROLOGY	PRIMARY INDICA	TORS (a	ny nne indicator ie e			VO+ 1V	6104		
		Contract Con	ily one indicator is s	ufficient)			Y INDICATORS (2	or more required	
Surface Water	r (A1) 1	Sur	face Soil Cracks (B6	N_N	_ X		Y INDICATORS (2	Stunted or Plants (D1	) Stressed
		Sur	face Soil Cracks (B6	N_N	K	/ater-stained eaves (B9)	Y INDICATORS (2	Stunted or Plants (D1	) Stressed
High Water Ta	able (A2)	Sur Inur (B7 Spa	face Soil Cracks (B6	N_N	ery D	/ater-stained eaves (B9) rainage Pat	terns (B10)	Stunted or Plants (D1	Stressed
ligh Water Ta	able (A2)	Sur Inur (B7 Spa Cor	face Soil Cracks (B6	) N	ery D	Vater-stained eaves (B9) rainage Pat xidized Rhiz	terns (B10)	Stunted or Plants (D1	Stressed ) nic Position (D2)/ quitard (D3)/ graphic
High Water Ta Saturation (A3 Water Marks (I	able (A2) _ \(\mathcal{D}\) _	Sur Inur (B7 Spa Cor Mar	face Soil Cracks (B6 ndation Visible on Ac presely Vegetated locave Surface (B8)	) N	ery D	Vater-stained eaves (B9) rainage Pat xidized Rhiz ving Roots resence of F on (C4)	terns (B10)	Stunted or Plants (D1  Geomorph  Shallow A  Microtopog Relief (D4)	Stressed ) nic Position (D2)/ quitard (D3)/ graphic
High Water Ta Saturation (A3 Water Marks (I Sediment Depo	B1) _ N _ Oosits (B2) _ N	Sur Inur (B7 Spa Con Mar Hyd Odd	race Soil Cracks (B6 ndation Visible on Ae resely Vegetated cave Surface (B8)	) N	ery D  Li P Iri	Vater-stained eaves (B9) rainage Pat xidized Rhiz ving Roots resence of F on (C4)	terns (B10) zospheres along (C3) Reduced	Stunted or Plants (D1  Geomorph  Shallow A  Microtopog Relief (D4)	stressed ) nic Position (D2)/ quitard (D3)/ graphic
High Water Ta Saturation (A3 Vater Marks (I Sediment Depo	B1) _ N _ Oosits (B2) _ N	Sur Inur (B7 Spa Cor Mar Hyd Odd Dry- Wat	race Soil Cracks (B6 ndation Visible on Ae nresely Vegetated ncave Surface (B8) I Deposits (B15) rogen Sulfide or (C1) Season	) _ N erial Image	ery D  Li P Iri	rainage Pat xidized Rhiz ving Roots resence of Fon (C4) alt Deposits	terns (B10) zospheres along (C3) Reduced	Stunted or Plants (D1  Geomorph  Shallow A  Microtopog Relief (D4)	stressed ) nic Position (D2)/ quitard (D3)/ graphic
ligh Water Ta aturation (A3 Vater Marks (I rediment Deporiff Deposits (	able (A2)	Sur Inur (B7 Spa Cor Mar Hyd Odd Dry- Wat	race Soil Cracks (B6 ndation Visible on Ae resely Vegetated cave Surface (B8) I Deposits (B15) rogen Sulfide or (C1) Season er Table (C2)	) _ N erial Image	ery D  Li P Iri	rainage Pat xidized Rhiz ving Roots resence of Fon (C4) alt Deposits	terns (B10) zospheres along (C3) Reduced	Stunted or Plants (D1  Geomorph  Shallow A  Microtopog Relief (D4)	stressed ) nic Position (D2)/ quitard (D3)/ graphic
High Water Ta Saturation (A3 Water Marks (I Sediment Depo Orift Deposits ( Algal Mat or Ci	(B3) N (B1) N (B3) N (B3) N (Cosits (B2) N (Cosits (B4) N (Cosits (B4) N	Sur Inur (B7) Spa Con Mar Hyd Odd Dry- Wat	race Soil Cracks (B6 adation Visible on Ac arsely Vegetated acave Surface (B8) I Deposits (B15) Irogen Sulfide ar (C1) Season er Table (C2) er (Explain in Notes)	) _ N erial Image	ery D  Li P Iri	rainage Pat xidized Rhiz ving Roots resence of Fon (C4) alt Deposits	terns (B10) zospheres along (C3) Reduced	Stunted or Plants (D1  Geomorph  Shallow A  Microtopog Relief (D4)	stressed ) nic Position (D2)/ quitard (D3)/ graphic
High Water Ta Saturation (A3 Water Marks (I Sediment Depo Drift Deposits ( Algal Mat or Ci ron Deposits (	(B3) N (B1) N (B3) N (Crust (B4) N (Crust (B4) N (Crust (Y/N): N	Sur Inur (B7 Spa Cor Mar Hyd Odd Dry- Wat	race Soil Cracks (B6 ndation Visible on Ae resely Vegetated cave Surface (B8) I Deposits (B15) rogen Sulfide or (C1) Season er Table (C2)	) _ N erial Image	ery D  C  Pr  In	Vater-stained eaves (B9) rainage Pat xidized Rhizving Roots resence of Fon (C4) alt Deposits otes:	terns (B10) zospheres along (C3) Reduced	Stunted or Plants (D1  Geomorph  Shallow Ar  Microtopog Relief (D4)  FAC-Neutr	stressed ) nic Position (D2)/ quitard (D3)/ graphic

### AQUATIC SITE ASSESSMENT DATA FORM

VEGETATION VARIABLES P= Plot, M	= Matrix
Forested-Evergreen-Needle-leaved	cking Forested-Deciduous-Needle-leaved Forested-Deciduous-Broad-leaved Scrub Shrub-Deciduous-Needle-leaved Scrub Shrub-Deciduous-Broad-leaved Scrub Shrub-Evergreen-Needle-leaved Emergent-Non-persistent Emergent-
Percent Cover (P): Tree (>5 dbh, >6m tall) Dwarf shrub (<0.5m) Tall herb (≥1m	Sapling (<5 dbh, <6m tall) Tall shrub (2-6m) Short shrub (0.5-2m) 9 Short shrub (0.5-2m) 9 Short shrub (0.5-2m) 9 Submerged 5
Number of Wetland Types (M):	Evenness of Wetland Type Distribution (M): EvenModerately even
Vegetation Density/Dominance (P): Sparse (80%) Very High Density (80-100%)_	(0-20%) Low Density (20-40%) Medium Density (40-60%) High Density (60-
Interspersion of Cover & Open Water (P): Peripheral Cover >75% Scattered	100% Cover or Open Water <25% Scattered/Peripheral Cover 26-75% Scattered or d or Peripheral Cover N/A
Plant Species Diversity (P): Low (< 5 plant s	pecies) Medium (5-25 species) High (>25)
COMPANY TO THE ANDREW COLUMN TO THE REAL PROPERTY OF THE PARTY OF THE	One or Few Several to Many N/A
Cover Distribution of Dominant Layer (P): Open Small Scattered Patches	No Veg Solitary, Scattered Stems 1 or More Large Patches; Parts of Site Continuous CoverK
Dead Woody Material (P): Low Abundance (I Abundant (>50% of surface)	0-25% of surface) Moderately Abundant (25-50% of surface)
Vegetative Interspersion (P): Low (large High (small groupings, diverse and intersperse	patches, concentric rings) Moderate (broken irregular rings)
HGM Class (P): Slope Flat_ ⋉	Lacustrine Fringe Depressional Riverine Estaurine Fringe
CON MARKETER	
SOIL VARIABLES Soil Factors (P): Soil Lacking	Histosol:Fibric Histosol:Hemic Histosol: Sapric
Mineral: Gravelly Mineral: Sandy_	Mineral: Siltyx Mineral: Clayey
HYDROLOGIC VARIABLES	
Inlet/Outlet Class (P): No Inlet/Outlet Outlet Intermittent Inlet/Intermittent Inlet/Inte	No Inlet/Intermittent Outlet No Inlet/Perennial Outlet Intermittent Inlet/No Outlet Intermittent Inlet/Perennial Outlet Perennial Inlet/No Outlet Perennial Outlet Perennial Outlet Inlet/Perennial Outlet Inl
Wet: Perm. Flooded, Intermittently Exposed, S	
Evidence of Sedimentation (P): No Evidence Created	ce Observed Sediment Observed on Wetland Substrate Fluvaquent Soils Sediment
Microrelief of Wetland Surface (P): Absent_	Poorly Developed (6in.) Well Developed (6-18in.) Y Pronounced (>18in.)
Frequency of Overbank Flooding (P): No Overb	
Degree of Outlet Restriction (P): No Outflow	
Surficial Geologic Deposit Under Wetland (	^-
H AND ALL	Gradient (<2%) ★ High Gradient (≥2%)
Evidence of Seeps and Springs (P): No See	AND
LANDSCAPE VARIABLES (M)	
Wetland Juxtaposition: Wetland Isolated Only Connected Above Connected	d Wetlands within 400m, Not Connected Only Connected Below d Upstream & Downstream_ \omega Unknown
Wetland Juxtaposition: Wetland Isolated	Upstream & Downstream
Wetland Juxtaposition: Wetland Isolated Only Connected Above Connected	d Upstream & Downstream
Wetland Juxtaposition: Only Connected Above Connected  Wetland Land Use: High Intensity (i.e., a  Watershed Land Use: 0-5% Rural	d Upstream & Downstream

Smx

Page 4 of 4

#### Wetland Determination Form QA/QC Checklist

This form to be completed before leaving the field site.

	· /
	EID: W84A4014 Field Target: 1523 Date: 7/5/15
For all	items not checked, please provide detailed explanation in the notes section of data form.
1.	Site Description
	Site description, site parameters and summary of findings are complete?  A detailed site sketch is included in logbook?
2.	Vegetation
	At least 80% of onsite vegetation has been keyed to species, or collected for later identification?
	Vegetation names are entered legibly for all strata present?  Cover calculations are complete and correct?
	All dominant species have been determined and recorded per strata?  Indicator status is correct for each species?
	Dominance Test and Prevalence Index have been completed?
3.	Soil
	Soil profile is complete? Appropriate hydric soil indicators are marked?
4.	Hydrology
	Appropriate hydrology indicators are marked?  Surface water, water table, and saturation depths are recorded if present?
5.	Functions and Values
	Vegetation, soil, hydrologic variables, and landscape variables complete if site is a wetland?
6.	Field Logbook
	Notes have been recorded at each site, including general description, sketch, and accuracy of pre-mapped wetland boundary as appropriate?  Each logbook page is initialed and dated?
7.	Maps
	Wetland boundaries have been corrected if necessary?

#### 8. Photos

Four photos were taken for each Wetland Determination Data Form (2 vegetation, 1 soil pit, 1 soil plug)?

Two photos were taken for each Observation Point (vegetation/site overview)?

Wetland Scientist (wint)

Signature / Date

Field Crew Chief (print)

Signature / Date

SITE DESCRIPTION	A 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	and for the same of the same o		
Survey Type: Centerline Acce	ss Road (explain) Other (explain)	explain)	Field Target: 15232	Map #: 20 Map Date: 6/39
Date: 7/9/19	Project Name & No.: Alaska	LNG 60418403	Feature Id	: W84AY015
Investigators: Broan Stra	my Abigante Fo	sher		Team No.: WSU
State: Alaska	Region: Alaska	Milepost:	222,2	
Latitude: 67 ° 08 ' 46. (	Longit Longit	ude: 14906	12'55.69"W	Datum: WGS84
Logbook No.: 0	Logbook Page No.: 33	Picture No.:	8-W84A401	5-VEG-VEG-PIT
SITE PARAMETERS	<b>经现代证明</b>	a contract of	<b>西州 三州经洲经</b>	<b>900</b> 0000000000000000000000000000000000
Subregion: Thereor		Landform (hi	llslope, terrace, hummock	s, etc.): Foots lorc
Slope (%): 8		Local relief (d	concave, convex, none):	Jazolating - hommocky
Pre-mapped Alaska LNG/NWI classifica	ation: (), 1A2 11C2	Evidence of \		me trails
Are climatic/hydrologic conditions on the Yes No (if no exp	e site typical for this time of year?	Are "N Yes	ormal Circumstances" pre	
Are Vegetation, Soil, or Hy	drology Significantly Disturb	ed? No	_(If yes, explain in Notes	
Are Vegetation, Soil, or Hy	drology Naturally Problemat	tic? No	_ (If yes, explain in Notes	s.)
SUMMARY OF FINDINGS			<b>原到自身</b> 。	· · · · · · · · · · · · · · · · · · ·
Hydrophytic Vegetation Present? Yes_	No	Is the Sampled	Area within a Wetland?	Yes No_N
Hydric Soil Present? Yes_	No_ N	Wetland Type:	J	
Wetland Hydrology Present? Yes_	No	Alaska Vegetation	n Classification (Viereck):	1A3 11C2
Notes and Site Sketch: Please include I corridor: The rational massing Some possible wetter danced Site is most due to mass was trained. The mass was trained to mass was trained.	ve structured soils 2 inclusions in a 14 a slightly conv	Permatro concave m ex lan2fo n2 frost	st table at 1 icrosites, Soils orm with un	6" No actual saturation mostly moderately we
The second secon			PSSI/CMIS OMSST FO	at

VEGETATION (use scientific names of plants				
14.0	Absolute	Dominant	Indicator	Dominance Test worksheet:
Tree Stratum (Plot sizes:	% Cover	Species?	Status	No. of Dominant Species that are OBL, FACW, or FAC: 3 (A)
		(Y/N)	1	Total Number of Dominant Species Across All Strata: (B)
1. Vicea colauca	10	7	Facu	% Dominant Species that are OBL, FACW, or FAC:
2) ricea mariana	2	- 1	Face	7 7 5 5 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
3.				
4.				Prevalence Index worksheet:
Total Cover:	6		1	Total % Cover of: Multiply by:
50% of total cover	_ 6 20	% of total cov	/er: 2.4	OBL species: X 1 =
Sapling/Shrub Stratum ( 26 ft)	Absolute	Dominant	Indicator	FACW species: X 2 = X
	% Cover	Species?	Status	FAC species (OX 3 = )
		(Y/N)		FACU species 3 X 4 = \71
1. Salix reticulata	3		fac	UPL speciesX 5 =
2. Arctong rubel	5		Facil	Column Totals: 88 (A) 777 (B)
3. Duras valerifolia	3		Face)	PI = B/A = 3 .09
4. Vocanium alianosum	3		Fac.	
5. Vaccinium Vitis idaga	1		Trae	Shrub
6. Rhodedendrum groenlandic	10.10	V	Fac	Picea glavea 15 X fac
MIDDEAL DITTOLOGICA	VIN Id		1	Rhododendron Lapponicum T Fac
mait yourca	7		tac	Empetrum nigrum T For
Jaily Millians			Fach	Andramede 120 lifalia Fact
9. Picea Mariana			FACIN	1 0 101 0000
Total Cover			112 11	Shepherdia Canadensis I Facul
50% of total cover		% of total cov	/er: 0,4	
VEGETATION (use scientific names of plants		The state of the	LINE NO.	
VEGETATION (use scientific names of plants Herb Stratum (	Absolute	Dominant	Indicator	Hydrophytic Vegetation Indicators:
THE RESIDENCE OF THE PARTY OF T		Dominant Species?	Indicator Status	Hydrophytic Vegetation Indicators:  Dominance Test is > 50%
Herb Stratum (	Absolute	To ESCIPT SCHOOL STATE	Carlos Albertain	(5) 20 (5)
1. Cassinge tetragona	Absolute	Species?	Status Fac U	Dominance Test is > 50%  Prevalence Index is ≤ 3.0
Herb Stratum ( 26/+)	Absolute	Species?	Status	Dominance Test is > 50%
1. Cassiope tetraciona	Absolute	Species?	Status Fac U	Dominance Test is > 50%  Prevalence Index is ≤ 3.0  Morphological Adaptations¹ (Provide supporting data in
1. Cassinge tetragona 2. Equisetum arrense 3. Equisetum scirpodes	Absolute % Cover	Species? (Y/N)	Status Fac Fac Fac	Dominance Test is > 50%  Prevalence Index is ≤ 3.0  Morphological Adaptations¹ (Provide supporting data in Notes)
1. Cassinge tetragona 2. Favisetum arvense 3. Equisetum scirpodes 4. Friophorum Jacquingto	Absolute % Cover	Species? (Y/N)	Fac Fac Fac Fac W	Dominance Test is > 50%  Prevalence Index is ≤ 3.0  Morphological Adaptations¹ (Provide supporting data in Notes)  Problematic Hydrophytic Vegetation¹ (Explain)
1. Cassinge fetragona 2. Favisetum arvense 3. Favisetum scirpodes 4. Finophorum vaeynatu 5. Pedikularis laborado	Absolute % Cover	Species? (Y/N)	Status Fac Fac Fac	Dominance Test is > 50%  Prevalence Index is ≤ 3.0  Morphological Adaptations¹ (Provide supporting data in Notes)  Problematic Hydrophytic Vegetation¹ (Explain)  ¹ Indicators of hydric soil and wetland hydrology must be present unless
1. Cassinge tetragona 2. Favisetum arvense 3. Equisetum scirpodes 4. Friopharum Jacquatu 5. Pedikularis laborado 6. Boyking Picher Janan	Absolute % Cover	Species? (Y/N)	Fac Fac Fac Fac W	Dominance Test is > 50%  Prevalence Index is ≤ 3.0  Morphological Adaptations¹ (Provide supporting data in Notes)  Problematic Hydrophytic Vegetation¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present unless disturbed or problematic.
1. Cassinge tetragona 2. Fairsetum arvense 3. Fairsetum scirpodes 4. Friophorum vaeynatu 5. Pedicularis laborado 6. Royking Picherdsonau 7. Gentianella propio	Absolute % Cover	Species? (Y/N)	Fac Fac Fac Fac W	Dominance Test is > 50%  Prevalence Index is ≤ 3.0  Morphological Adaptations¹ (Provide supporting data in Notes)  Problematic Hydrophytic Vegetation¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present unless disturbed or problematic.
1. Cassinge tetragona 2. Favisetum arvense 3. Equisetum scirpodes 4. Fingharum vaeynatu 5. Pedicularis laborado 6. Boyking Pichedsonau 7. Gentianella propio 8. Carex Membranace	Absolute % Cover	Species? (Y/N)	Fac Fac Fac Fac V	Dominance Test is > 50%  Prevalence Index is ≤ 3.0  Morphological Adaptations¹ (Provide supporting data in Notes)  Problematic Hydrophytic Vegetation¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present unless disturbed or problematic.  % Bare Ground % Cover of Wetland Bryophytes
1. Cassinge tetragona 2. Favisetum arrense 3. Equisetum scirpodes 4. Friophorum Jacquatu 5. Pedicularis laborado 6. Boyking Picher Janau 7. Gentianella propie	Absolute % Cover	Species? (Y/N)	Factor Fa	Dominance Test is > 50%  Prevalence Index is ≤ 3.0  Morphological Adaptations¹ (Provide supporting data in Notes)  Problematic Hydrophytic Vegetation¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present unless disturbed or problematic.  % Bare Ground % Cover of Wetland Bryophytes Total Cover of Bryophytes
1. Cassinge tetragona 2. Favisetum arvense 3. Equisetum scirpodes 4. Ecophorum vaeynatu 5. Pedicularis laborado 6. Boyking Pichersonau 7. Gentianella propio 8. Carex Membranace 9.	Absolute % Cover	Species? (Y/N)	Factor Factor Factor Factor	Dominance Test is > 50%  Prevalence Index is ≤ 3.0  Morphological Adaptations¹ (Provide supporting data in Notes)  Problematic Hydrophytic Vegetation¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present unless disturbed or problematic.  % Bare Ground % Cover of Wetland Bryophytes O * Cover of Bryophytes % Cover of Water
1. Cassinge fetragona 2. Favisetum arvense 3. Equisetum scirpodes 4. Ecophorum vaeynatu 5. Pedicularis laborado 6. Boyking Pichersonau 7. Gentianella propio 8. Carex Membranace 9. Carex Sp.	Absolute % Cover	Species? (Y/N)	Factor Fa	Dominance Test is > 50%  Prevalence Index is ≤ 3.0  Morphological Adaptations¹ (Provide supporting data in Notes)  Problematic Hydrophytic Vegetation¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present unless disturbed or problematic.  Bare Ground  When the description of the supporting data in Notes)  Problematic Hydrophytic Vegetation¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present unless disturbed or problematic.  Total Cover of Wetland Bryophytes  When the description of the supporting data in Notes) ¹ Indicators of hydric soil and wetland hydrology must be present unless disturbed or problematic.  When the description of the supporting data in Notes) ¹ Indicators of hydric soil and wetland hydrology must be present unless disturbed or problematic.  When the description of the supporting data in Notes)  When the description of the supporting data in Notes)  When the description of the supporting data in Notes)  When the description of the supporting data in Notes)  When the description of the supporting data in Notes)  When the description of the supporting data in Notes
1. Cassinge fetragona 2. Farisetum arvense 3. Farisetum scirpodes 4. Frapharum vaeynatu 5. Pediscularis laborata 6. Boyking Pichersonau 7. Gentianella propir 8. Carex Membranace 9. Carex Sp.	Absolute % Cover	Species? (Y/N)	Factor Factor Factor Factor Factor	Dominance Test is > 50%  Prevalence Index is ≤ 3.0  Morphological Adaptations¹ (Provide supporting data in Notes)  Problematic Hydrophytic Vegetation¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present unless disturbed or problematic.  Bare Ground  When the description of the supporting data in Notes:  Total Cover of Wetland Bryophytes  When the description of the supporting data in Notes:  Problematic Hydrophytic Vegetation Present (Y/N):  Notes: (If observed, list morphological adaptations below):
1. Cassinge fetragena 2. Favisetum arvense 3. Favisetum scinpodes 4. Fiophorum vaeinatu 5. Peducularis laborado 6. Royking Picherdsonall 7. Gentianella propir 8. Carex Membranace 9. Carex Sp. 10. Favisetum Varienal Total Covers	Absolute % Cover	Species? (Y/N)	Factor Factor Factor Factor Factor	Dominance Test is > 50%  Prevalence Index is ≤ 3.0  Morphological Adaptations¹ (Provide supporting data in Notes)  Problematic Hydrophytic Vegetation¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present unless disturbed or problematic.  Bare Ground  When the description of the supporting data in Notes)  Problematic Hydrophytic Vegetation¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present unless disturbed or problematic.  Total Cover of Wetland Bryophytes  When the description of the supporting data in Notes) ¹ Indicators of hydric soil and wetland hydrology must be present unless disturbed or problematic.  When the description of the supporting data in Notes) ¹ Indicators of hydric soil and wetland hydrology must be present unless disturbed or problematic.  When the description of the supporting data in Notes)  When the description of the supporting data in Notes)  When the description of the supporting data in Notes)  When the description of the supporting data in Notes)  When the description of the supporting data in Notes)  When the description of the supporting data in Notes
1. Cassinge tetragena 2. Equisetum arvense 3. Equisetum scinpodes 4. Ecophorum vacinatu 5. Pedicularis laborado 6. Royking Picherdsonall 7. Gentianella propir 8. Carex Membranace 9. Carex Sp. 10. Equisetum Varienal Total Cover	Absolute % Cover	Species? (Y/N)	Factor Factor Factor Factor Factor	Dominance Test is > 50%  Prevalence Index is ≤ 3.0  Morphological Adaptations¹ (Provide supporting data in Notes)  Problematic Hydrophytic Vegetation¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present unless disturbed or problematic.  Bare Ground  When the description of the supporting data in Notes:  Total Cover of Wetland Bryophytes  When the description of the supporting data in Notes:  Problematic Hydrophytic Vegetation Present (Y/N):  Notes: (If observed, list morphological adaptations below):
1. Cassinge fetragona 2. Favisetum arvense 3. Favisetum scirpodes 4. Finopharum vaeynatu 5. Pedicularis laborata 6. Royking Picher sonatu 7. Gentianella propir 8. Carex Membranace 9. Carex Sp- 10. Equisetum Varienal Total Cover Arctagostis latifotia tledysarum al pinus	Absolute % Cover	Species? (Y/N)	Facultacu Facultacu Facultacu Facultacu Facultacu Facultacu Facultacu Facultacu	Dominance Test is > 50%  Prevalence Index is ≤ 3.0  Morphological Adaptations¹ (Provide supporting data in Notes)  Problematic Hydrophytic Vegetation¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present unless disturbed or problematic.  ———————————————————————————————————
1. Cassinge tetragona 2. Favisetum arvense 3. Favisetum scirpodes 4. Finophorum vaeinatu 5. Pedicularis laborado 6. Royking Picherdsonali 7. Gentianella propir 8. Carex Membranace 9. Carex Sp. 10. Favisetum Varienal Total Cover. Arctagostis latifotia Hedusarum al pinum Carex scirpoidea	Absolute % Cover	Species? (Y/N)	Facultacu Facultacu Facultacu Facultacu Facultacu Facultacu Facultacu Facultacu	Dominance Test is > 50%  Prevalence Index is ≤ 3.0  Morphological Adaptations¹ (Provide supporting data in Notes)  Problematic Hydrophytic Vegetation¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present unless disturbed or problematic.  When the description of the second
1. Cassinge fetragona 2. Favisetum arvense 3. Favisetum scirpodes 4. Finopharum vaeynatu 5. Pedicularis laborata 6. Royking Picher sonatu 7. Gentianella propir 8. Carex Membranace 9. Carex Sp- 10. Equisetum Varienal Total Cover Arctagostis latifotia tledysarum al pinus	Absolute % Cover	Species? (Y/N)	Facultacu Facultacu Facultacu Facultacu Facultacu Facultacu Facultacu Facultacu	Dominance Test is > 50%  Prevalence Index is ≤ 3.0  Morphological Adaptations¹ (Provide supporting data in Notes)  Problematic Hydrophytic Vegetation¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present unless disturbed or problematic.  ———————————————————————————————————

			1/5/15	V~ 6 7 /	17015	2		
SOIL	BUT STATE OF THE S	AT SHE	Date Feat	ure ID	COMPLE	20 20 10 10 10 10 10 10 10 10 10 10 10 10 10	National State of the last	Soil Pit Required (Y/N)
	LE DESCRIPTION:	(Describe	to the depth needed to	documer	t the indi	cator or co	nfirm the absence	of indicators.)
	Matrix	(	Redox Features					
Depth (inches)	Color (moist)	%	Color (moist)	% Тур	ne¹ I	Loc <sup>2</sup>	Texture	Notes
0-5	Coloi (Moist)	70.	Coloi (moist)	70 Typ	,	200		11000
	v 411-	0.0					Sapric	(2)
5-12	5-1 4/3	88					Galoan	~1570 gravel - Thixotropic
2 1 .	5-1-3/2	15		_			(-1	No positive altha altha
2-16	514/2	75					GRLown	~17% gravel. Thisatropic
0 -	57 3/2	25			_			No rositure claha alph
6-20	514/3	98					Louis	~570 gravel. Frozen
¹Tuno: C=Ca	10-11 2/2		M=Reduced Matrix, CS=	Covered	or Contac	Cand Cra	ine <sup>2</sup> l contion:	PL=Pore Lining, M=Matrix.
The second second second second		etion, Ri	N=Reduced Matrix, CS=	Covered	or Coated	Sand Gra	The second secon	
HEROTECH CO.	LINDICATORS	THE REAL PROPERTY.	MANUFACTURE NO.	10)		SERVICE OF THE PARTY OF THE PAR		OR PROBLEMATIC HYDRIC SOILS <sup>3</sup>
VAN	istel (A1)		Alaska Gleyed (A	-	)		TANK NO. 2777 TO 107	nange (TA4) <sup>4</sup>
The state of the s	lon (A2)	d .	Alaska Redox (A		_			wales (TA5)N
Black Histic (	A3)		Alaska Gleyed Po	res (A15)			Alaska Redox w	
Hydrogen Su	Ifide (A4) N	-					Layer N	vithout 5Y Hue or Redder Underlying
Thick Dark S	urface (A12) _ N	4911					Other (Explain i	Notes)
Restrictive La	Present (Y/N):	Ne: Per	ds non satura				riors, Gliss	en when disturbed.
HYDROLOGY	Y PRIMARY INDICA	TORS (a	my one indicator is suffi	ciont				
Surface Wate	er (A1)N	6		CACIIL)	SEC	ONDARY	NDICATORS (2	
High Water Ta	oble (A2)		face Soil Cracks (B6) _	N	Wate	ONDARY er-stained es (B9)		
	able (AZ)		ndation Visible on Aeria	N	Wate	er-stained es (B9)/		Stunted or Stressed Plants (D1)
Saturation (A:	1	- Inu (B7	ndation Visible on Aeria	N	Wate Leave Drain	er-stained es (B9)/	rns (B10) _ J spheres along	Stunted or Stressed Plants (D1)
	3)	- (B7 Spa Cor	ndation Visible on Aeria	N	Drain Oxidi Living	er-stained es (B9) nage Patter zed Rhizo	rns (B10) _ \( \) spheres along 3) _ \( \)	Stunted or Stressed Plants (D1)  Geomorphic Position (D2)
Water Marks	3) _ N	- Inu (B7 Spa Cool Ma	ndation Visible on Aeria  ) arsely Vegetated ncave Surface (B8)	N	Drain Oxidi Living Prese Iron (	er-stained es (B9) nage Patter zed Rhizo g Roots (C ence of Re	rns (B10) _ \( \) spheres along 3) _ \( \) duced	Stunted or Stressed Plants (D1)  Geomorphic Position (D2)  Shallow Aquitard (D3)  Microtopographic
Water Marks	3) _ N _ (B1) _ N _ posits (B2) _ N	- Inu (B7 Spa Coo Ma Hyd Odd	ndation Visible on Aeria (1)	N	Drain Oxidi Living Prese Iron (	er-stained es (B9)	rns (B10) _ \( \) spheres along 3) _ \( \) duced	Stunted or Stressed Plants (D1)  Geomorphic Position (D2)  Shallow Aquitard (D3)  Microtopographic Relief (D4)
Water Marks Sediment Dep	3) _ N	- (B7 Spa Cool Ma Hyd Odd Dry Wa	ndation Visible on Aeria (1) arsely Vegetated ncave Surface (B8) rl Deposits (B15) drogen Sulfide or (C1)	N	Drain Oxidi Living Prese Iron (  Salt [	er-stained es (B9)	rns (B10) _ \( \) spheres along 3) _ \( \) duced	Stunted or Stressed Plants (D1)  Geomorphic Position (D2)  Shallow Aquitard (D3)  Microtopographic Relief (D4)
Water Marks Sediment Dep Drift Deposits Algal Mat or C	(B1) _ N _ Posits (B2) _ N _ Crust (B4) _ N	- (B7 Spa Cool Ma Hyd Odd Dry Wa	ridation Visible on Aeria (1)	N	Drain Oxidi Living Prese Iron (  Salt [	er-stained es (B9)	rns (B10) _ \( \) spheres along 3) _ \( \) duced	Stunted or Stressed Plants (D1)  Geomorphic Position (D2)  Shallow Aquitard (D3)  Microtopographic Relief (D4)
Water Marks Sediment Dep Drift Deposits Algal Mat or C	(B1) _ N _ Posits (B2) _ N _ Crust (B4) _ N	- (B7 Spa Cool Ma Hyd Odd Dry Wa	ridation Visible on Aeria (1)	N	Drain Oxidi Living Prese Iron (  Salt [	er-stained es (B9)	rns (B10) _ \( \) spheres along 3) _ \( \) duced	Stunted or Stressed Plants (D1)  Geomorphic Position (D2)  Shallow Aquitard (D3)  Microtopographic Relief (D4)
Water Marks Sediment Dep Drift Deposits Algal Mat or C	(B1) _ N _ Posits (B2) _ N _ Crust (B4) _ N	- (B7 Spa Cool Ma Hyd Odd Dry Wa	ridation Visible on Aeria (1)	N	Drain Oxidi Living Prese Iron (  Salt [	er-stained es (B9)	rns (B10) _ \( \) spheres along 3) _ \( \) duced	Stunted or Stressed Plants (D1)  Geomorphic Position (D2)  Shallow Aquitard (D3)  Microtopographic Relief (D4)
	(B1) _ N _ Posits (B2) _ N _ Crust (B4) _ N _ (B5) _ N _ Crust (B5) _ N _ Crust (B4) _ N _ N _ Crust (B5) _ N _ N _ Crust (B5) _ N _ N _ N _ N _ N _ N _ N _ N _ N _	- Inu (B7 Sp. Col Ma - Hyd Odd - Dry Wa - Oth	ridation Visible on Aeria (i)	N	Drain Oxidi Living Press Iron ( Salt I Notes	er-stained es (B9)	rns (B10) _ \( \) spheres along 3) _ \( \) duced	Stunted or Stressed Plants (D1)  Geomorphic Position (D2)  Shallow Aquitard (D3)  Microtopographic Relief (D4)  FAC-Neutral Test (D5)

### AQUATIC SITE ASSESSMENT DATA FORM

VEGETATION VARIABLES P= Plot, M= Matrix
Primary Vegetation Type (P): Vegetation Lacking Forested-Deciduous-Needle-leaved Forested-Deciduous-Broad-leaved Forested-Evergreen-Needle-leaved Scrub Shrub-Deciduous-Needle-leaved Scrub Shrub-Deciduous-Broad-leaved Emergent-Non-persistent Emerg
Percent Cover (P):         Tree (>5 dbh, >6m tall)         Sapling (<5 dbh, <6m tall)
Number of Wetland Types (M): Evenness of Wetland Type Distribution (M): EvenHighly UnevenModerately even
Vegetation Density/Dominance (P):         Sparse (0-20%) Low Density (20-40%) Medium Density (40-60%) High Density (60-80%)
Interspersion of Cover & Open Water (P): 100% Cover or Open Water <25% Scattered/Peripheral Cover 26-75% Scattered or Peripheral Cover N/A
Plant Species Diversity (P): Low (< 5 plant species) Medium (5-25 species) High (>25)
Presence of Islands (M): Absent (none) One or Few Several to Many N/A
Cover Distribution of Dominant Layer (P): No Veg Solitary, Scattered Stems 1 or More Large Patches; Parts of Site Open Small Scattered Patches Continuous Cover
Dead Woody Material (P): Low Abundance (0-25% of surface) Moderately Abundant (25-50% of surface) Abundant (>50% of surface)
Vegetative Interspersion (P): Low (large patches, concentric rings) Moderate (broken irregular rings) High (small groupings, diverse and interspersed)
HGM Class (P): Slope Flat Lacustrine Fringe Depressional Riverine Estaurine Fringe
CONTINUE DE LA CONTIN
SOIL VARIABLES  Soil Factors (P): Soil Lacking Histosol:Fibric Histosol:Hemic Histosol: Sapric Mineral: Gravelly Mineral: Sandy Mineral: Silty Mineral: Clayey
HYDROLOGIC VARIABLES
Inlet/Outlet Class (P): No Inlet/Outlet No Inlet/Intermittent Outlet No Inlet/Perennial Outlet Intermittent Inlet/Intermittent Inlet/Intermittent Inlet/Intermittent Outlet Perennial Inlet/Perennial Outlet Perennial Inlet/Perennial Inlet/Intermittent Outlet Perennial Inlet/Perennial Outlet Perennial Outlet P
Wetland Water Regime (P): Drier: Seasonally Flooded, Temporarily Flooded, Saturated Wet: Perm. Flooded, Intermittently Exposed, Semiperm. Flooded
Evidence of Sedimentation (P): No Evidence Observed Sediment Observed on Wetland Substrate Fluvaquent Soils Sediment Created
Microrelief of Wetland Surface (P): Absent Poorly Developed (6in.) Well Developed (6-18in.) Pronounced (>18in.)
Frequency of Overbank Flooding (P): No Overbank Flooding Return Interval 1-2 yrs Return Interval 2-5 yrs Return Interval >5 yrs
Degree of Outlet Restriction (P): No Outflow Restricted Outflow Unrestricted Outflow
Water pH (P): No surface water Circumneutral (5.5-7.4) Alkaline (>7.4) Acid (<5.5) pH Reading
Surficial Geologic Deposit Under Wetland (P): High Permeability Stratified Deposits Low Permeability Stratified Deposits Glacial Till/Not Permeable
Basin Topographic Gradient (M):       Low Gradient (<2%)
LANDSCAPE VARIABLES (M)
LANDSCAPE VARIABLES (M)  Wetland Juxtaposition: Wetland Isolated Wetlands within 400m, Not Connected Only Connected Below Only Connected Above Connected Upstream & Downstream Unknown
Wetland Juxtaposition: Wetland Isolated Wetlands within 400m, Not Connected Only Connected Below
Wetland Juxtaposition: Wetland Isolated Wetlands within 400m, Not Connected Only Connected Below Only Connected Above Connected Upstream & Downstream Unknown

#### Wetland Determination Form QA/QC Checklist

This form to be completed before leaving the field site.

	e ID: W84A4015 Field Target: 15232 Date: 7/5/15 items not checked, please provide detailed explanation in the notes section of data form.
1.	Site Description
	Site description, site parameters and summary of findings are complete?  A detailed site sketch is included in legbook?
2.	Vegetation
	At least 80% of onsite vegetation has been keyed to species, or collected for later identification?  Vegetation names are entered legibly for all strata present?  Cover calculations are complete and correct?  All dominant species have been determined and recorded per strata?  Indicator status is correct for each species?  Dominance Test and Prevalence Index have been completed?
3.	Soil
	Soil profile is complete? Appropriate hydric soil indicators are marked?
4.	Hydrology
	Appropriate hydrology indicators are marked?  Surface water, water table, and saturation depths are recorded if present?
5.	Functions and Values
	Vegetation, soil, hydrologic variables, and landscape variables complete if site is a wetland?
6.	Field Logbook
	Notes have been recorded at each site, including general description, sketch, and accuracy of pre-mapped wetland boundary as appropriate?  Each logbook page is initialed and dated?
7.	Maps
	Wetland boundaries have been corrected if necessary?  Maps are initialed and dated?

#### 8. Photos

Four photos were taken for each Wetland Determination Data Form (2 vegetation, 1 soil pit, 1 soil plug)?

Two photos were taken for each Observation Point (vegetation/site overview)?

X Abi a cure + 5 le X all y Abi 7/5/15

Wetland Scientist (print)

Signature / Date

Field Crew Chief (print)

Signature / Date

Page 1 of 4

#### WETLAND DETERMINATION DATA FORM

IAZ urland

SITE DESCRIPTION	Charles of the same			
Survey Type: Centerline Acces	ss Road (explain) Other (	(explain)	Field Target:   5 227	Map #: <u>24</u> Map Date: <u>6/2</u> 9
Date: 7/5/15	Project Name & No.: Alaska	LNG 60418403	Feature Id:	W84A4016
Investigators: Bryan Stro	Mr. Abiganle F	isher		Team No.: W844
State: Alaska	Region: Alaska	Milepost:	2410	
Latitude: 67° 10 '58 (	67"N Longi	itude:  50° ()	938,762	/Datum: WGS84
Logbook No.:	Logbook Page No.: 3 나	Picture No.:	P-W81AYOIG	VG_VEG_PIT_PLUC
SITE PARAMETERS	八类。在一类作品的	The Market	्रा - श्री क्यां क्षिण ।	
Subregion: Interior	N. Committee of the com			, etc.): 5.111e 1.20c
Slope (%): \-27.		Local relief (	concave, convex, none): F	iat to slightly concave
Pre-mapped Alaska LNG/NWI classifica	ation: PSS4/1B 11A2, 11		vvliditie Ose./	jumocky-moderate
Are climatic/hydrologic conditions on the Yes No (if no expl		6.20	lormal Circumstances" pres	sent: Dry conditions. lain in Notes.) Low snow lear
Are Vegetation, Soil, or Hyd	1,419 00 00 11	0(1)	(If yes, explain in Notes)	
Are Vegetation, \$oil, or Hyd		atic?	(If yes, explain in Notes.	) Soil : Potentially proble
SUMMARY OF FINDINGS		China Carlo	<b>化学技术会员公集</b> 。	
Hydrophytic Vegetation Present? Yes_	No	Is the Sampled	Area within a Wetland?	Yes No
Hydric Soil Present? Yes_	No	Wetland Type:	PF04/SSIB	
Wetland Hydrology Present? Yes	≺ No	Alaska Vegetatio	n Classification (Viereck):	1AZ 11AZ 11CZ
Notes and Site Sketch: Please include I corridor. Saddle Flat to Very little Sphag numbers and nyo 70 Lee Site likely has minimover frost table. Very over frost table. Very spruce (black) 15-30' very old) he churcan spruce (black) 15-30' very old) he churcan wetland isolated	slightly concaver  n present. A c  her. No bog cra.  nal reduction but  err weak and ve  I soil material. A  tall mostly. A.  I observed in so  ATOILD  IA2 ince  Provissing  Marginal  Located	down and sople sph aberry assi will be reaction few snays I profile favor Soil and Supple Supple	flat to slight  agram pillows  ociated with 5  saturated early  positive alpha  frices) show e  constant for the la  able for the so  slightly convex  professional ju  teep sloves a  lemental tes	observed ~60% Feath phagnom pillows. The on the growing sease alpha reaction observatorial above frost widence of Great Co
145 moland			-6	
Mole	A (1)	0.11	H. c. 11	le of the ritse.

See field mar for delineation

VEGETATION (use scientific names of plants				
Tree Stratum (Plot sizes:(()() +	Absolute % Cover	Dominant Species? (Y/N)	Indicator Status	Dominance Test worksheet:  No. of Dominant Species that are OBL, FACW, or FAC: (A)
1. Vicea mariana	25	4	Facel	Total Number of Dominant Species Across All Strata: (B) % Dominant Species that are OBL, FACW, or FAC: 100 (A/B)
2.				% Dominant Species that are OBL, FACW, of FAC(A/B)
3.				
4.				Prevalence Index worksheet:
Total Cover:	25			Total % Cover of: Multiply by:
50% of total covers	: 20	% of total cov	er:	OBL species: X1 = X
Sapling/Shrub Stratum ( 26 ft)	Absolute % Cover	Dominant Species? (Y/N)	Indicator Status	FACW species:
1. Vacanium Wiginosum	6		Fac	UPL speciesX 5 =
2. Vaccinium Vifis-Idaea	610	SS Y	Fac	Column Totals: (A) 232 (B)
A C	tosum 1	2 /	tacky	PI = B/A =
5. Betala a landulaca			Tuel	
200000000000000000000000000000000000000	1()	7	Tav I	
7. Goliv Outona	-		Fac W	
8.	1		1-acin	
9.				
Total Cover:	40			
50% of total covers	<del>- 20</del> 20	% of total cov	er: <u> 8                                   </u>	
VEGETATION (use scientific names of plants			Carle of Co.	
Herb Stratum ( det )	Absolute	Dominant	Indicator	Hydrophytic Vegetation Indicators:
	% Cover	Species?	Status	Dominance Test is > 50%
1 P. (a. c. a.)	-	(Y/N)	T- 10/	_X Prevalence Index is ≤ 3.0
2. Contact Line	7	7	Fac	Morphological Adaptations¹ (Provide supporting data in
3. Fairetum sulvaticum	-		Fare	Notes)  Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
4. Parex Mannate	2		6131	Indicators of hydric soil and wetland hydrology must be present unless
5. Errophorum vaginatum	T		Farw	disturbed or problematic.
6.		17 · _	1.17.7.22	
7.				% Bare Ground
8. Sonagnum Sp	3	127		% Cover of Wetland Bryophytes
9. Feather moss	56			Total Cover of Bryophytes
10./: ( )	40			% Cover of Water Hydrophytic Vegetation Present (Y/N):
Total Cover;	29		c 11	Notes: (If observed, list morphological adaptations below):
50% of total cover:	14.5 20	% of total cov	er: 5.8	
1 1	١ ،			

Danth	ILE DESCRIPTION: (I	3000/120	Redox Features	10 0000	none the	Transactor or t		or marcatoro.,		
Depth (inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Notes		
0-4						***	Elone			
4-5		100								
5-9	10-12 2/2	100		1 1			MILSIL	Moist-	bordel.	ne Ou-M
9-10	10 re 2/2	100				_	MIL SIL	Moist-		
0-12	7.5+R 2.5/3	100					SIL	No Posi	_	
2-16	2.5-15/1	96	7.572 4/6	دا	C	m/86	5.1+	A coupl		
	Viz. In .							POSITIVE	alpha	alpha
<sup>1</sup> Type: C=C	oncentration, D=Deple	tion, RN	/I=Reduced Matrix, C	S=Cover	red or Co	ated Sand G	rains. <sup>2</sup> Locatio	n: PL=Pore Linin	ng, M=Matrix	cobserve
HYDRIC SO	IL INDICATORS						INDICATORS	FOR PROBLEM	WATIC HYD	RIC SOILS
Histosol or H	listel (A1)	:	Alaska Gleyed	(A13)	N		Alaska Color	Change (TA4)⁴ <u>_</u>	2	
Histic Epiped	don (A2) N		Alaska Redox	(A14)	N		Alaska Alpine	Swales (TA5) _	N	
Black Histic	(A3) N	-	Alaska Gleyed	Pores (A	A15)		Alaska Redox	with 2.5Y Hue_	N	
Hvdrogen Si	ulfide (A4)							d without 5Y Hue	or Redder	Underlying
							Layer N	n in Notes) M	41 A 1-	
	Surface (A12) Nor of hydrophytic vege	tation o	ne primary indicator	of wetlan	d bydrolo	av and an				
Restrictive L  Hydric Soil  Notes: \[ \lambda_{\text{-\text{\chi_c}}} \]	of color change in No ayer (if present): Type Present (Y/N):	Per Y-	Marginal Mas	.1	ly marrie	cets in		- 7"	0	A
Hydric Soil  Notes: Vac	ayer (if present): Type Present (Y/N):	Y- Y- Y SPO	Marginal Mas Horaction city above	pinal ato frost	aprice alph	cets wateria	Trus this	er 3" of	frozen	minera
Hydric Soil Notes: Ver	Present (Y/N):	Y- Y- Y- Spo C-po	Marginal Mas the reaction site above - chroma pa	first	alph tab	a alph	Trus this	ice tens	foren	minera
Hydric Soil Notes: Very Morst	Present (Y/N):	Y 5 po c - po c	Marginal Mas the reaction site above - chroma pa	frost	alph alph tab	a alph	y INDICATORS	ce tens lode atc.	frozen ses et ce con ed)	minera the tent
Hydric Soil  Notes: Ve Mors+  HYDROLOG  Surface Water 1	Present (Y/N):  Present (Y/N):	Y SPON CAPACITORS (a	the reaction Market above the above the come part above the chroma part and one indicator is sufface Soil Cracks (B6 and ation, Visible on A6	first  first  ufficient)	alph tab mat	ECONDAR Vater-stained eaves (B9)	y INDICATORS	2 or more required Plants (I	frozen ses et ce con ed)	minera the -
Hydric Soil  Notes: Ve Mors+  HYDROLOG  Surface Water 1	Present (Y/N):  Year field  Y PRIMARY INDICA  er (A1)  N	TORS (a Sui	the reaction Market above the above the come part above the chroma part and one indicator is sufface Soil Cracks (B6 and ation, Visible on A6	frest ufficient)	alph tab Mat	ECONDAR Vater-stained eaves (B9) Orainage Pate	Y INDICATORS (  terns (B10)  zospheres along	2 or more required Stunted Plants (I	frozen ses et ee con or Stressed D1) N	tent
Hydric Soil  Notes: Very Monster  HYDROLOG  Surface Water  High Water The Saturation (A)	Present (Y/N):  Present (Y/N):  Y PRIMARY INDICA  er (A1)  Table (A2)  N  N  N  N  N  N  N  N  N  N  N  N  N	TORS (a Sun (B7 Spa Cool Ma	the reaction Market Chroma Paragram one indicator is sufface Soil Cracks (B6 and ation, Visible on Act of the chromator Surface (B8) _ ri Deposits (B15) _ h	frest ufficient)	alph tab Mat	ECONDAR Vater-stained eaves (B9) Orainage Pate	Y INDICATORS (  determs (B10)	2 or more required Stunted Plants (I	ed) or Stressed O1) phic Position Aquitard (D	minera the tent
Hydric Soil Notes: Valley HYDROLOG Surface Wate High Water T Saturation (A	Present (Y/N):  Present (Y/N):  Y PRIMARY INDICA  er (A1)  Table (A2)  N  N  N  N  N  N  N  N  N  N  N  N  N	TORS (a Sui (B7 Spa Col Ma Hyd	margina) Mars  the reaction any one indicator is s  face Soil Cracks (B6  indation Visible on Ae  arsely Vegetated incave Surface (B8)	frest ufficient)	alph tab Mat	ECONDAR Vater-stained eaves (B9) Orainage Pate	YINDICATORS (  terns (B10)  zospheres along (C3) Reduced	2 or more require Stunted Plants (I Geomory Shallow Microtop Relief (D	ed) or Stressed O1) phic Position Aquitard (D	n (D2) N  modera
Hydric Soil  Notes: Very Monster  HYDROLOG  Surface Water  High Water  Saturation (A)  Water Marks  Sediment De	Present (Y/N):  Present (Y/N):	TORS (a Sun (B7 Spa Col Ma Hyc Od	margina) Mars  the reaction of the control of the c	frost frost cont ufficient)	alph Aprice Alph Nat V L Gery C	ECONDAR Vater-stained eaves (B9) Orainage Pat Oxidized Rhiz iving Roots Presence of I con (C4)	r INDICATORS (  VINDICATORS (  Description of the construction of	2 or more required Stunted Plants (I Geomore Shallow Microtop Relief (D FAC-Nei	ed) or Stressed O1) phic Position Aquitard (D oographic O4) utral Test (C	minera tent (D2) N 3) Y modera nummo
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Restrictive L  Hydric Soil  Notes: Valentin Soil  HYDROLOG  Surface Water  High Water T  Saturation (A  Water Marks  Sediment De  Drift Deposits  Algal Mat or  Iron Deposits	Present (Y/N):  Present (Y/N):	TORS (a Sun Inu (B7 Spa Cool Ma Hydro Odd Dry Wa	margina) Mars  the reaction of the control of the c	frest ufficient)	gery C	ECONDAR Vater-stained eaves (B9) Drainage Pathiciving Roots Presence of I from (C4) Salt Deposits Iotes:	terns (B10)	2 or more required Stunted Plants (I Geomory Shallow Microtop Relief (D FAC-Net	ed) or Stressed O1) phic Position Aquitard (D oographic O4) utral Test (C	minera tent (D2) N 3) Y modera nummo
Restrictive L  Hydric Soil  Notes: Valential  Monday  HYDROLOG  Surface Wate  High Water T  Saturation (A  Water Marks  Sediment De  Drift Deposite  Algal Mat or  Iron Deposite  Surface Wate  Surface Wate	Present (Y/N):  Present (Y/N):  Y PRIMARY INDICA  er (A1)  N  Table (A2)  (B1)  Prosits (B2)  S (B3)  Crust (B4)  L  S (B5)	TORS (a Sun Inu (B7 Spa Cool Ma Hydrodd Dry Wa	margina) Mars  the reaction of the control of the c	frest ufficient)	gery C	ECONDAR Vater-stained eaves (B9) Drainage Pathiciving Roots Presence of I from (C4) Salt Deposits Iotes:	r INDICATORS (  VINDICATORS (  Description of the construction of	2 or more required Stunted Plants (I Geomory Shallow Microtop Relief (D FAC-Net	ed) or Stressed O1) phic Position Aquitard (D oographic O4) utral Test (C	minera tent (D2) N 3) Y modera nummo

### AQUATIC SITE ASSESSMENT DATA FORM

VEGETATION VARIABLES P= Plot, M= Matrix
Primary Vegetation Type (P): Vegetation Lacking Forested-Deciduous-Needle-leaved Forested-Deciduous-Broad-leaved Forested-Evergreen-Needle-leaved Scrub Shrub-Deciduous-Needle-leaved Scrub Shrub-Deciduous-Broad-leaved Scrub Shrub-Evergreen-Needle-leaved Emergent-Non-persistent Emergent-Persistent Aquatic Bed
Percent Cover (P): Tree (>5 dbh, >6m tall)   Sapling (<5 dbh, <6m tall)   Tall shrub (2-6m)   Short shrub (0.5-2m)   Submerged   Submerge
Number of Wetland Types (M): Evenness of Wetland Type Distribution (M): Even Highly Uneven Moderately even
Vegetation Density/Dominance (P): Sparse (0-20%)         Low Density (20-40%)         Medium Density (40-60%)         High Density (60-80%)           80%         Very High Density (80-100%)         X
Interspersion of Cover & Open Water (P): 100% Cover or Open Water <a href="https://www.example.cover">&lt; &lt;25% Scattered/Peripheral Cover</a> 26-75% Scattered or Peripheral Cover >75% Scattered or Peripheral Cover N/A
Plant Species Diversity (P): Low (< 5 plant species) Medium (5-25 species) High (>25)
Presence of Islands (M): Absent (none) One or Few Several to Many N/A
Cover Distribution of Dominant Layer (P): No Veg Solitary, Scattered Stems 1 or More Large Patches; Parts of Site Open Small Scattered Patches Continuous Cover
Dead Woody Material (P): Low Abundance (0-25% of surface) Moderately Abundant (25-50% of surface) Abundant (>50% of surface)
Vegetative Interspersion (P): Low (large patches, concentric rings) Moderate (broken irregular rings) High (small groupings, diverse and interspersed)
HGM Class (P): Slope Flat_K_ Lacustrine Fringe Depressional Riverine Estaurine Fringe
SOIL VARIABLES
Soil Factors (P): Soil Lacking Histosol: Fibric Histosol: Hemic Histosol: Sapric
Mineral: Gravelly Mineral: Sandy Mineral: Silty Mineral: Clayey
HYDROLOGIC VARIABLES
Inlet/Outlet Class (P): No Inlet/Outlet \( \times \) No Inlet/Intermittent Outlet \( \times \) No Inlet/Perennial Outlet \( \times \) Intermittent Inlet/Intermittent Inlet/Intermittent Inlet/Intermittent Inlet/Perennial Outlet \( \times \) Perennial In
Inlet/Outlet Class (P): No Inlet/Outlet \( \times \) No Inlet/Intermittent Outlet \( \times \) No Inlet/Perennial Outlet \( \times \) Intermittent Inlet/Intermittent Inlet/Intermittent Outlet \( \times \) Perennial Inlet/Intermittent Outlet \( \times \) Perennial Inlet/Perennial Outlet \( \times \
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Inlet/Outlet Class (P): No Inlet/Outlet \_X No Inlet/Intermittent Outlet \_ Intermittent Outlet \_ Intermittent Inlet/Intermittent Outlet \_ Perennial Inlet/Perennial Outlet \_ Perennial Inlet/Perennial Outlet \_ Perennial Inlet/Intermittent Outlet \_ Perennial Inlet/Perennial Outlet \_ Perennial Inlet/Perennial Inlet/Perennial Outlet \_ Perennial Inlet/No Outlet \_ Perennial Inlet/No Outlet \_ Perennial Inlet/No Outlet \_ Perennial Inlet/Perennial Outlet \_ Perennial Inlet/No O
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#### Wetland Determination Form QA/QC Checklist

This form to be completed before leaving the field site.

	6
Featur	e ID: W84A4016 Field Target: 15227 Date: 7/5/15
For all	items not checked, please provide detailed explanation in the notes section of data form.
1.	Site Description
	Site description, site parameters and summary of findings are complete?  A detailed site sketch is included in logbook?
2.	Vegetation
	At least 80% of onsite vegetation has been keyed to species, or collected for later identification?
	Vegetation names are entered legibly for all strata present?  Cover calculations are complete and correct?
	All dominant species have been determined and recorded per strata?
	Indicator status is correct for each species?  Dominance Test and Prevalence Index have been completed?
3.	Soil
	Soil profile is complete?  Appropriate hydric soil indicators are marked?
4.	Hydrology
	Appropriate hydrology indicators are marked?  Surface water, water table, and saturation depths are recorded if present?
5.	Functions and Values
	Vegetation, soil, hydrologic variables, and landscape variables complete if site is wetland?
<b>.</b> 6.	Field Logbook
	Notes have been recorded at each site, including general description, sketch, and accuracy of pre-mapped wetland boundary as appropriate?  Each logbook page is initialed and dated?
7.	Maps
	Wetland boundaries have been corrected if necessary?  Maps are initialed and dated?

#### 8. Photos

Four photos were taken for each Wetland Determination Data Form (2 vegetation, 1 soil pit, 1 soil plug)?

Two photos were taken for each Observation Point (vegetation/site overview)?

Wetland Scientist (print)

Signature / Date

Field Crew Chief (print)

Signature / Date

SITE DESCRIPTION				
Survey Type: Centerline Acce	ss Road (explain) Other (e	xplain) Field Tar	get: 15317 Map#	: <u>14</u> Map Date: <u>6/29</u>
Date: 7/6/19	Project Name & No.: Alaska L	NG 60418403	Feature Id: (28	4AY017
Investigators: Bryan St	rona Abjacule:	Fisher	Team	No.: W84
State: Alaska	Region: Alaska	Milepost: NA	ff row	
Latitude: (8 04 30.0	Longitu	ide: 149°3106,	371W Datum	: WGS84
Logbook No.:	Logbook Page No.: 36	Picture No.: P-W80	1AY017-VEG-	MG_PIT_PLUG
SITE PARAMETERS				
Subregion: Tweetow		Landform (hillslope, terra	ice, hummocks, etc.):	Terrace
Slope (%): 2	X	Local relief (concave, co	nvex, none): Tat	to slightly convex
Pre-mapped Alaska LNG/NWI classifica	ation: PSS1C , 11 D1	Evidence of Wildlife Use	7 spinal tussacle	to slightly convex
Are climatic/hydrologic conditions on the Yes No (if no exp	e site typical for this time of year? lain in Notes) Dry con2.+c	Are "Normal Circu	mstances" present: (If no, explain in N	Dry Conditions
Are Vegetation, Soil, or Hyd	drology Significantly Disturbe	ed? No(If yes, ex	plain in Notes)	
Are Vegetation, Soil, or Hyd	drology Naturally Problemati	c? No <u></u> ⋉ (If yes, ex	plain in Notes.)	
SUMMARY OF FINDINGS		The Resident States of the Sta		
Hydrophytic Vegetation Present? Yes_	No	Is the Sampled Area within	a Wetland? Yes_	No
Hydric Soil Present? Yes_	Y-Marghoral	Wetland Type: アミシャス		# 1
Wetland Hydrology Present? Yes_	No	Alaska Vegetation Classificat	ion (Viereck): 11 C2	- ODELS
Notes and Site Sketch: Please include E corridor. Dry conditions, Mormal tears. Very I how chroma parent as a depleted mat	Marginal site. Ap. ittle positive rea	pears to be a ction to alpha pase colors (N	seasonally alpha obse 510) in acti	wet site in rued (210%).
Air Strip U		A7017		RUSBA channel
ncz Russ	Dry terrace U; 1 CZ . 11 BZ Open Willow Shrub - low	IIBZ PSSIB IICZ ODBLS	Closed wi	llow

VEGETATION (use scientific names of plants	3)			
Tree Stratum (Plot sizes: 100 PF)	Absolute % Cover	Dominant Species? (Y/N)	Indicator Status	Dominance Test worksheet:  No. of Dominant Species that are OBL, FACW, or FAC: 3 (A)  Total Number of Dominant Species Across All Strata: 3 (B)
2.				% Dominant Species that are OBL, FACW, or FAC: _(OO_ (A/B)
3.				
4.			1	Prevalence Index worksheet:
Total Cover		% of total cov	er:	Total % Cover of: Multiply by:  OBL species: X 1 =
Sapling/Shrub Stratum ( 26 PF )	Absolute % Cover	Dominant Species? (Y/N)	Indicator Status	FACW species: 22
1. Rhododendrum toment	DSUM )	N	Fach	UPL speciesX 5 =
3. Betwo nona (1')	4 65	N	Fac	Column Totals: (A)(B) PI = B/A =(B)
5. Salix Dulchra (1)	7	N	Facul	
6. Empetrum norm	2,855	N	FAC	
8.				
Total Cover 50% of total cover VEGETATION (use scientific names of plants	: 44 20	% of total cov	er: <u>17. C</u>	
Herb Stratum ( aloft )	Absolute % Cover	Dominant Species? (Y/N)	Indicator Status	Hydrophytic Vegetation Indicators:  Dominance Test is > 50%  ✓ Prevalence Index is ≤ 3.0
1. Cassiope tetragona			Face	Morphological Adaptations¹ (Provide supporting data in
3. Petrastes frances	m 550	55 7	Face	Notes)
4. Stellaria braines	T		Fac	Problematic Hydrophytic Vegetation¹ (Explain)  ¹ Indicators of hydric soil and wetland hydrology must be present unless
5. Carex bicelowii	10	7	Fac	disturbed or problematic.
6. Calamagrashis se BSS				
7. Sistoffa plumoso	-		tacU	% Bare Ground % Cover of Wetland Bryophytes
9. Areterrated at folio			FACW	Total Cover of Bryophytes
10.			Fac	% Cover of Water
Saucerea angust folia Total Covers 50% of total cover	- 54	% of total cov	er: 3.8	Hydrophytic Vegetation Present (Y/N):
Eicher 35 / Pare	1. 100			

SOU PROFIL			2020	ature ID		VAR TINE	五位 建 5年4月	Soil Pit Required (Y/N)	HAVE
OIL PROFI	LE DESCRIPTION: (	Describe	to the depth needed	to docu	ment the	indicator or o	confirm the abser	ice of indicators.)	
epth	Matrix		Redox Features						
nches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc²	Texture	Notes	
1-4							tibric		
- 5	10-12 4/4	100					SIL	Not altha altha Pos	sitn
- /		122	111						
-9.5	N3/0	55	7.5-12 4/6	10	C	M	5.4	KIOG alpha alpha p	0517
/ 11	2.5-14/2	35	2 /:		-				
11-2.	2.575/1	-	54511	3	D	PL	S.L	ice lenses < 10% alph	
- 15	2.574/3	ation DN	In Destroyed Martin C	0-0		1-1010	5.6	n: PL=Pore Lining, M=Matrix. Pos	heal
AND DESCRIPTION OF THE PERSON OF	oncentration, D=Deple	etion, Riv	i=Reduced Matrix, C	S=Cove	red or Coa	ated Sand G		FOR PROBLEMATIC HYDRIC SC	-
Hamilton and the same	Design and Parket State of the Late of the		Alaska Gleyed	(012)	4	THE LOTTER	The second lines and the second lines are the	The state of the s	JILS
	istel (A1) N				-	Jinai		Change (TA4) <sup>4</sup>	
			Alaska Redox					Swales (TA5)	
	(A3)		Alaska Gleyed	Pores (	A15) _N		Control of the Contro	with 2.5Y Hue d without 5Y Hue or Redder Underly	vina
lydrogen Su	Iffide (A4) N						Layer_ N	- manual or ride of reduct offderly	yiiig
	urface (A12) N						Other (Explai	n in Notes) cape position must be present unless	
lotes: G - LI	Present (Y/N): _ Y				1 1 1 1 1 1				
in de	rth. syodera	to ici	cral material	40% al 15	50ft	end mi	ore dopabl	color 2.5+ 5/1 The e active later. Becom the alpha positive in	Ur
inches	s of frozen	- 5011	cral material content, on	40% al 15 17 4m	soft tes.	end mi spotty i	ore disorble positive al	pha alpha positive in saturation observed a	at t
Inches	y PRIMARY INDICA	TORS (a	cral material content, on	(0%)	soft tes.	SPOTTY (CONDAR)	positive all	Struction observed a 2 or more required) Site visit	at t
YDROLOG Surface Water	y PRIMARY INDICA	TORS (a	cral material content. On 10 % spot my one indicator is sindicator is sindicator Visible on Ae	(67. -1 15 17 1 (4-() ufficient)	soft ted	Scotty  Con 2 1th  ECONDAR  Vater-stained eaves (B9)	positive all	2 or more required) Site VISIA  Stunted or Stressed Plants (D1)	a+ 1
YDROLOG Surface Water High Water T	Y PRIMARY INDICA or (A1)	TORS (a Sur Inui (B7	cral material content. On 10 % spot my one indicator is sindicator is sindicator Visible on Ae	(OZ.	soft tea	ECONDAR) Vater-stained eaves (B9) validized Rhiz	positive all	Stunted or Stressed Plants (D1)  Geomorphic Position (D2)  Shallow Aquitard (D3)	at a
Surface Water Total Caturation (A	Y PRIMARY INDICA or (A1) J Table (A2) N	Sur Inui - (B7 Spa Cor	real material context. On the long special material context. On the long special material context. On the long special material context (B6 and ation Visible on Ae) arsely Vegetated acave Surface (B8)	(1) I sufficient)	soft tead with the soft tead of tead o	ECONDAR) Vater-stained eaves (B9) validized Rhiz	r INDICATORS (B10) No cospheres along (C3) No cosphere	2 or more required) Situated or Stressed Plants (D1)  Geomorphic Position (D2)  Shallow Aquitard (D3)	**
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Surface Water To Saturation (A Vater Marks Sediment Department	Y PRIMARY INDICA  er (A1) \( \sum_{\text{o}} \)  Table (A2) \( \sum_{\text{o}} \)  (B1) \( \sum_{\text{o}} \)  posits (B2) \( \sum_{\text{o}} \)	Sur Inuit (B7 Spa Cor Mail	real material context. On the long special material context. On the long special material context. On the long special material context (B6 material visible on Ae) which is a special context of the long special material context (B15) which is a special context of the long special c	(1) I sufficient)	soft tead V	ECONDAR  Vater-stained eaves (B9)  rainage Patitiving Roots ( resence of Fon (C4)  alt Deposits otes:	terns (B10) N cospheres along C3) N Reduced (C5) N	Stunted or Stressed Plants (D1)  Geomorphic Position (D2)  Shallow Aquitard (D3)  Microtopographic Relief (D4)  FAC-Neutral Test (D5)	te v
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# AQUATIC SITE ASSESSMENT DATA FORM

VEGETATION VARIABLES P= Plot, M= Matrix
Primary Vegetation Type (P):     Vegetation Lacking Forested-Deciduous-Needle-leaved Forested-Deciduous-Broad-leaved       Forested-Evergreen-Needle-leaved Scrub Shrub-Deciduous-Needle-leaved Scrub Shrub-Deciduous-Broad-leaved     Scrub Shrub-Deciduous-Broad-leaved       Scrub Shrub-Evergreen-Broad-leaved Scrub Shrub-Evergreen-Needle-leaved Emergent-Non-persistent     Emergent-Non-persistent
Percent Cover (P): Tree (>5 dbh, >6m tall) Sapling (<5 dbh, <6m tall) Tall shrub (2-6m) Short shrub (0.5-2m) 9  Dwarf shrub (<0.5m) ☐ Tall herb (≥1m) Short herb (<1m) ☐ Moss-Lichen 9 Floating Submerged ☐
Number of Wetland Types (M): Evenness of Wetland Type Distribution (M): Even Highly Uneven Moderately even
Vegetation Density/Dominance (P): Sparse (0-20%)         Low Density (20-40%)         Medium Density (40-60%)         High Density (60-80%)           80%)         Very High Density (80-100%)         K
Interspersion of Cover & Open Water (P): 100% Cover or Open Water K <25% Scattered/Peripheral Cover 26-75% Scattered or Peripheral Cover N/A
Plant Species Diversity (P): Low (< 5 plant species) Medium (5-25 species) High (>25)
Presence of Islands (M): Absent (none) One or Few Several to Many N/A
Cover Distribution of Dominant Layer (P): No Veg Solitary, Scattered Stems 1 or More Large Patches; Parts of Site Open Small Scattered Patches Continuous Cover
Dead Woody Material (P): Low Abundance (0-25% of surface) Moderately Abundant (25-50% of surface) Abundant (>50% of surface)
Vegetative Interspersion (P): Low (large patches, concentric rings) Moderate (broken irregular rings) High (small groupings, diverse and interspersed)
HGM Class (P): Slope Flat_k Lacustrine Fringe Depressional Riverine Estaurine Fringe
SOIL VARIABLES
Soil Factors (P): Soil Lacking Histosol:Fibric Histosol:Hemic Histosol: Sapric Mineral: Gravelly Mineral: Sandy Mineral: Silty Mineral: Clayey
HYDROLOGIC VARIABLES
Inlet/Outlet Class (P): No Inlet/Outlet No Inlet/Intermittent Outlet No Inlet/Perennial Outlet Intermittent Inlet/Intermittent Inlet/Intermittent Inlet/Intermittent Inlet/Perennial Outlet Perennial Inlet/Intermittent Outlet Perennial Inlet/Intermittent Outlet Perennial Inlet/Intermittent Outlet Perennial Inlet/Perennial Inlet/Perenn
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Inlet/Outlet Class (P): No Inlet/Outlet _K No Inlet/Intermittent Outlet No Inlet/Perennial Outlet Intermittent Inlet/No Outlet Intermittent Inlet/Intermittent Inlet/Intermittent Inlet/Perennial Outlet Perennial Inlet/Perennial Inlet/Perennial Outlet Perennial Inlet/Perennial Inlet/Perennial Outlet Perennial Inlet
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Page 4 of 4

### Wetland Determination Form QA/QC Checklist

This form to be completed before leaving the field site.

Feature	ID: W84A1017 Field Target: 15317 Date: 7/6/15
	tems not checked, please provide detailed explanation in the notes section of data form.
1.	Site Description
	<ul> <li>☑ Site description, site parameters and summary of findings are complete?</li> <li>☑ A detailed site sketch is included in logbook?</li> </ul>
2.	Vegetation
	At least 80% of onsite vegetation has been keyed to species, or collected for later identification?
~	<ul> <li>☑ Vegetation names are entered legibly for all strata present?</li> <li>☑ Cover calculations are complete and correct?</li> </ul>
_	<ul> <li>☑ All dominant species have been determined and recorded per strata?</li> <li>☑ Indicator status is correct for each species?</li> <li>☑ Dominance Test and Prevalence Index have been completed?</li> </ul>
3.	Soil
	Soil profile is complete?  Appropriate hydric soil indicators are marked?
4.	Hydrology
	<ul> <li>Appropriate hydrology indicators are marked?</li> <li>Surface water, water table, and saturation depths are recorded if present?</li> </ul>
5.	Functions and Values
	Vegetation, soil, hydrologic variables, and landscape variables complete if site is wetland?
6.	Field Logbook
	<ul> <li>Notes have been recorded at each site, including general description, sketch, and accuracy of pre-mapped wetland boundary as appropriate?</li> <li>Each logbook page is initialed and dated?</li> </ul>
7.	Maps
	<ul><li>☑ Wetland boundaries have been corrected if necessary?</li><li>☑ Maps are initialed and dated?</li></ul>

### 8. Photos

- Four photos were taken for each Wetland Determination Data Form (2 vegetation, 1 soil pit, 1 soil plug)?
- Two photos were taken for each Observation Point (vegetation/site overview)?

X Ab, gayle Fisher	x My 26/15
Wetland Scientist (print)	Signature / Date
X Bream Strong	X = 8 m 7/6/15
Field Crew Chief (print)	Signature / Date

FIE-Mapped Alaska LING/NVVI classification. PEM 1/2018 MAZ 1/2 Evidence of villatile use. gills w/ a few tussocks	SITE DESCRIPTION					是19 与19 11 11 11 11 11 11 11 11 11 11 11 11 1
Investigators: Bray Propagators Abacasal Fished Team No.: 1/87  State: Alaska Region: Alaska Milepost: 174, 8  Latitude: 68° 04' 47 6 N Longitude: 14' 9" 34' 34' 35" 0 Datum: WGS84  Logbook No.: 1 Logbook Page No.: 3c Picture No.: 174 50 Datum: WGS84  Logbook No.: 2 Logbook Page No.: 3c Picture No.: 174 50 Datum: WGS84  Logbook No.: 1 Logbook Page No.: 3c Picture No.: 174 50 Datum: WGS84  Logbook No.: 1 Logbook Page No.: 3c Picture No.: 174 50 Datum: WGS84  Logbook No.: 1 Logbook Page No.: 3c Picture No.: 174 50 Datum: WGS84  Logbook No.: 1 Logbook Page No.: 3c Picture No.: 174 50 Datum: WGS84  Logbook No.: 1 Logbook Page No.: 3c Picture No.: 174 50 Datum: WGS84  Logbook No.: 1 Logbook Page No.: 3c Picture No.: 174 50 Datum: WGS84  Logbook No.: 1 Logbook Page No.: 3c Picture No.: 174 50 Datum: WGS84  Logbook No.: 1 Logbook Page No.: 3c Picture No.: 174 50 Datum: WGS84  Logbook No.: 1 Logbook Page No.: 3c Picture No.: 174 50 Datum: WGS84  Logbook No.: 1 Logbook Page No.: 3c Picture No.: 174 50 Datum: WGS84  Logbook No.: 1 Logbook Page No.: 3c Picture No.: 174 50 Datum: WGS84  Logbook No.: 1 Logbook Page No.: 3c Picture No.: 174 50 Datum: WGS84  Logbook No.: 1 Logbook Page No.: 3c Picture No.: 174 50 Datum: WGS84  Logbook No.: 1 Logbook Page No.: 3c Picture No.: 174 50 Datum: WGS84  Logbook No.: 1 Logbook Page No.: 3c Picture No.: 174 50 Datum: WGS84  Logbook No.: 1 Logbook Page No.: 3c Picture No.: 174 50 Datum: WGS84  Logbook Page No.: 3c Picture No.: 174 50 Datum: WGS84  Logbook No.: 1 Logbook Page No.: 3c Picture No.: 174 50 Datum: WGS84  Logbook No.: 1 Logbook Page No.: 3c Picture No.: 174 50 Datum: WGS84  Logbook No.: 1 Logbook Page No.: 174 50 Datum: WGS84  Logbook No.: 1 Logbook Page No.: 174 50 Datum: WGS84  Logbook Page No.: 174 50 Datum: WGS84  Logbook Page No.: 174 50 Datum: WGS84  Loglobook Page No.: 174 50 Datum: WGS84  Logbook Page No.: 174 50 D	Survey Type: Centerline Acce	ss Road (explain) Other (e	explain)	Field Target:	5264	Map #: 1 3 Map Date: 6/29
State: Alaska  Region: Alaska	Date: 7/0/15	Project Name & No.: Alaska	LNG 60418403	F	eature Id	:W84AY018
Lantitude: 68°04476 No.:   Longitude: 49°343, 5°4 Datum: WGS84  Logbook No.:   Logbook Page No.: 36 Picture No.:   Picture No.	Investigators: Bryanstror	ren, Abigayle 1	Tisher			Team No.: (184
Logbook No.:   Logbook Page No.: 36 Picture No.:   WELLATON NEW YEAVES - PT PLUG  SITE PARAMETERS  Subregion:   Landform (hillslope, terrace, hummocks, etc.) To e slove  Slope (%):   Local relief (concave, convex, none): Flat to slightly concave  Pre-mapped Alaska LNG/NWI classification: PEM 1/58/18 MAR Evidence of Wildlife Use: Sills   Landform to the site typical for this time of year?  Yes No (If no explain in Notes)   Are "Normal Circumstances" present: Dry condition  Are Vegetation   Soil   or Hydrology   Significantly Disturbed? No (If yes, explain in Notes)  Are Vegetation   Soil   or Hydrology   Naturally Problematic?   No (If yes, explain in Notes)  SUMMARY OF FINDINGS  Hydrophytic Vegetation Present? Yes   No   Is the Sampled Area within a Wetland? Yes   No    Hydric Soil Present?   Yes   No   Alaska Vegetation Classification (Viereck):   IL C2   OWL S  Notes and Site Sketch: Please include Directional & North Arrow, Centerline, Length of feature, Distances from Centerline, Photo Locations, and Survey corridor. Flat to slightly concave downslave and flat to slightly cancer across Slove    Site was a old placial (ake. Area appears to have directed at as the advance for culturers at the highway. Moss is drive as securs to have directed at the highway. Moss is drived as securs to have directed at the promoter of the samples on cather site of plat appear to be perennal. Swales containing the samples and each culturers and back cutting, culverts installed the high creating Parameters of Pemic, Islands of Posician at shear the parameters of Pemic, Islands of Posician at shear the parameters of Pemic, Islands of Posician at shear the parameters of Pemic, Islands of Pesician at shear the parameters of Pemic, Islands of Pesician at shear the parameters of Pemic, Islands of Pesician at shear the parameters of Pemic, Islands of Pesician and shear the parameters of Pemic, Islands of Pemic,	State: Alaska	Region: Alaska	Milepost:	74.8		
Site Parameters  Subregion: Twelford Landform (hillslope, terrace, hummocks, etc.) To estore  Local relief (concave, convex, none): First the styphility concave  Pre-mapped Alaska LNG/NWI classification: PEM 1/SAIX MAD Evidence of Wildlife Use: Sells the stypical for this time of year?  Are climatic/hydrologic conditions on the site typical for this time of year?  Yes No (if no explain in Notes)  Are Vegetation Soil or Hydrology Significantly Disturbed?  Are Vegetation Soil or Hydrology Naturally Problematic?  No (if yes, explain in Notes)  SUMMARY OF FINDINGS  Hydrophytic Vegetation Present? Yes No Is the Sampled Area within a Wetland? Yes No  Hydric Soil Present?  Yes Marson No Wetland Type: PSSI/MLIB  Wetland Hydrology Present? Yes No Alaska Vegetation Classification (Viereck): If C2 OWLS  Notes and Site Sketch: Please include Directional & North Arrow, Centerline, Length of feature, Distances from Centerline, Photo Locations, and Survey corridor. First to slightly concave demonstance and fleat to slightly concave demonstance and slightly concave demonstance and fleat to slightly selection of the slightly concave demonstance and slightly selection of the slightly selection of the slightly selection of the slightly selection o	Latitude: 68° 04'47.6	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	ude: 149°3	431,25	"W	Datum: WGS84
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Subregion: Tyter (1)  Landform (hillslope, terrace, hummocks, etc.) To c sloce  Slope (%): 2  Pre-mapped Alaska LNG/NWI classification: PCM 1/5/18 MAR 16 Evidence of Wildlife Use: 5-115  Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no explain in Notes)  Are Vegetation Soil or Hydrology Significantly Disturbed? No (If yes, explain in Notes)  Are Vegetation Soil or Hydrology Naturally Problematic? No (If yes, explain in Notes)  Are Vegetation Present? Yes No Alaska Vegetation Classification (Viereck): U.C.2 OLS  Wetland Hydrology Present? Yes No Alaska Vegetation Classification (Viereck): U.C.2 OLS  Notes and Site Sketch: Please include Directional & North Arrow, Centerline, Length of feature, Distances from Centerline, Photo Locations, and Survey corridor. Plat to slightly concave damaslare at flat to slightly concave across sloke state as a classification (Leke, Area appears to have direct out as the affacent per culturers at the hydrology Moss is drive as is exuse than variagation. Mass site. Dry conditions Based on low gradient, Shallow permetrost and fine text soils (Leky Seasonally west under normal precipitations). Site of plat appears to be perennial. Swalos contents of the soils of plat appears to be perennial. Swalos contents of the swalous and survey contents and swalous and survey of the swalous and survey. The same shallow across soft and fine text soils (Leky Ioan Seasonally west under normal precipitations). Swalos contents of precipitations of plat appears to be perennial. Swalos contents of the swalous and	CITE DADAMETEDS			THE PERSON NAMED IN		
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Hydrophytic Vegetation Present? Yes No Is the Sampled Area within a Wetland? Yes No No Hydric Soil Present? Yes No Wetland Type: PSSI/MLIB  Wetland Hydrology Present? Yes No Alaska Vegetation Classification (Viereck): UCZ OWLS  Notes and Site Sketch: Please include Directional & North Arrow, Centerline, Length of feature, Distances from Centerline, Photo Locations, and Survey corridor. Flat to slightly concave downslove and flat to slightly concave across slove Site was a old placial lake. Area appears to have direct out as the adjacent per dranges (R3UBH) streams have thawed the permafrest (thermokerstray) due to the culverts at the highway. Moss is drang as is exuse tom variagation. Magnistre. Dry conditions. Based on low gradient, shallow permafrost and fine texte soils (clay loan) this area is likely seasonally west under normal precipits. Dranges on either side of plot appear to be perennial. Swales containing the same the molearstray and back-cutting, culverts installed to high creating ponding and excellented themolearstray. Islands of Owls surrounded by a network small channels and small patches of PEMIC, Islands of PSSI do not show	NATIONAL CONTRACTOR CO					The state of the s
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Notes and Site Sketch: Please include Directional & North Arrow, Centerline, Length of feature, Distances from Centerline, Photo Locations, and Survey corridor. Flat to slightly concave downslove as flat to slightly concex across slove.  Site was a old placeful lake. Area appears to have direct out as the adjacent per drinages (RBUSH) streams have thawed the permatrost (thermokarstra) due to the culverts at the highway. Moss is dring as is equise turn variagatum. Marginste. Dry conditions Based on low gradient, shallow permatrost and fine texte soils (clay loan) this area is likely seasonally wet under normal precipit Dranges on either side of plot appear to be perennial. Swales containing the same thermoleurstring and back-cutting, culverts installed to high creating ponding to small channels and small patches of Penic Islands of Pesi do not show it evidence of flooding (no sach/drift/sediment decrease).	Hydric Soil Present? Yes_	+ Marsin No	Wetland Type:	PSSI/ML	1B	
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and the state of t	corridor. Flat to slightly Site was a old place drainages (RBUBH) stree Culverts at the his site. Dry conditions. Soils (clay loan) this Drainages on either sin are thermoleursting a road and excellerate. small channels and levidence of f	concave downslove al lake. Area appearants have thawed showny. Moss is Based on low 500 s area is likely le of plot appearant back-cutting. I thermolearsting small patches o looding (no rack)	and flat.  urs to have the perm dring as dient, she seasonal to be per Culverts in f Pemic drift/se	to slightle direct of owns	hermine fund	wex across slope  as the adjacent person bearsting) due to the variagentum. Margin rost and fine textu er normal precipita s containing the so h creating ponding a unded by a network
		PUR A				
		( PSSIB and)				

VEGETATION (use scientific names of plants	The same of the sa			以1992年,1992年(1992年) 1992年 - 1992年(1992年) 1992年 - 1992年(1992年)
Tree Stratum (Plot sizes: 100 FF)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:  No. of Dominant Species that are OBL, FACW, or FAC: (A)
	1000 d 700 0 0 1	(Y/N)	Second Second	Total Number of Dominant Species Across All Strata: (A)
1				% Dominant Species that are OBL, FACW, or FAC: 100 (A/B)
2.				
3.				<b>数据的图像图像图像图像图像图像图像图像图像图像图像图像图像图像图像图像图像图像图像</b>
4.				Prevalence Index worksheet:
Total Cover				Total % Cover of: Multiply by:
50% of total cover	20	% of total cov	rer:	OBL species: X 1 =X
Sapling/Shrub Stratum ( 26 P )	Absolute % Cover	Dominant Species? (Y/N)	Indicator Status	FACW species:
1. Salix richard sonii	47	55	Fach	UPL species X 5 =
2. Salix Dulchra	60	. 4	For	Column Totals: 97 (A) 22 (B)
3. Salix reticulata	2013		Far	PI = B/A = 2 33
4. Vaccinium which osum	100		tac.	
5. Dryas integrifotia	-		Face	
6. Salix Richardsonie 855	9 055		355	
7.	,20	-		
8.				
9.	miles.			Moss is dring very dry cracked to
Total Cover	82			Prost action, Equisation variabations
50% of total cover	41 20	% of total cov	rer: 16.4	
	CONTRACTOR OF THE PARTY OF THE			
VEGETATION (use scientific names of plants	200	BEEFER!	SECONDER.	。斯里拉·阿里斯拉克克克·阿里斯斯克克斯斯克克斯斯克克斯克克斯克克斯克克斯克克斯克克斯克克斯克克斯克克斯克克
Herb Stratum ()	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Indicators:
Errophorum vaginata	1	(Y/N)	Fach	Dominance Test is > 50%
1. Pedicularis	7		Facul	Prevalence Index is ≤ 3.0
2. Stellaria longines	-		Fac	Morphological Adaptations¹ (Provide supporting data in Notes)
3. Carex baclowil	15	4	Fac	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
4. Foursetum avense	T		Fac	Indicators of hydric soil and wetland hydrology must be present unless
5. Ophicularis contato	T	-	Facel	disturbed or problematic.
6. Bistock Vivinger	-	-	T	(1915) TO 2017 (1917) (1917) (1917) (1917) (1917) (1917) (1917) (1917) (1917) (1917) (1917) (1917) (1917) (1917)
7. Perel recell	-		Fac	T-O_% Bare Ground
8. Fransetum Varenate	-		I le	% Cover of Wetland Bryophytes
9 A			301	Total Cover of Bryophytes
Saxifrasa hieracifolia			- 100	% Cover of Water
10. Petisities fraidus	+		Fach	Hydrophytic Vegetation Present (Y/N):
Pos Se T Total Cover	8		30	Notes: (If observed, list morphological adaptations below):
50% of total cover	7.5 20	% of total cov	rer:	1.4
				/ /
Dahagnom se T	. 1 1 1	1		
Bare T (fin	st boil			
14/637				

OIL								The state of the s
OIL PROFIL	E DESCRIPTION:	(Describe	to the depth neede	d to docu	ment the	indicator or	confirm the abser	ce of indicators.)
Depth	Matrix		Redox Features	4		I There		
inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Notes
5								
-3			. 7					
7-7	N4/0	82	7.5-124/6	15		m	SICL	No positive alpha alpha
95	N5/0	90	7.5-124/6	10	C	PL	S.CL	went spotty positive althou
5-12	N4/0	95	7.5+R4/C	5	C	PL	SICL	week spotts positive alpha a
								ice lenses
2-16	NS/0	95	7.5-12-4/6		C	M	SICL	verte weale, very spotty ely
Type: C=Cor	centration, D=Depl	letion, RN	M=Reduced Matrix,	CS=Cover	red or Co	ated Sand G		n: PL=Pore Lining, M=Matrix. ** 100 (cases)
IYDRIC SOIL	INDICATORS						INDICATORS	FOR PROBLEMATIC HYDRIC SOILS
listosol or His	tel (A1) N		Alaska Gleyer	d (A13) _	N		Alaska Color	Change (TA4) <sup>4</sup>
Histic Epipedo	n (A2) N		Alaska Redox	(A14)	7		Alaska Alpine	Swales (TA5)
Black Histic (A	3) N	5 10	Alaska Gleyer	d Pores (A	A15) N		Alaska Redox	with 2.5Y Hue N
Hydrogen Sulf	ide (A4) N							d without 5Y Hue or Redder Underlying
							Other (Evolui	n in Notes)
	of hydrophytic year	etation o	ne primary indicator	of wetlan	d hydrolo	nov and an	Other (Explai	cape position must be present unless
listurbed or pr		etation, o	ne primary indicator	oi wetian	iu fiyuroio	gy, and an a	appropriate lands	cape position must be present unless
Give details o	f color change in Nover (if present): Typ		^	Depth (inc		. ,		
lotes: Low	resent (Y/N): 1	ent v	naterial L	ecou Sr	n 21	arınl x	i-diments	Flet to slightly conser
Notes: Low cross s	chroma pare lope daini Did glacial	ent vo	naterial he incises/th Alpha alp	ha pos	in oli	arınl x	ich ments	First to slightly convex ages 40' on either side of 17-12" Weak reaction No
Notes: Low notes 55 5 not pit. (	chroma pare love deini Did glacial a corrently	no to lake	naterial L	ha pos	intive	acial s as feren	oz betwee	First to slightly convex ages 40° on either site of a 7-12" Weak reaction No
Notes: Low C(055 S on   Pit ( on to the HYDROLOGY	chroma pare lope de.n. Did glacial a correctly PRIMARY INDICA	Lake Lake	natorial. Le incises/th Alpha alp conditions	ha Pos sufficient)	arstine intime	acial s as feren	Y INDICATORS (	17-12" Weak scarting No
Notes: Low CC 5 5 5 NOTE	chroma pare lope deini Did glacial a correctly PRIMARY INDICA (A1) N	TORS (a	Alpha any one indicator is strace Soil Cracks (Bindation Visible on A	sufficient)	sitive	SECONDAR Vater-stained	Y INDICATORS (	2 or more required)  Stunted or Stressed
Notes: Low ACC 55 5 ALV CA FO HYDROLOGY Surface Water High Water Ta	chroma pare love dans Did glacial A correctly PRIMARY INDICA (A1) N ble (A2) N	TORS (a Sui	Alpha any one indicator is strace Soil Cracks (Bindation Visible on A	sufficient)  6) N  Perial Image	s v L L gery C	SECONDAR Vater-staine eaves (B9)	Y INDICATORS (d	2 or more required)  Stunted or Stressed Plants (D1)  Geomorphic Position (D2)  Shallow Aquitard (D3)
Notes: Low Colosis S NOTES S	chroma pare lope deini Did glacial A correctly PRIMARY INDICA (A1) N ble (A2) N	TORS (a Sui	Alpha any one indicator is strace Soil Cracks (Bindation Visible on Ar)	ha Pos sufficient) 6) N erial Imag	gery C	SECONDAR Vater-stainer eaves (B9) Orainage Pat	y INDICATORS (  d  terns (B10) N  zospheres along (C3) N  Reduced 1 66	2 or more required)  Stunted or Stressed Plants (D1)  Geomorphic Position (D2)  Shallow Aquitard (D3)  Microtopographic Small hamme
Notes: Low ACFOSS S ALVIS TO THE HYDROLOGY Surface Water High Water Ta Saturation (A3 Water Marks (I	chroma pare lope deini Did glacial A correctly PRIMARY INDICA (A1) N ble (A2) N	Sulla Sulla Sp. Co.  Ma  Hydord	any one indicator is surface Soil Cracks (Bundation Visible on Ary)  Arsely Vegetated neave Surface (B8)  In Deposits (B15)  Indrogen Sulfide or (C1)	ha Pos sufficient) 6) N erial Imag	gery C	SECONDAR Vater-stainer eaves (B9) Orainage Pativing Roots Presence of I from (C4)	y INDICATORS ( d terns (B10) N zospheres along (C3) N Reduced	2 or more required)  Stunted or Stressed Plants (D1)  Geomorphic Position (D2)  Shallow Aquitard (D3)  Microtopographic Small hamme Relief (D4)  FAC-Neutral Test (D5)
Notes: Low ACC S S ACC	chroma pare lope deine Did glacial A surrently PRIMARY INDICA (A1) N ble (A2) N B1) N	Sull Inu (B7 Sp. Co	any one indicator is strace Soil Cracks (Bondation Visible on Any Name of Soil Cracks (Bondation Visible on Any Name of Soil Cracks (Bondation Visible on Any Name of Soil Cracks (Basilla Population Control of Control of Soil Cracks (Basilla Population Control of Control of Soil Cracks (Basilla Population Control of Con	ha Pos sufficient) 6) N erial Imag	gery C	SECONDAR Vater-stainer eaves (B9) Orainage Pativing Roots Presence of I from (C4)	y INDICATORS ( d terns (B10) N zospheres along (C3) N Reduced	2 or more required)  Stunted or Stressed Plants (D1)  Geomorphic Position (D2)  Shallow Aquitard (D3)  Microtopographic Small hamme Relief (D4)  FAC-Neutral Test (D5)
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Notes: Low Algal Mat or Change Mater Carlos Saturation (A3 Mater Marks (I Sediment Deposits (A) Algal Mat or Carlos Saturation (A)	chroma pare lope drini Did glacial A correctly PRIMARY INDICA (A1) N ble (A2) N B1) N osits (B2) N (B3) N	Sull Inu (B7 Sp. Co	any one indicator is strace Soil Cracks (Bundation Visible on Ary)  Arghae Soil Cracks (Bundation Visible on Ary)	sufficient)  A pos	gery C	SECONDAR  Vater-stainer eaves (B9)  Orainage Pat  Oxidized Rhiz iving Roots Presence of I on (C4)  Salt Deposits  John Start Presence of I on (C4)	y INDICATORS (  d  terns (B10) N  zospheres along (C3) N  (C5) N  (C5) N	2 or more required)  Stunted or Stressed Plants (D1) \( \text{Plants} \)  Geomorphic Position (D2) \( \text{Plants} \)  Shallow Aquitard (D3) \( \text{Plants} \)  FAC-Neutral Test (D5) \( \text{Plants} \)  Saturation assumed
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### AQUATIC SITE ASSESSMENT DATA FORM

VEGETATION VARIABLES P= Plot, M= Matrix
Primary Vegetation Type (P):     Vegetation Lacking     Forested-Deciduous-Needle-leaved     Forested-Deciduous-Broad-leaved       Forested-Evergreen-Needle-leaved     Scrub Shrub-Deciduous-Needle-leaved     Scrub Shrub-Deciduous-Broad-leaved       Scrub Shrub-Evergreen-Broad-leaved     Scrub Shrub-Evergreen-Needle-leaved     Emergent-Non-persistent     Emergent-Non-persistent       Persistent     Aquatic Bed
Percent Cover (P): Tree (>5 dbh, >6m tall)     ○     Sapling (<5 dbh, <6m tall)
Number of Wetland Types (M): Evenness of Wetland Type Distribution (M): Even Highly Uneven Moderately even
Vegetation Density/Dominance (P): Sparse (0-20%)         Low Density (20-40%)         Medium Density (40-60%)         High Density (60-80%)
Interspersion of Cover & Open Water (P): 100% Cover or Open Water Scattered/Peripheral Cover 26-75% Scattered or Peripheral Cover N/A
Plant Species Diversity (P): Low (< 5 plant species) Medium (5-25 species) High (>25)
Presence of Islands (M): Absent (none) One or Few Several to Many N/A
Cover Distribution of Dominant Layer (P): No Veg Solitary, Scattered Stems 1 or More Large Patches; Parts of Site Open Small Scattered Patches Continuous Cover
Dead Woody Material (P): Low Abundance (0-25% of surface) Moderately Abundant (25-50% of surface) Abundant (>50% of surface)
Vegetative Interspersion (P): Low (large patches, concentric rings) Moderate (broken irregular rings) High (small groupings, diverse and interspersed)
HGM Class (P): Slope Flat Lacustrine Fringe Depressional Riverine Estaurine Fringe
SOIL VARIABLES
Soil Factors (P): Soil Lacking Histosol: Fibric Histosol: Histosol: Sapric
Mineral: Gravelly Mineral: Sandy Mineral: Silty Mineral: Clayey K
HYDROLOGIC VARIABLES  HYDROLOGIC VARIABLES
HYDROLOGIC VARIABLES  Inlet/Outlet Class (P): No Inlet/Outlet No Inlet/Intermittent Outlet No Inlet/Perennial Outlet Intermittent Inlet/No Outlet Intermittent Inlet/Intermittent Outlet Perennial Outlet Perennial Inlet/Intermittent Outlet Perennial Outlet Perennial Inlet/Intermittent Outlet Perennial Outlet Pere
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Inlet/Outlet Class (P): No Inlet/Outlet
Inlet/Outlet Class (P): No Inlet/Outlet  No Inlet/Intermittent Outlet  Intermittent Inlet/Intermittent Inlet

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#### Wetland Determination Form QA/QC Checklist

This form to be completed before leaving the field site.

Featur	e ID:WETA	1018 Field Target: 15264 Date: 7/6/15
For all	items not chec	ked, please provide detailed explanation in the notes section of data form.
•	o:: 5 ·	
1.	Site Descrip	otion
		cription, site parameters and summary of findings are complete?  ed site sketch is included in <del>logbook?</del>
2.	Vegetation	form
	At least a identification	80% of onsite vegetation has been keyed to species, or collected for later
		on names are entered legibly for all strata present?
		alculations are complete and correct? nant species have been determined and recorded per strata?
-	☑ Indicator	status is correct for each species?
	⊠ Dominar	nce Test and Prevalence Index have been completed?
3.	Soil	
		ile is complete? ate hydric soil indicators are marked?
4.	Hydrology	
		ate hydrology indicators are marked? water, water table, and saturation depths are recorded if present?
5.	Functions a	and Values
	∨egetati wetland?	on, soil, hydrologic variables, and landscape variables complete if site is a
6.	Field Logbo	ook
	accuracy	ave been recorded at each site, including general description, sketch, and y of pre-mapped wetland boundary as appropriate?
	△ Each log	book page is initialed and dated?
7.	Maps	
	The second secon	boundaries have been corrected if necessary? e initialed and dated?

#### 8. Photos

- □ Four photos were taken for each Wetland Determination Data Form (2 vegetation, 1 soil pit, 1 soil plug)?
- ☐ Two photos were taken for each Observation Point (vegetation/site overview)?

x Abigan & Four	X Mys An 7/6/15
Wetland Scientist (print)	Signature / Date
X Bream Strong	X 1/6/5 R SM
Field Crew Chief (print)	Signature / Date

Survey Type: Centerline Acce	ss Road (explain)	Other (expla	in)	Field Targ	et: 15228	Map #:23 Map Date: 6/29
Date: 7/12/15	Project Name & No.:	Alaska LNG	60418403	3	Feature Id:	W84AY019
Investigators: Bruce Str	ong Abraau	le Fis	her	**		Team No.: W84
State: Alaska	Region: Alaska	)	Milepost: 2	27.8		
Latitude: 67 26 34,16!	N	Longitude	150003	146.49	"h	Datum: WGS84
Logbook No.:	Logbook Page No.:	45	Picture No.:	P-W84	94019-V	FG VEG-PIT-PLUG
SITE PARAMETERS	A THE PARTY OF THE					
Subregion: Interior			Landform (hi	llslope, terrac	e, hummocks	, etc.): Backslope, soluflocted
Slope (%): 38 measures	Aspect: NW					onex hillslope undulati
Pre-mapped Alaska LNG/NWI classifica	ition: p554/113,	1/A2 1/c	Evidence of	Wildlife Use:	No noce	rate humocks
Are climatic/hydrologic conditions on the Yes / No (if no expl	site typical for this time lain in Notes)	of year?	Are "N Yes	ormal Circum	stances" pres	ent: lain in Notes.)
Are Vegetation, Soil, or Hyd		ly Disturbed?	No_X		lain in Notes)	
Are Vegetation, Soil, or Hyd	OCCA OF FAIL SO COMMON TO LOCATION	Problematic?	No_K	_ (If yes, exp	olaiń in Notes.	)
SUMMARY OF FINDINGS	MANUAL PROPERTY.			HIS PIECE		
Hydrophytic Vegetation Present? Yes_	No	Is t	he Sampled	Area within a	Wetland?	YesNo
Hydric Soil Present? Yes_	No X	) We	tland Type: (	)		
Wetland Hydrology Present? Yes_	/ No	Ala	ska Vegetatio	n Classification	on (Viereck):	1A3,11CZ
but no evidence of	downslope, s rate hommod ce water dis discharge, s e anerobiolie reduction, s	lightly ks. Stee charge Steeps ducing Persiste	concare PNW during ores do conditi	across facing wet pe not su ons. So. s over	slape. D slope. D riods on prort s turation the p	Undulating solifluctions love, a few sedime during spring break tagnation of water will occur periodicall-
Seepase of free was	Jeratchy wet CGLA frees SS. PICGLA = full, Shrub uni all, Good cover	, concer in the T 20-3 Euston- er of V	frost + wicro area s' tall, r of SA Acull,	sife and with a PICGLAS RHOTEK	MIK OF SUPS ALPUL, D, VACO	al saturation.

VEGETATION (use scientific names of plan	ts)			
Tree Stratum (Plot sizes: 100 Fd)	Absolute % Cover	Dominant Species? (Y/N)	Indicator Status	Dominance Test worksheet:  No. of Dominant Species that are OBL, FACW, or FAC: 4 (A)
1. Picea Mariana	7		Fach	Total Number of Dominant Species Across All Strata: (B
2. Picea akusa	4		FacU	% Dominant Species that are OBL, FACW, or FAC:(A/E
3.				The state of the s
4.			-	Prevalence Index worksheet:
Total Cove	r: 4 Ca	deled to si	rrub)	Total % Cover of: Multiply by:
50% of total cove	er: 20	% of total cov	ver:	OBL species:X1 =
Sapling/Shrub Stratum ( 264 )	Absolute % Cover	Dominant Species?	Indicator Status	FACW species: X2 = 40  FAC species X3 = 339
Salix glaven	10	(Y/N)	Fac	FACU species X 4 = 56
1. Vaccinium Wiging sum	. 35	Y	For	UPL speciesX 5 =
2. Phododerdron groenland	ASH 5	7	FOC	Column Totals: 147 (A) 435 (B)
3. Salix richardsonii	175		tack	PI = B/A = 2.96
- Dacciaium VIFS-iones	10+2555	7	Fach	Shrubs Arrhous rubor 1 Fac
The target	T			The contract of the contract o
Dasifivola Troficosa	+		Fac	Sails parties
o Mish all Cultures	7 - 855		FacU	
9. Ballaca and lace	1		Fac	Andromeda polifolia I Fach
Total Cove	r: \\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\		23	Picea glavea 218 Fact
50% of total cove	r: 57.5 20	% of total cov	ver:	AF.
VEGETATION (use scientific names of plant	ts)			CANDON NEW TRANSPORTER TO THE PROPERTY AND
Herb Stratum ( 36FF)	Absolute	Dominant	Indicator	Hydrophytic Vegetation Indicators:
	% Cover	Species?	Status	Dominance Test is > 50%
1. Casax bicalouis	30	(Y/N)	Y	Prevalence Index is ≤ 3.0
Concessions	1	-/-	Fac	Morphological Adaptations¹ (Provide supporting data in
3. Cover surposea			Fac U	Notes) Problematic Hydrophytic Vegetation¹ (Explain)
4 ~				Problematic Hydrophytic Vegetation (Explain)     Indicators of hydric soil and wetland hydrology must be present unless.
5. Consetum Scirpoides			FacU	disturbed or problematic.
6.C. L. Vaginata	anger /		Fac	
6. Calemogrostis canadensis 7. Perola asenfolia			12 V	% Bare Ground
8.			Facel	% Cover of Wetland Bryophytes
9.				
10.				% Cover of Water
1000	20			Hydrophytic Vegetation Present (Y/N):
Total Cove		20/ - 11-1-1	14	Notes: (If observed, list morphological adaptations below):
50% of total cove	er:\ 20	% of total cov	ver: 6.1	Feather Moss 40 Liehen 20 Moss 35

SOIL			Date F	eature ID				Soil Pit Required (Y/N)_	
	FILE DESCRIPTION: (	THE LABOR.	the Daylord	THE RESERVE AND ADDRESS.	nent the	indicator or o	confirm the abser		
	Matrix	Describe	Redox Features	d to docum	none tho	indicator or t	l l l l l l l l l l l l l l l l l l l		
Depth (inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Notes	
0.5	Color (moist)	70	Color (moist)	- 10	1,500			Moist	_
5-7	10-12/2	C61					SIL	Sandar Suturated	
7 0	1072 3/1	100					Vf Sa L	saturated No posidio	1.0
7	1016 371	100					0122	reaction to alphe a	
1-16	10763/2	80					SIL	creaturbated A. Ban	
120	107e 2/2	20					312	insterial, Organic f	
	Wife The	20						INCOPPERATED. No posi	)
Type: C=C	Concentration, D=Depl	etion, RN	M=Reduced Matrix,	CS=Cover	ed or Co	ated Sand G	arains. <sup>2</sup> Locatio	n: PL=Pore Lining, M=Matrix I plu	
	OIL INDICATORS			YELLER	4			FOR PROBLEMATIC HYDRIC SOI	
Histosol or I	Histel (A1)		Alaska Gleye	d (A13)	N		Alaska Color	Change (TA4) <sup>4</sup>	1000
	edon (A2)		Alaska Redox		2			Swales (TA5)	
water of the later	(A3) N		Alaska Gleye		15) ^	)	CONTRACTOR OF STREET	with 2.5Y Hue	
	Sulfide (A4)		7				CONTRACTOR OF STREET	d without 5Y Hue or Redder Underlyi	ng
							Layer		
	Surface (A12) N						Other (Expla	n in Notes) cape position must be present unless	
Hydric Soil Notes: 5 a	Present (Y/N): // tration from	wette n pe enr 1	Soil on bench or restant or name oron	pit overall ains	1, hi	I a we I side Here I	is slight	e- micro/local relief ly convex down slotte ats. No mucky mine Dox features observe	concav
Hydric Soil  Notes: 5 c	Present (Y/N):  toration from  1. Fibric - n  action to	Wetre n pe ear l	Soil on beach or resestent or nemic oron alpha dipi	pit overal ains nic m	1. h.	I side the t -3"der	is slight est 5 o p). No re g conditu	or features observe ns. 38% slope NW	concav
Hydric Soill Sonce So Notes: Se nateria Do (Co	Present (Y/N):  A Solution  Listation from  Listation from  Listation from  Company indication  Company in	TORS (a	Soil on beach restant re name organ alpha dipi	pit Overal ains in rid-1.	1, h.	la we lside the l 3"der educin	is slight est 5 d P) No re conditions Y INDICATORS	14 convex down slotted ats. No much mines box features observe ns. 38% slope NW 2 or more required)	concav
Hydric Soill Notes: Se Nateria	Present (Y/N):  toration from  1. Fibric - n  action to	TORS (a	Soil on beach or resestent or nemic oron alpha dipi	pit Overal ains in rid-1.	1, h:	I side the t -3"der	rs slight	or features observe ns. 38% slope NW	concav
Hydric Soill Son Sold Notes: Sana ferin Notes: HydroLoc Surface Wa High Water	Present (Y/N):  to a solution  to a	TORS (2	Soil Son beach or significant or on alpha diprimary one indicator is a race Soil Cracks (Bundation Visible on A	pit	1, h:	SECONDAR Vater-stained eaves (B9)	rs slight	2 or more required)  Stunted or Stressed	concar al
Hydric Soil Notes: Sanaferia Nateria HydroLoc Surface Wa	Present (Y/N):  tration from  L. F. briz - A  CY PRIMARY INDICA  ster (A1) N	Sur Inu (B7	Soil Son beach or significant or on alpha diprimary one indicator is a race Soil Cracks (Bundation Visible on A	sufficient)	Justin 1. his over	ECONDAR Vater-staine eaves (B9)	Y INDICATORS  d  tterns (B10) A)  zospheres along	2 or more required)  Stunted or Stressed Plants (D1)  Geomorphic Position (D2)  Shallow Aquitard (D3)	concav al
Hydric Soill Notes: Sa HYDROLOG Surface Wa High Water Saturation (	Present (Y/N):  tration from  tration from  tration from  Color fr	TORS (a Sun Inu (B7 Co)	alpha dipi iny one indicator is inface Soil Cracks (B indation Visible on A incave Surface (B8) in Deposits (B15)	sufficient)	Justin 1, his over and (. No constitution of the constitution of t	ECONDAR Vater-stainer eaves (B9)	Y INDICATORS  d  tterms (B10) W  zospheres along (C3) W  Reduced	2 or more required)  Stunted or Stressed Plants (D1)  Geomorphic Position (D2)	De la
Hydric Soill Notes: Saturation ( Water Mark:	Present (Y/N):  tration from  tration from  tration from  Color fr	TORS (a Sui Inu (B7 Spa Con Ma Hyv Od	any one indicator is:  face Soil Cracks (B  material Visible on A  carsely Vegetated  facave Surface (B8)  rl Deposits (B15)  drogen Sulfide  or (C1)	pit	SS V V L L L L L L L L L L L L L L L L L	ECONDAR Vater-stained eaves (B9) Orainage Pationing Roots Presence of Iron (C4)	Y INDICATORS  d  zospheres along (C3)  Reduced	2 or more required)  Stunted or Stressed Plants (D1)  Shallow Aquitard (D3)  Microtopographic waters	De la
Hydric Soil Notes: Je Notes: Je HYDROLOG Surface Wa High Water Saturation ( Water Mark: Sediment D	GY PRIMARY INDICA  tter (A1) N  Table (A2) N  s (B1) N  reposits (B2) N	TORS (a Suil Inu (B7 Coi Ma Hycod	and bench of the state of the s	pit	S S V L L L L L L L L L L L L L L L L L	ECONDAR Vater-stained eaves (B9) Drainage Pate Dividized Rhiziving Roots Presence of Iron (C4) Calt Deposits Rotes:	Y INDICATORS  d  zospheres along (C3)  Reduced  (C5)  M  A mount  face with	Stunted or Stressed Plants (D1)  Shallow Aquitard (D3)  Microtopographic malera Relief (D4)  FAC-Neutral Test (D5)  Afree water second  Least table. Severa	De sol
Hydric Soil Notes: Je Notes: Je HYDROLOG Surface Wa High Water Saturation ( Water Mark: Sediment D Drift Deposi	GY PRIMARY INDICA  tter (A1) N  Table (A2) N  s (B1) N  reposits (B2) N	SurTORS (a Sur Inu (B7 Spp. Cool Ma Hywa	any one indicator is inface Soil Cracks (Bundation Visible on Any)  The Deposits (B15)	pit	SS V V L L L L L L L L L L L L L L L L L	ECONDAR Vater-stained eaves (B9) Orainage Pationing Roots Pron (C4) Salt Deposits Hotels Hote	Y INDICATORS  d  zospheres along (C3)  Reduced  III amount face with stert re-	Stunted or Stressed Plants (D1)  Shallow Aquitard (D3)  Microtopographic reserved Relief (D4)  FAC-Neutral Test (D5)  Afree water secretary  of free water secretary  the past 5 day	De la
Hydric Soil Notes: Je Notes: Je HYDROLOG Surface Wa High Water Saturation ( Water Mark: Sediment D Drift Deposi	Table (A2)  S (B1)  Present (Y/N):  A Solution  From Control  From	SurTORS (a Sur Inu (B7 Spp. Cool Ma Hywa	an bench  resistant  r	pit	SS V V L L L L L L L L L L L L L L L L L	ECONDAR Vater-stained eaves (B9) Orainage Pationing Roots Pron (C4) Salt Deposits Hotels Hote	Y INDICATORS  d  zospheres along (C3)  Reduced  (C5)  Il amount face with start rei	Stunted or Stressed Plants (D1)  Shallow Aquitard (D3)  Microtopographic reserve  FAC-Neutral Test (D5)  Afree water secre  frost table. Severa	De sol
Hydric Soil Notes: Samuel Control Notes: Sam	Table (A2)  S (B1)  Present (Y/N):  A Solution  From Color of the Colo	SurTORS (a Sur Inu (B7 Spp. Cool Ma Hywa	an bench  resistant  r	pit	SS V V L L L L L L L L L L L L L L L L L	ECONDAR Vater-stained eaves (B9) Orainage Pationing Roots Pron (C4) Salt Deposits Hotels Hote	Y INDICATORS  d  zospheres along (C3)  Reduced  III amount face with stert re-	Stunted or Stressed Plants (D1)  Shallow Aquitard (D3)  Microtopographic reserve  FAC-Neutral Test (D5)  Afree water secre  frost table. Severa	De sol
Hydric Soil Notes: Sa HYDROLOG Surface Wa High Water Saturation ( Water Mark: Sediment D Drift Deposit Algal Mat or Iron Deposit	GY PRIMARY INDICA  ter (A1)  Table (A2)  S (B1)  Peposits (B2)  Torust (B4)  Ter Present (Y/N):   Ter Present (Y/N	SurTORS (a Sur Inu (B7 Spp. Cool Ma Hywa	any one indicator is inface Soil Cracks (Bundation Visible on Any)  arsely Vegetated incave Surface (B8)  If Deposits (B15)  Grogen Sulfide or (C1)  Season iter Table (C2)  Depth (in):	pit	los in the loss in	ECONDAR Vater-stainer eaves (B9) Drainage Pat Dxidized Rhiziving Roots Presence of Iron (C4) Calt Deposits Rotes:	Y INDICATORS  d  zospheres along (C3)  Reduced  III amount face with stert re-	Stunted or Stressed Plants (D1)  Shallow Aquitard (D3)  Microtopographic March Relief (D4)  FAC-Neutral Test (D5)  Afree water second  A free water second	De sol
Hydric Soil Notes: Sa HYDROLOG Surface Wa High Water Saturation (A) Water Mark: Sediment D Drift Deposit Algal Mat or Iron Deposit Surface Wa Water Table Saturation F	GY PRIMARY INDICA  ter (A1)  Table (A2)  S (B1)  Peposits (B2)  Torust (B4)  Ter Present (Y/N):   Ter Present (Y/N	TORS (a Sur Inu (B7 Spa Cor Ma Hydro Odr Wa	any one indicator is a face Soil Cracks (Bundation Visible on Any arsely Vegetated incave Surface (B8) and Deposits (B15) drogen Sulfide or (C1) for (C2) for (Explain in Notes (Explain in Note	pit  oral  sufficient)  for N  merial Image  N	S S V L L L L L L L L L L L L L L L L L	ECONDAR Vater-stained eaves (B9) Drainage Pate Dividized Rhiziving Roots Presence of Iron (C4) Salt Deposits Hotel Advantage Pate Iron (C4) Salt Deposits Hotel Advantage Pate Iron (C4) Hotel	Y INDICATORS  d  terms (B10) A  zospheres along (C3) A  A  III amount face with stent rei recondition for this	Stunted or Stressed Plants (D1)  Shallow Aquitard (D3)  Microtopographic March Relief (D4)  FAC-Neutral Test (D5)  Afree water second  A free water second	De sold

### AQUATIC SITE ASSESSMENT DATA FORM

VEGETATION VARIABLES P= Plot, N	M= Matrix
Forested-Evergreen-Needle-leaved	acking Forested-Deciduous-Needle-leaved Forested-Deciduous-Broad-leaved Scrub Shrub-Deciduous-Needle-leaved Scrub Shrub-Deciduous-Broad-leaved Scrub Shrub-Evergreen-Needle-leaved Emergent-Non-persistent_ Emergent-
Percent Cover (P): Tree (>5 dbh, >6m tall)_ Dwarf shrub (<0.5m) Tall herb (≥1	Sapling (<5 dbh, <6m tall)
	Evenness of Wetland Type Distribution (M): EvenHighly UnevenModerately even
Vegetation Density/Dominance (P): Sparse 80%) Very High Density (80-100%)	(0-20%) Low Density (20-40%) Medium Density (40-60%) High Density (60-
Interspersion of Cover & Open Water (P): Peripheral Cover > 15% Scattered	100% Cover or Open Water <25% Scattered/Peripheral Cover 26-75% Scattered or ed or Peripheral Cover N/A
Plant Species Diversity (P): Low (< 5 plant	species) Medium (5-25 species) High (>25)
Presence of Islands (M): Absent (none) _	One or Few Several to Many N/A
Cover Distribution of Dominant Layer (P): Open Small Scattered Patches_	No Veg Solitary, Scattered Stems 1 or More Large Patches; Parts of Site Continuous Cover
Dead Woody Material (P): Low Abundance Abundant (>50% of surface)	(0-25% of surface) Moderately Abundant (25-50% of surface)
Vegetative Interspersion (P): Low (large High (small groupings, diverse and interspers	e patches, concentric rings) Moderate (broken irregular rings)
HGM Class (P): Slope Flat	Lacustrine Fringe Depressional Riverine Estaurine Fringe
SOIL VARIABLES	
Soil Factors (P): Soil Lacking Mineral: Gravelly Mineral: Sandy	
HYDROLOGIC VARIABLES	
Inlet/Outlet Class (P): No Inlet/Outlet	t Outlet Intermittent Inlet/Perennial Outlet Perennial Inlet/No Outlet Perennial
Outlet Class (P): No Inlet/Outlet Outlet Intermittent Inlet/Intermittent Inlet/Intermittent Inlet/Intermittent Outlet Perennial Invertigation (P): Drier: Seas Wet: Perm. Flooded, Intermittently Exposed,	t Outlet Intermittent Inlet/Perennial Outlet Perennial Inlet/No Outlet Perennial Inlet/Perennial Outlet Perennial Inlet/No Outlet Perennial Inlet/Perennial Inlet/No Outlet Perennial Inlet/No Outlet
Inlet/Outlet Class (P): No Inlet/Outlet Outlet Intermittent Inlet/Intermittent Inlet/Intermittent Outlet Perennial In Wetland Water Regime (P): Drier: Seas Wet: Perm. Flooded, Intermittently Exposed, Evidence of Sedimentation (P): No Eviden	t Outlet Intermittent Inlet/Perennial Outlet Perennial Inlet/No Outlet Perennial Inlet/Perennial Outlet Perennial Inlet/Perennial Outlet Perennial Inlet/Perennial Inlet/No Outlet Perennial Inlet/Perennial Inlet/Perennial Inlet/No Outlet Perennial Inlet/Perennial Inle
Outlet Class (P): No Inlet/Outlet Outlet Intermittent Inlet/Intermittent Inlet/Intermittent Inlet/Intermittent Outlet Perennial Invertigation (P): Drier: Seas Wet: Perm. Flooded, Intermittently Exposed,	t Outlet Intermittent Inlet/Perennial Outlet Perennial Inlet/No Outlet Perennial Inlet/Perennial Outlet Perennial Inlet/Perennial Inlet/Perennial Inlet/Perennial Inlet/Perennial Inlet/Perennial Inlet/No Outlet Perennial Inlet/No Outlet Pere
Inlet/Outlet Class (P): No Inlet/Outlet Outlet Intermittent Inlet/Intermittent Inlet/Intermittent Outlet Perennial In Wetland Water Regime (P): Drier: Seas Wet: Perm. Flooded, Intermittently Exposed, Evidence of Sedimentation (P): No Eviden Created Microrelief of Wetland Surface (P): Absent	t Outlet Intermittent Inlet/Perennial Outlet Perennial Inlet/No Outlet Perennial Inlet/Perennial Outlet Perennial Inlet/Perennial Inlet/Perennial Inlet/Perennial Inlet/Perennial Inlet/Perennial Inlet/Perennial Inlet/No Outlet Perennial Inlet/No Outlet Perennial Inlet/No Outlet Perennial Inlet/Perennial Inlet/Perennial Inlet/Perennial Inlet/Perennial Inlet/Perennial Inlet/Perennial Inlet/No Outlet Perennial Inlet/No
Inlet/Outlet Class (P): No Inlet/Outlet Outlet Intermittent Inlet/Intermittent Inlet/Intermittent Outlet Perennial In Wetland Water Regime (P): Drier: Seas Wet: Perm. Flooded, Intermittently Exposed, Evidence of Sedimentation (P): No Eviden Created Microrelief of Wetland Surface (P): Absent Frequency of Overbank Flooding (P): No O Return Interval >5 yrs  Degree of Outlet Restriction (P): No Outflow	t Outlet Intermittent Inlet/Perennial Outlet Perennial Inlet/No Outlet Perennial Inlet/Perennial Outlet Perennial Inlet/Perennial Inlet/Perennial Inlet/Perennial Inlet/Perennial Inlet/Perennial Inlet/Perennial Inlet/No Outlet Perennial Inlet/Perennial Inlet/Perennial Inlet/No Outlet Perennial Inlet/Perennial Inlet/Perennial Inlet/Perennial Inlet/Perennial Inlet/Perennial Inlet/No Outlet Perennial Inlet/Perennial Inlet/Perennial Inlet/No Outlet Perennial Inlet/Perennial Inle
Inlet/Outlet Class (P): No Inlet/Outlet Outlet Intermittent Inlet/Intermittent Inlet/Intermittent Outlet Perennial in Wetland Water Regime (P): Drier: Seas Wet: Perm. Flooded, Intermittently Exposed, Evidence of Sedimentation (P): No Eviden Created Microrelief of Wetland Surface (P): Absent Frequency of Overbank Flooding (P): No O Return Interval >5 yrs  Degree of Outlet Restriction (P): No Outflow Water pH (P): No surface water O	t Outlet Intermittent Inlet/Perennial Outlet Perennial Inlet/No Outlet Perennial Inlet/Perennial Outlet Perennial Inlet/Perennial Outlet Perennial Inlet/Perennial Outlet Perennial Inlet/Perennial Inlet/Perennial Inlet/No Outlet Perennial Inlet/Perennial Inlet/Perennial Inlet/No Outlet Perennial Inlet/Perennial Inlet/Perennial Inlet/No Outlet Perennial Inlet/
Inlet/Outlet Class (P): No Inlet/Outlet Outlet Intermittent Inlet/Intermittent Inlet/Intermittent Outlet Perennial In Wetland Water Regime (P): Drier: Seas Wet: Perm. Flooded, Intermittently Exposed, Evidence of Sedimentation (P): No Eviden Created Microrelief of Wetland Surface (P): Absent Frequency of Overbank Flooding (P): No One Return Interval >5 yrs Degree of Outlet Restriction (P): No Outflood Water pH (P): No surface water One Surficial Geologic Deposit Under Wetland Glacial Till/Not Permeable	t Outlet Intermittent Inlet/Perennial Outlet Perennial Inlet/No Outlet Perennial Inlet/Perennial Outlet Perennial Inlet/Perennial Inlet/Perennial Inlet/Perennial Inlet/Perennial Inlet/Perennial Inlet/Perennial Inlet/No Outlet Perennial Inlet/Perennial Inlet/Perennial Inlet/No Outlet Perennial Inlet/Perennial Inlet/Perennial Inlet/Perennial Inlet/No Outlet Perennial Inlet/Perennial Inlet/Perennial Inlet/No Outlet Perennial Inlet/No Outlet Perennial Inlet/No Outlet Perennial Inlet/No Outlet Perennial Inlet/Perennial Inlet/Perennial Inlet/No Outlet Perennial Inlet/No Outlet Pere
Inlet/Outlet Class (P): No Inlet/Outlet Outlet Intermittent Inlet/Intermittent Inlet/Intermittent Outlet Perennial In Wetland Water Regime (P): Drier: Seas Wet: Perm. Flooded, Intermittently Exposed, Evidence of Sedimentation (P): No Eviden Created Microrelief of Wetland Surface (P): Absent Frequency of Overbank Flooding (P): No Created Degree of Outlet Restriction (P): No Outflow Water pH (P): No surface water Constitution of the proposit Under Wetland Glacial Till/Not Permeable	t Outlet Intermittent Inlet/Perennial Outlet Perennial Inlet/No Outlet Perennial Inlet/Perennial Outlet Perennial Inlet/Perennial Outlet Perennial Inlet/Perennial Outlet Perennial Inlet/Perennial Inlet/Perennial Outlet Perennial Inlet/Perennial Inlet/Perennial Inlet/Perennial Inlet/Perennial Inlet/Perennial Inlet/Perennial Inlet/Perennial Inlet/No Outlet Perennial Inlet/Perennial Inlet/Perennial Inlet/No Outlet Perennial Inlet/Perennial Inlet/Perennial Inlet/Perennial Inlet/No Outlet Perennial Inlet/Perennial Inlet/Perennial Inlet/No Outlet Perennial Inlet/No O
Inlet/Outlet Class (P): No Inlet/Outlet Outlet Intermittent Inlet/Intermittent Inlet/Intermittent Outlet Perennial In Wetland Water Regime (P): Drier: Seas Wet: Perm. Flooded, Intermittently Exposed, Evidence of Sedimentation (P): No Eviden Created Microrelief of Wetland Surface (P): Absent Frequency of Overbank Flooding (P): No Created Degree of Outlet Restriction (P): No Outflow Water pH (P): No surface water Comparison of Compa	t Outlet Intermittent Inlet/Perennial Outlet Perennial Inlet/No Outlet Perennial Inlet/Perennial Outlet Perennial Inlet/Perennial Outlet Perennial Inlet/Perennial Outlet Perennial Inlet/Perennial Inlet
Inlet/Outlet Class (P): No Inlet/Outlet Outlet Intermittent Inlet/Intermittent Inlet/Intermittent Outlet Perennial in Wetland Water Regime (P): Drier: Seas Wet: Perm. Flooded, Intermittently Exposed, Evidence of Sedimentation (P): No Eviden Created Microrelief of Wetland Surface (P): Absent Frequency of Overbank Flooding (P): No One Return Interval >5 yrs  Degree of Outlet Restriction (P): No Outflow Water pH (P): No surface water Constitution Surficial Geologic Deposit Under Wetland Glacial Till/Not Permeable Basin Topographic Gradient (M): Low Evidence of Seeps and Springs (P): No Second	t OutletIntermittent Inlet/Perennial OutletPerennial Inlet/No OutletPerennial Inlet/Perennial OutletPerennial OutletPerennial Inlet/Perennial OutletPerennial OutletPerennial Inlet/Perennial OutletPerennial Inlet/Perennial Inlet
Inlet/Outlet Class (P): No Inlet/Outlet Outlet Intermittent Inlet/Intermittent Inlet/Intermittent Outlet Perennial In Wetland Water Regime (P): Drier: Seas Wet: Perm. Flooded, Intermittently Exposed, Evidence of Sedimentation (P): No Eviden Created Microrelief of Wetland Surface (P): Absent Frequency of Overbank Flooding (P): No Outlook Return Interval >5 yrs Degree of Outlet Restriction (P): No Outflook Water pH (P): No surface water Outlook Surficial Geologic Deposit Under Wetland Glacial Till/Not Permeable Basin Topographic Gradient (M): Low Evidence of Seeps and Springs (P): No Sec LANDSCAPE VARIABLES (M) Wetland Juxtaposition: Wetland Isolate Only Connected Above Connected	t Outlet
Inlet/Outlet Class (P): No Inlet/Outlet Outlet	t Outlet
Inlet/Outlet Class (P): No Inlet/Outlet Outlet Intermittent Inlet/Intermittent Inlet/Intermittent Outlet Perennial Inlet/Intermittent Outlet Intermittent	t Outlet
Inlet/Outlet Class (P): No Inlet/Outlet Outlet	t Outlet Intermittent Inlet/Perennial Outlet Perennial Inlet/No Outlet Perennial Inlet/Perennial Inlet/

Page 4 of 4

### Wetland Determination Form QA/QC Checklist

This form to be completed before leaving the field site.

	The state of the s
Feature	ID: W84 AT 019 Field Target: 15228 Date: 7/12/15 ems not checked, please provide detailed explanation in the notes section of data form.
	Para Para Para Para Para Para Para Para
	Site Description
	Site description, site parameters and summary of findings are complete?  A detailed site sketch is included in logbook?
2.	Vegetation
	At least 80% of onsite vegetation has been keyed to species, or collected for later identification?
	▼ Vegetation names are entered legibly for all strata present?
	Cover calculations are complete and correct?  All dominant species have been determined and recorded per strata?
	Indicator status is correct for each species?  Dominance Test and Prevalence Index have been completed?
3.	Soil
	<ul><li>Soil profile is complete?</li><li>☑ Appropriate hydric soil indicators are marked?</li></ul>
4.	Hydrology
	<ul> <li>Appropriate hydrology indicators are marked?</li> <li>Surface water, water table, and saturation depths are recorded if present?</li> </ul>
5.	Functions and Values
	Vegetation, soil, hydrologic variables, and landscape variables complete if site is a wetland?
6.	Field Logbook
	Notes have been recorded at each site, including general description, sketch, and accuracy of pre-mapped wetland boundary as appropriate?
	■ Each logbook page is initialed and dated?
7.	920.00
	Wetland boundaries have been corrected if necessary?

Maps are initialed and dated?

#### 8. Photos

Four photos were taken for each Wetland Determination Data Form (2 vegetation, 1 soil pit, 1 soil plug)?

Two photos were taken for each Observation Point (vegetation/site overview)?

X Migaur Visher X May And Alass
Wetland Scientist (print) Signature / Date

Field (row Chief (roint)

Field Crew Chief (print)

Signature / Date

SITE DESCRIPTION  Survey Type: Centerline   Acc	cess Road (explain) C	Other (explain)	Field Target	14230	Map #: 22 M	ap Date: C/29
Date: 7/10/16	Project Name & No.: A			eature Id:	[ JEWAY	ap Date.
Investigators: 7	rona Abiao				Team No.:	00
State: Alaska	Region: Alaska	Milepost	0 -		W	07
Latitude: (27° 21' 12.0	-01	Longitude: \<	2001/1	7111.)	Datum: WGS84	1
Logbook No.:	Logbook Page No.: 4		10: P-W89	A4090		EG-PILPO
SITE PARAMETERS				Total Control of the		
	ighlands	Landform	(hillslope, terrace,	hummocks,	etc.): Terrac	c 2 wtc/
Slope (%): 1-2 %	GRIANES		ef (concave, convex		The Late of the La	
Pre-mapped Alaska LNG/NWI classifi	cation: 0654/172 111		of Wildlife Use:			8 17
Are climatic/hydrologic conditions on t	the site typical for this time of	f year? Are	"Normal Circumsta	ances" prese	ent:	Sanite!
Yes No (if no ex	oplain in Notes) Several de	uts of rain Yes	sX No	(If no, expl	ain in Notes.)	
	lydrology Significantly	Disturbed? No_	(If yes, explain			
Are Vegetation, Soil, or H	lydrology Naturally Pro	oblematic? No_	(If yes, explai	in in Notes.)		
SUMMARY OF FINDINGS	· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·	A STATE OF THE STA	P. Comment		
Hydrophytic Vegetation Present? Yes	No	Is the Sample	ed Area within a W	/etland?	Yes	_ No_ X '
Hydric Soil Present? Yes	NoX	Wetland Type	e: ()	White	Serve	Sailsound
Wetland Hydrology Present? Yes	No_X	- Alaska Vegeta	ation Classification	(Viereck): \	AZ IINI	The CAME
Senttered willow (4-6 nd Elymus tractenulus		ATOZO U,II AT	R3USH R3	J. A	4020 WOF	1
1911	11	na ste				

Absolute

Dominant

Indicator

**Dominance Test worksheet:** 

VEGETATION (use scientific names of plants)

Tree Stratum (Plot sizes: 100 Pl)

Tree Stratum (Plot sizes:	% Cover	Species? (Y/N)	Status	No. of Dominant Species that are OBL, FACW, or FAC:(A)
1. Picea davia	17	7	FACO	Total Number of Dominant Species Across All Strata: (B)
2.			1	% Dominant Species that are OBL, FACW, or FAC:(A/B)
3.		2 1		
4.				Prevalence Index worksheet:
Total Cover	17			Total % Cover of: Multiply by:
50% of total cover	: 20	% of total cov	/er:	OBL species:X 1 =
Sapling/Shrub Stratum ( 36 4 )	Absolute	Dominant	Indicator	FACW species: X 2 = 24
	% Cover	Species?	Status	FAC species 7 x 3 = 5\
A	70	(Y/N)		FACU species
1. Drugs integritatio	57	7	FACU	UPL species
2. Dasiphora futicosa	4.		Fac	Column Totals: 129 (A) 483 (B)
3. Arctous rulaer	5.		Fac	PI = B/A = 3.74
4. Picea glavec	20	. 4	FACU	
5. Vaccinim winingsum	7		Fac	/
6. Juniperus compunis	7		UPL	
7. Salix interior	12		Fach	
8. Shecherdia canadensis	7		FacU	
9. Arctostachules war ur	61 .		UPL	
Total Cover	93			
50% of total cover	: 46.5 20	% of total cov	rer: 18.C	
VEGETATION (use scientific names of plants				
VEGETATION TUSE SCIENTING HATTES OF Plants				等的。(可是此次通过了我处理的)。 第一
		Dominant	Indicator	Hydrophytic Vegetation Indicators:
Herb Stratum ( )	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Indicators:  Dominance Test is > 50%
Herb Stratum ( 24 1)	Absolute	- Care Control Control	Status	Hydrophytic Vegetation Indicators:  Dominance Test is > 50%  Prevalence Index is ≤ 3.0
1. Festurea alaica	Absolute	Species?	Status	Dominance Test is > 50%
1. Feetura alfaica 2. Hedysarum alpinam	Absolute	Species?	Status FACU FacU	Dominance Test is > 50%  Prevalence Index is ≤ 3.0
1. Festurea alaica	Absolute	Species?	Status	Dominance Test is > 50%  Prevalence Index is ≤ 3.0  Morphological Adaptations¹ (Provide supporting data in
1. Feetura alfaica 2. Hedysarum alpinam	Absolute % Cover	Species?	Status FACU FacU	Dominance Test is > 50%  Prevalence Index is ≤ 3.0  Morphological Adaptations¹ (Provide supporting data in Notes)  Problematic Hydrophytic Vegetation¹ (Explain)  Indicators of hydric soil and wetland hydrology must be present unless
1. Festura alfarca 2. Hedysarum alpinum 3. Anemone providera	Absolute % Cover	Species?	Status FACU FacU	Dominance Test is > 50%  Prevalence Index is ≤ 3.0  Morphological Adaptations¹ (Provide supporting data in Notes)  Problematic Hydrophytic Vegetation¹ (Explain)
1. Festure allarca 2. Hedysarum alpinum 3. Anemone provibis 4. Soildogo multiradiat	Absolute % Cover	Species?	FACU FACU FACU FACU FACU	Dominance Test is > 50%  Prevalence Index is ≤ 3.0  Morphological Adaptations¹ (Provide supporting data in Notes)  Problematic Hydrophytic Vegetation¹ (Explain)  Indicators of hydric soil and wetland hydrology must be present unless
1. Festures alfaica 2. Hedusarum alpinam 3. Anemone provibra 4. Soildogo multiradiad 5. Zzadans elegans	Absolute % Cover	Species?	FACU FACU FACU FACU TACU UPL	Dominance Test is > 50%  Prevalence Index is ≤ 3.0  Morphological Adaptations¹ (Provide supporting data in Notes)  Problematic Hydrophytic Vegetation¹ (Explain)  Indicators of hydric soil and wetland hydrology must be present unless
1. Festurea alterca 2. Hedusarum alpinum 3. Anemone providora 4. Soildogo multiradiad 5. Zzadans elegans 6. Geocoulon Inidum	Absolute % Cover	Species?	FACU FACU FACU FACU FACU FACU FACU FACU	Dominance Test is > 50%  Prevalence Index is ≤ 3.0  Morphological Adaptations¹ (Provide supporting data in Notes)  Problematic Hydrophytic Vegetation¹ (Explain)  ¹ Indicators of hydric soil and wetland hydrology must be present unless disturbed or problematic.
1. Fectures alfaica.  2. Hedusarum alpinam  3. Anemone providora  4. Soilagao multiration  5. Zrandans elegans  6. Geocoulon Ividyma  7. Carey and the concept	Absolute % Cover	Species?	FACU FACU FACU FACU FACU FACU FACU FACU	Dominance Test is > 50%  Prevalence Index is ≤ 3.0  Morphological Adaptations¹ (Provide supporting data in Notes)  Problematic Hydrophytic Vegetation¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present unless disturbed or problematic.  Mean Series S
1. Festures altaica  2. Hedusarum alpinum  3. Anemone provitora  4. Soildogo multiradiad  5. Zisadanis elegani  6. Geocoulon lividum  7. Carey antima concis  8. Carey se  9. Carey scirpoida	Absolute % Cover	Species?	FACU FACU FACU FACU FACU FACU FACU FACU	Dominance Test is > 50%  Prevalence Index is ≤ 3.0  Morphological Adaptations¹ (Provide supporting data in Notes)  Problematic Hydrophytic Vegetation¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present unless disturbed or problematic.   Bare Ground  We Cover of Wetland Bryophytes  Total Cover of Bryophytes  Cover of Water
1. Fectures alfaica.  2. Hedusarum alpinum  3. Anemone providora  4. Soildogo multiration  5. Zroadans elesans  6. Geoconion Irritum  7. Carex and concis  8. Carex se	Absolute % Cover	Species?	FACU FACU FACU FACU FACU FACU FACU FACU	Dominance Test is > 50%  Prevalence Index is ≤ 3.0  Morphological Adaptations¹ (Provide supporting data in Notes)  Problematic Hydrophytic Vegetation¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present unless disturbed or problematic.  Bare Ground  We Cover of Wetland Bryophytes  Total Cover of Bryophytes  Cover of Water  Hydrophytic Vegetation Present (Y/N):
1. Fectures alfaica.  2. Hedusarum alpinam  3. Anemone providora  4. Soildogo multiration  5. Zrandans elegans  6. Geocoulon Ividyma  7. Carey The Concus  8. Carey Sciepoida  10. Senecio SD. (Issens.)	Absolute % Cover	Species?	FACU FACU FACU FACU FACU FACU FACU FACU	Dominance Test is > 50%  Prevalence Index is ≤ 3.0  Morphological Adaptations¹ (Provide supporting data in Notes)  Problematic Hydrophytic Vegetation¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present unless disturbed or problematic.   Bare Ground  We Cover of Wetland Bryophytes  Total Cover of Bryophytes  Cover of Water
1. Festures allarca  2. Hedusarum alpinum  3. Anemone providora  4. Soildogo multiradiad  5. Zroadans elegans  6. Geocoulon Irridum  7. Carey and Eigens  8. Carey Scirpoida  10. Senecio SD. (Issens?)  Total Cover	Absolute % Cover	Species? (Y/N)	FACU FACU FACU FACU FACU FACU FACU FACU	Dominance Test is > 50%  Prevalence Index is ≤ 3.0  Morphological Adaptations¹ (Provide supporting data in Notes)  Problematic Hydrophytic Vegetation¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present unless disturbed or problematic.  Bare Ground  We Cover of Wetland Bryophytes  Total Cover of Bryophytes  Cover of Water  Hydrophytic Vegetation Present (Y/N):
1. Festures allarca  2. Hedusarum alpinum  3. Anemone providora  4. Soildogo multiradia  5. Zzadans elesans  6. Geocoulon lividum  7. Carey enterior  8. Carey sc  9. Carey scirpoida  10. Senecio SD. (lissens?)  Total Cover	Absolute % Cover	Species? (Y/N)	FACU FACU FACU FACU FACU FACU FACU FACU	Dominance Test is > 50%  Prevalence Index is ≤ 3.0  Morphological Adaptations¹ (Provide supporting data in Notes)  Problematic Hydrophytic Vegetation¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present unless disturbed or problematic.   Bare Ground  We Cover of Wetland Bryophytes  Total Cover of Bryophytes  Cover of Water  Hydrophytic Vegetation Present (Y/N):

Depth	Matrix		Redox Features					
nches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Notes
-1					3.4.1			- Colores
-2	545/1	99	25,5/6	1	-	m	uf Sa L	
- 3	burned De		157611	I	DT	24		
-95	5-15/1	96	25,516	3	C	M	J FSEL	
			5-16/11	11	DI	PLT		
15-h	575/2	100					Lfsa	
-22	5-15/2	100					VURSENZ	River savel and sand
ype: C=Co	oncentration, D=Depl	etion, RM	M=Reduced Matrix, (	CS=Cove	ered or Coa	ted Sand Gra	ains. <sup>2</sup> Location	: PL=Pore Lining, M=Matrix.
YDRIC SOI	IL INDICATORS	Walley or	Charles of the			STATE OF THE STATE	INDICATORS	FOR PROBLEMATIC HYDRIC SOILS
	istel (A1)		Alaska Gleyed	d (A13) _	N		Alaska Color C	change (TA4) <sup>4</sup> _
stic Epiped	lon (A2)		Alaska Redox	(A14) _	2		Alaska Alpine	Swales (TA5)
ack Histic (	A3)		Alaska Gleyed	Pores (	A15)	)	Alaska Redox	with 2.5Y Hue N
ydrogen Su	Iffide (A4)		7	- 1			Alaska Gleyed Layer N	without 5Y Hue or Redder Underlying
	urface (A12)						Other (Explain	in Notes) ape position must be present unless
sturbed or p live details	oroblematic. of color change in No ayer (if present): Typ	otes.			nches):^			
ydric Soil F	Present (Y/N):	N						
	Present (Y/N):	Ν	F.					
otes:			1	sufficient	SI	ECONDARY	INDICATORS (2	or more required)
otes:	Y PRIMARY INDICA	TORS (a	1		W	ECONDARY dater-stained eaves (B9)		or more required).  Stunted or Stressed Plants (D1)
yDROLOG	Y PRIMARY INDICA	TORS (a	any one indicator is s rface Soil Cracks (Boundation Visible on A	6) N	W Le	ater-stained eaves (B9)		Stunted or Stressed Plants (D1)
YDROLOG urface Water	Y PRIMARY INDICA	Su Inu (B7	any one indicator is s rface Soil Cracks (Boundation Visible on A	6) N erial Ima	gery Dr	ater-stained eaves (B9) rainage Patte	erns (B10)	Stunted or Stressed Plants (D1)
YDROLOG urface Water igh Water T aturation (A	Y PRIMARY INDICA er (A1) \( \bar{\alpha} \) Table (A2) \( \bar{\alpha} \)	Su Su Inu (B7 Spp. Co	any one indicator is surface Soil Cracks (Bundation Visible on A	erial Ima	gery Dr	dater-stained eaves (B9) rainage Patte xidized Rhizo	orms (B10) ospheres along c3) educed	Stunted or Stressed Plants (D1)  Geomorphic Position (D2)
YDROLOG urface Water igh Water T aturation (A	Y PRIMARY INDICA er (A1) \( \bar{\alpha} \) Table (A2) \( \bar{\alpha} \)	Su Inu (B7 Sp. Co	any one indicator is surface Soil Cracks (Boundation Visible on A 2) warsely Vegetated ncave Surface (B8)	erial Ima	gery Dr O: Lin	dater-stained eaves (B9) rainage Patte xidized Rhizo ving Roots (Coresence of Re	orns (B10) pspheres along c3) educed	Stunted or Stressed Plants (D1)  Geomorphic Position (D2)  Shallow Aquitard (D3)  Microtopographic
YDROLOG urface Water gh Water T aturation (A	Y PRIMARY INDICA er (A1) \( \bar{\alpha} \) Table (A2) \( \bar{\alpha} \) (B1) \( \bar{\alpha} \) posits (B2) \( \bar{\alpha} \)	Su Inu (B7 Sp. Co Ma Hydrodd Dry	any one indicator is surface Soil Cracks (Buildation Visible on A rassely Vegetated incave Surface (B8) and Deposits (B15)	erial Ima	gery Dr Or Lin Pr Irc	rainage Patter xidized Rhizo ving Roots (Cresence of Re on (C4) alt Deposits (Cotes:	orns (B10) pspheres along c3) educed	Stunted or Stressed Plants (D1)  Geomorphic Position (D2)  Shallow Aquitard (D3)  Microtopographic Relief (D4)
YDROLOG urface Water igh Water T aturation (A' rater Marks ediment Deposits	Y PRIMARY INDICA er (A1) \( \bar{\alpha} \) Table (A2) \( \bar{\alpha} \) (B1) \( \bar{\alpha} \) posits (B2) \( \bar{\alpha} \)	Suu Inu (B7 Sp. Co Ma Hyy Odd Dry Wa	any one indicator is surface Soil Cracks (Buindation Visible on A r)	erial Ima	gery Dr Or Lin Pr Irc	rainage Patter xidized Rhizo ving Roots (Cresence of Re on (C4) alt Deposits (Cotes:	erms (B10) espheres along c3) educed	Stunted or Stressed Plants (D1)  Geomorphic Position (D2)  Shallow Aquitard (D3)  Microtopographic Relief (D4)
YDROLOG urface Water igh Water T aturation (A' atter Marks ediment Deposits	Y PRIMARY INDICA  or (A1) \( \bar{\lambda} \)  fable (A2) \( \bar{\lambda} \)  (B1) \( \bar{\lambda} \)  posits (B2) \( \bar{\lambda} \)  Crust (B4) \( \bar{\lambda} \)	Suu Inu (B7 Sp. Co Ma Hyy Odd Dry Wa	any one indicator is surface Soil Cracks (Beandation Visible on Argument of Ar	erial Ima	gery Dr Or Lin Pr Irc	rainage Patter xidized Rhizo ving Roots (Cresence of Re on (C4) alt Deposits (Cotes:	erms (B10) espheres along c3) educed	Stunted or Stressed Plants (D1)  Geomorphic Position (D2)  Shallow Aquitard (D3)  Microtopographic Relief (D4)
yDROLOG urface Water igh Water T aturation (A /ater Marks ediment Deposits lgal Mat or (con Deposits	Y PRIMARY INDICA  or (A1) \( \bar{\lambda} \)  fable (A2) \( \bar{\lambda} \)  (B1) \( \bar{\lambda} \)  posits (B2) \( \bar{\lambda} \)  Crust (B4) \( \bar{\lambda} \)	Suu Inu (B7 Sp. Co Ma Hyy Odd Dry Wa	any one indicator is surface Soil Cracks (Brandation Visible on Arr)  arsely Vegetated incave Surface (B8)  arr Deposits (B15)  drogen Sulfide or (C1)  y-Season atter Table (C2)  arr (Explain in Notes	erial Ima	gery Dr Or Lin Pr Irc	rainage Patter xidized Rhizo ving Roots (Cresence of Re on (C4) alt Deposits (Cotes:	erms (B10) espheres along c3) educed	Stunted or Stressed Plants (D1)  Geomorphic Position (D2)  Shallow Aquitard (D3)  Microtopographic Relief (D4)
yDROLOG urface Water igh Water T aturation (A /ater Marks ediment Deposits lgal Mat or (con Deposits urface Water	Y PRIMARY INDICA  or (A1) \( \text{A1} \)  fable (A2) \( \text{N} \)  (B1) \( \text{N} \)  posits (B2) \( \text{N} \)  Crust (B4) \( \text{N} \)  or Present (Y/N): \( \text{N} \)	Suu Inu (B7 Sp. Co Ma Hyy Odd Dry Wa	any one indicator is surface Soil Cracks (Beandation Visible on Argument of Ar	erial Ima	gery Dr Co: Lin Pr Iro	rainage Patter xidized Rhizo ving Roots (Coresence of Recon (C4)	erms (B10) espheres along c3) educed	Stunted or Stressed Plants (D1)  Geomorphic Position (D2)  Shallow Aquitard (D3)  Microtopographic Relief (D4)  FAC-Neutral Test (D5)
yDROLOG urface Water igh Water T aturation (A ater Marks ediment Deposits igal Mat or C on Deposits urface Water fater Table F	Y PRIMARY INDICA  or (A1)	Suu Inu (B7 Sp. Co Ma Hyy Odd Dry Wa	any one indicator is surface Soil Cracks (Brandation Visible on Arthur Programme Control of the	erial Ima	gery Dr  Contact Income	rainage Patter xidized Rhizo ving Roots (Coresence of Recon (C4)	erns (B10) No pepheres along (C3) No pepheres along (C5) No pepheres (C5	Stunted or Stressed Plants (D1)  Geomorphic Position (D2)  Shallow Aquitard (D3)  Microtopographic Relief (D4)  FAC-Neutral Test (D5)
WDROLOG  urface Water ligh Water T  aturation (A  Vater Marks  ediment Deposits  ligal Mat or (Con Deposits  urface Water  Vater Table F  aturation Pro	Y PRIMARY INDICA  or (A1) \( \bar{\sqrt{\sq}\sqrt{\sq}}}}}}}}\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sin}}}}}}}}}\signt{\sqrt{\sqrt{\sq}\sign{\sqrt{\sint{\sint\signgta\qqc{\sign}\sqrt{\sint{\sind{\sint{\sint{\sint{\sinces\sq}}}}}}}	Suu Inu (B7 Sp. Co Ma Hyy Odd Dry Wa	any one indicator is surface Soil Cracks (Be indation Visible on A indation Visible on A indicator Visible on A indicator Surface (B8) and Deposits (B15) and Deposits (B15) and Deposits (B15) are (Explain in Notes in Depth (in):	erial Ima	gery Dr  Contact Income	rainage Patter xidized Rhizo ving Roots (Coresence of Recon (C4)	erns (B10) No pepheres along (C3) No pepheres along (C5) No pepheres (C5	Stunted or Stressed Plants (D1)  Geomorphic Position (D2)  Shallow Aquitard (D3)  Microtopographic Relief (D4)  FAC-Neutral Test (D5)

US 14 1020

### AQUATIC SITE ASSESSMENT DATA FORM

Primary Vegetation Type (P): Vegetation Lacking Forested-Deciduous-Needle-leaved Forested-Deciduous-Broad-leaved Forested-Evergreen-Needle-leaved Scrub Shrub-Deciduous-Needle-leaved Scrub Shrub-Deciduous-Broad-leaved Scrub Shrub-Evergreen-Needle-leaved_ Emergent-Non-persistent Aquatic Bed
Percent Cover (P): Tree (>5 dbh, >6m tall)         Sapling (<5 dbh, <6m tall)         Tall shrub (2-6m)         Short shrub (0.5-2m)           Dwarf shrub (<0.5m)
Number of Wetland Types (M): Evenness of Wetland Type Distribution (M): EvenHighly UnevenModerately even
Vegetation Density/Dominance (P): Sparse (0-20%)         Low Density (20-40%)         Medium Density (40-60%)         High Density (60-80%)           80%)         Very High Density (80-100%)         High Density (60-80%)         High Density (60-80%) <t< td=""></t<>
Interspersion of Cover & Open Water (P): 100% Cover or Open Water <25% Scattered/Peripheral Cover 26-75% Scattered or Peripheral Cover N/A
Plant Species Diversity (P): Low (< 5 plant species) Medium (5-25 species) High (>25)
Presence of Islands (M): Absent (none) One or Few Several to Many N/A
Cover Distribution of Dominant Layer (P): No Veg. Solitary, Scattered Steps 1 or More Large Patches; Parts of Site Open Small Scattered Patches Continuous Cover 1
Dead Woody Material (P): Low Abundance (0-25% of surface) Moderately Abundant (25-50% of surface) Abundant (>50% of surface)
Vegetative Interspersion (P): Low (large patches, concentric rings) Moderate (broken irregular rings) High (small groupings, diverse and interspersed)
HGM Class (P): Slope Flat Lacustrine Fringe Depressional Riverine Estaurine Fringe
SOIL VARIABLES  Soil Factors (P): Soil Lacking Histosol:Fibric Histosol:Hemic Histosol: Sapric
Mineral: Gravelly Mineral: Sandy Mineral: Silty Mineral: Clayey
HYDROLOGIC VARIABLES
Inlet/Outlet Class (P): No Inlet/Outlet No Inlet/Intermittent Outlet No Inlet/Perennial Outlet Intermittent Inlet/No
Outlet Intermittent Inlet/Intermittent Outlet Intermittent Inlet/Perennial Outlet Perennial
Inlet/Intermittent Outlet Perennial Inlet/Perennial Inlet
Inlet/Intermittent Outlet Perennial Inlet/Perennial Outlet  Wetland Water Regime (P): Drier: Seasonally Flooded, Temporarily Flooded, Saturated
Inlet/Intermittent Outlet
Wetland Water Regime (P): Drier: Seasonally Flooded, Temporarily Flooded, Saturated Wet: Perm. Flooded, Intermittently Exposed, Semiperm. Flooded
Wetland Water Regime (P): Drier: Seasonally Flooded, Temporarily Flooded, Saturated Wet: Perm. Flooded, Intermittently Exposed, Semiperm. Flooded  Evidence of Sedimentation (P): No Evidence Observed Sediment Observed on Wetland Substrate Fluvaquent Soils Sediment Created
Wetland Water Regime (P): Drier: Seasonally Flooded, Temporarily Flooded, Saturated
Wetland Water Regime (P):
Wetland Water Regime (P): Drier: Seasonally Flooded, Temporarily Flooded, Saturated
Wetland Water Regime (P):
Wetland Water Regime (P):       Drier: Seasonally Flooded, Temporarily Flooded, Saturated         Wet: Perm. Flooded, Intermittently Exposed, Semiperm. Flooded         Evidence of Sedimentation (P): No Evidence Observed       Sediment Observed on Wetland Substrate       Fluvaquent Soils Sediment         Created         Microrelief of Wetland Surface (P): Absent       Poorly Developed (6in.)       Well Developed (6-18in.)       Pronounced (>18in.)         Frequency of Overbank Flooding (P): No Overbank Flooding       Return Interval 1-2 yrs       Return Interval 2-5 yrs         Return Interval >5 yrs         Degree of Outlet Restriction (P): No Outflow       Restricted Outflow       Unrestricted Outflow         Water pH (P): No surface water       Circumneutral (5.5-7.4)       Alkaline (>7.4)       Acid (<5.5)
Wetland Water Regime (P):       Drier: Seasonally Flooded, Temporarily Flooded, Saturated         Wet: Perm. Flooded, Intermittently Exposed, Semiperm. Flooded         Evidence of Sedimentation (P): No Evidence Observed       Sediment Observed on Wetland Substrate       Fluvaquent Soils Sediment Created         Microrelief of Wetland Surface (P): Absent       Poorly Developed (6in.)       Well Developed (6-18in.)       Pronounced (>18in.)         Frequency of Overbank Flooding (P): No Overbank Flooding       Return Interval 1-2 yrs       Return Interval 2-5 yrs         Degree of Outlet Restriction (P): No Outflow       Restricted Outflow       Unrestricted Outflow         Water pH (P): No surface water       Circumneutral (5.5-7.4)       Alkaline (>7.4)       Acid (<5.5)
Wetland Water Regime (P):       Drier: Seasonally Flooded, Temporarily Flooded, Saturated         Wet: Perm. Flooded, Intermittentty Exposed, Semiperm. Flooded       Sediment Observed on Wetland Substrate       Fluvaquent Soils Sediment         Evidence of Sedimentation (P): No Evidence Observed       Sediment Observed on Wetland Substrate       Fluvaquent Soils Sediment         Created       Microrelief of Wetland Surface (P): Absent       Poorly Developed (6in.)       Well Developed (6-18in.)       Pronounced (>18in.)         Frequency of Overbank Flooding (P): No Overbank Flooding       Return Interval 1-2 yrs       Return Interval 2-5 yrs         Degree of Outlet Restriction (P): No Outflow       Restricted Outflow       Unrestricted Outflow         Water pH (P): No surface water       Circumneutral (5.5-7.4)       Alkaline (>7.4)       Acid (<5.5)
Wetland Water Regime (P):       Drier:       Seasonally Flooded, Temporarily Flooded, Saturated         Wet:       Perm. Flooded, Intermittently Exposed, Semiperm. Flooded         Evidence of Sedimentation (P):       No Evidence Observed       Sediment Observed on Wetland Substrate       Fluvaquent Soils Sediment Created         Microrelief of Wetland Surface (P):       Absent       Poorly Developed (6in.)       Well Developed (6-18in.)       Pronounced (>18in.)         Frequency of Overbank Flooding (P):       No Overbank Flooding       Return Interval 1-2 yrs       ReturnInterval 2-5 yrs         Return Interval >5 yrs       Degree of Outlet Restriction (P):       No Outflow       Restricted Outflow       Unrestricted Outflow         Water pH (P):       No surface water       Circumneutral (5.5-7.4)       Alkaline (>7.4)       Acid (<5.5)       pH Reading         Surficial Geologic Deposit Under Wetland (P):       High Permeability Stratified Deposits       Low Permeability Stratified Deposits         Glacial Jil/Not Permeable       Basin Topographic Gradient (M):       Low Gradient (<2%)       High Gradient (≥2%)         Evidence of Seeps and Springs (P):       No Seeps or Springs       Seeps Observed       Intermittent Spring       Perennial Spring         LANDSCAPE VARIABLES (M)         Wetland Juxtaposition:       Wetland Isolated       Wetlands within 400m, Not Connected       Only Connected B
Wetland Water Regime (P): Drief: Seasonally Flooded, Temporarily Flooded, Saturated   Wetland Water Regime (P): Drief: Seasonally Flooded, Temporarily Flooded   Sediment Observed   Sediment Observed on Wetland Substrate   Fluvaquent Soils Sediment Created   Fluvaquent Soils Sediment Observed   Sediment Observed on Wetland Substrate   Fluvaquent Soils Sediment Observed   Sediment Observed on Wetland Substrate   Fluvaquent Soils Sediment Observed   Sediment Observed on Wetland Substrate   Fluvaquent Soils Sediment Observed   Sediment Observed on Wetland Substrate   Fluvaquent Soils Sediment Observed   Sediment Observed on Wetland Substrate   Fluvaquent Soils Sediment Observed   Sediment Observed on Wetland Substrate   Fluvaquent Soils Sediment Observed   S

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### Wetland Determination Form QA/QC Checklist

This form to be completed before leaving the field site.

Featu	re ID: W84 /	97020 Field Target: 15230 Date: 7/12/15
For a	ll items not chec	ked, please provide detailed explanation in the notes section of data form.
1.	. Site Descrip	otion
	Site descorate A detaile	cription, site parameters and summary of findings are complete?  d site sketch is included in legbook?
2.	Vegetation	form
	At least 8 identifica	30% of onsite vegetation has been keyed to species, or collected for later tion?
	Cover ca	on names are entered legibly for all strata present? Iculations are complete and correct?
	Indicator	ant species have been determined and recorded per strata? status is correct for each species?
		ce Test and Prevalence Index have been completed?
3.	Soil	
		e is complete? ate hydric soil indicators are marked?
4.	Hydrology	
	Appropria	te hydrology indicators are marked? vater, water table, and saturation depths are recorded if present?
5.	Functions ar	nd Values
	☑ Vegetatio wetland?	n, soil, hydrologic variables, and landscape variables complete if site is a
6.	Field Logboo	ok
	☑ Notes have	ve been recorded at each site, including general description, sketch, and
	accuracy	of pre-mapped wetland boundary as appropriate? ook page is initialed and dated?
7.	Maps	
	Wetland b	oundaries have been corrected if necessary? initialed and dated?

#### 8. Photos

Four photos were taken for each Wetland Determination Data Form (2 vegetation, 1 soil pit, 1 soil plug)?

Two photos were taken for each Observation Point (vegetation/site overview)?

Wetland Scientist (print)

Wetland Scientist (print)

Signature / Date

1 Brean Otron

Field Crew Chief (print)

Signature / Date

SITE DESCRIPTION			ALC: NO.	
Survey Type: Centerline X Acce	ss Road (explain)O	ther (explain)	Field Target: 15229	Map #: 22 Map Date: 6/29
Date: 7/12/15	Project Name & No.: Al	aska LNG 60418403	Feature Id:	W84A4021
Investigators: Bryan St.	ona, Abigo	ille Fishe		Team No.: ( ) gr
State: Alaska	Region: Alaska	Milepost:	26.8	0
Latitude: 67 27 12.88	W. I	Longitude: 150°0	2'29.99"W	Datum: WGS84
Logbook No.:		6 Picture No.:	P_W84AY021_	VEG VEG PIT PLUG
SITE PARAMETERS	A THE PART WHEN			
Subregion: Interior		Landform (hill	slope, terrace, hummocks	s, etc.): Gulch - Terrace
Slope (%): 27 measured A	spect N	Local relief (c	oncave, convex, none):	on care, hummoeley-mo
Pre-mapped Alaska LNG/NWI classifica	0		Vildlife Use: Jame	
Are climatic/hydrologic conditions on the Yes No (if no exp	e site typical for this time of lain in Notes)		ormal Circumstances" pres	
Are Vegetation, Soil, or Hyd	drology Significantly I	Disturbed? No 🔀	(If yes, explain in Notes)	
Are Vegetation, Soil, or Hyd	drology Naturally Pro	blematic? No.X	(If yes, explain in Notes	)
SUMMARY OF FINDINGS				
Hydrophytic Vegetation Present? Yes_	X No	Is the Sampled A	rea within a Wetland?	YesNoX
Hydric Soil Present? Yes_	No	Wetland Type:	)	
Wetland Hydrology Present? Yes_	X No	Alaska Vegetation	Classification (Viereck):	11A3,11CZ
Notes and Site Sketch: Please include Corridor. Most Hy PICGLA TSPARCE UNDERSTORY. 14 All upland between  A1021 U,11A3.11C2	Russe of sold	795. Trees 2	s-45' tall Su senching down	th

VEGETATION (use scientific names of plants	s)			
Tree Stratum (Plot sizes: \(\)\(\)\(\)\(\)	Absolute % Cover	Dominant Species? (Y/N)	Indicator Status	Dominance Test worksheet:  No. of Dominant Species that are OBL, FACW, or FAC:(A)
1. Proen Marana	T	(3333)	FacW	Total Number of Dominant Species Across All Strata:(B)
2. Picea glavea	5		FOLU	% Dominant Species that are OBL, FACW, or FAC: 160 (A/B)
3.			1000	CANNEL CONTRACTOR OF THE SECOND
4.				Prevalence Index worksheet:
Total Cover		idded to	e shrub l	Total % Cover of: Multiply by:
50% of total cover	T	% of total cov	T.	OBL species:X1 =
Sapling/Shrub Stratum ( H. + )	% Cover	Dominant Species? (Y/N)	Indicator Status	FACW species:
1. Salit richardsonii	9		Fach	UPL speciesX 5 =
2. Anadadendron groen	macom	0 7.	Fac	Column Totals: 90 (A) 290 (B)
3. Vaccoum wigneson	10	Y	Fac	PI = B/A = 3,2
4. Satix reticulata	T		Fac	Alvus viridis sy fraticosa 4 Fac
5. Drugs integritalia	2		Faco	Vaccinium vitis idaea T Fac
6. Saltx pulchra	1		Fach	Arctous suber 3 Fac
7. Sala alcurca	<del>                                      </del>		Facl	
8. Andromeda politolia	+		Fac	Picea Mariana 3 Fach Picea glavea 10 Yes Fach
Total Cover	57		Fac	
50% of total cover	28.5 20	% of total cov	rer: 11.4	
VEGETATION (use scientific names of plants	s)			
Herb Stratum ( 2697 )	Absolute % Cover	Dominant Species? (Y/N)	Indicator Status	Hydrophytic Vegetation Indicators:  Dominance Test is > 50%
1. Carex birrelying	25	Y	Fac	Prevalence Index is ≤ 3.0
2. Bistorta vivigara	T	-	Fac	Morphological Adaptations¹ (Provide supporting data in Notes)
3. Carex scirpoidea	12		Face	Problematic Hydrophytic Vegetation (Explain)
4. Cassions tetraciona	T	The state of the s	Face	<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present unless
5. Festica altarca	1		Fac	disturbed or problematic.
6. Lavisation arrense	5		Fac	
7. Equisetum scippoides	T	J.	FacU	% Bare Ground
8. Totaldia sp.	T			% Cover of Wetland Bryophytes
9. Calamagrostis canadense	5 7		Fac	Total Cover of Bryophytes
10. Carex membranacea	-		Fach	Cover of Water
Frophorom reginal Total Cover	e las	% of total cov		Hydrophytic Vegetation Present (Y/N):  Notes: (If observed, list morphological adaptations below):  Mos s  Feather Mass 60  Licher 25  Sphanny

			Date Feati	ure ID			Soil Pit Required (Y/N)
SOIL PROFIL	LE DESCRIPTION:	(Describe	to the depth needed to	document	the indicator	or confirm the absen	nce of indicators.)
	Matrix		Redox Features				
Depth (inches)	Color (moist)	%	Color (moist)	% Typ	e¹ Loc²	Texture	Notes
Accessed to	Color (Hoist)	/6	Color (moist)	70 Typ	6   100	fibric	710.00
0-2.5							_
2.5-4	10-12 2/2	85				hemic	
4-9	10-12 2/2 10-72 4/2	83				UFSAL	
9-10	2.572-5/1	100				MKSIL	Saturatut
10-11,5	10-12-4/3	20				NFSAL	Saturated
11.5-16	10-123/1	90				VFSal	frozen permafrost
1	10-11-4/2	10				2 2	No positive reaction to
		letion, RN	M=Reduced Matrix, CS=	=Covered o	r Coated San		n: PL=Pore Lining, M=Matrix.
HYDRIC SOI	L INDICATORS				North Harris	The state of the s	FOR PROBLEMATIC HYDRIC SOIL
Histosol or Hi	istel (A1) N	-).:	Alaska Gleyed (A	(13) _ ()	_	Alaska Color	Change (TA4) <sup>4</sup> N
Histic Epiped	on (A2) N		Alaska Redox (A	14) _ N		Alaska Alpine	Swales (TA5) _ N
Black Histic (A	A3) \		Alaska Gleyed Po	ores (A15)	N	Alaska Redox	x with 2.5Y Hue N
Hydrogen Sul	lfide (A4)					Alaska Gleyer Layer	d without 5Y Hue or Redder Underlying
Thick Dark Si	urface (A12) _ N					Other (Explain	n in Notes)
	Present (Y/N):			tion framework	of free	+ persiste	nt rains (past 5 days) ring over the frost to
Hydric Soil P					of free	t persiste water see a reaction.	nt rains (past 5 days) ring over the frost to
Hydric Soil P Notes:	Present (Y/N):	N		tion fr amount iture a		t persisted water see a reaction.	
Hydric Soil P Notes:	Present (Y/N):	ATORS (&	Satura SMAM & No posi	tion from amount it we a	SECOND	ARY INDICATORS (	
Hydric Soil P Notes:  HYDROLOGY Surface Wate High Water Ta	Y PRIMARY INDICA	Sui Inu (B7	Satura SMAM of No posi- any one indicator is suffi- rface Soil Cracks (B6) ndation Visible on Aeria	tion from the amount it we a dicient)	SECOND. Water-stal Leaves (B	Patterns (B10)	2 or more required) Stunted or Stressed
Hydric Soil P Notes:  HYDROLOGY Surface Wate	Y PRIMARY INDICA	Sur Inu (B7	Satura SMAM of No posi any one indicator is suffi reface Soil Cracks (B6) ndation Visible on Aeria	tion from the amount of the a dicient)	SECONDA Water-stal Leaves (B Drainage	ARY INDICATORS (	2 or more required)  Stunted or Stressed Plants (D1)  Geomorphic Position (D2)  Shallow Aquitard (D3)
Hydric Soil P Notes:  HYDROLOGY Surface Wate High Water Ta	Present (Y/N):  Y PRIMARY INDICA  or (A1)  able (A2)  3)  *	Sull Inu (B7 Spi	s mall a No posi  any one indicator is suffi  face Soil Cracks (B6) _  ndation Visible on Aeria  )  arsely Vegetated	tion from the amount of the a dicient)	SECONDA Water-stal Leaves (B Drainage Oxidized F Living Roc	Patterns (B10)	2 or more required)  Stunted or Stressed Plants (D1)  Geomorphic Position (D2)
Hydric Soil P Notes:  HYDROLOGY Surface Water High Water Ta Saturation (A: Water Marks	Present (Y/N):  Y PRIMARY INDICA  or (A1)  able (A2)  3)  *	Sul Inu (B7 Sp. Co	small a No posi  iny one indicator is suffi  face Soil Cracks (B6)  ndation Visible on Aeria  )  arsely Vegetated ncave Surface (B8)	tion from the amount of the a dicient)	SECONDA Water-stal Leaves (B Drainage Oxidized F Living Roc Presence Iron (C4)	Patterns (B10)	2 or more required)  Stunted or Stressed Plants (D1)  Geomorphic Position (D2)  Shallow Aquitard (D3)  Microtopographic Relief (D4)  FAC-Neutral Test (D5)
Hydric Soil P Notes:  HYDROLOGY Surface Water High Water Ta Saturation (A: Water Marks	Present (Y/N):  Y PRIMARY INDICA  er (A1)  fable (A2)  (B1)  posits (B2)	Suinum (B7 Sp. Co. Ma Hyr Od	small a possion possio	tion from the amount of the a dicient)	SECONDA Water-stal Leaves (B Drainage Oxidized F Living Roc Presence Iron (C4)	Patterns (B10)	2 or more required)  Stunted or Stressed Plants (D1)  Geomorphic Position (D2)  Shallow Aquitard (D3)  Microtopographic Relief (D4)  FAC-Neutral Test (D5)
Hydric Soil P Notes:  HYDROLOGY Surface Water High Water Ta Saturation (A: Water Marks ( Sediment Dep	Present (Y/N):  Y PRIMARY INDICA  er (A1)  fable (A2)  (B1)  posits (B2)	Sul Inu (B7 Sp. Co	iny one indicator is sufficiency one indicator is sufficiency visible on Aeria (a) arsely vegetated incave Surface (B8) or Deposits (B15) or C(C1) or Season	tion from the amount of the a dicient)	SECONDA Water-stal Leaves (B Drainage Oxidized F Living Roc Presence Iron (C4)	Patterns (B10)	2 or more required)  Stunted or Stressed Plants (D1)  Geomorphic Position (D2)  Shallow Aquitard (D3)  Microtopographic rederate Relief (D4)
Hydric Soil P Notes:  HYDROLOGY Surface Water High Water Ta Saturation (A: Water Marks ( Sediment Dep	Present (Y/N):  Y PRIMARY INDICA  er (A1)  able (A2)  (B1)  posits (B2)  Crust (B4)	Sul Inu (B7 Sp. Co	small and passion pass	tion from the amount of the a dicient)	SECONDA Water-stal Leaves (B Drainage Oxidized F Living Roc Presence Iron (C4)	Patterns (B10)	2 or more required)  Stunted or Stressed Plants (D1)  Geomorphic Position (D2)  Shallow Aquitard (D3)  Microtopographic Relief (D4)  FAC-Neutral Test (D5)
Hydric Soil P Notes:  HYDROLOGY Surface Water High Water Ta Saturation (A: Water Marks Sediment Dep Drift Deposits Algal Mat or C Iron Deposits	Present (Y/N):  Y PRIMARY INDICA  er (A1)  able (A2)  (B1)  posits (B2)  Crust (B4)	Sul Inu (B7 Sp. Co	small and passion pass	tion from the amount of the a dicient)	SECONDA Water-stal Leaves (B Drainage Oxidized F Living Roc Presence Iron (C4) Salt Depo	Patterns (B10) N Patterns (B10) N Phizospheres along of Reduced Sits (C5) N mell amount st table due N Past 5	Stunted or Stressed Plants (D1)  Geomorphic Position (D2)  Shallow Aquitard (D3)  Microtopographic rederate Relief (D4)  FAC-Neutral Test (D5)  Face water seepers of the cent persistent Jance
Hydric Soil P Notes:  HYDROLOGY Surface Water High Water Ta Saturation (A Water Marks Sediment Dep Drift Deposits Algal Mat or C Iron Deposits Surface Water	Present (Y/N):	Sul Inu (B7 Sp. Co	any one indicator is sufficient face Soil Cracks (B6)	tion from the amount of the a dicient)	SECONDA Water-stal Leaves (B Drainage Oxidized F Living Roc Presence Iron (C4) Salt Depo	Patterns (B10)	Stunted or Stressed Plants (D1)  Geomorphic Position (D2)  Shallow Aquitard (D3)  Microtopographic rederate Relief (D4)  FAC-Neutral Test (D5)  Face water seepers of the cent persistent Jance

### AQUATIC SITE ASSESSMENT DATA FORM

VEGETATION VARIABLES P= Plot, M= Matrix
Primary Vegetation Type (P): Vegetation Lacking Forested-Deciduous-Needle-leaved Forested-Deciduous-Broad-leaved Forested-Evergreen-Needle-leaved_ Scrub Shrub-Deciduous-Broad-leaved_ Scrub Shrub-Deciduous-Broad-leaved_ Scrub Shrub-Evergreen-Needle-leaved_ Emergent-Non-persistent_ Emergent-Persistent_ Aquatic Bed
Percent Cover (P): Tree (>5 dbh, >6m tall)         Sapling (<5 dbh, <6m tall)         Tall shrub (2-6m)         Short shrub (0.5-2m)           Dwarf shrub (<0.5m)
Number of Wetland Types (M):
Vegetation Density/Dominance (P): Sparse (0-20%) Low Density (20-40%) Medium Density (40-60%) High Density (60-80%) Very High Density (80-100%)
Interspersion of Cover & Open Water (P): 100% Cover or Open Water
Plant Species Diversity (P): Low (< 5 plant species) Medium (5-25 species) High (>25)
Presence of Islands (M): Absent (none) One or Few Several to Many N/A
Cover Distribution of Dominant Layer (P): No Veg Solitary, Scattered Stems 1 or More Large Patches; Parts of Site Open Small Scattered Patches Continuous Cover
Dead Woody Material (P): Low Abundance (0-25% of surface) Moderately Abundant (25-50% of surface) Abundant (>50% of surface)
Vegetative Interspersion (P):       Low (large patches, concentric rings)       Moderate (broken irregular rings)         High (small groupings, diverse and interspersed)
HGM Class (P): Slope Flat Lacustrine Fringe Depressional Riverine Estaurine Fringe
SOIL VARIABLES
Soil Factors (P): Soil Lacking Histosol: Fibric Histosol: Hemic Histosol: Sapric Mineral: Gravelly Mineral: Sandy Mineral: Silty Mineral: Clayey
HYDROLOGIC VARIABLES
Inlet/Outlet Class (P): No Inlet/Outlet
Wetland Water Regime (P): Drier: Seasonally Flooded, Temporarily Flooded, Saturated Wet: Perm. Flooded, Intermittently Exposed, Semiperm. Flooded
Evidence of Sedimentation (P): No Evidence Observed Sediment Observed on Wetland Substrate Fluvaquent Soils Sediment Created
Microrelief of Wetland Surface (P): Absent Poorly Developed (6in.) Well Developed (6-18in.) Pronounced (>18in.)
Frequency of Overbank Flooding (P): No Overbank Flooding Return Interval 1-2 yrs Return Interval 2-5 yrs Return Interval >5 yrs
Degree of Outlet Restriction (P): No Outflow Restricted Outflow Unrestricted Outflow
Water pH (P): No surface water Circumneutral (5.5-7.4) Alkaline (>7.4) Acid (<5.5) pH Reading pH Reading
Surficial Geologic Deposit Under Wetland (P): High Permeability Stratified Deposits Low Permeability Stratified Deposits Glacial Till/Not Permeable
Basin Topographic Gradient (M):       Low Gradient (<2%)
LANDSCAPE VARIABLES (M)
Wetland Juxtaposition:       Wetland Isolated Wetlands within 400m, Not Connected Only Connected Below         Only Connected Above Connected Upstream & Downstream Unknown
Wetland Land Use: High Intensity (i.e., ag.) Moderate Intensity (i.e., forestry) Low Intensity (i.e. open space)
Watershed Land Use:         0-5% Rural
Size: Small (<10 acres) Medium (10-100 acres) Large (>100 acres)
Crew Chief OA/OC check: All // GPS Technician OA/OC check: All //

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### Wetland Determination Form QA/QC Checklist

This form to be completed before leaving the field site.

Featu	re ID: W84 A	1021 Field Target: 15 229 Date: 7/12/15
		ked, please provide detailed explanation in the notes section of data form.
1.	Site Descrip	tion
	Site desc	ription, site parameters and summary of findings are complete?  d site sketch is included in logbook?
2.	Vegetation	form
* ,	identificat  Vegetatio  Cover cal  All dominications	0% of onsite vegetation has been keyed to species, or collected for later ion? In names are entered legibly for all strata present? In culations are complete and correct? In ant species have been determined and recorded per strata? In status is correct for each species? In the completed is a completed?
3.	Soil	
		e is complete? te hydric soil indicators are marked?
4.	Hydrology	
		te hydrology indicators are marked? rater, water table, and saturation depths are recorded if present?
5.	Functions an	nd Values
	Vegetation wetland?	n, soil, hydrologic variables, and landscape variables complete if site is a
6.	Field Logboo	k
	accuracy	e been recorded at each site, including general description, sketch, and of pre-mapped wetland boundary as appropriate? ook page is initialed and dated?
7.	Maps	
	Wetland b	oundaries have been corrected if necessary? initialed and dated?

#### 8. Photos

Four photos were taken for each Wetland Determination Data Form (2 vegetation, 1 soil pit, 1 soil plug)?

N №□ Two photos were taken for each Observation Point (vegetation/site overview)?

Walland Scientist (mint)

Signature / Date

Field Cum Chief (mint)

Signature / Date

		and the second	
ess Road (explain) Other (	explain)	Field Target: 15018	Map #: 36 Map Date: 5/29
Project Name & No.: Alaska	LNG 60418403	Feature Id	ELOYAY022
trong, Abracyli	Fisher		Team No.: W84
Region: Alaska	Milepost:	272,2	12.13/2.11-
AG \ Longit	tude: 150° 3	7774.471	Datum: WGS84
Logbook Page No.: 46	Picture No.:	P_W84A4022_	MEG_VEG_PIT_PLUG
	THE STREET		
	Landform (hil	Islope, terrace, hummock	s, etc.): Swale
	Local relief (c	oncave, convex, none):	Concure-slight
ation: PEMI (SSIE IIIAZ, 11		// //	
e site typical for this time of year?			esent: plain in Notes.)
drology Significantly Disturt	oed? No	_(If yes, explain in Notes	)
drology Naturally Problema	tic? No_X	(If yes, explain in Notes	3.)
√ No	Is the Sampled A	Area within a Wetland?	Yes No
У Nо	Wetland Type:	SSI/EMIC	
Y No	Alaska Vegetation	Classification (Viereck):	11C2,143
sed PSSI we CMI.  a surrounding burn usgock with small les in adjacent use 2 with wetter where wold be se	Burned, 5d Les Picma Pockets & Poligons. Ur Eriang mi-perman	runted Black Sprong Re-Say Surround of Low ericace Al Point, Du Seasonally f ently flooded	price throughout area.  Ling area is now  cous shrub tundra.  and birch and SALAUL  100 Zee watlands Some  2. Shrub component o
Burned Pich Now Mixed Still metion	Ane-sar-st shrub-tuseo	nted th sease w/ste	nzins den 2 Picman son
at 15°C			4.
	Project Name & No.: Alaska  TO NG, Abicacy Region: Alaska  Congii  Logbook Page No.: 46  Logbook Page No.: 46  esite typical for this time of year?  clain in Notes)  drology Significantly Disturb  drology Naturally Problema  T No  Y No  No  Directional & North Arrow, Centerly  sed PSSI and CMI.  server and born  sed Pick  ser	Project Name & No.: Alaska LNG 60418403  FOR Abray France  Region Alaska  Longitude: GO  Logbook Page No.: GE  Logbook Page No.: GE	Project Name & No.: Alaska LNG 60418403  Feature Id  TO NG A Abracy Francy  Region Alaska  Milepost: 2M2  Longitude: 60 3 754 47  Logbook Page No.: 46  Picture No.: Push/1000  Landform (hillslope, terrace, hummock Local relief (concave, convex, none): 40  es site typical for this time of year?  Polain in Notes)  Are "Normal Circumstances" prevention in Notes  Are "Normal Circumstances" prevention in Notes  Are "Normal Circumstances" No (If yes, explain in Notes  Are "Normal Circumstances" prevention in

VEGETATION (use scientific names of plants	s)			
Tree Stratum (Plot sizes: \OODFT)	Absolute % Cover	Dominant Species? (Y/N)	Indicator Status	Dominance Test worksheet:  No. of Dominant Species that are OBL, FACW, or FAC: 4 (A
1. Picea Mariana	2		Fach	Total Number of Dominant Species Across All Strata: (B) % Dominant Species that are OBL, FACW, or FAC: (A/E)
3.				
4. Total Cover		added 1	o shrubs	Prevalence Index worksheet:  Total % Cover of:  OBL species: 15 X 1 - 15
50% of total cover Sapling/Shrub Stratum ( 267)	Absolute % Cover	% of total covidence of total co	er: Indicator Status	OBL species: $19 \times 1 = 19$ FACW species: $37 \times 2 = 74$ FAC species $62 \times 3 = 186$
1. Vaccionum uliginosum	30	(Y/N) <del>Y</del>	Fac	FACU species X 4 = UPL species X 5 = Column Totals: 114 (A) 275 (B)
3. Rhododendrum tomento	sum5		Fach	PI = B/A = 241
6. Between alandulosa 7. Champedadhne calucul	10		Fac Fac Fac W	
9.				
Total Cover 50% of total cover		% of total cov	er: 18.2	
/EGETATION (use scientific names of plants	)		SHEET STATE	
Herb Stratum ( 26 ++)	Absolute % Cover	Dominant Species? (Y/N)	Indicator Status	Hydrophytic Vegetation Indicators:  X Dominance Test is > 50%
1. Eriophorum angustifo 2. Calamagrostis canade	10A 15	Y	OBL Fac	Prevalence Index is ≤ 3.0  Morphological Adaptations¹ (Provide supporting data in Notes)
3 comarom palustre	AF		OBL	Problematic Hydrophytic Vegetation¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present unless
5. Rubus chamaemorus	-		Fach	disturbed or problematic.
7.				% Bare Ground% Cover of Wetland Bryophytes
9.				Total Cover of Bryophytes
0. Total Cover	23			— % Cover of Water  Hydrophytic Vegetation Present (Y/N):
50% of total cover		% of total cov	er:_ 4,6	Notes: (If observed, list morphological adaptations below):

Surface Water Present (Y/N): \

Water Table Present (Y/N): \( \neq \)

Saturation Present (Y/N): (includes capillary fringe)

Notes:

Depth (in): 5

Depth (in): ?

Depth (in): (

The second secon	OIL Date Feature ID						9 A-(022 Soil Pit Required (Y/N)_				
SOIL PROFI	LE DESCRIPTION: (	(Describe	to the depth needed	d to doc	ument the in	ndicator or co	onfirm the absen				
Depth	Matrix Redox Features										
(inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc2	Texture	Notes			
0-2	STR 3/4	100						2 inch bon 2 of Iran staining			
2-8	N4/0		7.5-124/c	5	ox/c	RC/PL	SICL	massive saturates			
8-9	START	1						Sphaguam Elbers			
9-19	N910		7.5TR 4/6	10	oxlc	RC/PL	S.CL	Macsive - Suturated			
19-21							S.CL				
THE RESERVE TO THE PERSON NAMED IN COLUMN TWO IS NOT THE PERSON NAMED IN COLUMN TWO IS NAMED IN COLUMN TW	oncentration, D=Depl	etion, RN	M=Reduced Matrix, C	S=Cov	ered or Coa	ted Sand Gra	The same of the sa	n: PL=Pore Lining, M=Matrix.			
	IL INDICATORS	634			Ingeres		SPACE CONTRACTOR CONTRACTOR	FOR PROBLEMATIC HYDRIC SOILS			
	listel (A1)		Alaska Gleyed		N			Change (TA4) <sup>4</sup>			
	ton (A2)		Alaska Redox	Carlo College	7		-	Swales (TA5) N			
Black Histic (			Alaska Gleyed	Pores	(A15) N			with 2.5Y Hue)			
lydrogen Su	Iffide (A4) M - fa	-+					Layer	d without 5Y Hue or Redder Underlying			
Thick Dark S	Surface (A12)						Other (Explain	nin Notes) Reduced Matrix			
			mefrost	Depth (ii	nches):[	1					
	Present (Y/N):	/				Letine	Clar Lou	m, fines include visand			
Notes: Alpi	Present (Y/N):	twe. Sere	High in clay include from	const n s.	ent. Bo			m. fines include visand			
Notes: A PRINCE DE L'ALE	Present (Y/N):	twe.	High in clay include from	ufficient	ent. Bo		INDICATORS (				
HYDROLOG	Present (Y/N):	ture.  Pere	In the clar from the	const sufficient	ent. Book	ECONDARY ater-stained eaves (B9)	INDICATORS (	2 or more required) Stunted or Stressed			
HYDROLOG Surface Water T	Present (Y/N):	Sur Inu (B7	In the clar from the	const so so wifficient so erial Ima	t) SI  W Le agery Di	ECONDARY later-stained paves (B9) rainage Patte	INDICATORS (	2 or more required) Stunted or Stressed Plants (D1)			
HYDROLOG Surface Water T Saturation (A	Present (Y/N):	TORS (a Sur Inu (B7 Spa Cor	In the clar from the	ufficient  ufficient  print Image	ent Book	econdary  ater-stained paves (B9)  rainage Patter	INDICATORS (	2 or more required)  Stunted or Stressed Plants (D1)  Geomorphic Position (D2)			
HYDROLOG Surface Water High Water T Saturation (A	Present (Y/N):	Sur Inu (B7 Spa Cor	Iny one indicator is stated Soil Cracks (Bendation Visible on Array)	const so so N erial Ima	t) Si  W  Le  agery Di  Pri  Inc  Si	ater-stained eaves (B9)	INDICATORS (  Imps (B10) 12 Imps (B10) 22 Imps (B10) 24 Im	Stunted or Stressed Plants (D1)  Geomorphic Position (D2)  Shallow Aquitard (D3)  Microtopographic Relief (D4)  FAC-Neutral Test (D5)			
HYDROLOG Surface Water High Water T Saturation (A Water Marks	Present (Y/N):  Present (P/N):  Present (P/N):  Present (A1)  Present (B1)  Present (B2)  Present (B2)	TORS (a Sui Inu (B7 Spa Coo Ma Hyc Odd	iny one indicator is strace Soil Cracks (Bendation Visible on Act)  arsely Vegetated incave Surface (B8)  If Deposits (B15)	const so so N erial Ima	t) Si  agery Di  r  Si  No	rainage Patte  kidized Rhizo  ving Roots (Coresence of Reon (C4)  alt Deposits (Cotes:	INDICATORS (  Imps (B10) 12 Imps (B10) 22 Imps (B10) 24 Im	Stunted or Stressed Plants (D1)  Geomorphic Position (D2)  Shallow Aquitard (D3)  Microtopographic Relief (D4)  FAC-Neutral Test (D5)			
HYDROLOG Surface Water High Water T Saturation (A Water Marks Sediment De	Present (Y/N):  Present (P/N):  Present (P/N):  Present (A1)  Present (B1)  Present (B2)  Present (B2)	Sui Inu (B7 Spa Con Ma Hyo Odd Dry Wa	Iny one indicator is strace Soil Cracks (Bendation Visible on Archarsely Vegetated incave Surface (B8).  If Deposits (B15)	ufficient  so  ufficient  portal Image	t) Si  agery Di  r  Si  No	rainage Patte  kidized Rhizo  ving Roots (Coresence of Reon (C4)  alt Deposits (Cotes:	INDICATORS (  Important (B10) 12    Importan	Stunted or Stressed Plants (D1)  Geomorphic Position (D2)  Shallow Aquitard (D3)  Microtopographic Relief (D4)  FAC-Neutral Test (D5)			

Wetland Hydrology Present (Y/N): \_\_\_\_\_\_\_\_

EC:\_

### AQUATIC SITE ASSESSMENT DATA FORM

VEGETATION VARIABLES	P= Plot, M= Matrix
Forested-Evergreen-Needle-lea Scrub Shrub-Evergreen-Broad-l Persistent Aquatic Be	
Percent Cover (P): Tree (>5 di Dwarf shrub (<0.5m)	bh, >6m tall)
Number of Wetland Types (M)	
Vegetation Density/Dominand 80%) Very High Dens	ce (P): Sparse (0-20%) Low Density (20-40%) Medium Density (40-60%) High Density (60-ity (80-100%)
nterspersion of Cover & Ope Peripheral Cover	n Water (P): 100% Cover or Open Water < <25% Scattered/Peripheral Cover 26-75% Scattered or Peripheral Cover N/Á
Plant Species Diversity (P): L	ow (< 5 plant species) Medium (5-25 species) High (>25)
Presence of Islands (M): Ab	sent (none) One or Few Several to Many N/A
Cover Distribution of Domina Open Small Scattere	nt Layer (P): No Veg Solitary, Scattered Stems 1 or More Large Patches; Parts of Site ed Patches Continuous Cover
Dead Woody Material (P): Low Abundant (>50% of surface)	v Abundance (0-25% of surface) Moderately Abundant (25-50% of surface)
	Low (large patches, concentric rings) Moderate (broken irregular rings)and interspersed)X
HGM Class (P): Slope	Flat Lacustrine Fringe Depressional Riverine Estaurine Fringe
SOIL VARIABLES	
Soil Factors (P): Soil Lack Mineral: Gravelly M	ing Histosol:Fibric Histosol:Hemic Histosol: Sapric ineral: Sandy Mineral: Silty Mineral: Clayey
HYDROLOGIC VARIABLES	
Outlet Intermittent Inl	t/OutletXNo Inlet/Intermittent OutletNo Inlet/Perennial OutletIntermittent Inlet/No Inlet/Intermittent Inlet/Perennial OutletPerennial Inlet/No OutletPerennial Inlet/Perennial OutletPerennial Inlet/Perennial Outlet
Wetland Water Regime (P): Wet: Perm. Flooded, Intermitter	Drier: Seasonally Flooded, Temporarily Flooded, Saturated X
Evidence of Sedimentation (P	): No Evidence Observed Sediment Observed on Wetland Substrate Fluvaquent Soils Sediment
Microrelief of Wetland Surfac	e (P): Absent Poorly Developed (6in.)_x Well Developed (6-18in.) Pronounced (>18in.)
requency of Overbank Flood Return Interval >5 yrs	ling (P): No Overbank Flooding  Return Interval 1-2 yrs Return Interval 2-5 yrs
Degree of Outlet Restriction (	P): No Outflow Restricted Outflow Unrestricted Outflow
Vater pH (P): No surface water	STATE OF THE PROPERTY OF THE P
Glacial Till/Not Permeable	der Wetland (P): High Permeability Stratified Deposits Low Permeability Stratified Deposits
Basin Topographic Gradient Evidence of Seeps and Sprin	(M): Low Gradient (<2%) High Gradient (≥2%) ♥ gs (P): No Seeps or Springs ♥ Seeps Observed Intermittent Spring Perennial Spring
ANDSCADE VADIADI ES (M)	
LANDSCAPE VARIABLES (M) Wetland Juxtaposition: V	Vetland Isolated Wetlands within 400m, Not Connected Only Connected Below
Only Connected Above	Connected Upstream & Downstream Unknown
Wetland Land Use: High	Intensity (i.e., ag.) Moderate Intensity (i.e., forestry) Low Intensity (i.e. open space)
Vatershed Land Use: 0-5	5% Rural X 5-25% Urbanized 25-50% Urbanized >50% Urbanized >50% Urbanized
Size: Small (<10 acres)	Medium (10-100 acres) Large (>100 acres)

Page 4 of 4

#### Wetland Determination Form QA/QC Checklist

This form to be completed before leaving the field site.

Featu	re ID: W841	14022 Field Target: 15218 Date: 7/12/15
		ked, please provide detailed explanation in the notes section of data form.
1.	Site Descrip	tion
	Site desc	cription, site parameters and summary of findings are complete?  d site sketch is included in <del>logbook</del> ?
2.	Vegetation	form
	At least 8	00% of onsite vegetation has been keyed to species, or collected for later tion?
	<ul><li>□ Cover cal</li><li>□ All domin</li></ul>	on names are entered legibly for all strata present?  Iculations are complete and correct?  ant species have been determined and recorded per strata?
	Indicator	status is correct for each species? ce Test and Prevalence Index have been completed?
3.	Soil	
		e is complete? Ite hydric soil indicators are marked?
4.	Hydrology	
	■ Appropria ☑ Surface w	te hydrology indicators are marked? vater, water table, and saturation depths are recorded if present?
5.	Functions ar	nd Values
	■ Vegetation wetland?	n, soil, hydrologic variables, and landscape variables complete if site is a
6.	Field Logboo	ok
	accuracy	re been recorded at each site, including general description, sketch, and of pre-mapped wetland boundary as appropriate?
	Each logb	ook page is initialed and dated?
7.	Maps	
		oundaries have been corrected if necessary? initialed and dated?

#### 8. Photos

Four photos were taken for each Wetland Determination Data Form (2 vegetation, 1 soil pit, 1 soil plug)?

NA□ Two photos were taken for each Observation Point (vegetation/site overview)?

X Advantage X Abdy Men 7/10/15
Wetland Scientist (print)
Signature / Date

X Brean Strong X Bow 71,12/15
Field Crew Chief (print) Signature / Date

SITE DESCRIPTION						
Survey Type: Centerline Ac	cess Road (explain)	Other (expla	in)	Field Target	15219	Map #: 35 Map Date: 6/29
Date: 7/13/15	Project Name & No.:	Alaska LNG	60418403	·   F	eature Id:	W84A1023
Investigators:	ong Abicia	16 F.SI	nev.	7		Team No.: / 184
State: Alaska	Region: Alaska		Milepost:	278.7		
Latitude: 66°49'64.	63"N	Longitude:	150°3	7 15,4	8"W	Datum: WGS84
Logbook No.:	Logbook Page No.: 4			100		BLUEG VEG PIT PLUG
SITE PARAMETERS		BIS 5 5 4 6 6		11.2/3)		
Subregion: Interior	Lighton 25		Landform (hi	llslope, terrace,	hummocks	s, etc.): Swale,
Slope (%): ~2 % estimated			Local relief (	concave, conve	x, none): (	oncare W/small undulate
Pre-mapped Alaska LNG/NWI classit	fication: PEM /S	IE, MAZ.		Wildlife Use: रि		
Are climatic/hydrologic conditions on Yes No (if no e	the site typical for this time xplain in Notes)	of year?	Are "N Yes	ormal Circumst		sent: plain in Notes.)
Are Vegetation, Soil, or I		tly Disturbed?	No_X	(If yes, explai		
Are Vegetation, Soil, or I		Problematic?	No_X	(If yes, expla	_	
SUMMARY OF FINDINGS			Tible		114-1-	
Hydrophytic Vegetation Present? Ye	es No	Is t	he Sampled	Area within a V	Vetland?	Yes No
Hydric Soil Present? Yes	s No	We	tland Type:	Pss/Em	E O	LWS with bloczon+
Wetland Hydrology Present? Yes	s No					11CZ, 111AZ OLWS
hese Appears that Journal water in microlows a Islands of burned for Ham histic extensively with some At point, fairly low drainage higher Plands drainage higher Plands drainage within the swale within the swale Iriven system with Complex Plot shape oblong to capturer SLOPE Jaineye Community	on hosting ion  PICMAR Sup  PICMAR Sup  PICMAR Sup  PICMAR Sup  Alversity ar  At diversity ar  At diversity and  Arinage Per  Some limited S	stained s through ucz, III. - sedoc on edo sempe	surfaces, host a veg tussock rspersoo care	communication occurring a but, interspectly flood 20." Alluvation 2	sighties -  in other  residence pour  interest pour  outlet  burne  PSSI/	by convex features with convex features with Open Low willow-shrub some areas (11 DI, 111 A per parts of the of Peni and PSSI with as /depressions ento 15. mostly precipitate function. Stope (Flat Lance) a france of the Shrub-sede tossel with the shrub-sede tossel the soul the sede tossel the plant diversity mixed in the sede tossel the soul the sede tossel the sede to see the sede to sede the sede to sed the sed sed
No interfortlet immedently positionate to point, policion /		10	A	100	000	1
be seperated from	10 24 6380	(A-1023		1		Page 1 of

VEGETATION (use scientific names of plants	s)		islialy a	
Tree Stratum (Plot sizes: 100 F1*)	Absolute % Cover	Dominant Species? (Y/N)	Indicator Status	Dominance Test worksheet:  No. of Dominant Species that are OBL, FACW, or FAC: (A)
1,			la management and the second	Total Number of Dominant Species Across All Strata: (B)
2.				% Dominant Species that are OBL, FACW, or FAC: 100 (A/B)
3.				
4.				Prevalence index worksheet:
Total Cover 50% of total cover		)% of total cov	er:	Total % Cover of: Multiply by:  OBL species: X 1 =
Sapling/Shrub Stratum ( D6f+)	Absolute % Cover	Dominant Species? (Y/N)	Indicator Status	FACW species: G6 X2 = \\ \frac{7}{2} \text{X3} = \frac{7}{2} \\ \frac{7}{2} \text{X4} = \\ \frac{7}{2}
1. Salis Dulchea (2.5-3')	65	4	Forch	LIPI species X5-
2. Betula nana 3. Chamaedaphne calyeule	5		Fac.	Column Totals: 69 (A) 475 (B) PI = B/A = 3.58
5. Betwa nepalaskanoly	) <del>T</del>		Fac )	
6. Errophorony Vagranta			on all the	
8.				1.
9.	-71			
Total Cover			1110	
50% of total cover	:_52.2 20	% of total cov	er: 19 . 0	
VEGETATION (use scientific names of plants	s)		V The	
Herb Stratum ( 26 Pt )	Absolute % Cover	Dominant Species? (Y/N)	Indicator Status	Hydrophytic Vegetation Indicators:  Dominance Test is > 50%
1. (alomporosis canadensin	92	y	Fac	Prevalence Index is ≤ 3.0
2. Comarum palastre	2		GBL	Morphological Adaptations <sup>1</sup> (Provide supporting data in Notes)
3. Eciophorum vasinata			* * * * * * * * * * * * * * * * * * *	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
4.				<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present unless
5. 14				disturbed or problematic.
6.	×			生态。现代是由10年间的原则,2011年1月2日
7.	-			% Bare Ground
8.				% Cover of Wetland Bryophytes
9.	-			Total Cover of Bryophytes
10.	Q II			% Cover of Water  Hydrophytic Vegetation Present (Y/N):
Total Cover:		. 3.	00	Notes: (If observed, list morphological adaptations below):
50% of total cover:	: <u>U</u>	% of total cove	er: 10 , 8	within landscape being sampled.

SOIL	THE PARTY OF	A ST	DateFe	eature ID_	hot mile	Ave - Circle		Soil Pit Required (Y/N)
SOIL PROFII	LE DESCRIPTION: (	Describe	265407H		ent the in	ndicator or co	nfirm the absen	
Depth	Matrix		Redox Features					37 37
(inches)	Color (moist)	%	Color (moist)	%	Гуре	Loc <sup>2</sup>	Texture	Notes
0-2	5-14/2	75	`	15	C	PL/M	loan	high clay contents Iran :
		1-2	7.5-12416	10	C	PL	100.101	in a band at suiface
1-20	N4/0	93	7.5-44/6		X/PL	PL/RC	Joseph 1	Massive Alpha alpha
251.00		12	1. 10-11/2		70/10	1 4 7 20	10,000	LOCK THENCE WILLIAM OF IT WAS
			-	-				2
Type: C=Co	oncentration, D=Deple	etion, RN	/=Reduced Matrix, C	S=Covere	ed or Coa	ited Sand Gra	ins. <sup>2</sup> Locatio	n: PL=Pore Lining, M=Matrix.
	IL INDICATORS	Line 1	TANK MIKELINE	N. T. Wall	State S	P. FOLK		FOR PROBLEMATIC HYDRIC SOIL
listosol or Hi	istel (A1) _ N		Alaska Gleyed	(A13) A	7			Change (TA4)⁴/\
	Ion (A2) _\		Alaska Redox					Swales (TA5) _\(\sigma\)
Black Histic (/			Alaska Gleyed	<u> </u>				with 2.5Y Hue N
`			Alaska Gleyeu	T UIES (A	10) <u>N</u>	<del></del>		d without 5Y Hue or Redder Underlying
	llfide (A4) _ <u>\( \)</u>	-					Layer	
	urface (A12)\	-						n in Notes) Reduce Matrix cape position must be present unless
Restrictive La	of color change in No ayer (if present): Typ Present (Y/N):	el Per	Meets to sa	s the	conse the claric	ndicator	, ich but, Thisher there ex plastic,	not rule enough relox of clar content Booderla
Restrictive La	Present (Y/N):	e: Per	- Meets to Sa VFS-1 Shoh	s the tisty and the st	conce the Clarit	nd cater nd. cater should	Higher + quite en plastic,	clay confort Booderli
Hydric Soil F Notes: And	Present (Y/N):	e: Per	- Meets to Sa VFS-1 Shoh	s the tisty and the st	consection of the state of the	econdary	Higher + quite en plastic,	clay content Bookers
Hydric Soil F Notes: And	Present (Y/N):	TORS (a	Mcets to Sar VISt Stigh  any one indicator is s  rface Soil Cracks (B6	tiefy disconsisting disconsisting	conce the solar l	nd cater nd. cater should	Higher + quite en plastic,	clay confort Booderli
Hydric Soil P Notes: A II HYDROLOG	Present (Y/N):	TORS (a	Any one indicator is surface Soil Cracks (B6	tiefy disconsisting disconsisting	Conce the Clark	ECONDARY Pater-stained paves (B9)	Higher + quite en plastic,	2 or more required)  Stunted or Stressed
Hydric Soil P Notes: A III HYDROLOGY Surface Water To	Present (Y/N):	TORS (a	Any one indicator is surface Soil Cracks (B6	ufficient)  Nerial Imag	S W Leery D	ECONDARY  Vater-stained eaves (B9) rainage Patte  xidized Rhizo ving Roots (C	INDICATORS (  spheres along  3)	2 or more required)  Stunted or Stressed Plants (D1)  Geomorphic Position (D2)  Shallow Aquitard (D3)
Hydric Soil P Notes: A       HYDROLOG  Surface Water To  Saturation (A:	Present (Y/N):	TORS (a Suil- Inu (B7 Spp Co) Ma	Any one indicator is surface Soil Cracks (Beandation Visible on Aero)  Arsely Vegetated incave Surface (B8)  If Deposits (B15)	ufficient)  Derial Imag	S W Leery D	ECONDARY I /ater-stained eaves (B9) rainage Patte xidized Rhizo	INDICATORS (  spheres along  3)	2 or more required)  Stunted or Stressed Plants (D1)  Geomorphic Position (D2)
Hydric Soil F Notes: A 11 HYDROLOG Surface Wate High Water To Saturation (A: Water Marks	Present (Y/N):	TORS (a Sui Inu (B7 Coo Ma	any one indicator is surface Soil Cracks (B6 andation Visible on A67)	ufficient)  Derial Imag	Sancky,  Sancky,  Light between the sancky,  Light between the sancky,  Pinners D  In	ECONDARY  Vater-stained eaves (B9) rainage Patte xidized Rhizo ving Roots (Coresence of Records)	rns (B10) _\darksquare shorters along 3)duced	2 or more required)  Stunted or Stressed Plants (D1)  Geomorphic Position (D2)  Shallow Aquitard (D3)  Microtopographic Relief (D4)  FAC-Neutral Test (D5)
Hydric Soil F Notes: A 11 HYDROLOG Surface Water High Water To Saturation (A: Water Marks Sediment Dep	Present (Y/N): Y Presen	TORS (a Suil- Inu (B7 Coo Ma Hyr	any one indicator is surface Soil Cracks (Beardation Visible on Aer)	ufficient)  Perial Imag	S S W LO	ECONDARY  Vater-stained eaves (B9) rainage Patte xidized Rhizo ving Roots (Cresence of Reon (C4) alt Deposits (Content of the content of the conte	rns (B10) N spheres along 3) 4	2 or more required)  Stunted or Stressed Plants (D1)  Geomorphic Position (D2)  Shallow Aquitard (D3)  Microtopographic Relief (D4)
Hydric Soil P Notes: A 11 HYDROLOG  Surface Water High Water To Saturation (A: Water Marks Sediment Dep	Present (Y/N): Y Presen	TORS (a Suil Inu (B7 Sp; Co Ma Hyu Od Dry Wa	any one indicator is surface Soil Cracks (B6 andation Visible on A67)	ufficient)  Si) N  erial Imag	S S W Li	ECONDARY  Vater-stained eaves (B9) rainage Patte xidized Rhizo ving Roots (Cresence of Reon (C4) alt Deposits (Content of the content of the conte	rns (B10) N spheres along 3) duced	2 or more required)  Stunted or Stressed Plants (D1)  Geomorphic Position (D2)  Shallow Aquitard (D3)  Microtopographic Relief (D4)  FAC-Neutral Test (D5)
Hydric Soil Particular Soil Pa	Present (Y/N): Y Presen	TORS (a Suil Inu (B7 Sp; Co Ma Hyu Od Dry Wa	any one indicator is surface Soil Cracks (Beandation Visible on Aer)  arsely Vegetated incave Surface (B8)  If Deposits (B15)  drogen Sulfide or (C1)	ufficient)  Si) N  erial Imag	S S W Li	ECONDARY  Vater-stained eaves (B9)  rainage Patte  xidized Rhizoving Roots (Coresence of Recon (C4)  alt Deposits (Cotes:	rns (B10) N spheres along 3) duced	2 or more required)  Stunted or Stressed Plants (D1)  Geomorphic Position (D2)  Shallow Aquitard (D3)  Microtopographic Relief (D4)  FAC-Neutral Test (D5)
Hydric Soil P Notes: A   A   Hydric Soil P Notes: A   A   H	Present (Y/N): Y Presen	TORS (a Suil Inu (B7 Sp; Co Ma Hyu Od Dry Wa	any one indicator is surface Soil Cracks (B6 andation Visible on Act of the A	ufficient)  Si) N  erial Imag	S S W Li	ECONDARY  Vater-stained eaves (B9)  rainage Patte  xidized Rhizoving Roots (Coresence of Recon (C4)  alt Deposits (Cotes:	rns (B10) N spheres along 3) duced	2 or more required)  Stunted or Stressed Plants (D1)  Geomorphic Position (D2)  Shallow Aquitard (D3)  Microtopographic Relief (D4)  FAC-Neutral Test (D5)
Hydric Soil P Notes: A   A   Hydric Soil P Notes: A   Hydric Soil P	Present (Y/N): Y Presen	TORS (a Suil Inu (B7 Sp; Co Ma Hyu Od Dry Wa	any one indicator is surface Soil Cracks (Beandation Visible on Aer)  arsely Vegetated incave Surface (B8)  If Deposits (B15)  drogen Sulfide or (C1)	ufficient)  Si) N  erial Imag	S S W Lu Clary D C Li Cky , S N N N S S	ECONDARY  Vater-stained eaves (B9)  rainage Patte  xidized Rhizo ving Roots (Coresence of Reon (C4)  alt Deposits (Cotes:	INDICATORS (  INDICATORS (  Ins (B10) _ \( \)  Substitute of the control of the c	2 or more required)  Stunted or Stressed Plants (D1) N  Geomorphic Position (D2) Y  Shallow Aquitard (D3) Y  Microtopographic Relief (D4) N  FAC-Neutral Test (D5) Y
Hydric Soil P Notes: A Hydric Soil P Surface Water High Water Ta Saturation (A: Water Marks Sediment Dep Drift Deposits Algal Mat or C ron Deposits Surface Water	Present (Y/N): Y Presen	TORS (a Suil Inu (B7 Sp; Co Ma Hyu Od Dry Wa	any one indicator is surface Soil Cracks (B6 andation Visible on Act of the A	ufficient)  Si) N  erial Imag	S S W Lu Clary D C Li Cky , S N N N S S	ECONDARY  Vater-stained eaves (B9)  rainage Patte  xidized Rhizo ving Roots (Coresence of Reon (C4)  alt Deposits (Cotes:	rns (B10) N spheres along 3) duced	2 or more required)  Stunted or Stressed Plants (D1) N  Geomorphic Position (D2) Y  Shallow Aquitard (D3) Y  Microtopographic Relief (D4) N  FAC-Neutral Test (D5) Y

### AQUATIC SITE ASSESSMENT DATA FORM

VEGETATION VARIABLES P= Plot, M= Matrix
Primary Vegetation Type (P): Vegetation Lacking       Forested-Deciduous-Needle-leaved       Forested-Deciduous-Broad-leaved         Forested-Evergreen-Needle-leaved       Scrub Shrub-Deciduous-Broad-leaved       K         Scrub Shrub-Evergreen-Broad-leaved       Scrub Shrub-Evergreen-Needle-leaved       Emergent-Non-persistent         Persistent       Aquatic Bed
Percent Cover (P): Tree (>5 dbh, >6m tall)         ○         Sapling (<5 dbh, <6m tall)         ○         Tall shrub (2-6m)         ○         Short shrub (0.5-2m)         7 l           Dwarf shrub (<0.5m)
Number of Wetland Types (M): Evenness of Wetland Type Distribution (M): Even Highly Uneven Moderately even
Vegetation Density/Dominance (P): Sparse (0-20%)       Low Density (20-40%)       Medium Density (40-60%)       High Density (60-80%)         80%)       Very High Density (80-100%)       Very High Density (80-100%)
Interspersion of Cover & Open Water (P): 100% Cover or Open Water <a href="mailto:cover_more">&lt; &lt;25% Scattered/Peripheral Cover_more</a> 26-75% Scattered or Peripheral Cover_more N/A
Plant Species Diversity (P): Low (< 5 plant species) Medium (5-25 species) K High (>25)
Presence of Islands (M): Absent (none) K One or Few Several to Many N/A
Cover Distribution of Dominant Layer (P): No Veg Solitary, Scattered Stems 1 or More Large Patches; Parts of Site Open Small Scattered Patches Continuous Cover_x
Dead Woody Material (P): Low Abundance (0-25% of surface) Moderately Abundant (25-50% of surface) Abundant (>50% of surface)
Vegetative Interspersion (P):       Low (large patches, concentric rings)       K       Moderate (broken irregular rings)         High (small groupings, diverse and interspersed)
HGM Class (P): Slope Flat Lacustrine Fringe Depressional Riverine Estaurine Fringe
COUL VARIABLES
SOIL VARIABLES  Soil Footogo (R): Coil Locking Library Fibria Library Fibria
Soil Factors (P): Soil Lacking Histosol:Fibric Histosol:Hemic Histosol: Sapric Mineral: Gravelly Mineral: Sandy Mineral: Silty Mineral: Clayey Mineral: Clayey
HYDROLOGIC VARIABLES
Inlet/Outlet Class (P): No Inlet/Outlet No Inlet/Intermittent Outlet No Inlet/Perennial Outlet Intermittent Inlet/No Outlet Intermittent Inlet/Intermittent Inlet/Intermittent Inlet/Intermittent Inlet/Intermittent Inlet/Intermittent Inlet/Intermittent Inlet/Intermittent Inlet/Intermittent Outlet Perennial Inlet/Intermittent Outlet Perennial Inlet/Intermittent Outlet Inlet/Intermittent Outlet Inlet/Intermittent Outlet Inlet/Intermittent Outlet Inlet/Intermittent Inle
Wetland Water Regime (P): Drier: Seasonally Flooded, Temporarily Flooded, Saturated   Wet: Perm. Flooded, Intermittently Exposed, Semiperm. Flooded
Evidence of Sedimentation (P): No Evidence Observed Sediment Observed on Wetland Substrate Fluvaquent Soils Sediment Created
Microrelief of Wetland Surface (P): Absent Poorly Developed (6in.) Well Developed (6-18in.) Pronounced (>18in.)
Frequency of Overbank Flooding (P): No Overbank Flooding Return Interval 1-2 yrs Return Interval 2-5 yrs
Degree of Outlet Restriction (P): No Outflow Restricted Outflow Unrestricted Outflow
Water pH (P): No surface water X Circumneutral (5.5-7.4) Alkaline (>7.4) Acid (<5.5) pH Reading
Surficial Geologic Deposit Under Wetland (P): High Permeability Stratified Deposits Low Permeability Stratified Deposits Glacial Till/Not Permeable S deposits
Basin Topographic Gradient (M): Low Gradient (<2%) High Gradient (≥2%) × 2 6  Evidence of Seeps and Springs (P): No Seeps or Springs Seeps Observed Intermittent Spring Perennial Spring
Telefilia opilig
LANDSCAPE VARIABLES (M)
Wetland Juxtaposition: Wetland Isolated Wetlands within 400m, Not Connected Only Connected Below Only Connected Above Connected Upstream & DownstreamX Unknown
Wetland Land Use: High Intensity (i.e., ag.) Moderate Intensity (i.e., forestry) Low Intensity (i.e. open space)
Watershed Land Use: 0-5% Rural 5-25% Urbanized 25-50% Urbanized >50% Urbanized >50% Urbanized
Size: Small (<10 acres) Medium (10-100 acres)

GPS Tech

Crew Chief QA/QC check:

GPS Technician QA/QC check:

Page 4 of 4

### Wetland Determination Form QA/QC Checklist

This form to be completed before leaving the field site.

eatur	e ID: <u>W84A7023</u> Field Target: <u>IS219</u> Date: <u>7/13/14</u>
or all	items not checked, please provide detailed explanation in the notes section of data form.
1.	Site Description
	Site description, site parameters and summary of findings are complete?  A detailed site sketch is included in legbook?
2.	Vegetation
	<ul> <li>At least 80% of onsite vegetation has been keyed to species, or collected for later identification?</li> <li>✓ Vegetation names are entered legibly for all strata present?</li> <li>✓ Cover calculations are complete and correct?</li> <li>✓ All dominant species have been determined and recorded per strata?</li> <li>✓ Indicator status is correct for each species?</li> <li>✓ Dominance Test and Prevalence Index have been completed?</li> </ul>
3.	Soil
	Soil profile is complete? Appropriate hydric soil indicators are marked?
4.	Hydrology
	<ul><li>☒ Appropriate hydrology indicators are marked?</li><li>☒ Surface water, water table, and saturation depths are recorded if present?</li></ul>
<b>5</b> .	Functions and Values
	☑ Vegetation, soil, hydrologic variables, and landscape variables complete if site is a wetland?
6.	Field Logbook
	Notes have been recorded at each site, including general description, sketch, and accuracy of pre-mapped wetland boundary as appropriate?  Each logbook page is initialed and dated?
7.	Maps
	☑ Wetland boundaries have been corrected if necessary?

Maps are initialed and dated?

### 8. Photos

Four photos were taken for each Wetland Determination Data Form (2 vegetation, 1 soil pit, 1 soil plug)?

Two photos were taken for each Observation Point (vegetation/site overview)?

X Wetland Scientist (print)

Signature / Date

Signature / Date

A-1024

SITE DESCRIPTION			Mark Co.			
Survey Type: Centerline Acces	ss Road (explain)	Other (expla	in)	Field Targe	et: <u>)</u>	Map #: <u>NVA</u> Map Date: <u></u> しん
Date: 7/13/15	Project Name & No.:	Alaska LNG	60418403		Feature Id:	W89AY024
Investigators: Bryan Strong	or Abigagle +	Sher				Team No.: 4/8/1/
State: Alaska	Region: Alaska		Milepost:	279	-	- E
Latitude: 66 649 1752		Longitude:	15003	6'52.	72 "11	Datum: WGS84
Logbook No.:	Logbook Page No.:	47	Picture No.:	PW8	4A405	4-VEG-VEG-PITE
SITE PARAMETERS					AVEN	
Subregion: Interior Highla	حكم		Landform (hil	llslope, terrac	e, hummock	s, etc.): Terrace Rolling
Slope (%): ~2-3 est mate			Local relief (d	concave, conv	ex, none): $\varsigma$	lightly concave - tossock
Pre-mapped Alaska LNG/NWI classifica	ition: DEM) 1551	13,11/A2,110	Evidence of \	Wildlife Use:	Vone o	bserved
Are climatic/hydrologic conditions on the Yes No (if no expl	e site typical for this time ain in Notes)	of year?		ormal Circum		sent: plain in Notes.)
Are Vegetation, Soil, or Hyd		tly Disturbed?		(If yes, expl	ain in Notes	
Are Vegetation, Soil, or Hyd	drology Naturally I	Problematic?	No	(If yes, exp	lain in Notes	.)
SUMMARY OF FINDINGS		A VI TYLE		F. J. June		
Hydrophytic Vegetation Present? Yes_	У No	Is	the Sampled A	Area within a	Wetland?	Yes No
Hydric Soil Present? Yes_	1 No	We	etland Type: જ	PSSI/EN	113.	Mixed shrub sedoc lussoc
Wetland Hydrology Present? Yes_	7 No	Ala	aska Vegetatio	n Classificatio	n (Viereck):	1162, 11142
Notes and Site Sketch: Please include I corridor.  Nostly borned PicMar in tact Some of the water occur in the arised ly seedlings are becoming Itummocky topography  Some and to the normal	is best char some forest of area will see but, promise g established	actorized with a stain stain a stain a d. few de trusc	de as 110 feel poch poch poch poch poch poch poch poch	cets the leats the longanes water Picmar Vo could record to	2 Mixe at surv Small resim seed! ence of	2 shrub-selge fusions were the born generally areas of standing are. A few PICCLA mgs have become estable observed as the standing of wildleft observed as Still day conditions
Point location adjusted to accompate access No field map available the point in new locat	issues for E			- wetter purtly	recof s	le swater with algal mater standing water PSSI/4B
.17	Burnez PICMAZ-SAP FOREST IICZ, IIIAZ DWAST DWANF ERICACEUS SHOUS		Fores+	PICMAR. IICZ, IIIA and Dward	2	us shab

VEGETATION (use scientific names of plants	5)		986 7 - 2	The state of the s
Tree Stratum (Plot sizes: (COG)	Absolute % Cover	Dominant Species? (Y/N)	Indicator Status	Dominance Test worksheet:  No. of Dominant Species that are OBL, FACW, or FAC: (A)  Total Number of Dominant Species Across All Strata: (B)
2.	6.7			% Dominant Species that are OBL, FACW, or FAC: 75 (A/B)
3.				
4.				Prevalence Index worksheet:
Total Covers				Total % Cover of: Multiply by:
50% of total cover	(	% of total cov	er:	OBL species: X1 =
Sapling/Shrub Stratum ( 26++ )	Absolute	Dominant	Indicator	FACW species: St X2= LOZ
	% Cover	Species?	Status	FAC species 43 x 3 = 129
1. Belula naga 3'	15	(Y/N)	X	FACU species 10 X 4 = 40
2. Satu hopbiana 2'	1	7	Fac	UPL species
3. Picea Blanca 1-2'	T		Farl	Column Totals: $(04)$ (A) $(B)$
4. Andodeddran tomentos	M 20	7	FACW	
5. Betula negalas Vana 2'	一丁		Taco	
6. Vaccinium Wighosum	3 :		FAC	
7. Cacinium vitis idorec	7.		FAC	
MAX MINICIAN A	2		FACU	
9. Betula glandulasa 3" Total Cover:	50			
50% of total cover:		% of total cov	er:_1〇	
				A

VEGETATION (use scientific names of plants	)			
Herb Stratum ( L. F.)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Indicators: Dominance Test is > 50%
1. Eraphorum vag natura 2. Chamerion anaustifation 3. Rubus chamdemorus 4. Calamagrostis canadens 5. Carex bicalomi	23	(Y/N) 	Fachor Fachor Fachor FAC	Prevalence Index is ≤ 3.0  Morphological Adaptations¹ (Provide supporting data in Notes)  Problematic Hydrophytic Vegetation¹ (Explain)  ¹ Indicators of hydric soil and wetland hydrology must be present unless disturbed or problematic.
6. Calamagrostis layor	Ca 5		FAC	
8.	7			% Bare Ground % Cover of Wetland Bryophytes
9.				
10.				Cover of Water
Total Cover: 50% of total cover: Picca mariana snag 1		% of total cove	er:_/ <b>3.8</b>	Hydrophytic Vegetation Present (Y/N):  Notes: (If observed, list morphological adaptations below):  Polytrockum 30  Fire moss 30  Sphasova 57

SOIL		J. Stragg	7/13/15 Date F	eature ID	W84.	V=10 817	Soil Pit Required (Y/N)		
	I E DESCRIPTION: (F	)escribe				ndicator or co	nfirm the absence of indicators.)		
	Matrix	rescribe	Redox Features	ed to docu	ment the i	nuicator or co	Illilli ille abser	ice of indicators.)	
Depth inches)	Color (moist)	1 %		%	Type <sup>1</sup>	Loc²	Toyturo	Notes	
	Color (moist)	1 70	Color (moist)	70	туре	LOC	Texture	Notes	
3.1	1 - 11	-				4		Charcoal = organic - cxt	
1-2	7.5-122.5/1	(00)						charcoal rich	
2-4	7.5-12 4/6	100	2 21/	_	<i>P</i>	7.	30.7	Band of 1100 stranged Min	
-15	N4/0	88	7.5-124/6		OK/C	RC/PL	loam	high clay content Massi	
- 20	5-14/1	70	7.5 12 4/6	30		PL	loan	Saturated massive alpha a	
2.0	1.17	-		-		1			
0 -21+ Tuno: C-Co	ートリー/ oncentration, D=Deple	tion DA	4-Paduaad Matrix	CS-Covo	rod or Cor	stad Sand Cr	vino <sup>2</sup> Locatio	n: PL=Pore Lining, M=Matrix.	
		lion, ni	w=neduced Matrix,	CS=Cove	red or Coa	aled Sand Gra			
	L INDICATORS	111111111111111111111111111111111111111	L Aleeder Oleve	1 (440)	-/	MOIST III.		S FOR PROBLEMATIC HYDRIC SOILS	
	istel (A1) _ N		Alaska Gleye					Change (TA4) <sup>4</sup>	
	lon (A2)		Alaska Redo					e Swales (TA5)	
lack Histic (	A3)		Alaska Gleye	d Pores (	<u>لــٰہ                                   </u>			x with 2.5Y Hue _ \rightarrow	
lydrogen Sul	lfide (A4) _ <u>\( \)</u>						Alaska Gleye	d without 5Y Hue or Redder Underlying	
hick Dark S	urface (A12))							in in Notes) Reduced matrix	
		ation, o	ne primary indicato	r of wetlar	nd hydrolo	gy, and an ap		cape position must be present unless	
lydric Soil P	Present (Y/N):	>125+				c. Stan	shy reduc	ing in all mineral horiz	
lydric Soil P	Present (Y/N):	olast gan 2				c. Strage	she reduced he	in all more all horse	
Hydric Soil P Notes: Short ਤਿਆਰ	Present (Y/N):		ce, slightly	thix	otopo			(2 or more required)	
Hydric Soil F Notes: Stoll Sord	Present (Y/N): 1  htty sticker , F  Lecture VFSall  Y PRIMARY INDICAT	ORS (a	ce, slightly	think sufficient)	) S		INDICATORS (		
Hydric Soil P Notes: Stoll Sord HYDROLOGY	Present (Y/N): 7  htty sticker it  Lecture vfSac  Y PRIMARY INDICAT  Or (A1) 1	ORS (a	any one indicator is rface Soil Cracks (Eundation Visible on A	sufficient)	) S	ECONDARY Vater-stained eaves (B9)	INDICATORS (	(2 or more required)  Stunted or Stressed Plants (D1)	
Hydric Soil F Notes: Source HYDROLOG Surface Water	Present (Y/N):	Su Inu (B7	any one indicator is rface Soil Cracks (Eundation Visible on A	sufficient)  Sefial Ima	S V L gery D	ECONDARY Vater-stained eaves (B9) _ orainage Patte	INDICATORS	(2 or more required)  Stunted or Stressed Plants (D1)	
Hydric Soil Follows: Source Water Total Water Total Saturation (A.)	Present (Y/N): / http://www.yfsat.  Y PRIMARY INDICAT  er (A1)	Su Inu (B7 Sp Co	any one indicator is rface Soil Cracks (E	sufficient) Aerial Ima	y V L gery D C L	Vater-stained eaves (B9) prainage Patte	INDICATORS	Stunted or Stressed Plants (D1) Geomorphic Position (D2)	
Iydric Soil For John Surface Water Marks	Present (Y/N): / http://www.yfsat.  Y PRIMARY INDICAT  er (A1)	Su Inu (B7 Sp Co Ma	any one indicator is rface Soil Cracks (Eundation Visible on A	sufficient) Aerial Ima	S V L gery D C L L P P Ir	Vater-stained eaves (B9) orainage Patter oxidized Rhize iving Roots (Coresence of Ri	INDICATORS  Important (B10)	Stunted or Stressed Plants (D1) Geomorphic Position (D2) Shallow Aquitard (D3) Microtopographic	
Hydric Soil F Notes: Soil F No	Present (Y/N):	Su Inu (B7 Co Ma	any one indicator is rface Soil Cracks (E indation Visible on A 7) arsely Vegetated ncave Surface (B8) arl Deposits (B15) drogen Sulfide	sufficient) Aerial Ima	gery C	Vater-stained eaves (B9)	INDICATORS  Important (B10)	Stunted or Stressed Plants (D1)  Geomorphic Position (D2)  Shallow Aquitard (D3)  Microtopographic Relief (D4)  FAC-Neutral Test (D5)	
Hydric Soil Follows: Sold Foll	Present (Y/N):	Su Inu (B7 Sp Co Ma Hy Od Dry Wa	any one indicator is rface Soil Cracks (E indation Visible on (7) arsely Vegetated incave Surface (B8) arl Deposits (B15) drogen Sulfide lor (C1)	sufficient)  Solution  Sufficient)  Aerial Ima	gery C	Vater-stained eaves (B9)	INDICATORS  Important (B10)	Stunted or Stressed Plants (D1)  Geomorphic Position (D2)  Shallow Aquitard (D3)  Microtopographic Relief (D4)  FAC-Neutral Test (D5)	
Hydric Soil F Notes: Soil F No	Present (Y/N):/  Present (Y/N):/  Y PRIMARY INDICAT  er (A1)  Table (A2)  (B1)  posits (B2)  G (B3)  Crust (B4)  Present (Y/N):/  Y PRIMARY INDICAT	Su Inu (B7 Sp Co Ma Hy Od Dry Wa	any one indicator is rface Soil Cracks (E indation Visible on A 7) arsely Vegetated ncave Surface (B8) in Deposits (B15) drogen Sulfide lor (C1) y-Season atter Table (C2) k	sufficient)  Solution  Sufficient)  Aerial Ima	gery C	Vater-stained eaves (B9)	INDICATORS  Important (B10)	Stunted or Stressed Plants (D1)  Geomorphic Position (D2)  Shallow Aquitard (D3)  Microtopographic Relief (D4)  FAC-Neutral Test (D5)	
Hydric Soil Politics:	Present (Y/N):   http://www.yfSac.  Y PRIMARY INDICAT  Pr (A1)	Su Inu (B7 Sp Co Ma Hy Od Dry Wa	any one indicator is rface Soil Cracks (E indation Visible on A arsely Vegetated incave Surface (B8) arl Deposits (B15) _ drogen Sulfide for (C1)N y-Season ater Table (C2)N her (Explain in Note	sufficient)  Sefi J  Aerial Ima  J  Sefi S  Se	gery C	Vater-stained eaves (B9)	INDICATORS  Important (B10)	Stunted or Stressed Plants (D1)  Geomorphic Position (D2)  Shallow Aquitard (D3)  Microtopographic Relief (D4)  FAC-Neutral Test (D5)	
Hydric Soil Politics:	Present (Y/N):/  Present (Y/N):/  Y PRIMARY INDICAT  er (A1)  Table (A2)  (B1)  posits (B2)  G (B3)  Crust (B4)  Present (Y/N):/  Y PRIMARY INDICAT	Su Inu (B7 Sp Co Ma Hy Od Dry Wa	any one indicator is rface Soil Cracks (E indation Visible on A 7) arsely Vegetated ncave Surface (B8) in Deposits (B15) drogen Sulfide lor (C1) y-Season atter Table (C2) k	sufficient)  Sefi J  Aerial Ima  J  Sefi S  Se	gery D	Vater-stained eaves (B9)  Prainage Patter Didized Rhize iving Roots (Coresence of Recon (C4)  Falt Deposits (Coresence of Recon (C4)	indicators (Management of America)  educed  C5)  from calculation of that of that of that of the american of the a	Stunted or Stressed Plants (D1)  Geomorphic Position (D2)  Shallow Aquitard (D3)  Microtopographic Relief (D4)  FAC-Neutral Test (D5)  FAC-Neutral Test (D5)	
Hydric Soil Politics: Soil Politics: Soil Politics: Soil Politics: Soil Politics: Surface Water Marks Sediment Deposits Algal Mat or Coron Deposits Surface Water	Present (Y/N):   http://www.yfSac.  Y PRIMARY INDICAT  Pr (A1)	Su Inu (B7 Sp Co Ma Hy Od Dry Wa	any one indicator is rface Soil Cracks (E indation Visible on A arsely Vegetated incave Surface (B8) arl Deposits (B15) _ drogen Sulfide for (C1)N y-Season ater Table (C2)N her (Explain in Note	sufficient)  Sefi J  Aerial Ima  J  Sefi S  Se	gery D	Vater-stained eaves (B9)  Prainage Patter Didized Rhize iving Roots (Coresence of Recon (C4)  Falt Deposits (Coresence of Recon (C4)	INDICATORS  Important (B10)	Stunted or Stressed Plants (D1)  Geomorphic Position (D2)  Shallow Aquitard (D3)  Microtopographic Relief (D4)  FAC-Neutral Test (D5)  FAC-Neutral Test (D5)	
HYDROLOGY Surface Water High Water To Saturation (A: Water Marks Sediment Deposits Algal Mat or Coron Deposits Surface Water	Present (Y/N):   Y PRIMARY INDICAT  OF (A1)  Cable (A2)  (B1)  Dosits (B2)  Crust (B4)  F (B5)  Present (Y/N):  Present (Y/N):  Present (Y/N):	Su Inu (B7 Sp Co Ma Hy Od Dry Wa	any one indicator is rface Soil Cracks (E indation Visible on A 7) arsely Vegetated incave Surface (B8) arl Deposits (B15) drogen Sulfide for (C1) y-Season ater Table (C2) her (Explain in Note	sufficient)  Sefi J  Aerial Ima  J  Sefi S  Se	gery D	Vater-stained eaves (B9)	indicators (Management (Manage	Stunted or Stressed Plants (D1)  Geomorphic Position (D2)  Shallow Aquitard (D3)  Microtopographic Relief (D4)  FAC-Neutral Test (D5)  FAC-Neutral Test (D5)	

# AQUATIC SITE ASSESSMENT DATA FORM

VEGETATION VARIABLES P= Plot, M= Matrix
Primary Vegetation Type (P):       Vegetation Lacking Forested-Deciduous-Needle-leaved Forested-Deciduous-Needle-leaved Scrub Shrub-Deciduous-Broad-leaved Scrub Shrub-Evergreen-Needle-leaved
Percent Cover (P): Tree (>5 dbh, >6m tall)       O       Sapling (<5 dbh, <6m tall)
Number of Wetland Types (M): Evenness of Wetland Type Distribution (M): Even Highly Uneven Moderately even
Vegetation Density/Dominance (P):         Sparse (0-20%)         Low Density (20-40%)         Medium Density (40-60%)         High Density (60-80%)
Interspersion of Cover & Open Water (P): 100% Cover or Open Water <a href="#"></a>
Plant Species Diversity (P): Low (< 5 plant species) Medium (5-25 species) High (>25)
Presence of Islands (M): Absent (none) One or Few Several to Many N/A
Cover Distribution of Dominant Layer (P): No Veg Solitary, Scattered Stems 1 or More Large Patches; Parts of Site Open Small Scattered Patches Continuous Cover
Dead Woody Material (P): Low Abundance (0-25% of surface) Moderately Abundant (25-50% of surface) Abundant (>50% of surface)
Vegetative Interspersion (P): Low (large patches, concentric rings) Moderate (broken irregular rings) High (small groupings, diverse and interspersed)
HGM Class (P): Slope Flat_x Lacustrine Fringe Depressional Riverine Estaurine Fringe
COU VARIABLES
Soil Factors (P): Soil Lacking Histosol:Fibric Histosol:Hemic Histosol: Sapric
Mineral: Gravelly Mineral: Sandy Mineral: Silty_ & Mineral: Clayey
HYDROLOGIC VARIABLES
HYDROLOGIC VARIABLES   Inlet/Outlet
Inlet/Outlet Class (P): No Inlet/Outlet X No Inlet/Intermittent Outlet No Inlet/Perennial Outlet Intermittent Inlet/No Outlet Perennial Outlet Perennial Outlet Perennial Inlet/No Outlet Perennial Outlet Perennial Outlet Perennial Inlet/No Outlet Perennial Outle
Inlet/Outlet Class (P): No Inlet/Outlet No Inlet/Intermittent Outlet No Inlet/Perennial Outlet Intermittent Inlet/Intermittent Inlet/Intermittent Inlet/Perennial Outlet Perennial Inlet/Intermittent Outlet Perennial Inlet/Intermittent Outlet Perennial Inlet/Perennial Outlet Perennial Inlet/Intermittent Outlet Perennial Inlet/Perennial Inlet/Perennial Inlet/Perennial Inlet/Perennial Inlet/No Outlet Perennial Inlet/Perennial
Inlet/Outlet Class (P): No Inlet/Outlet No Inlet/Intermittent Outlet No Inlet/Perennial Outlet Intermittent Inlet/Intermittent Inlet/Intermittent Inlet/Intermittent Inlet/Intermittent Inlet/Perennial Outlet Perennial Inlet/Intermittent Outlet Perennial Inlet/Perennial Outlet Perennial Inlet/Perennial
Inlet/Outlet Class (P): No Inlet/Outlet No Inlet/Intermittent Outlet No Inlet/Perennial Outlet Intermittent Inlet/Intermittent Inlet/Intermittent Inlet/Intermittent Inlet/Intermittent Inlet/Intermittent Inlet/Intermittent Inlet/Intermittent Inlet/Perennial Outlet Perennial Inlet/Intermittent Outlet Perennial Inlet/Perennial Outlet Perennial Inlet/Perennial Inlet/Perennial Outlet Perennial Inlet/No O
Inlet/Outlet Class (P): No Inlet/OutletX No Inlet/Intermittent Outlet No Inlet/Perennial Outlet Intermittent Inlet/No Outlet Intermittent Inlet/Intermittent Outlet Intermittent Inlet/Perennial Outlet Perennial Inlet/No Outlet Perennial Inlet/Intermittent Outlet Perennial Inlet/Perennial Outlet Perennial Inlet/Perennial Outlet Perennial Inlet/Perennial Outlet Perennial Inlet/Perennial Outlet Perennial Inlet/No Outlet Perennial Inl
Inlet/Outlet Class (P): No Inlet/Outlet X No Inlet/Intermittent Outlet Intermittent Inlet/Intermittent Inlet
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Inlet/Outlet Class (P): No Inlet/Outlet ★ No Inlet/Intermittent Outlet
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Inlet/Outlet Class (P): No Inlet/Outlet  No Inlet/Intermittent Outlet  Intermittent Inlet/No Outlet  Intermittent Inlet/Intermittent Inlet/Intermi

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### Wetland Determination Form QA/QC Checklist

This form to be completed before leaving the field site.

eature	e ID: 684 A 7024 Field Target: 15220 Date: 7/13/15
	items not checked, please provide detailed explanation in the notes section of data form.
1.	Site Description
	Site description, site parameters and summary of findings are complete?  A detailed site sketch is included in logbook?
2.	Vegetation
	At least 80% of onsite vegetation has been keyed to species, or collected for later identification?  Vegetation names are entered legibly for all strata present?  Cover calculations are complete and correct?  All dominant species have been determined and recorded per strata?  Indicator status is correct for each species?  Dominance Test and Prevalence Index have been completed?
3.	Soil
	Soil profile is complete? Appropriate hydric soil indicators are marked?
4.	Hydrology
	<ul> <li>□ Appropriate hydrology indicators are marked?</li> <li>□ Surface water, water table, and saturation depths are recorded if present?</li> </ul>
5.	Functions and Values
	□ Vegetation, soil, hydrologic variables, and landscape variables complete if site is a wetland?
6.	Field Logbook
	Notes have been recorded at each site, including general description, sketch, and accuracy of pre-mapped wetland boundary as appropriate?  Each logbook page is initialed and dated?
7.	Maps
	☐ Wetland boundaries have been corrected if necessary? ☐ Maps are initialed and dated?

#### 8. Photos

Four photos were taken for each Wetland Determination Data Form (2 vegetation, 1 soil pit, 1 soil plug)?

Two photos were taken for each Observation Point (vegetation/site overview)?

Wetland Scientist (print)

Signature / Date

Field Crew Chief (print)

Signature / Date

SITE DESCRIPTION						
Survey Type: Centerline Acce	ss Road (explain)	Other (expl	ain)	Field Targ	et: <u>1522</u> /	Map #: ハム Map Date: 6/29
Date: 7/3/15	Project Name & No.:	Alaska LNC	60418403		Feature Id:	W84A4025
Investigators: Fryan St	cone - Abia	ayle i	Sher			Team No.: WKY
State: Alaska	Region: Alaska	J	Milepost: 7			
Latitude: 66°49'16.98	3."N	Longitude	150°3	7/12/1	12"W	Datum: WGS84
Logbook No.: 🕜 ſ	Logbook Page No.:	47	Picture No.:	P-W8	MAYOZ	RSJEG-VEG PIT
SITE PARAMETERS						
Subregion: Interior High	inds					s, etc.): lerrace
Slope (%): 1-3 % est mate			Local relief (c	concave, conv	/ex, none): T	- lat to slightly convex
Pre-mapped Alaska LNG/NWI classifica	ation: PEMI/551	B, 11/A2,11	Evidence of V	Wildlife Use:	No +	ussocki možerate
Are climatic/hydrologic conditions on the Yes No (if no exp	e site typical for this time lain in Notes)	of year?	Are "No Yes_v	ormal Circum No		sent: olain in Notes.)
Are Vegetation, Soil, or Hy	drology Significant	ly Disturbed?	No <sub>x</sub>	(If yes, expl	lain in Notes	
Are Vegetation, Soil, or Hy	drology Naturally F	Problematic?	No/	∑(If yes, exp	lain in Notes	.)
SUMMARY OF FINDINGS						
Hydrophytic Vegetation Present? Yes_	No	ls	the Sampled A	Area within a	Wetland?	Yes No
Hydric Soil Present? Yes_		w	etland Type: (	PSSILEM	US M.	xe 2 shrub-se de tossacle
Wetland Hydrology Present? Yes_	7 No	— AI	aska Vegetatior	n Classificatio	on (Viereck):	11 CZ, 111AZ
Notes and Site Sketch: Please include I corridor. Mixed shrub-se that occures here but very small PICMAR says blueberry patch here express to hade got surrounding burned sits more shellow (9.5)	Poetyssock to , Left the ore is remain. Som . Pain came. for less rain hinted PICMA in) and Sature	ondra, game ~ round a through Still R-Sar ation i	fire stage and and s s were a north dry cons forest s s more a	les throst words.	own bu ssick v complet e ~ S Slight	es intact. Just a few the burned. Good does ago but, this a
New M	155.035 000 000 000 000 000 000 000 000 000	PASILLE PASILL	Barnores	P S C. J.		Plot location adjusted to accomodate access issues. No field mas available for new location

		JESS EASILORS	2 X 40 12 11	
Tree Stratum (Plot sizes: (1961)	Absolute % Cover	Dominant Species? (Y/N)	Indicator Status	Dominance Test worksheet:  No. of Dominant Species that are OBL, FACW, or FAC:(A
1,-				Total Number of Dominant Species Across All Strata:(B
2.				% Dominant Species that are OBL, FACW, or FAC: LOO (A/E
3.				
4.			:=:	Prevalence Index worksheet:
Total Cove	r:			Total % Cover of: Multiply by:
50% of total cove	r: 20	% of total cov	/er:	OBL species:X 1 =
Sapling/Shrub Stratum ( 26 + )	_Absolute_ % Cover	Dominant Species? (Y/N)	_ Indicator Status	FACW species:
1. Vaccinium uliginosur	7 35	7	FAC	
2. Betula nuna	17	Y =	FAC	UPL species
3. Chadadendrum Jonen	OSVM 20	7	FACU	PI = B/A = 237
4. Andromeda politolia	T		Fach	
5 Jacciniam oxycoccus			OBV	
6. Picea marana	2		FACIN	
7. Varcinum vitis idaea	T.		Full	
8.				
9.				
Total Cover				
50% of total cove	r: <u> </u>	% of total cov	er: <u> /~{.}}'</u>	
VEGETATION (use scientific names of plant	s)	Pin Special		
Herb Stratum (26 PT)	Absolute	Dominant	Indicator	Hydrophytic Vegetation Indicators:
	% Cover	Species? (Y/N)	Status	Dominance Test is > 50%
1. Eripphrum vaginata	65	7	FACU	
2. Runus Chamemorns	2		FACW	Morphological Adaptations¹ (Provide supporting data in Notes)
3. (asex biaelowi.			Fac	Problematic Hydrophytic Vegetation¹ (Explain)
4.				Indicators of hydric soil and wetland hydrology must be present unless
5.	-			disturbed or problematic.
6.				
7.	J.			% Bare Ground
8.				% Cover of Wetland Bryophytes
9.				Total Cover of Bryophytes
				% Cover of Water
10.				
Total Cover	r: 69			Hydrophytic Vegetation Present (Y/N):

SOIL			DateF	eature ID			Soil Pit Required (Y/N)
SOIL PROF	ILE DESCRIPTION: (D	escribe	to the depth neede	d to documen	the indicator or	confirm the absence	
Depth	Matrix		Redox Features				
(inches)	Color (moist)	1%	Color (moist)	% Тур	e <sup>1</sup> Loc <sup>2</sup>	Texture	Notes
0-7		1		<del>    "</del>		- f.bric	densel compact
7-9.5						hemic	Jense - some evidence
a <-17						fibric	forzen Alphaalphe pos
3-16	7.5-12 25/3					S.L.	Alpha alpha positive
							ice langes - ice rich
	oncentration, D=Deplet	tion, RN	/=Reduced Matrix, (	CS=Covered o	r Coated Sand		: PL=Pore Lining, M=Matrix.
District of the last	IL INDICATORS						FOR PROBLEMATIC HYDRIC SOIL
	listel (A1)		Alaska Gleye		<del></del>	Alaska Color (	Change (TA4)⁴ <u>√</u>
	don (A2)		Alaska Redox			Alaska Alpine	Swales (TA5)
Black Histic	(A3) ~		Alaska Gleye	d Pores (A15)	<u> </u>		with 2.5Y Hue
Hydrogen Su	ulfide (A4) <i>\lambda</i>		3			Alaska Gleyed	without 5Y Hue or Redder Underlying
	Surface (A12)	_					n in Notes) Reduced making ape position must be present unless
Restrictive L	of color change in Not ayer (if present): Type	Per		Depth (inches		ve frost t	able Alpha alpha pos
Hydric Soil  Notes:	Present (Y/N): 7	Per	saturations conditions	, noss	acs are a		able. Alpha alpha popacity above the fro
Hydric Soil  Notes:	ayer (if present): Type	Per	saturations conditions	, noss	SECONDAP	RY INDICATORS (2	2 or more required)
Hydric Soil Notes:	Present (Y/N): 7	ORS (a	any one indicator is s	sufficient)	acs are a	RY INDICATORS (2	4
Hydric Soil Notes: A C C C C C C C C C C C C C C C C C C C	Present (Y/N): 7  Present (Y/N	ORS (a	any one indicator is strace Soil Cracks (Bradation Visible on A	sufficient)	SECONDAR Water-staine Leaves (B9)	ed	2 or more required) Stunted or Stressed
Hydric Soil Notes:	Present (Y/N): 7  Present (Y/N	ORS (a	any one indicator is strace Soil Cracks (Brandation, Visible on A	sufficient)  6) \( \sum_{\text{derial Imagery}} \)	SECONDAR  Water-staine Leaves (B9)  Drainage Pa  Oxidized Rh Living Roots	ed utterns (B10) izospheres along (C3)	Stunted or Stressed Plants (D1)  Geomorphic Position (D2)  Shallow Aquitard (D3)
Hydric Soil Notes: A C C C C C C C C C C C C C C C C C C C	Present (Y/N): 7  Present (A1)	CORS (a Sull Inu (B7 Co	any one indicator is strace Soil Cracks (Bindation Visible on Air)	sufficient)  6) \( \sum_{\text{terial Imagery}} \)	SECONDAR Water-staine Leaves (B9) Drainage Pa	ed utterns (B10) izospheres along (C3) Reduced	Stunted or Stressed Plants (D1)  Geomorphic Position (D2)
Hydric Soil Notes:  HYDROLOG Surface Wate High Water T Saturation (A	Present (Y/N): 7  Present (A1)	ORS (a Sui Inu (B7 Co Ma Hyu Od	any one indicator is strace Soil Cracks (Bundation Visible on An arsely Vegetated incave Surface (B8) or Deposits (B15)drogen Sulfide or (C1)	sufficient)  6) \( \sum_{\text{terial Imagery}} \)	SECONDAF  Water-staine Leaves (B9)  Drainage Pa  Oxidized Rh Living Roots  Presence of Iron (C4)  Salt Deposit	ed itterns (B10) izospheres along (C3) Reduced s (C5)	Stunted or Stressed Plants (D1)  Geomorphic Position (D2)  Shallow Aquitard (D3)  Microtopographic Relief (D4)  FAC-Neutral Test (D5)
Hydric Soil  Notes:  HYDROLOG  Surface Wate  High Water T  Saturation (A  Water Marks  Sediment De	Present (Y/N): 7  Present (A1)	Sun Inu (B7 Co	any one indicator is strace Soil Cracks (Bindation Visible on Ary) — Arsely Vegetated incave Surface (B8)  rl Deposits (B15) — drogen Sulfide	sufficient)  6) \( \sum_{\text{N}} \)  Aerial Imagery  \( \sum_{\text{N}} \)	SECONDAF  Water-staine Leaves (B9)  Drainage Pa  Oxidized Rh Living Roots  Presence of Iron (C4)  Salt Deposit	ed itterns (B10) izospheres along (C3) Reduced s (C5)	Stunted or Stressed Plants (D1)  Geomorphic Position (D2)  Shallow Aquitard (D3)  Microtopographic Relief (D4)
Hydric Soil Notes:  HYDROLOG Surface Wate High Water T Saturation (A Water Marks Sediment De	Present (Y/N): 7  Present (A1)	Sur Inu (B7 Co Ma Hyu Od Dry Wa	any one indicator is strace Soil Cracks (Braces) Vegetated nave Surface (B8) rl Deposits (B15) drogen Sulfide or (C1)	sufficient)  6) \( \lambda \)  Aerial Imagery	SECONDAF  Water-staine Leaves (B9)  Drainage Pa  Oxidized Rh Living Roots  Presence of Iron (C4)  Salt Deposit	ed itterns (B10) izospheres along (C3) Reduced s (C5)	Stunted or Stressed Plants (D1)  Geomorphic Position (D2)  Shallow Aquitard (D3)  Microtopographic Relief (D4)  FAC-Neutral Test (D5)
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Hydric Soil Notes:  HYDROLOG Surface Wate High Water To Saturation (A Water Marks Sediment De Drift Deposite Algal Mat or Iron Deposits	Present (Y/N): 7  Present (Y/N	ORS (a Sun Inu (B7 Co Ma Hyu Od Dr) Wa	any one indicator is sufface Soil Cracks (Bundation Visible on August 2007)  arsely Vegetated incave Surface (B8)  If Deposits (B15)  drogen Sulfide or (C1)  August 2007  Aug	sufficient)  6) \( \lambda \)  Aerial Imagery	SECONDAF Water-staine Leaves (B9) Drainage Pa Oxidized Rh Living Roots Presence of Iron (C4) Salt Deposit Notes:	ed utterns (B10) izospheres along (C3) Reduced s (C5)	Stunted or Stressed Plants (D1)   Geomorphic Position (D2)   Shallow Aquitard (D3)   Microtopographic Relief (D4)   FAC-Neutral Test (D5)   Accol. Dec. con 2. Homes
Hydric Soil Notes:  HYDROLOG Surface Wate High Water To Saturation (A Water Marks Sediment De Drift Deposite Algal Mat or Iron Deposite Surface Wate	Present (Y/N): 7  Present (A1)	ORS (a Sun Inu (B7 Co Ma Hyu Od Dr) Wa	any one indicator is sufface Soil Cracks (Bundation Visible on An arsely Vegetated incave Surface (B8) or (C1)	sufficient)  6) \( \lambda \)  Aerial Imagery	SECONDAF Water-staine Leaves (B9) Drainage Pa Oxidized Rh Living Roots Presence of Iron (C4) Salt Deposit Notes:	ed itterns (B10) izospheres along (C3) Reduced s (C5)	Stunted or Stressed Plants (D1)   Geomorphic Position (D2)   Shallow Aquitard (D3)   Microtopographic Relief (D4)   FAC-Neutral Test (D5)   Accol. Dec. con 2. Homes

# AQUATIC SITE ASSESSMENT DATA FORM

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Percent Cover (P): Tree (>5 dbh, >6m tall)         Ø         Sapling (<5 dbh, <6m tall)         Q         Tall shrub (2-6m)         Ø         Short shrub (0.5-2m)         SQ           Dwarf shrub (<0.5m)
Number of Wetland Types (M): Evenness of Wetland Type Distribution (M): Even Highly Uneven Moderately even
Vegetation Density/Dominance (P):         Sparse (0-20%)         Low Density (20-40%)         Medium Density (40-60%)         High Density (60-80%)
Interspersion of Cover & Open Water (P): 100% Cover or Open Water <a href="#">25% Scattered/Peripheral Cover26-75% Scattered or Peripheral CoverN/A</a>
Plant Species Diversity (P): Low (< 5 plant species) Medium (5-25 species) High (>25)
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SOIL VARIABLES  Soil Factors (P): Soil Lacking Histosol:Fibric Histosol:Hemic Histosol: Sapric
Soil Factors (P): Soil Lacking Histosol:Fibric Histosol:Hemic Histosol: Sapric Mineral: Gravelly Mineral: Sandy Mineral: Silty x Mineral: Clayey
HYDROLOGIC VARIABLES
HYDROLOGIC VARIABLES  Inlet/Outlet Class (P): No Inlet/Outlet No Inlet/Intermittent Outlet No Inlet/Perennial Outlet Intermittent Inlet/Intermittent Inlet/Intermittent Inlet/Perennial Outlet Perennial Inlet/Intermittent Outlet Perennial Inlet/Intermittent Outlet Perennial Inlet/Intermittent Outlet Perennial Inlet/Intermittent Outlet Perennial Inlet/Perennial Outlet Perennial Inlet/Intermittent Outlet Perennial Inlet/Intermittent Outlet Intermittent Outlet Intermittent Outlet Inlet/Intermittent In
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### Wetland Determination Form QA/QC Checklist

This form to be completed before leaving the field site.

Feature	e ID: 1584 A 1025 Field Target: 15 221 Date: 7/17/15
	items not checked, please provide detailed explanation in the notes section of data form.
92	
1.	Site Description
	☐ Site description, site parameters and summary of findings are complete? ☐ A detailed site sketch is included in logbook?
2.	Vegetation
	At least 80% of onsite vegetation has been keyed to species, or collected for later identification?
	<ul> <li>☑ Vegetation names are entered legibly for all strata present?</li> <li>☑ Cover calculations are complete and correct?</li> </ul>
	All dominant species have been determined and recorded per strata? Indicator status is correct for each species? Dominance Test and Prevalence Index have been completed?
3.	Soil
	<ul><li>☒ Soil profile is complete?</li><li>☒ Appropriate hydric soil indicators are marked?</li></ul>
4.	Hydrology
	Appropriate hydrology indicators are marked?  Surface water, water table, and saturation depths are recorded if present?
5.	Functions and Values
	Vegetation, soil, hydrologic variables, and landscape variables complete if site is a wetland?
6.	Field Logbook
	Notes have been recorded at each site, including general description, sketch, and accuracy of pre-mapped wetland boundary as appropriate?  Each logbook page is initialed and dated?
7.	Maps
$V_1$ $\emptyset$	☐ Wetland boundaries have been corrected if necessary? Find moved, no map ☐ Maps are initialed and dated?

### 8. Photos

Four photos were taken for each Wetland Determination Data Form (2 vegetation, 1 soil pit, 1 soil plug)?

Two photos were taken for each Observation Point (vegetation/site overview)?

Wetland Scientist (print)

Signature / Date

Field Crew Chief (print)

Signature / Date

Survey Type: Centerline Acces  Date: 7/14/15	ss Road (explain) Project Name & No.:	Other (expla	60418403		get: \( \le \subseteq \frac{15 \text{26}}{15} \)	Map #: 35 W84A4	601
7./(1/1/)					T eature id.		
	ong, Abigayl	elish		1.6.	0.0.	Team No.:	Wey
State: Alaska	Region: Alaska	- 4	Milepost:	7/10/11			
Latitude: 66 34 55.61	N	Longitude:	15004	524	84 h	_Datum: W	GS84
Logbook No.: ()	Logbook Page No.:	48	Picture No.:	2 W84	A-102C	_VE6_V	EG_PIT_PLUC
SITE PARAMETERS					tax a		
Subregion: Interior			Landform (hill	slope, terra	ce, hummocks	s, etc.): Ba	elestope
Slope (%): 7% MENSUICE a	spectiw 280	٥	Local relief (c	oncave, cor	vex, none): 1	Tat 11	rummocky - Mai
Pre-mapped Alaska LNG/NWI classifica		(2 11/AL	Evidence of V	Vildlife Use:	None	~5.	ome CARBIG and
Are climatic/hydrologic conditions on the	VIV (II	of year?		ormal Circur	nstances" pre	sent:	
Are Vegetation, Soil, or Hy	4	lly Disturbed?			plain in Notes)		
Are Vegetation, Soil, or Hy	drology Naturally P	Problematic?	No_X	_ (If yes, ex	plain in Notes	.)	
SUMMARY OF FINDINGS						7743	
Hydrophytic Vegetation Present? Yes_	No	Is t	the Sampled A	rea within	a Wetland?	Yes	No
Hydric Soil Present? Yes_	No <u>×</u> _	We	etland Type: (	500			
Wetland Hydrology Present? Yes_  Notes and Site Sketch: Please include I corridor.	Directional & North Arrow	v, Centerline, I		re, Distance	es from Center	line, Photo L	ocations, and Survey
Notes and Site Sketch: Please include I corridor.  Burned PICMAR - Son,  Rhistom, Frost debt  has numerous frost debt  heaves are largely to  here  B1  B2  B2	Directional & North Arrow	Alnus vi	Length of feature 3 -	re, Distance	h srib 1  L fire 5  Loto	birch, V	Acull Sacker Tors of fres
Notes and Site Sketch: Please include I corridor.  Burned PICMAR - Son,  RNSTOWN, Frost debt  has numerous frost debt  heaves are largely to  here  B1  B2  B2	Directional & North Arrow  P. Mos 21an2  To appears to 1  There are to be  There are to be	Alnus vi	A ATOZE U;11CZ,11 BUSAES	re, Distance 7' with 2	h srib 1  L fire 5  Loto	nich, V	ACULI, SALBE Sago The on Tors of fros

Tree Stratum (Plot sizes: 100 fl	Absolute % Cover	Dominant Species? (Y/N)	Indicator Status	Dominance Test worksheet:  No. of Dominant Species that are OBL, FACW, or FAC:  Total Number of Dominant Species Across All Strata:
1. Picea Mariana			Forch	
2.				% Dominant Species that are OBL, FACW, or FAC: 100(
3.				
1.				Prevalence Index worksheet:
Total Cove	r:			Total % Cover of: Multiply by:
50% of total cove	r:	0% of total cov	ver:	OBL species: X 1 =
Sapling/Shrub Stratum ( 26 ++ )	Absolute	Dominant	Indicator	FACW species: X 2 = CO
	% Cover	Species? (Y/N)	Status	FAC species 76 X 3 = 228  FACU species 7 X 4 = 12
· Vaccinium wiginosum	28	Y	Fee	UPL speciesX 5 =
Phochodendrum tomento	SUA 5		Factor	Column Totals: 99 (A) 280 (B)
3. Alnus Viridis son fruticos	hil	Y	Fac	PI = B/A = 337
4. Vaccinum vitistidola			Far	Shows
5. Betula Nana	6		FAC	
3. Betula alandulosa	5		TAC	Vaccinium oxycoccus ST UBL Loiseleuria procumbens ST
Salix bebreiana	1		EAC	Loiselevia procumbers st
3. Andromeda politalia	. (		Foch	
3. Poul us tremulaidos (is	40		Fact)	
Total Cover	1			
	~ D -			
50% of total cover	r: 205 20	% of total cov	/er: <u> {                                   </u>	
		% of total cov	/er: <u>[[ 1                                  </u>	
/EGETATION (use scientific names of plants		O% of total cov	ver: // 4 //	Hydrophytic Vegetation Indicators:
/EGETATION (use scientific names of plants	s)	Dominant Species?		Hydrophytic Vegetation Indicators:  Dominance Test is > 50%
/EGETATION (use scientific names of plants	s) Absolute	Dominant	Indicator Status	V
/EGETATION (use scientific names of plants Herb Stratum ( 36 )	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test is > 50%
1. Eriopherum vagnatum 2. Chanerian angustifali	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test is > 50%  Prevalence Index is ≤ 3.0  Morphological Adaptations¹ (Provide supporting data in Notes)
1. Eriopherum vaginatum 2. Chamerian angustifoli 3. Rubons Chamas morres	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test is > 50%  Prevalence Index is ≤ 3.0  Morphological Adaptations¹ (Provide supporting data in
1. Ecophorum vaginatum 2. Chamerian angustifoli 3. Rubons Chamas morres	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test is > 50%  Prevalence Index is ≤ 3.0  Morphological Adaptations¹ (Provide supporting data in Notes)  Problematic Hydrophytic Vegetation¹ (Explain)  ¹ Indicators of hydric soil and wetland hydrology must be present unless
1. Ecopharum vagnatum  2. Chamecian angustifoli  3. Rubus chamas morus  4. Consolidation	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test is > 50%  Prevalence Index is ≤ 3.0  Morphological Adaptations¹ (Provide supporting data in Notes)  Problematic Hydrophytic Vegetation¹ (Explain)
1. Ecophorum vagnatum  2. Chamerian angustifoli  3. Rubus chamas morus  4. Carex bige lown  5. Calangagrashs lappo	Absolute % Cover	Dominant Species?	Indicator Status  Facul Facul Facul	Dominance Test is > 50%  Prevalence Index is ≤ 3.0  Morphological Adaptations¹ (Provide supporting data in Notes)  Problematic Hydrophytic Vegetation¹ (Explain)  Indicators of hydric soil and wetland hydrology must be present unless
1. Eriopherum vagnatum 2. Chamerian angustifoli 3. Rubus chamas morus 4. Carex bige lawii 5. Calangagrashs lapooi 6. Aconggonan glashan	Absolute % Cover	Dominant Species?	Indicator Status  Tacul FAC FAC	Dominance Test is > 50%  Prevalence Index is ≤ 3.0  Morphological Adaptations¹ (Provide supporting data in Notes)  Problematic Hydrophytic Vegetation¹ (Explain)  Indicators of hydric soil and wetland hydrology must be present unless
1. Eciopherum vagnatum  2. Chamerian angustifoli  3. Rubus chamas morus  4. Caret bige lowin  5. Calangagrastis lapoon  6. Aconggonan glashanu  7. Caret Jagnaha	Absolute % Cover	Dominant Species?	Indicator Status  Facult  FAC  FAC  FAC  FAC  OBL	Dominance Test is > 50%  Prevalence Index is ≤ 3.0  Morphological Adaptations¹ (Provide supporting data in Notes)  Problematic Hydrophytic Vegetation¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present unless disturbed or problematic.
1. Eriopherum vaginatum 2. Chamerian angustifoli 3. Rubons chamas morus 4. Carex bige layou 6. Aconggonan glashanu 7. Carex plumosa	Absolute % Cover	Dominant Species?	Indicator Status  FACU  FACU  FAC  FAC  FAC	Dominance Test is > 50%  Prevalence Index is ≤ 3.0  Morphological Adaptations¹ (Provide supporting data in Notes)  Problematic Hydrophytic Vegetation¹ (Explain)  ¹ Indicators of hydric soil and wetland hydrology must be present unless disturbed or problematic.
1. Eriopherum vaginatum 2. Chamerian angustifoli 3. Rubons chamas morus 4. Carex biae lawii 5. Calangagiastis lapooi 6. Aconggonan glashani 7. Carex plumosa 9.	Absolute % Cover	Dominant Species?	Indicator Status  Facult  FAC  FAC  FAC  FAC  OBL	Dominance Test is > 50%  Prevalence Index is ≤ 3.0  Morphological Adaptations¹ (Provide supporting data in Notes)  Problematic Hydrophytic Vegetation¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present unless disturbed or problematic.  Bare Ground  Cover of Wetland Bryophytes
1. Ecophorum vagnatum 2. Manerian angustifali 3. Rubus chamas morus 4. Carex biae layuri 5. Calamagras a lasharu 7. Carex bianas agas 8. Bistonta plumosa 9.	Absolute % Cover	Dominant Species?	Indicator Status  Facult  FAC  FAC  FAC  FAC  OBL	Dominance Test is > 50%  Prevalence Index is ≤ 3.0  Morphological Adaptations¹ (Provide supporting data in Notes)  Problematic Hydrophytic Vegetation¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present unless disturbed or problematic.  **D**  **O**  **O**
1. Ecophorum Vaginatum 2. Chamerian angusticoli 3. Rubus chamas morus 4. Carex Dige lavini 5. Calangaras la poor 6. Aconggonan glashan 7. Carex Jaginata 8. Bistarta plumosa 9. 10. Total Cover	Absolute % Cover	Dominant Species? (Y/N)	Indicator Status  Facultación	Dominance Test is > 50%  Prevalence Index is ≤ 3.0  Morphological Adaptations¹ (Provide supporting data in Notes)  Problematic Hydrophytic Vegetation¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present unless disturbed or problematic.     O
1. Ecophorum vagnatum 2. Manerian angustifali 3. Rubus chamas morus 4. Carex biae layuri 5. Calamagras a lasharu 7. Carex bianas agas 8. Bistonta plumosa 9.	Absolute % Cover	Dominant Species?	Indicator Status  Facultación	Dominance Test is > 50%  Prevalence Index is ≤ 3.0  Morphological Adaptations¹ (Provide supporting data in Notes)  Problematic Hydrophytic Vegetation¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present unless disturbed or problematic.  **O % Bare Ground**  **O % Bare Ground**  **O Cover of Wetland Bryophytes**  Total Cover of Bryophytes**  **O Cover of Water**  **Hydrophytic Vegetation Present (Y/N):**  **D Morphological Adaptations¹ (Provide supporting data in Notes)  **O Cover of Water**  **Hydrophytic Vegetation Present (Y/N):**  **Prevalence Index is ≤ 3.0  **Provide supporting data in Notes  **Prevalence Index is ≤ 3.0  **Prevalence Index is ≤

SOIL	327 N. N	67		eature ID_		الأثيار والانت		HILARY	Soil Pit Required (Y/N)
SOIL PROF	ILE DESCRIPTION: (	(Describe	to the depth neede	d to docum	ent the i	indicator or	confirm the absen	nce of in	dicators.)
Depth	Matrix		Redox Features			100			
(inches)	Color (moist)	%	Color (moist)	% T	ype <sup>1</sup>	Loc²	Texture	Not	tes
)-4							fibric		
(-9	10-18 3/3	1.00					SIL	Thi	n A at mineral surk
1-16	10-12 3/I	70					SIL	Cr-(	otorbated Organics
	10-ce 4/1	70							th 10-123/3 material
6-21	25-13/1	70					S.L		
	524/1	30				4			
2.24		100					3.6		Sonal frost - Soft
	oncentration, D≂Depl	letion, RN	/I=Reduced Matrix,	CS=Covere	d or Coa	ated Sand G			Pore Lining, M=Matrix.
HYDRIC SO	IL INDICATORS					Hally 3			PROBLEMATIC HYDRIC SOILS
listosol or ⊢	listel (A1)	-	Alaska Gleye	d (A13)	<u> </u>	-	Alaska Color	Change	e (TA4) <sup>4</sup>
Histic Epiped	don (A2) _\( \sum_		Alaska Redox	(A14)	<u> </u>		Alaska Alpine	e Swales	s (TA5)
Black Histic	(A3)		Alaska Gleye	d Pores (A1	5)		Alaska Redox		
Hydrogen St	ulfide (A4)		-	-			Alaska Gleye	d withou	ut 5Y Hue or Redder Underlying
Thick Dark S	Surface (A12)						Other (Explai	n in Not	res) )
		etation, o	ne primary indicator	of wetland	hydrolo	gy, and an a			sition must be present unless
disturbed or	problematic.							3)	
Give details	of color change in N	otes.		Denth (inch	es). Z	2.2		_	
Restrictive L	aver (if present): Type	oe: Sec.	200001 4-6021						
Restrictive L	ayer (if present): Typ					71	1 1 -	30	
Restrictive L						Soil S Now a	structure Teas have	well-on	I drained soil. For soil at the surface of saturation
Hydric Soil Notes:	Present (Y/N):	Nicros	dropped af either chos	ter fin	9002 e. N		gens have for have and, No Y INDICATORS (		I drained soil. For sat the surface of saturation at the alpha alpha.
Hydric Soil Notes: 12 6		MICHOS (E	dropped af either chos	ter find the sufficient	9002 e. A - CF		Y INDICATORS (		
Hydric Soil Notes: In Inc. HYDROLOG	Present (Y/N):  The many harder of wetter of wetter of the corporation	ATORS (E	any one indicator is rface Soil Cracks (B	sufficient)	9002 e. N - Se - Se - V	SECONDAR Vater-staine eaves (B9)	Y INDICATORS (	(2 or mo	ore required) Stunted or Stressed
Hydric Soil Notes: Hele HydroLog Surface Water	Present (Y/N):  Present (Y/N):	ATORS (a	any one indicator is rface Soil Cracks (B	sufficient)  6) ~	e N S V L	SECONDAR Vater-staine eaves (B9) Orainage Pa	tterns (B10)	(2 or mo	Stunted or Stressed Plants (D1)  Geomorphic Position (D2)  Shallow Aquitard (D3)
HYDROLOG Surface Water Saturation (A	Present (Y/N):	ATORS (a	any one indicator is rface Soil Cracks (Bundation Visible on A	sufficient)  6) 2  Aerial Image	e, N S V L L C F	SECONDAR  Vater-staine Leaves (B9)  Orainage Pa	tterns (B10) zospheres along (C3)	(2 or mo	Stunted or Stressed Plants (D1) Geomorphic Position (D2)
Hydric Soil Notes: Hab	Present (Y/N):	ATORS (a Sui Inu (B7 Spa Co Ma	any one indicator is  rface Soil Cracks (Bundation Visible on Angle)  arsely Vegetated incave Surface (B8)	sufficient)  6) 2  Aerial Image	e N Serv C	Vater-staine Leaves (B9) Orainage Par Oxidized Rhi Living Roots Presence of ron (C4)	tterns (B10) zospheres along (C3)	(2 or mo	Stunted or Stressed Plants (D1)  Geomorphic Position (D2)  Shallow Aquitard (D3)
Hydric Soil Notes: Hab	Present (Y/N):	ATORS (a Sui - (B7 Co) Ma Hyo Od	any one indicator is rface Soil Cracks (Bundation Visible on Ary)  arsely Vegetated neave Surface (B8)  rl Deposits (B15)  drogen Sulfide or (C1)  7-Season	sufficient)  6) 2 Aerial Image	e N V L Siry C L F III	Vater-staine Leaves (B9) Orainage Par Oxidized Rhi Living Roots Presence of ron (C4)	tterns (B10) zospheres along (C3)	(2 or mo	Stunted or Stressed Plants (D1)  Geomorphic Position (D2)  Shallow Aquitard (D3)  Microtopographic Relief (D4)
Hydric Soil Notes: Hydric Soil Notes: Hydric Soil Notes: Hydric Soil HydroLog Surface Wat High Water Saturation (A Water Marks Sediment De	Present (Y/N):  Le read to weller recommender (A1)  Table (A2)  (B1)  eposits (B2)	ATORS (a Sui Inu (B7 Spa Co  Ma Hyu Od Dry Wa	any one indicator is rface Soil Cracks (B indation Visible on A r) arsely Vegetated incave Surface (BB) rl Deposits (B15) drogen Sulfide or (C1)	sufficient)  6) 2  Aerial Image	e N V L Siry C L F III	Vater-staine Leaves (B9)  Orainage Parallel Providized Rhisiving Roots  Presence of ron (C4)	tterns (B10) zospheres along (C3)	(2 or mo	Stunted or Stressed Plants (D1)  Geomorphic Position (D2)  Shallow Aquitard (D3)  Microtopographic Relief (D4)
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Hydric Soil Notes: Hydric Soil Notes: Hydrocod HYDROLOG Surface Wat High Water Saturation (A Water Marks Sediment De Drift Deposit Algal Mat or	Present (Y/N):	Sui Inu (B7 Spa Co) Ma Hyu Od Dry Wa	any one indicator is rface Soil Cracks (Bundation Visible on Arguera Surface (B8)  ar Deposits (B15) drogen Sulfide or (C1) v-Season atter Table (C2) mer (Explain in Note:	sufficient) 6) 2 Acrial Image	e N V L Siry C L F III	Vater-staine Leaves (B9)  Orainage Parallel Providized Rhisiving Roots  Presence of ron (C4)	tterns (B10) zospheres along (C3)	(2 or mo	Stunted or Stressed Plants (D1)  Geomorphic Position (D2)  Shallow Aquitard (D3)  Microtopographic Relief (D4)
Hydric Soil Notes: Hydric Soil Notes: Hydrocod HYDROLOG Surface Wat High Water Saturation (A Water Marks Sediment De Drift Deposit Algal Mat or	Present (Y/N):	Sui Inu (B7 Spa Co) Ma Hyu Od Dry Wa	any one indicator is rface Soil Cracks (Bundation Visible on Ary)  arsely Vegetated neave Surface (B8)  rl Deposits (B15)  drogen Sulfide or (C1)	sufficient) 6) 2 Acrial Image	e N V L Eny C L	Vater-staine Leaves (89) Orainage Par Dxidized Rhi Living Roots Presence of Fron (C4)	tterns (B10) zospheres along (C3) Reduced	(2 or mo	Stunted or Stressed Plants (D1)  Geomorphic Position (D2)  Shallow Aquitard (D3)  Microtopographic Relief (D4)  FAC-Neutral Test (D5)
Hydric Soil Notes: Hydric Soil Notes: Hydrocod Hydrocod Surface Wat High Water Saturation (A Water Marks Sediment De Drift Deposit Algal Mat or ron Deposit	Present (Y/N):	Sui Inu (B7 Spa Co) Ma Hyu Od Dry Wa	any one indicator is rface Soil Cracks (Bundation Visible on Arguera Surface (B8)  ar Deposits (B15) drogen Sulfide or (C1) v-Season atter Table (C2) mer (Explain in Note:	sufficient) 6) 2 Acrial Image	e N V L Eny C L	Vater-staine Leaves (89) Orainage Par Dxidized Rhi Living Roots Presence of Fron (C4)	tterns (B10) zospheres along (C3)	(2 or mo	Stunted or Stressed Plants (D1)  Geomorphic Position (D2)  Shallow Aquitard (D3)  Microtopographic Relief (D4)  FAC-Neutral Test (D5)
Hydric Soil Notes: Hydric Soil Notes: Hydrocod Water Water Saturation (A Water Marks Sediment De Drift Deposit Algal Mat or Iron Deposit Surface Water Water Table Saturation P	Present (Y/N):  Present (Y/N):	Sui Inu (B7 Spa Co) Ma Hyu Od Dry Wa	any one indicator is rface Soil Cracks (Bundation Visible on Ary)  arsely Vegetated incave Surface (B8)  rl Deposits (B15)  drogen Sulfide or (C1)\times_  Ary  Ary  Depth (in): A Ary	sufficient) 6) 2 Acrial Image	e N V L Eny C L S N	Vater-staine Leaves (89) Orainage Par Dxidized Rhi Living Roots Presence of Fron (C4)	tterns (B10) zospheres along (C3) Reduced s (C5)	(2 or mo	Stunted or Stressed Plants (D1)  Geomorphic Position (D2)  Shallow Aquitard (D3)  Microtopographic Relief (D4)  FAC-Neutral Test (D5)

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# AQUATIC SITE ASSESSMENT DATA FORM

VEGETATION VARIABLES P= Plot, M= Matrix
Primary Vegetation Type (P): Vegetation Lacking Forested-Deciduous-Needle-leaved Forested-Deciduous-Broad-leaved Forested-Evergreen-Needle-leaved Scrub Shrub-Deciduous-Needle-leaved Scrub Shrub-Deciduous-Broad-leaved Scrub Shrub-Evergreen-Broad-leaved Emergent-Non-persistent Emergent-Persistent Aquatic Bed
Percent Cover (P): Tree (>5 dbh, >6m tall)         Sapling (<5 dbh, <6m tall)         Tall shrub (2-6m)         Short shrub (0.5-2m)           Dwarf shrub (<0.5m)
Number of Wetland Types (M): Evenness of Wetland Type Distribution (M): EvenHighly UnevenModerately even
Vegetation Density/Dominance (P): Sparse (0-20%)         Low Density (20-40%)         Medium Density (40-60%)         High Density (60-80%)           80%)         Very High Density (80-100%)         Were the control of the cont
Interspersion of Cover & Open Water (P): 100% Cover or Open Water <25% Scattered/Peripheral Cover 26-75% Scattered or Peripheral Cover N/A
Plant Species Diversity (P): Low (< 5 plant species) Medium (5-25 species) High (>25)
Presence of Islands (M): Absent (none) One or Few Several to Many N/A
Cover Distribution of Dominant Layer (P): No Veg Solitary, Scattered Stems 1 or More Large Patches; Parts of Site Open Small Scattered Patches Continuous Cover
Dead Woody Material (P): Low Abundance (0-25% of surface) Moderately Abundant (25-50% of surface) Abundant (>50% of surface)
Vegetative Interspersion (P):       Low (large patches, concentric rings)       Moderate (broken irregular rings)         High (small groupings, diverse and interspersed)       —
HGM Class (P): Slope Flat Lacustrine Fringe Depressional Riverine Estaurine Fringe
SOIL VARIABLES
Soil Factors (P): Soil Lacking Histosol:Fibric Histosol:Hemic Histosol: Sapric Mineral: Gravelly Mineral: Sandy Mineral: Silty Mineral: Clayey
HYDROLOGIC VARIABLES
HYDROLOGIC VARIABLES  Inlet/Outlet Class (P): No Inlet/Outlet No Inlet/Intermittent Outlet No Inlet/Perennial Outlet Intermittent Inlet/No Outlet Intermittent Inlet/Intermittent Outlet Perennial Inlet/Perennial Outlet Perennial Outlet Per
Inlet/Outlet Class (P): No Inlet/Outlet No Inlet/Intermittent Outlet No Inlet/Perennial Outlet Intermittent Inlet/No Outlet Perennial Inlet/No Outlet
Inlet/Outlet Class (P): No Inlet/Outlet No Inlet/Intermittent Outlet No Inlet/Perennial Outlet Intermittent Inlet/No Outlet Intermittent Inlet/Intermittent Outlet Perennial Inlet/Perennial Inlet/Pe
Inlet/Outlet Class (P): No Inlet/Outlet No Inlet/Intermittent Outlet No Inlet/Perennial Outlet Intermittent Inlet/Intermittent Inlet/Intermittent Inlet/Intermittent Inlet/Intermittent Inlet/Perennial Outlet Perennial Inlet/Perennial Inlet/Intermittent Outlet Perennial Inlet/Perennial
Inlet/Outlet Class (P): No Inlet/Outlet No Inlet/Intermittent Outlet No Inlet/Perennial Outlet Intermittent Inlet/Intermittent Inlet/Intermittent Inlet/Intermittent Inlet/Intermittent Inlet/Intermittent Inlet/Intermittent Inlet/Perennial Outlet Perennial Inlet/Perennial Inlet/Perennial Outlet Perennial Inlet/No Outlet Perennial Inlet/Perennial Outlet Perennial Inlet/Perennial Outlet Perennial Inlet/No Outle
Inlet/Outlet Class (P): No Inlet/Outlet No Inlet/Intermittent Outlet No Inlet/Perennial Outlet Intermittent Inlet/Intermittent Outlet Intermittent Inlet/Intermittent Outlet Perennial Inlet/Perennial Outlet Perennial Inlet/No Outlet
Inlet/Outlet Class (P): No Inlet/Outlet No Inlet/Intermittent Outlet No Inlet/Perennial Outlet Intermittent Inlet/No Outlet Perennial Inlet/Intermittent Inlet/Intermi
Inlet/Outlet Class (P): No Inlet/Outlet No Inlet/Intermittent Outlet No Inlet/Perennial Outlet Intermittent Inlet/No Outlet Intermittent Inlet/Intermittent Inlet/Intermittent Inlet/Intermittent Inlet/Intermittent Inlet/Perennial Outlet Perennial Inlet/No Outlet Perennial Outlet Perennial Inlet/No Outlet Perennial Inlet/No Outlet Perennial Inlet/No Outlet Perennial Inlet/No Outlet Perennial Inlet/No Outlet Perennial Inlet/No Outlet Perennial Inlet/Perennial Outlet Perennial Outlet Perennial Inlet/Perennial Outlet Perennial Outlet Perennial Inlet/Perennial Outlet Perennial Inlet/Perennial Outlet
Inlet/Outlet Class (P): No Inlet/Outlet

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### Wetland Determination Form QA/QC Checklist

This form to be completed before leaving the field site.

Feature ID: <u>W84A7026</u>	Field Target: 15261	Date: 7/14/15
For all items not checked, please pro	Ovide detailed explanation in the	notes section of data form

### 1. Site Description

- ☑ Site description, site parameters and summary of findings are complete?
- A detailed site sketch is included in-logbook?

### 2. Vegetation

- At least 80% of onsite vegetation has been keyed to species, or collected for later identification?
- Vegetation names are entered legibly for all strata present?
- □ Cover calculations are complete and correct?
- All dominant species have been determined and recorded per strata?
- Indicator status is correct for each species?
- ☑ Dominance Test and Prevalence Index have been completed?

#### 3. Soil

- Soil profile is complete?
- Appropriate hydric soil indicators are marked?

#### 4. Hydrology

- Appropriate hydrology indicators are marked?
- Surface water, water table, and saturation depths are recorded if present?

#### 5. Functions and Values

☑ Vegetation, soil, hydrologic variables, and landscape variables complete if site is a wetland?

### 6. Field Logbook

- Notes have been recorded at each site, including general description, sketch, and accuracy of pre-mapped wetland boundary as appropriate?
- Each logbook page is initialed and dated?

### 7. Maps

- Wetland boundaries have been corrected if necessary?
- Maps are initialed and dated?

### 8. Photos

图 Four photos were taken for each Wetland Determination Data Form (2 vegetation, 1 soil pit, 1 soil plug)?

Two photos were taken for each Observation Point (vegetation/site overview)?

SITE DESCRIPTION				
Survey Type: Centerline Acce	ss Road (explain) Other (e	explain) Fac. L. Field Ta	rget: 1526° Map #: 38	Map Date: 6/29
Date: 7/14/15	Project Name & No.: Alaska	LNG 60418403	Feature Id: W84A4	127
Investigators: Bruch Skro	na. Abigable F	sher,	Team No.:	184
State: Alaska	Region: Alaska	1.	APROW.	
Latitude: 66'08'26.99"	Longit	ude: 1500 10 30	Datum: WGS	884
Logbook No.:	Logbook Page No.: 식정	Picture No.: P_W	84A1027_UEE	NEG PIT PU
SITE PARAMETERS				
Subregion: Interior		Landform (hillslope, terr	ace, hummocks, etc.): 🕌 🛴	le slightly co
Slope (%): 2-3 estimated			nvex, none):	
Pre-mapped Alaska LNG/NWI classifica	ition: (), (102 11 A2	Evidence of Wildlife Use	- inf31 - B172	
Are climatic/hydrologic conditions on the Yes NoX (if no expl	e site typical for this time of year? ain in Notes)	Are "Normal Circu Yes No_	mstances" present: (If no, explain in Notes.)	
Are Vegetation, Soil, or Hyd	drology Significantly Disturb	ed? No(If yes; e	rplain in Notes)	
Are Vegetation, Soil, or Hyd	drology Naturally Problemat	ic? No (If yes, e	xplain in Notes.)	
SUMMARY OF FINDINGS				
Hydrophytic Vegetation Present? Yes_	No	Is the Sampled Area within	a Wetland? Yes	No
Hydric Soil Present? Yes_	NoX	Wetland Type:	Deciduous Saplina	regeneralu
Vetland Hydrology Present? Yes	No	Alaska Vegetation Classifica		
Notes and Site Sketch: Please include Deportion. Burne 2 Picma. Bebb will and (1-5" fall) Immited standing. The area, Smoker (1	Regeneration ) with CHANG, Ed dend at the Po	of TCTNEO-S FURRY Lots of More Stan	downer woo 2's	ations, and survey

VEGETATION (use scientific names of plants	9)			
Tree Stratum (Plot sizes: 10(ft)	Absolute % Cover	Dominant Species? (Y/N)	Indicator Status	Dominance Test worksheet:  No. of Dominant Species that are OBL, FACW, or FAC: (A)
1,				Total Number of Dominant Species Across All Strata: (B)
2.				% Dominant Species that are OBL, FACW, or FAC: (A/B)
3.				
4.				Prevalence Index worksheet:
Total Cover				Total % Cover of: Multiply by:
50% of total cover	: 20	% of total cov	er:	OBL species: X 1 =
Sapling/Shrub Stratum ( 26+1)	Absolute % Cover	Dominant Species? (Y/N)	Indicator Status	FACW species: X 2 = X 3 = X 3 = X 4 = 68
1. Betula neoglaskana	42	X	Fac	UPL speciesX 5 =
3. Salin beblaiana	2 0		FOR	Column Totals: 84 (A) 393 (B) PI = B/A = 3.49
4. Varcinium Wiginosum	3	1	Fac	
5. Rhododendrum groen	landium	2	Fac	
6. Picea glavia	T	Δ	Facl	
7. Rhododondrum tomente	som		Facu	
8. Salix Filchia			Face	
9.	70			
Total Cover. 50% of total cover.	ne.	% of total cov	er: <del>   </del>	
VEGETATION (use scientific names of plants	)		12.55 Fig.	
Herb Stratum ( LCF1 )	Absolute % Cover	Dominant Species? (Y/N)	Indicator Status	Hydrophytic Vegetation Indicators:  Dominance Test is > 50%
1. Chamerion latifolium	12	X	Fore	Prevalence Index is ≤ 3.0
2. Equisetum arvense	2		Fac	Morphological Adaptations <sup>1</sup> (Provide supporting data in Notes)
3.				Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
4.				<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present unless
5.				disturbed or problematic.
6.				
7.		0		% Bare Ground
8.				% Cover of Wetland Bryophytes
9.		-		<u>S()</u> Total Cover of Bryophytes \
10.				% Cover of Water
Total Cover:	14		,	Hydrophytic Vegetation Present (Y/N):
50% of total cover:		% of total cove	er: 2.5	Notes: (If observed, list morphological adaptations below):

			Date F	eature II				Soil Pit F	Required (Y/N)
SOIL PROF	ILE DESCRIPTION:	(Describe				indicator or o	confirm the absen		(11)
	Matrix	(= 5555	Redox Features			a.datar ar	and about	oo or maleatoro.y	
Depth (inches)	Color (moist)	1 %		%	Type <sup>1</sup>	Loc <sup>2</sup>	Touture	Notes	
	Color (moist)	70	Color (moist)	76	туре	Loc	Texture	Notes	
0-2							fibric		
2-9	2.5-15/3	89	10-125/G	4		M	Sel	frost mottle	25
	516/1	7		,	т.				
5-22	25-65/3	85					SIL	cr-caturbate	2 ~3% 30
	10-12 3 Ci	15							
							Α,		
<sup>1</sup> Type: C=C	oncentration, D=Depl	letion, Ri	M=Reduced Matrix.	CS=Cove	ered or Coa	ated Sand G	Grains. <sup>2</sup> Location	n: PL=Pore Lining, M	/l=Matrix.
	IL INDICATORS			FJ	823.00	15 15 N 15 15 15 15 15 15 15 15 15 15 15 15 15		FOR PROBLEMAT	
	listel (A1)		Alaska Clava	d (A10)	A.J	000000000000000000000000000000000000000			
			Alaska Gleye					Change (TA4)⁴ <u> </u>	
	don (A2)		Alaska Redox	<u> </u>				Swales (TA5)	
Black Histic	(A3)		Alaska Gleye	d Pores (	(A15) <i>/</i> _	<u> </u>		with 2.5Y Hue	
Hydrogen St	ulfide (A4)							without 5Y Hue or I	Redder Underlyin
							Layer (Fundamental)		
	Surface (A12) or of hydrophytic veg			£ 41			Other (Explain		
disturbed or	problematic.		one primary indicator	or wellar	na nyarolo	yy, and an a	appropriate landso	ape position must be	e present uniess
Restrictive I	of color change in N	otes.	N.	Denth (in	rchee). •	) ^			
Hydric Soil	Present (Y/N):	N					" ~76. Ve	of dry Soil	profile
Hydric Soil	Present (Y/N):	N					" ~76, Ve	ry dry soil	profile
Hydric Soil Notes: No	Present (Y/N):	١٨.	26" Mosc	Serve	l belo	22:	) 	2 or more required)	profile
Hydric Soil Notes: Notes	Present (Y/N):	ATORS (a	26" Mosc	Sewic sufficient)	bels ) s	22:	Y INDICATORS (2	yd .	tressed
Hydric Soil Notes: Notes:	Present (Y/N):	ATORS (a	any one indicator is surface Soil Cracks (Bundation Visible on A	Sufficient)	) S	SECONDAR Vater-stained eaves (B9)	Y INDICATORS (2	2 or more required) Stunted or S Plants (D1)	itressed
Hydric Soil Notes: Notes:	Present (Y/N):	ATORS (a	26." Morc of the same any one indicator is surface Soil Cracks (B	Sufficient) 6)	) S V L ugery C	SECONDAR Vater-stained eaves (B9)	Y INDICATORS (2)  d  \( \lambda \)  terns (B10) \( \lambda \)  zospheres along	Stunted or S Plants (D1) Geomorphic	itressed
Hydric Soil Notes: Note	Present (Y/N):	Su Inu. (B. Sp. Co	any one indicator is surface Soil Cracks (Bundation Visible on A	sufficient) 6)	) S V L Igery C	SECONDAR Vater-stained eaves (B9) Orainage Pat Oxidized Rhiz	Y INDICATORS (2)  d  W  tterns (B10) _ W  zospheres along (C3) _ W  Reduced	Stunted or S Plants (D1) Geomorphic	ritressed  Position (D2)  itard (D3)
Hydric Soil Notes: Note	Present (Y/N):	ATORS (a Su Inu (B) Co Me Hy	any one indicator is surface Soil Cracks (Bundation Visible on A7)	sufficient) 6)	) S V L gery C L P	SECONDAR Vater-stained eaves (B9) Orainage Pat Oxidized Rhiz iving Roots	Y INDICATORS (2)  d  N  terns (B10) _ N  zospheres along (C3) _ N  Reduced	Stunted or S Plants (D1) Geomorphic Shallow Aqu Microtopogra Relief (D4)	ritressed  Position (D2)  itard (D3)
Hydric Soil Notes: Note	Present (Y/N):	Su Inu (B) Sp Co Mae	any one indicator is surface Soil Cracks (Bundation Visible on A7)	sufficient) 6) J Lerial Ima	) S V L Igery C L P Ir	EECONDAR  Vater-stained eaves (B9)  Drainage Pat  Dxidized Rhiziving Roots  Presence of I	Y INDICATORS (2)  d  N  terns (B10) _ N  zospheres along (C3) _ N  Reduced	Stunted or S Plants (D1) Geomorphic Shallow Aqu Microtopogra Relief (D4)	Position (D2) Vitard (D3) Aphic
Hydric Soil  Notes: Not	Present (Y/N):	Su Inu. (B. Sp Co Mar Hy Od Dr. Wa	any one indicator is surface Soil Cracks (Bundation Visible on A7)  arsely Vegetated incave Surface (B8) arl Deposits (B15) drogen Sulfide lor (C1)  y-Season	Sufficient) 6)	) S V L Igery C L P Ir	SECONDAR  Vater-stained eaves (B9)  Orainage Pate Dividized Rhiziving Roots  Presence of Fron (C4)	Y INDICATORS (2)  d  N  terns (B10) _ N  zospheres along (C3) _ N  Reduced	Stunted or S Plants (D1) Geomorphic Shallow Aqu Microtopogra Relief (D4)	Position (D2) Vitard (D3) Aphic
Hydric Soil  Notes: Not	Present (Y/N):	Su Inu. (B. Sp Co Mar Hy Od Dr. Wa	any one indicator is surface Soil Cracks (Bundation Visible on Ar) arsely Vegetated incave Surface (B8) and Deposits (B15) drogen Sulfide for (C1)N	Sufficient) 6)	) S V L Igery C L P Ir	SECONDAR  Vater-stained eaves (B9)  Orainage Pate Dividized Rhiziving Roots  Presence of Fron (C4)	Y INDICATORS (2)  d  N  terns (B10) _ N  zospheres along (C3) _ N  Reduced	Stunted or S Plants (D1) Geomorphic Shallow Aqu Microtopogra Relief (D4)	Position (D2) Vitard (D3) Aphic
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Hydric Soil Notes: Note	Present (Y/N):	Su Inu. (B) Sp Co Main Main Main Main Main Main Main Main	any one indicator is a rface Soil Cracks (B undation Visible on A r)	Sufficient) 6)	y Lugery C	SECONDAR Vater-stained eaves (B9) Orainage Pativing Roots Presence of Item (C4)	Y INDICATORS (2)  d  N  terns (B10) _ N  zospheres along (C3) _ N  Reduced	Stunted or S Plants (D1) Geomorphic Shallow Aqu Microtopogra Relief (D4) FAC-Neutral	Position (D2) Vitard (D3) Aphic

# AQUATIC SITE ASSESSMENT DATA FORM

VEGETATION VARIABLES P= Plot, M=	- Matrix
Forested-Evergreen-Needle-leaved Scrub Shrub-Evergreen-Broad-leaved Persistent Aquatic Bed	Sking Forested-Deciduous-Needle-leaved Forested-Deciduous-Broad-leaved Scrub Shrub-Deciduous-Needle-leaved Scrub Shrub-Deciduous-Broad-leaved Scrub Shrub-Evergreen-Needle-leaved Emergent-Non-persistent Emergent-
Percent Cover (P): Tree (>5 dbh, >6m tall) Dwarf shrub (<0.5m) Tall herb (≥1m	Sapling (<5 dbh, <6m tall) Tall shrub (2-6m) Short shrub (0.5-2m) Submerged
Number of Wetland Types (M):	Evenness of Wetland Type Distribution (M); EvenHighly UnevenModerately even
Vegetation Density/Dominance (P): Sparse (0 80%) Very High Density (80-100%)_	0-20%) Low Density (20-40%) Medium Density (40-60%) High Density (60-
Interspersion of Cover & Open Water (P): Peripheral Cover>75% Scattered	100% Cover or Open Water<25% Scattered/Peripheral Cover 26-75% Scattered or or Peripheral Cover N/A
Plant Species Diversity (P): Low (> 5 plant sp	pecies) Medium (5-25 species) High (>25)
Presence of Islands (M): Absent (none)	One or Few Several to Many N/A
Cover Distribution of Dominant Layer (P): Nopen Small Scattered Patches	Vo Veg Solitary Scattered Stems 1 or More Large Patches; Parts of Site
Dead Woody Material (P): Low Abundance (0 Abundant (>50% of surface)	0-25% of surface) Moderately Abundant (25-50% of surface)
Vegetative Interspersion (P): Low (large p High (small groupings, diverse and interspersed	patches, concentric rings) Moderate (broken irregular rings)d)
HGM Class (P): Slope Flat	Lacustrine Fringe Depressional Riverine Estaurine Fringe
SOIL VARIABLES	
Soil Factors (P): Soil Lacking Hineral: Gravelly Mineral: Sandy	Histosol: Fibric Histosol: Hemic Histosol: Sapric Mineral: Silty Mineral: Clayey
HYDROLOGIC VARIABLES	
Inlet/Outlet Class (P): No Inlet/Outlet	No Inlet/Intermittent Outlet No Inlet/Perennial Outlet Intermittent Inlet/No Outlet Intermittent Inlet/Perennial Outlet Perennial Inlet/No Outlet Perennial et/Perennial Outlet
Inlet/Outlet Class (P): No Inlet/Outlet Outlet Intermittent Inlet/Intermittent Class (P): No Inlet/Outlet Outlet Perennial Inlet/Intermittent Outlet Outlet Inlet/Intermittent Outlet Ou	Outlet Intermittent Inlet/Perennial Outlet Perennial Inlet/No Outlet Perennial et/Perennial Outlet Perennial Inlet/No Outlet
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Inlet/Outlet Class (P): No Inlet/Outlet Outlet Intermittent Inlet/Intermittent Class (P): Drier: Seaso Wetland Water Regime (P): Drier: Seaso Wet: Perm. Flooded, Intermittently Exposed, Seaso Wetland Greated  Microrelief of Wetland Surface (P): No Evidence Trequency of Overbank Flooding (P): No Over Return Interval >5 yrs  Degree of Outlet Restriction (P): No Outflow Water pH (P): No surface water Circ Surficial Geologic Deposit Under Wetland (F. Glacial Till/Not Permeable  Basin Topographic Gradient (M): Low G. Evidence of Seeps and Springs (P): No Seep  LANDSCAPE VARIABLES (M)  Wetland Juxtaposition: Wetland Isolated Only Connected Above Connected Wetland Land Use: High Intensity (i.e., ag Watershed Land Use: 0-5% Rural	Dutlet

Page 4 of 4

### Wetland Determination Form QA/QC Checklist

This form to be completed before leaving the field site.

Feature ID:	M84140	27

Field Target: 15 2 60 Date: 7/14/15

For all items not checked, please provide detailed explanation in the notes section of data form.

### 1. Site Description

- Site description, site parameters and summary of findings are complete?
- A detailed site sketch is included in legbook?

### 2. Vegetation

- M At least 80% of onsite vegetation has been keyed to species, or collected for later identification?
- Vegetation names are entered legibly for all strata present?
- Cover calculations are complete and correct?
- All dominant species have been determined and recorded per strata?
- □ Indicator status is correct for each species?
- Dominance Test and Prevalence Index have been completed?

#### 3. Soil

- ☑ Soil profile is complete?
- Appropriate hydric soil indicators are marked?

#### 4. Hydrology

- ☑ Appropriate hydrology indicators are marked?
- Surface water, water table, and saturation depths are recorded if present?

### 5. Functions and Values

☑ Vegetation, soil, hydrologic variables, and landscape variables complete if site is a wetland?

### 6. Field Logbook

- Notes have been recorded at each site, including general description, sketch, and accuracy of pre-mapped wetland boundary as appropriate?
- ☑ Each logbook page is initialed and dated?

#### 7. Maps

- Wetland boundaries have been corrected if necessary?
- Maps are initialed and dated?

#### 8. Photos

Four photos were taken for each Wetland Determination Data Form (2 vegetation, 1 soil pit, 1 soil plug)?

Two photos were taken for each Observation Point (vegetation/site overview)?

Wetland Scientist (print)

Signature / Date

Field Crew Chief (print)

Signature / Date

SITE DESCRIPTION				
Survey Type: Centerline Acc	ess Road (explain) Other (	explain)	Field Target:  5315	Map #: 40 Map Date: 6/29
Date: 7/14/15	Project Name & No.: Alaska	LNG 60418403	Feature Id	W84A4028
Investigators: Bryan Stra	ong Abigayle Fisher			Team No.: W84
State: Alaska	Region: Alaska	Milepost:	JA aft ROU	/
Latitude: 6606454,60	Longi Longi	tude: 150° 10	19.43"W	Datum: WG\$84
Logbook No.:	Logbook Page No.: 48	Picture No.:	PW84AYO28	VEG_VEG_PIT_PLUG
SITE PARAMETERS				Fertilia de la companya de la compa
Subregion: Interrol	livies	Landform (hi	Islope, terrace, hummock	is, etc.): Terrace. Flat
Slope (%): 1-2 %				tummocky. Mozarate
Pre-mapped Alaska LNG/NWI classific	cation: PSSZ/4p 11(2 11)		Wildlife Use: \(\)	
Are climatic/hydrologic conditions on t	he site typical for this time of year?	Are "N	ormal Circumstances" pre	esent:
Are Vegetation, Soil, or H	ydrologySignificantly Distur		(If no, ex (If yes, explain in Notes	plain in Notes.)
Are Vegetation, Soil, or H			(if yes, explain in Notes	
SUMMARY OF FINDINGS	ydrology Naturally Froblema	NO	(II yes, explain iii ivotes	o.)
Hydrophytic Vegetation Present? Yes	. Y No	is the Sampled	Area within a Wetland?	Yes K No
1-1-1-1				100
Hydric Soil Present? Yes	No	Wetland Type:	PSS3/4B	
Wetland Hydrology Present? Yes	Υ = No	Alaska Vegetatio	n Classification (Viereck):	1102,1123
ATO28 PSS3/48 11 Dz, 11 A3 Burnez Pichan Now Jim 2	phannom hommodes  Newes. ANDPOL  MAR Woodland - N  Sapling Survivous!  Qualificas Woodla  ON PSSUBJE  PICMAR  Stunted  HAZ,	cre frequences shrube.  Vister burn  Vister is  Nothin	enthe poorte ver here -6 tell, e2 Fire was p somewhat her polition. Not	petated with a few No saturation at In committee confined to is then 10% although
	1102			Page 1 of 4

VEGETATION (use scientific names of plants	)			AND STREET WAS A STREET FAIR OF
Tree Stratum (Plot sizes: WAPT )	Absolute % Cover	Dominant Species? (Y/N)	Indicator Status	Dominance Test worksheet:  No. of Dominant Species that are OBL, FACW, or FAC: (A)  Total Number of Dominant Species Across All Strata: (B)
1. Cea mariant	T	Y	FacW	% Dominant Species that are OBL, FACW, or FAC: 100 (A/B)
3.	×			
4.				Prevalence Index worksheet:
Total Cover:		0.11		Total % Cover of: Multiply by:
50% of total covers	20	% of total cov	er:	OBL species: X 1 = 1
Sapling/Shrub Stratum ( 26++ )	Absolute	Dominant	Indicator	FACW species: 84x2 = 68
7 7	% Cover	Species?	Status	FAC species \ \ \frac{7}{7} \ x 3 = \frac{5}{1}
		(Y/N)	+	FACU species X 4 =
1. Khandodendrum toment	asum 70	) 9	Face(N)	UPL speciesX 5 =
2. Unadodentrum graentura	ficur 1		fac	Column Totals: 107 (A) 770 (B)
3. Andromeda polifolia	4		Fach	PI = B/A =
4. Vaccinium (aliaino sum	10		Fac	
5. Vaccinium vitis idaen	1		Fac	Vaccione ox leners 5 1 OBE 322
6. Vaccinium Ourcoccus	1		OB,	
7. Picer mariana	T		Face	
8. Rotula Nana	5	74	K	
9. Between noordoestragen	Ī		7.11	
Total Cover:	90		- PAGN	
50% of total cover:	46 20	% of total cove	er: 18.4	The state of the s
* .				* ***

Herb Stratum ( 26 FF )	Absolute % Cover	Dominant Species? (Y/N)	Indicator Status	Hydrophytic Vegetation Indicators:  Dominance Test is > 50%  Providence Index is < 3.0
1. Rubus chamaemorus 2. Chamerian agustifolom 3.	10 T	Y	FacW	Prevalence Index is ≤ 3.0  Morphological Adaptations¹ (Provide supporting data in Notes)
<b>4</b> . <b>5</b> .				Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present unless disturbed or problematic.
6. 7.				\% % Bare Ground
8. 9.				% Cover of Wetland Bryophytes Total Cover of Bryophytes % Cover of Water
Total Cover: 50% of total cover:		% of total cove	er:_	Hydrophytic Vegetation Present (Y/N):  Notes: (If observed, list morphological adaptations below):  Shapon 70  18  Lichen 3

			to the depth neede					
Depth Matrix		Redox Features		1 Rolling			MI A LA	
(inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Notes
0-2							fibric	
2-12							henic	
2-17						V 1	Safric	
17-21							Saplic	
21-25						4	Sapric	untrozen - talik ma
15 -27 +	•		,	_			Sapric	
1- 0.5			A-Dadward Markin (	20-0		-to-d Cond C	2t continu	DI - Dare Lining M-Metrix
	Concentration, D=Dept	etion, Kr	M=Reduced Matrix, (	JS=Cove	erea or Co	ated Sand G	74.5.5.7.7.7.7.7.7.7.7.7.7.7.7.7.7.7.7.7	: PL=Pore Lining, M=Matrix.  FOR PROBLEMATIC HYDRIC SOIL
	DIL INDICATORS	9491	Alaska Olava	1 (442)	THE REAL PROPERTY.			
	Histel (A1)		Alaska Gleyer					Change (TA4) <sup>4</sup>
	don (A2) _ N		Alaska Redox					Swales (TA5) with 2.5Y Hue ~
Black Histic			Alaska Gleye	o Pores	(A15)			without 5Y Hue or Redder Underlying
Hydrogen S	ulfide (A4) ん	-					Layer N	- Twiniout of Fraction Reductions
	Surface (A12)						Other (Explain	
disturbed or Give detail	problematic. s of color change in N	otes.						ape position must be present unless
					nchest I	1-11	Pomatro	The state of the s
Restrictive I	Layer (if present): Typ	e:Ac-l	scasonal fro		10110371			30(000 211110)
Hydric Soil	Present (Y/N):	/ Color	rensonal fro	st	tc2 +	o the	Surface.	Dre conditions, 21-25
Hydric Soil Notes: / 100 Particul Minera Acture	Present (Y/N):	15 to Colon	recelly sor appears.	st to b Zlik	te2 + 100 mate	o the n Star real beto	Surface. New Dropa ween 21-1 noted on 5	Dre conditions, 21-25 ne materin, 21-25 25". Seasonal frost 1 oft consisency.
Hydric Soil Notes: [] ( Particul Minera Actual HYDROLO	I Present (Y/N):	Colon Colon	recell 1 50 mars - appears - a 29 m 7 a extent Lany one indicator is	atura to b alik aclow sufficient	102 d	stantes becombar	Surface. New Organ ween 21-5 New	25". Scasonal frost 1 25". Scasonal frost 1 20 or more required)  Stunted or Stressed
Hydric Soil Notes: [] ( Particul Mineral Actual HYDROLO Surface Wa	I Present (Y/N):	Colorador de la Colorador de l	any one indicator is urface Soil Cracks (Bundation Visible on A	st rainter sufficient	100 mate	SECONDAR Water-staine Leaves (B9)	Surface.  New Brown  New 21-1  New 2	25". Seasonal frost 1  25". Seasonal frost 1  20 or more required)  Stunted or Stressed  Plants (D1)
Hydric Soil Notes: [] Particul Mineral Actual HYDROLO Surface Water	I Present (Y/N):  I Present (Y/N):  I Soll Soll  Soll Not  Soll Not  GY PRIMARY INDICA  Iter (A1)  Table (A2)	TORS (  Su  Int  (B)  Sp	any one indicator is urface Soil Cracks (Bundation Visible on A7)	Zlika clow sufficient	made 1	SECONDAR Water-staine Leaves (B9) Drainage Pat	SUFFICE.  NEW 21-1  ALCA ON G  Y INDICATORS (  d  tterns (B10)	25". Seasonal frost 1  25". Seasonal frost 1  20 or more required)  Stunted or Stressed Plants (D1)  Geomorphic Position (D2)
Hydric Soil Notes: [] Particul Marca Actua HYDROLO Surface Wa High Water Saturation (	I Present (Y/N):  Solver (if present): Type  I Present (Y/N):  Solver (A )  Solver (A )  GY PRIMARY INDICA  Inter (A1)  Table (A2)  A3)  A3)  A	TORS (  Su  Int  Color  Color  Color  Color  Su  Color  Color  Su  Color	any one indicator is urface Soil Cracks (Bundation Visible on A	Zlik clow sufficient  6) D  Aerial Ima	29 1100 290 1100 1100 1100 1100 1100 110	SECONDAR Water-staine Leaves (B9) Orainage Par Oxidized Rhi Living Roots Presence of	Y INDICATORS ( d  tterns (B10)k)  zospheres along (C3)k)  Reduced	25". Scasanal frost 1  25". Scasanal frost 1  20 or more required)  Stunted or Stressed Plants (D1)  Geomorphic Position (D2)  Shallow Aquitard (D3)  Microtopographic
Hydric Soil Notes: () Particul Marketter Saturation ( Water Marketter Soil Water Marketter So	I Present (Y/N):  Solver (Solver Control of the Con	TORS ( Su  Int  (B  Sp  Cc  Ma	any one indicator is inface Soil Cracks (Bundation Visible on A7)  parsely Vegetated oncave Surface (B8) ard Deposits (B15)  protogen Sulfide	Zlik clow sufficient  6) D  Aerial Ima	29 10	SECONDAR  Water-staine Leaves (B9)  Drainage Pat  Dxidized Rhi Living Roots  Presence of Iron (C4)	Y INDICATORS ( d  tterns (B10)k)  zospheres along (C3)k)  Reduced	25". Scasanal frost 1  25". Scasanal frost 1  20 or more required)  Stunted or Stressed Plants (D1)  Geomorphic Position (D2)  Shallow Aquitard (D3)
Hydric Soil Notes: // Particul Marca Actua HYDROLO Surface Water High Water Saturation ( Water Mark Sediment D	I Present (Y/N):  I Present (Y/N):  I Soll Lot.  I Soll L	TORS ( Su   Interest	any one indicator is any one indicator in any one indicator is any one indicator in any one indicator in any one indicator is any one indicator in any one i	Storanto bold sufficient (6) National Image	29 110 29 11 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	SECONDAR Water-staine Leaves (B9) Drainage Par Dxidized Rhi Living Roots Presence of Iron (C4) Salt Deposits	Y INDICATORS ( d  tterns (B10) _ k)  zospheres along (C3) _ \( \)  Reduced  6 (C5) _ \( \)	Stunted or Stressed Plants (D1)  Geomorphic Position (D2)  Shallow Aquitard (D3)  Microtopographic Relief (D4)  FAC-Neutral Test (D5)
Hydric Soil Notes: A Company of the	I Present (Y/N):  Solver (Solver Control of the Con	Survey of the state of the stat	any one indicator is urface Soil Cracks (Bundation Visible on A7)  Darsely Vegetated oncave Surface (B8)  ard Deposits (B15)  drogen Sulfide dor (C1)	ZILK CLOW Sufficient (6) N erial Ima	29 10 29 10 10 10 10 10 10 10 10 10 10 10 10 10	SECONDAR Water-staine Leaves (B9) Drainage Par Oxidized Rhi Living Roots Presence of Iron (C4) Salt Deposits Notes:	Y INDICATORS ( d  tterns (B10) _ k)  zospheres along (C3) _ \( \)  Reduced  6 (C5) _ \( \)	Scasanal frost 1  25". Scasanal frost 1  20 or more required)  Stunted or Stressed Plants (D1)  Geomorphic Position (D2)  Shallow Aquitard (D3)  Microtopographic Relief (D4)  FAC-Neutral Test (D5)
Hydric Soil Notes: A Company of the	I Present (Y/N):  I Present (Y/N):  I Soll Soll  Soll Not  GY PRIMARY INDICA  Inter (A1)  A3)  A3)  Beposits (B2)  Dits (B3)	Survey of the state of the stat	any one indicator is any one indicator in any one indicator is any one indicator in any one indicator is any one indicator in any one i	ZILK CLOW Sufficient (6) N erial Ima	29 10 29 10 10 10 10 10 10 10 10 10 10 10 10 10	SECONDAR Water-staine Leaves (B9) Drainage Par Oxidized Rhi Living Roots Presence of Iron (C4) Salt Deposits Notes:	Y INDICATORS (d terns (B10) N Zospheres along (C3) N Reduced	Scasanal frost 1  21-25  Scasanal frost 1  Aft consisency  Or more required)  Stunted or Stressed  Plants (D1)  Geomorphic Position (D2)  Shallow Aquitard (D3)  Microtopographic  Relief (D4)  FAC-Neutral Test (D5)
Hydric Soil Notes: A Company of the	Layer (if present): Type  I Present (Y/N):	Survey of the state of the stat	any one indicator is any one indicator in any one indicator is any one indicator in any one indicator is any one indicator in any one i	ZILK CLOW Sufficient (6) N erial Ima	29 10 29 10 10 10 10 10 10 10 10 10 10 10 10 10	SECONDAR Water-staine Leaves (B9) Drainage Par Oxidized Rhi Living Roots Presence of Iron (C4) Salt Deposits Notes:	Y INDICATORS (d terns (B10) N Zospheres along (C3) N Reduced	Scasanal frost 1  21-25  Scasanal frost 1  Aft consisency  Or more required)  Stunted or Stressed  Plants (D1)  Geomorphic Position (D2)  Shallow Aquitard (D3)  Microtopographic  Relief (D4)  FAC-Neutral Test (D5)
Hydric Soil Notes: // Particul Market HYDROLO Surface Wa High Water Saturation ( Water Mark Sediment D Drift Deposi Algal Mat of	Layer (if present): Type  I Present (Y/N):  Solver of the control	TORS (Summer of the summer of	any one indicator is urface Soil Cracks (Bundation Visible on A7)  Darsely Vegetated oncave Surface (B8)  arl Deposits (B15)  drogen Sulfide dor (C1)  y-Season ater Table (C2)  ther (Explain in Notes	ZILK CLOW Sufficient (6) N erial Ima	29 10 29 10 10 10 10 10 10 10 10 10 10 10 10 10	SECONDAR Water-staine Leaves (B9) Drainage Par Oxidized Rhi Living Roots Presence of Iron (C4) Salt Deposits Notes:	Y INDICATORS (d terns (B10) N Zospheres along (C3) N Reduced	Scasanal frost 1  21-25  Scasanal frost 1  Aft consisency  Or more required)  Stunted or Stressed  Plants (D1)  Geomorphic Position (D2)  Shallow Aquitard (D3)  Microtopographic  Relief (D4)  FAC-Neutral Test (D5)
Hydric Soil Notes: A company of the	Layer (if present): Type  I Present (Y/N):	TORS (Summer of the summer of	any one indicator is any one indicator in any one indicator is any one indicator in any one indicator is any one indicator in any one i	ZILK CLOW Sufficient (6) N erial Ima	29 110 29 11 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	SECONDAR Water-staine Leaves (B9) Orainage Par Oxidized Rhi Living Roots Presence of Iron (C4)	Y INDICATORS (d terns (B10) N Zospheres along (C3) N Reduced	Stunted or Stressed Plants (D1)  Geomorphic Position (D2)  Shallow Aquitard (D3)  Microtopographic Relief (D4)  FAC-Neutral Test (D5)  PITTS A TOTAL TEST

Page 4 of 4

# AQUATIC SITE ASSESSMENT DATA FORM

VEGETATION VARIABLES P= Plot, M= Matrix
Primary Vegetation Type (P): Vegetation Lacking       Forested-Deciduous-Needle-leaved       Forested-Deciduous-Broad-leaved         Forested-Evergreen-Needle-leaved       Scrub Shrub-Deciduous-Broad-leaved       Scrub Shrub-Deciduous-Broad-leaved         Scrub Shrub-Evergreen-Broad-leaved       Scrub Shrub-Evergreen-Needle-leaved       Emergent-Non-persistent       Emergent-Persistent
Percent Cover (P): Tree (>5 dbh, >6m tall)
Number of Wetland Types (M): Evenness of Wetland Type Distribution (M): Even Highly Uneven Moderately even
Vegetation Density/Dominance (P): Sparse (0-20%) Low Density (20-40%) Medium Density (40-60%) High Density (60-80%) Very High Density (80-100%)
Interspersion of Cover & Open Water (P): 100% Cover or Open Water X <25% Scattered/Peripheral Cover 26-75% Scattered or Peripheral Cover N/A
Plant Species Diversity (P): Low (< 5 plant species) Medium (5-25 species) High (>25)
Presence of Islands (M): Absent (none) One or Few Several to Many N/A
Cover Distribution of Dominant Layer (P): No Veg Solitary, Scattered Stems 1 or More Large Patches; Parts of Site Open Small Scattered Patches Continuous Coverx
Dead Woody Material (P): Low Abundance (0-25% of surface) Moderately Abundant (25-50% of surface) Abundant (>50% of surface)
Vegetative Interspersion (P): Low (large patches, concentric rings) Moderate (broken irregular rings) High (small groupings, diverse and interspersed)
HGM Class (P): Slope Flat_x Lacustrine Fringe Depressional Riverine Estaurine Fringe
SOU VARIABLES
SOIL VARIABLES
Soil Factors (P): Soil Lacking Histosol:Fibric Histosol:Hemic Histosol: Sapric_ <a href="mailto:Mineral">Mineral</a> : Gravelly Mineral: Sandy Mineral: Silty Mineral: Clayey
HYDROLOGIC VARIABLES
Inlet/Outlet Class (P): No Inlet/Outlet No Inlet/Intermittent Outlet No Inlet/Perennial Outlet Intermittent Inlet/No Outlet Intermittent Inlet/Intermittent Outlet Perennial Outlet Perennial Inlet/No Outlet Perennial Inlet/Intermittent Outlet Perennial Outlet Perennial Inlet/Intermittent Outlet Inlet/Perennial Outlet Inlet/Intermittent Outlet Perennial Inlet/Intermittent Outlet Inlet/Intermittent Inl
Inlet/Outlet Class (P): No Inlet/Outlet No Inlet/Intermittent Outlet No Inlet/Perennial Outlet Intermittent Inlet/No Outlet Perennial Inlet/Intermittent Inlet/Intermittent Inlet/Intermittent Inlet/Intermittent Inlet/Intermittent Inlet/Intermittent Inlet/Intermittent Inlet/Intermittent Outlet Perennial Inlet/Intermittent Inlet/I
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Inlet/Outlet Class (P): No Inlet/Outlet
Inlet/Outlet Class (P): No Inlet/Outlet  No Inlet/Intermittent Outlet  Intermittent Inlet/No Outlet  Intermittent Inlet/Intermittent Inlet/Intermi

### Wetland Determination Form QA/QC Checklist

This form to be completed before leaving the field site.

Feature ID: W84A4028	Field Target: 15315	Date: 7/14/15
For all items not checked, please pro	vide detailed explanation in the n	

### 1. Site Description

Site description, site parameters and summary of findings are complete?

A detailed site sketch is included in logbook?

### 2. Vegetation

- At least 80% of onsite vegetation has been keyed to species, or collected for later identification?
- Vegetation names are entered legibly for all strata present?
- □ Cover calculations are complete and correct?
- All dominant species have been determined and recorded per strata?
- Indicator status is correct for each species?
- Dominance Test and Prevalence Index have been completed?

#### 3. Soil

- ⊠ Soil profile is complete?
- Appropriate hydric soil indicators are marked?

### 4. Hydrology

- Appropriate hydrology indicators are marked?
- Surface water, water table, and saturation depths are recorded if present?

### 5. Functions and Values

Vegetation, soil, hydrologic variables, and landscape variables complete if site is a wetland?

#### 6. Field Logbook

- Notes have been recorded at each site, including general description, sketch, and accuracy of pre-mapped wetland boundary as appropriate?
- Each logbook page is initialed and dated?

### 7. Maps

- Wetland boundaries have been corrected if necessary?

#### 8. Photos

Four photos were taken for each Wetland Determination Data Form (2 vegetation, 1 soil pit, 1 soil plug)?

Two photos were taken for each Observation Point (vegetation/site overview)?

X Brean Strong X Signature / Date

X Brean Strong X Signature / Date

Field Crew Chief (print)

Signature / Date

SITE DESCRIPTION			Talkes No.	99.0	
Survey Type: Centerline Acces	s Road (explain) Ot	her (explain)	Field Target:	15015	Map #: <u>41</u> Map Date: <u>6/29</u>
Date: 7/15/15	Project Name & No.: Ala	aska LNG 60418403	Fe	eature Id:	N84A4029
Investigators: Bryan Str	one, Abicacal	CF. sher	24	1060	Team No.: WS4
State: Alaska	Region: Alaska	Milepost:	337.65		
Latitude: 6600433,	53"N- L	ongitude: 50°	0137,6	1100	Datum: WGS84
Logbook No.:	Logbook Page No.: L	Picture No.:	P-W84 A-10	029_1	EG_VEO_PIT_PLUG
SITE PARAMETERS		form for B. A. S. C.		POR UN	
Subregion: Interior highla	-25	Landform (hil	llslope, terrace, l	hummocks	, etc.): Swale
Slope (%): ~ 2 %		Local relief (c	concave, convex	k, none): 🤇	oricare tirrocky - Mole
Pre-mapped Alaska LNG/NWI classifica	ition: PSSI/PMIB 110	2, (IIA1 Evidence of \	Wildlife Use: $\wp_{\cdot}$	ne ob	serves
Are climatic/hydrologic conditions on the Yes No (if no expl	e site typical for this time of gain in Notes)	year? Are "N	ormal Circumsta	ances" pres	sent: lain in Notes.)
Are Vegetation, Soil, or Hyd			(If yes, explair	n in Notes)	4 1 01
Are Vegetation, Soil, or Hyd	drology Naturally Prot	olematic? NoX	(If yes, explai	in in Notes.	)
SUMMARY OF FINDINGS				A V S V	
Hydrophytic Vegetation Present? Yes_	<u>λ</u> No	Is the Sampled	Area within a W	/etland?	Yes No
Hydric Soil Present? Yes_	X No	Wetland Type:	PSS VEM	13	*
Wetland Hydrology Present? Yes_	× No	Alaska Vegetatio	n Classification	(Viereck):	1107,1112
Notes and Site Sketch: Please include I corridor. Rainer day, Soul welfed down the Properties but its slive swale Brane with coase soul/or Soul type as one as Sund Pick Sund Hary Brane Pick Sund Hary Brane Pick Sund Hary Boptree-s Bobb willow upland	profile is not ofile, Matrix c  ining current  2 Picmae-Sor uss at Surface  MAR 1102  A 103	saturated and alors of soil  Hy Profite -  Prest Mos  c between A  site/swale  prsis	have been topically are are	of 51-	to visit, Rain has wered by rain. ir. (oncare across very dry. "Sund Hill Hon Hinry Change I

VEGETATION (use scientific names of plants	)			
Tree Stratum (Plot sizes:	Absolute % Cover	Dominant Species? (Y/N)	Indicator Status	Dominance Test worksheet:  No. of Dominant Species that are OBL, FACW, or FAC:(A)
1.				Total Number of Dominant Species Across All Strata:(B)
2.				% Dominant Species that are OBL, FACW, or FAC: _ (A/B)
3.				
4.				Prevalence Index worksheet:
Total Cover:				Total % Cover of: Multiply by:
50% of total cover:	20	% of total cov	er:	OBL species:X 1 =
Sapling/Shrub Stratum ( No +1)	Absolute % Cover	Dominant Species? (Y/N)	Indicator Status	FACW species: 73 X 2 = 146  FAC species 137 X 3 = 411
1. Betula 1010 TS	5 X560	4	tac.	FACU species X 4 =
2. Salix alauca	2	(	tac.	Column Totals: 211 (A) 561 (B)
3. Dasipheta fruticasa	1		Faz.	PI = B/A = 2,66
4. Rhododendrum aroe	nlandic	um1	FAC	
5. Picea alouca 3	1		FACU	
6. Salix Dellahra	70	7	FACW	
7. Arriage whole	T		FOC	
8.				
9.				
Total Cover:	135		V=	
50% of total cover:	67.5 209	6 of total cove	er: 27	
VEGETATION (upo ociontific nomes of plants)				

VEGETATION (use scientific names of plants	s)			
1. Chanes (and and second of a	Absolute % Cover	Dominant Species? (Y/N)	Indicator Status  Facul Facul Facul Facul	Hydrophytic Vegetation Indicators:  Dominance Test is > 50%  Prevalence Index is ≤ 3.0  Morphological Adaptations¹ (Provide supporting data in Notes)  Problematic Hydrophytic Vegetation¹ (Explain)  ¹ Indicators of hydric soil and wetland hydrology must be present unless disturbed or problematic.
7.			-	% Bare Ground
8.	<i>31</i>		-	% Cover of Wetland Bryophytes
9.		3:		
Total Cover: 50% of total cover:	10	% of total cove	er: <u>15.2</u>	Hydrophytic Vegetation Present (Y/N):

COIL	10.5	J. 77 . 73	Date -	advice ID	75	102	The last way to be seen	Call Dis Daniel at (VA)
SOIL PROFI	LE DECORPTION "	Dan : "		eature ID			andiana dha a ha	Soil Pit Required (Y/N)
SOIL PROFI	LE DESCRIPTION: (I	vescribe		a to docume	nt the i	ndicator or c	onfirm the absend	ce or indicators.)
Depth (inches)	Matrix	T 0/	Redox Features	To/ I =	1	1.2	7	N
(inches)	Color (moist)	%	Color (moist)	% Ty	pe¹	Loc²	Texture	Notes
2-5	-	+		-				ή
- 17		N Ear	7/ 1/		72	0.	10	
2-15	257561	# 1	7.524/6	1	<u></u>	PC	V/Sal	new Sit mussuc
X 1 0 0 0 0 0	05.61	-	2000/	7		VV1	00	0 - 11
3 1-6	1.278/1		1,500 7/6		C	1	76.000	Scasonal or activ
		7						laster
Type: C=Co	 oncentration, D=Deple	etion, Rí		S=Covered	or Coa	ted Sand Gr	ains. <sup>2</sup> Location	: PL=Pore Lining, M=Matrix.
	IL INDICATORS	100		2) 21 10 10	N.			FOR PROBLEMATIC HYDRIC SOILS
Histosol or H	istel (A1)		Alaska Gleyed	I (A13) 入	)			Change (TA4)⁴ <u> </u>
Histic Epiped	- ,		Alaska Redox			T 7.		Swales (TA5) ~
Black Histic (		-	Alaska Gleyed			)		with 2.5Y Hue N - Close
Hydrogen Su	20 0 6		, masina direyes		<u> </u>			I without 5Y Hue or Redder Underlying
							Layer	
	urface (A12)	tation :	no primary indicates	of watland b	vdrolo	av and an a	Other (Explain	ape position must be present unless
disturbed or p	problematic.		one primary indicator	or wettand n	iyurolo	yy, anu an a	opropriate ranusc ≨logl	ape position must be present unless  - Local Color, Stocker Plants
Give details	of color change in No	otes.	- ( ) / (	Danth Kasha	-V 17			0
Hestrictive La	ayer (if present): Type		essonal fros		s):		Llegt	+ rost, Scasonal Perm
					1	15 to 0000		Id late can cale
Uvdria Cail I	Dropont (V/N)	1	10:	satura	4100	Or P	051-10-C	riphe alpha vice citi
Hydric Soil I	Present (Y/N):	1	- at	time	of.			
	Present (Y/N):	5.5	advicted to	satura time	Sur-	Setc 1	usit Plan	
176	3.1		will occur !	chuce	1	Sete 1 face f	risit Plan or exend	ing total but her and as person is some I sphagner home
176	c condition	i i		chuce	1	Sete 1 face f	risit Plan or exend	as fortage but her and
Notes: 1) .	y condition	د د د	nill ocean !	e cerl	7 1	Site 1 face f 955 octes ( 1 + he	(CARBIC)	and sphagnon hommo
Notes: 1) Accept	y PRIMARY INDICA	TORS (	any one indicator is s	ufficient)	S	Site 1 face f 955 octes ( 1 + he	(CARBIC)  TINDICATORS (2	and sphagnum hammon see say
Notes: 1) Accept	tanding was	TORS (	any one indicator is surface Soil Cracks (Be	sufficient)	S	face for society (	(CARBIC)  TINDICATORS (2	ed periods in normal and sphagnum hommo seemed.
HYDROLOG Surface Water	y PRIMARY INDICA	TORS (a	any one indicator is surface Soil Cracks (Be	sufficient)	S	ECONDARY /ater-stained eaves (B9)	(CARBIC)  TINDICATORS (2	e or more required)  Stunted or Stressed
Notes: 1) HYDROLOG Surface Water T	Y PRIMARY INDICATE  or (A1) N  able (A2)	TORS (a	any one indicator is surface Soil Cracks (Beundation Visible on A	sufficient)	S W L	ECONDARY /ater-stained eaves (B9)_ rainage Patt	(CARBIC) (INDICATORS (2) erns (B10)	2 or more required)  Stunted or Stressed Plants (D1) _ \( \)  Geomorphic Position (D2) _ \( \)
HYDROLOG Surface Water T	Y PRIMARY INDICATE  or (A1) N  able (A2)	Su Inc. (B' Sp	any one indicator is surface Soil Cracks (Be	sufficient)  a)  erial Imagen	S   W   L     D   O	ECONDARY /ater-stained eaves (B9)_ rainage Patt	(ARBIC)  (INDICATORS (2)  erns (B10)  ospheres along	2 or more required)  Stunted or Stressed Plants (D1)  Geomorphic Position (D2)  Shallow Aquitard (D3)
HYDROLOG Surface Water T Saturation (A	Y PRIMARY INDICA er (A1) N  able (A2) N  3) N	Su Inu (B' Sp Cc	any one indicator is surface Soil Cracks (Be undation Visible on A 7) Parsely Vegetated oncave Surface (B8)	sufficient)  a)  erial Imagen	SS W	ECONDARY  /ater-stained eaves (B9)  rainage Patt  ixidized Rhiz iving Roots (incresence of Records)	(ACBIC)  (INDICATORS (2  erns (B10))  ospheres along C3)	2 or more required)  Stunted or Stressed Plants (D1)  Geomorphic Position (D2)  Shallow Aquitard (D3)  Microtopographic
HYDROLOG Surface Water T Saturation (A	Y PRIMARY INDICA er (A1) N  able (A2) N  3) N	TORS (i	any one indicator is surface Soil Cracks (Be undation Visible on A 7) varsely Vegetated oncave Surface (B8) arl Deposits (B15)	sufficient)  S) erial Imagery	SS W	ECONDARY  /ater-stained eaves (B9) _ rainage Patt  xidized Rhiz ving Roots (	(ACBIC)  (INDICATORS (2  erns (B10))  ospheres along C3)	2 or more required)  Stunted or Stressed Plants (D1)  Geomorphic Position (D2)  Shallow Aquitard (D3)
HYDROLOG Surface Water High Water T Saturation (A	Y PRIMARY INDICA er (A1) N  able (A2) N  3) N	TORS (a Su Int. (B Sp Ccc	any one indicator is surface Soil Cracks (Be undation Visible on A 7) arrsely Vegetated oncave Surface (B8)	sufficient)  S) erial Imagery	S S W L.	ECONDARY  /ater-stained eaves (B9)  rainage Patt  ixidized Rhiz iving Roots (incresence of Records)	(ACBIC)  INDICATORS (2  erns (B10)  ospheres along C3)  educed	2 or more required)  Stunted or Stressed Plants (D1)  Geomorphic Position (D2)  Shallow Aquitard (D3)  Microtopographic
HYDROLOG Surface Water High Water T Saturation (A Water Marks	Y PRIMARY INDICA  er (A1) N  able (A2) N  (B1) N  posits (B2) N	Su Inu (B Sp Co	any one indicator is surface Soil Cracks (Be undation Visible on A 7) arrsely Vegetated oncave Surface (B8) arl Deposits (B15) drogen Sulfide dor (C1) y-Season	sufficient)  S) erial Imagery	SS W Lo	ECONDARY /ater-stained eaves (B9) rainage Patt xidized Rhiz ving Roots ( resence of R on (C4)	(ACBIC)  INDICATORS (2  erns (B10)  ospheres along C3)  educed	Proposition (D2)  Shallow Aquitard (D3)  Microtopographic Relief (D4)
HYDROLOG Surface Water High Water T Saturation (A Water Marks	Y PRIMARY INDICA  er (A1) N  able (A2) N  (B1) N  posits (B2) N	Su Inu (B Sp Co	any one indicator is surface Soil Cracks (Beaudation Visible on A 7)  Pararsely Vegetated oncave Surface (B8)  arl Deposits (B15)  drogen Sulfide dor (C1)	sufficient)  S) erial Imagery	SS W Lo	ECONDARY  /ater-stained eaves (B9) _ rainage Patte  exidized Rhize exitying Roots (exitying Roots (exitying Roots)  alt Deposits	(ACBIC)  INDICATORS (2  erns (B10)  ospheres along C3)  educed	Proposition (D2)  Shallow Aquitard (D3)  Microtopographic Relief (D4)
HYDROLOG Surface Water High Water T Saturation (A Water Marks Sediment De	Y PRIMARY INDICA  er (A1) N  able (A2) N  (B1) N  posits (B2) N	TORS (a Su Int. (B Sp Co	any one indicator is surface Soil Cracks (Beaundation Visible on A 7)  parsely Vegetated oncave Surface (B8)  arl Deposits (B15)  drogen Sulfide dor (C1)  y-Season atter Table (C2)	sufficient)  a)  erial Imagen	SS W Lo	ECONDARY  /ater-stained eaves (B9) _ rainage Patte  exidized Rhize exitying Roots (exitying Roots (exitying Roots)  alt Deposits	(ACBIC)  INDICATORS (2  erns (B10)  ospheres along C3)  educed	Proposition (D2)  Shallow Aquitard (D3)  Microtopographic Relief (D4)
HYDROLOG Surface Water High Water T Saturation (A Water Marks Sediment De Drift Deposits Algal Mat or 0	Y PRIMARY INDICA  er (A1)   able (A2)   (B1)   posits (B2)   (B3)   Crust (B4)   Crust (B4)	TORS (a Su Int. (B Sp Co	any one indicator is surface Soil Cracks (Be undation Visible on A 7) arrsely Vegetated oncave Surface (B8) arl Deposits (B15) drogen Sulfide dor (C1) y-Season	sufficient)  a)  erial Imagen	SS W Lo	ECONDARY  /ater-stained eaves (B9) _ rainage Patte  exidized Rhize exitying Roots (exitying Roots (exitying Roots)  alt Deposits	(ACBIC)  INDICATORS (2  erns (B10)  ospheres along C3)  educed	Property of the cond of the co
HYDROLOG Surface Water High Water T Saturation (A Water Marks Sediment De Drift Deposits Algal Mat or 0	Y PRIMARY INDICA  er (A1)   able (A2)   (B1)   posits (B2)   (B3)   Crust (B4)   Crust (B4)	TORS (a Su Int. (B Sp Co	any one indicator is surface Soil Cracks (Beaundation Visible on A 7)  parsely Vegetated oncave Surface (B8)  arl Deposits (B15)  drogen Sulfide dor (C1)  y-Season atter Table (C2)	sufficient)  a)  erial Imagen	SS W Lo	ECONDARY  /ater-stained eaves (B9) _ rainage Patte  exidized Rhize exitying Roots (exitying Roots (exitying Roots)  alt Deposits	(ACBIC)  INDICATORS (2  erns (B10)  ospheres along C3)  educed	Proposition (D2)  Shallow Aquitard (D3)  Microtopographic Relief (D4)
HYDROLOG Surface Water High Water T Saturation (A Water Marks Sediment De Drift Deposits Algal Mat or O	Y PRIMARY INDICATION  Fable (A2)  (B1)  posits (B2)  Crust (B4)  (B5)	TORS (a Su Int. (B Sp Co	any one indicator is surface Soil Cracks (Be undation Visible on A 7)	sufficient)  a)  erial Imagen	SS W Lo	ECONDARY  /ater-stained eaves (B9) _ rainage Patte  exidized Rhize exitying Roots (exitying Roots (exitying Roots)  alt Deposits	(ACBIC)  INDICATORS (2  erns (B10)  ospheres along C3)  educed	Proposition (D2)  Shallow Aquitard (D3)  Microtopographic Relief (D4)
HYDROLOG Surface Water High Water T Saturation (A Water Marks Sediment De Drift Deposits Algal Mat or 0	Y PRIMARY INDICA  er (A1)   able (A2)   (B1)   posits (B2)   (B3)   Crust (B4)   Crust (B4)	TORS (a Su Int. (B Sp Co	any one indicator is surface Soil Cracks (Be undation Visible on A 7)  parsely Vegetated oncave Surface (B8)  arl Deposits (B15)  drogen Sulfide dor (C1)  y-Season ater Table (C2)  her (Explain in Notes	sufficient)  a)  erial Imagen	S W L.	ECONDARY  /ater-stained eaves (B9)  rainage Patt  xidized Rhiz  ving Roots ( resence of R  on (C4)  alt Deposits  otes:	erns (B10) ospheres along C3)	Stunted or Stressed Plants (D1)  Geomorphic Position (D2)  Shallow Aquitard (D3)  Microtopographic Relief (D4)  FAC-Neutral Test (D5)
HYDROLOG Surface Water High Water T Saturation (A Water Marks Sediment De Drift Deposits Algal Mat or (I Iron Deposits	Y PRIMARY INDICA  er (A1)	TORS (a Su Int. (B Sp Co	any one indicator is surface Soil Cracks (Be undation Visible on A 7)  parsely Vegetated oncave Surface (B8)  arl Deposits (B15)  drogen Sulfide dor (C1)  y-Season ater Table (C2)  her (Explain in Notes	sufficient)  a)  erial Imagen	S W L.	ECONDARY  /ater-stained eaves (B9)  rainage Patt  xidized Rhiz  ving Roots ( resence of R  on (C4)  alt Deposits  otes:	(ACBIC)  INDICATORS (2  erns (B10)  ospheres along C3)  educed	Stunted or Stressed Plants (D1)  Geomorphic Position (D2)  Shallow Aquitard (D3)  Microtopographic Relief (D4)  FAC-Neutral Test (D5)
HYDROLOG Surface Water High Water T Saturation (A Water, Marks Sediment De Drift Deposits Algal Mat or (I Iron Deposits Surface Water Water Table	Y PRIMARY INDICA  er (A1)   able (A2)   (B1)   posits (B2)   Crust (B4)   (B5)   Present (Y/N):   Present (Y/N):   A count (Y	TORS (a Su Int. (B Sp Co	any one indicator is surface Soil Cracks (Beaundation Visible on A 7)  parsely Vegetated oncave Surface (B8)  arl Deposits (B15)  drogen Sulfide dor (C1)  y-Season atter Table (C2)  her (Explain in Notes)  Depth (in):	sufficient)  a)  erial Imagen	S W Lu	rainage Pattividized Rhizving Roots (Capacita Proposits otes:	erns (B10) ospheres along C3)	Stunted or Stressed Plants (D1)  Geomorphic Position (D2)  Shallow Aquitard (D3)  Microtopographic Relief (D4)  FAC-Neutral Test (D5)
HYDROLOG Surface Water High Water T Saturation (A Water Marks Sediment De Drift Deposits Algal Mat or to	Y PRIMARY INDICA  er (A1)  able (A2)  (B1)  posits (B2)  Crust (B4)  crust (B4)  Present (Y/N):  Present (Y/N):	TORS (a Su Int. (B Sp Co	any one indicator is surface Soil Cracks (Beaudation Visible on A 7)  parsely Vegetated oncave Surface (B8)  ard Deposits (B15)  drogen Sulfide dor (C1)  y-Season ater Table (C2)  her (Explain in Notes  Depth (in):	sufficient)  is	S W Lu	ECONDARY  /ater-stained eaves (B9)  rainage Patt  xidized Rhiz  ving Roots ( resence of R  on (C4)  alt Deposits  otes:	erns (B10) ospheres along C3)	Stunted or Stressed Plants (D1)  Geomorphic Position (D2)  Shallow Aquitard (D3)  Microtopographic Relief (D4)  FAC-Neutral Test (D5)
HYDROLOG Surface Water High Water T Saturation (A Water Marks Sediment De Drift Deposits Algal Mat or 0 Iron Deposits Surface Water Water Table Saturation Pr	Y PRIMARY INDICA  er (A1)  able (A2)  (B1)  posits (B2)  Crust (B4)  crust (B4)  Present (Y/N):  Present (Y/N):	TORS (a Su Int. (B Sp Co	any one indicator is surface Soil Cracks (Beaundation Visible on A 7)  parsely Vegetated oncave Surface (B8)  arl Deposits (B15)  drogen Sulfide dor (C1)  y-Season atter Table (C2)  her (Explain in Notes)  Depth (in):	sufficient)  si)  erial Imagen	S W Lu	rainage Pattividized Rhizving Roots (Capacita Proposits otes:	erns (B10) ospheres along C3)	Stunted or Stressed Plants (D1)  Geomorphic Position (D2)  Shallow Aquitard (D3)  Microtopographic Relief (D4)  FAC-Neutral Test (D5)
HYDROLOG Surface Water High Water T Saturation (A Water Marks Sediment De Drift Deposits Algal Mat or 0 Fron Deposits Surface Water Water Table Saturation Pr (includes cap	Y PRIMARY INDICA  er (A1)  able (A2)  (B1)  posits (B2)  Crust (B4)  crust (B4)  Present (Y/N):  Present (Y/N):	TORS (a Su Int. (B Sp Co	any one indicator is surface Soil Cracks (Beaundation Visible on A 7)  parsely Vegetated oncave Surface (B8)  arl Deposits (B15)  drogen Sulfide dor (C1)  y-Season atter Table (C2)  her (Explain in Notes)  Depth (in):	sufficient)  is	S W Lu	rainage Pattividized Rhizving Roots (Capacita Proposits otes:	erns (B10)	Stunted or Stressed Plants (D1)  Geomorphic Position (D2)  Shallow Aquitard (D3)  Microtopographic Relief (D4)  FAC-Neutral Test (D5)

# AQUATIC SITE ASSESSMENT DATA FORM

Crew Chief QA/QC check:

VEGETATION VARIABLES P= Plot, M= Matrix
Primary Vegetation Type (P): Vegetation Lacking Forested-Deciduous-Needle-leaved Forested-Deciduous-Needle-leaved Scrub Shrub-Deciduous-Broad-leaved Scrub Shrub-Deciduous-Broad-leaved Scrub Shrub-Deciduous-Broad-leaved Scrub Shrub-Evergreen-Needle-leaved Emergent-Non-persistent Emergent-Persistent Aquatic Bed
Percent Cover (P): Tree (>5 dbh, >6m tall)       ○       Sapling (<5 dbh, <6m tall)
Number of Wetland Types (M): Evenness of Wetland Type Distribution (M): Even Highly Uneven Moderately even
Vegetation Density/Dominance (P): Sparse (0-20%)       Low Density (20-40%)       Medium Density (40-60%)       High Density (60-         80%)       Very High Density (80-100%)       Very High Density (80-100%)       Very High Density (80-100%)       Very High Density (80-100%)
Interspersion of Cover & Open Water (P): 100% Cover or Open Water <a href="#">&lt; &lt;25% Scattered/Peripheral Cover</a> 26-75% Scattered or Peripheral Cover N/A
Plant Species Diversity (P): Low (< 5 plant species) Medium (5-25 species) High (>25)
Presence of Islands (M): Absent (none) One or Few Several to Many N/A
Cover Distribution of Dominant Layer (P): No Veg Solitary, Scattered Stems 1 or More Large Patches; Parts of Site Open Small Scattered Patches Continuous Cover
Dead Woody Material (P): Low Abundance (0-25% of surface) Moderately Abundant (25-50% of surface) Abundant (>50% of surface)
Vegetative Interspersion (P): Low (large patches, concentric rings) Moderate (broken irregular rings) High (small groupings, diverse and interspersed)
HGM Class (P): Slope Flat_K_ Lacustrine Fringe Depressional Riverine Estaurine Fringe
SOIL VARIABLES
Soil Factors (P): Soil Lacking Histosol:Fibric Histosol:Hemic Histosol: Sapric Mineral: Gravelly Mineral: Sandy Mineral: Silty Mineral: Clayey
HYDROLOGIC VARIABLES
Inlet/Outlet Class (P): No Inlet/Outlet No Inlet/Intermittent Outlet No Inlet/Perennial Outlet Intermittent Inlet/No Outlet Intermittent Inlet/Intermittent Outlet Perennial Inlet/Intermittent Outlet Perennial Inlet/Perennial Outlet Perennial Inlet/Perennial Outlet Perennial Outlet Perennial Inlet/Perennial Outlet Perennial Outl
Wetland Water Regime (P): Drier: Seasonally Flooded, Temporarily Flooded, Saturated Wet: Perm. Flooded, Intermittently Exposed, Semiperm. Flooded
Evidence of Sedimentation (P): No Evidence Observed Sediment Observed on Wetland Substrate Fluvaquent Soils Sediment Created
Microrelief of Wetland Surface (P): Absent Poorly Developed (6in.) Well Developed (6-18in.) Pronounced (>18in.)
Frequency of Overbank Flooding (P): No Overbank Flooding Return Interval 1-2 yrs Return Interval 2-5 yrs Return Interval >5 yrs Return Interval
Degree of Outlet Restriction (P): No Outflow Restricted Outflow Unrestricted Outflow
Water pH (P): No surface water Circumneutral (5.5-7.4) Alkaline (>7.4) Acid (<5.5) pH Reading
Surficial Geologic Deposit Under Wetland (P): High Permeability Stratified Deposits Low Permeability Stratified Deposits Glacial Till/Not Permeable
Basin Topographic Gradient (M): Low Gradient (<2%) High Gradient (≥2%) ☐  Evidence of Seeps and Springs (P): No Seeps or Springs ☐ Seeps Observed Intermittent Spring Perennial Spring
Evidence of Seeps and Springs (P): No Seeps or Springs Seeps Observed Intermittent Spring Perennial Spring
LANDSCAPE VARIABLES (M)
Wetland Juxtaposition:       Wetland Isolated       Wetlands within 400m, Not Connected       Only Connected Below         Only Connected Above       Connected Upstream & Downstream       Unknown
Wetland Land Use: High Intensity (i.e., ag.) Moderate Intensity (i.e., forestry) Low Intensity (i.e. open space)
Watershed Land Use: 0-5% Rural 5-25% Urbanized 25-50% Urbanized >50% Urbanized
Size: Small (<10 acres) Medium (10-100 acres) Large (>100 acres)

GPS Technician QA/QC check:

Page 4 of 4

## Wetland Determination Form QA/QC Checklist

This form to be completed before leaving the field site.

Feature ID: W84A-(029	Field Target: 15215	Date: 7/15/15
For all itams not absolved also		

For all items not checked, please provide detailed explanation in the notes section of data form.

### 1. Site Description

- ☼ Site description, site parameters and summary of findings are complete?
- A detailed site sketch is included in legbook?

### 2. Vegetation

Porn

- At least 80% of onsite vegetation has been keyed to species, or collected for later identification?
- Vegetation names are entered legibly for all strata present?
- Cover calculations are complete and correct?
- All dominant species have been determined and recorded per strata?
- Indicator status is correct for each species?
- Dominance Test and Prevalence Index have been completed?

#### 3. Soil

- Soil profile is complete?
- M Appropriate hydric soil indicators are marked?

### 4. Hydrology

- Appropriate hydrology indicators are marked?
- Surface water, water table, and saturation depths are recorded if present?

#### 5. Functions and Values

Vegetation, soil, hydrologic variables, and landscape variables complete if site is a wetland?

### 6. Field Logbook

- Notes have been recorded at each site, including general description, sketch, and accuracy of pre-mapped wetland boundary as appropriate?
- Each logbook page is initialed and dated?

### 7. Maps

- Metland boundaries have been corrected if necessary?
- ☑ Maps are initialed and dated?

### 8. Photos

Four photos were taken for each Wetland Determination Data Form (2 vegetation, 1 soil pit, 1 soil plug)?

Two photos were taken for each Observation Point (vegetation/site overview)?

Wetland Scientist (print)

Signature / Date

Field Crew Chief (print)

Signature / Date

SITE DESCRIPTION					750				
Survey Type: Centerline Acce	ss Road (explain)	Other (exp	lain)	Field Targ	jet: <u>15216</u>	Map #: 41 Map Date: 6/29			
Date: 7/5/15	Project Name & No.:	Alaska LN	G 60418403		Feature Id:	L184A4030			
Investigators: Bruch Stro	na Bigay	le to	hol	Ti y		Team No.:( ) 64			
State: Alaska	Region: Alaska	)	Milepost:	337.7		E			
Latitude: 56004130.00	TV	Longitud	e: 156° la	0'33.	25°W	Datum: WGS84			
Logbook No.:	Logbook Page No.:	19	Picture No.:	PWRG	1A4630_	NEG VEG PIT PLUC			
SITE PARAMETERS									
Subregion: Interial			Landform (hi	llslope, terrac	e, hummocks	s, etc.): Footslope			
Slope (%): 4 %	*		Local relief (d	concave, con	vex, none): F	lat, Flat			
Pre-mapped Alaska LNG/NWI classifica	ation: U 1113 1 1	(IA)	Evidence of \	Wildlife Use:	تر – اص	redum sized - greyish			
Are climatic/hydrologic conditions on the Yes Nox (if no exp		of year?	Are "N	ormal Circun	nstances" pre				
Are Vegetation, Soil, or Hy		tly Disturbed	/	(If yes, exp	olain in Notes)				
Are Vegetation, Soil, or Hy	drology Naturally F	Problematic?	No_X	(If yes, ex	olain in Notes	.)			
SUMMARY OF FINDINGS	Property and the second					到了一点也//主观的			
Hydrophytic Vegetation Present? Yes_	No	ls	s the Sampled	Area within	a Wetland?	Yes No			
Hydric Soil Present? Yes_	NoX_	v	Vetland Type:	J		K L			
Wetland Hydrology Present? Yes_	No		laska Vegetatio	n Classificati	on (Viereck):	11 CZ			
Notes and Site Sketch: Please include Directional & North Arrow, Centerline, Length of feature, Distances from Centerline, Photo Locations, and Survey corridor.  Stending dead and deadfall Organis burned off. Fire Mass, liveriant, Some lie Soil surface creatings - likely due to dry and thousand Pleastie soil with some shring swell potential. Resent of trembling aspen scredlings 1-25 that and Bobb willow 144 Equation which distributed Danifall a log cover. March Point to delineater wet (127 Stoin). Still marginally wet at FT location 15216.									
	FT 152 16.								
Smill A Grus A70 U; 1122 Brenzy Picm	PSS	29			-				

**VEGETATION** (use scientific names of plants)

9.

10.

Total Cover:\_

50% of total cover: 20% of total cover: 8

Tree Stratum (Plot sizes: 100 Pt)	Absolute % Cover	Dominant Species? (Y/N)	Indicator Status	Dominance Test worksheet:  No. of Dominant Species that are OBL, FACW, or FAC: 2 (A)
1 miles the second of the seco				Total Number of Dominant Species Across All Strata: 3 (B)
2.	-			% Dominant Species that are OBL, FACW, or FAC: <u>677</u> (A/B)
3.				CPULL AND THE PERSON OF THE PE
4.	-5			Prevalence Index worksheet:
Total Cover	-		8	Total % Cover of: Multiply by:
50% of total cover	20	% of total cov	ver:	OBL species:X 1 =
Sapling/Shrub Stratum ( 76 )	Absolute % Cover	Dominant Species? (Y/N)	Indicator Status	FACW species: 12
4. Belala NODALASMANA	16-			
2. Salix pulchra	8		FACO	0.7
3. Salix belbians	15 10	Y	FAC	Column Totals: (A) 26 (B) PI = B/A = 2.13
4. Picea glavra (.5-1.5')	5		FAC	
5. Popular tremulaidies	17	7_	FACU	
6.			-12	
7.				
8.				4
9.				7 34
Total Cover:				
50% of total cover:	225 20	% of total cove	er:	
VEGETATION (use scientific names of plants	Ling Section	-77-77-79	With the State	
Herb Stratum ()	Absolute	Dominant	Indicator	Hydrophytic Vegetation Indicators:
	% Cover	Species? (Y/N)	Status	Dominance Test is > 50%
1. Chamerion angust foli	M6		FACU	_N_ Prevalence Index is ≤ 3.0
2. Equisetim aniense	30	4	CAC	Morphological Adaptations¹ (Provide supporting data in Notes)
3. Carex media			FACU	Problematic Hydrophytic Vegetation¹ (Explain)
4. Archagrostis latilità	3		FACW	Indicators of hydric soil and wetland hydrology must be present unless
5. Equisatum scirpoides			Face	disturbed or problematic.
6. Compression			The Contract	
7.	(4			% Bare Ground
8.				% Cover of Wetland Bryonhytes

Total Cover of Bryophytes

% Cover of Water

Notes: (If observed, list morphological adaptations below):

Hydrophytic Vegetation Present (Y/N): \_

2		10.4	7/15/15		128	4A703	0	7	
SOIL Date Feature ID Soil Pit Required (Y/N)									
SOIL PROFILE DESCRIPTION: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)									
Depth	Matrix		Redox Features			4.7		William 1	
(inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc²	Texture	Notes	
0-1								Charcos I.	
1 = 60	2544/2	92	2.5-15/1	5			Logina	Streley Planter	
6-26 95	2.		7.5-124/6	3	-	S 8			
6-26+	2.5-14/2	100				7	Laciny	Massive	
		8.4	i i					1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -	
		K.					A)	9 8	
		). AC					1	A DESCRIPTION OF THE	
<sup>1</sup> Type: C=Co	ncentration, D=Deple	etion, RN	M=Reduced Matrix, CS	=Cov	ered or C	coated Sand C	Grains. <sup>2</sup> Location	n: PL=Pore Lining, M=Matrix.	
HYDRIC SOIL	INDICATORS	1.754		13			INDICATORS	FOR PROBLEMATIC HYDRIC SOILS <sup>3</sup>	
Histosol or His	stel (A1)/		Alaska Gleyed (	A13) _	~	_	Alaska Color	Change (TA4) <sup>4</sup>	
Histic Epipedo	on (A2)/		Alaska Redox (A	14)_	7		Alaska Alpine	Swales (TA5)	
Black Histic (A	N3)		Alaska Gleyed F	ores	(A15)	ا لنب	Alaska Redox	with 2.5Y Hue	
Hydrogen Sul	fide (A4))			-				d without 5Y Hue or Redder Underlying	
							Layer_ r	n in Nahan	
	rface (A12)	totion o	ano primary indicator of	wotls	and hydro	logy and an	Other (Explai	cape position must be present unless	
disturbed or p		itation, C	nie primary indicator or	Welle	ina nyare	nogy, and an	appropriate lands	cape position must be present unless	
<sup>4</sup> Give details o	of color change in No	otes.	1 22 P	_AL /:	\. I		K		
Restrictive La	yer (ii present): Typo	e: /V/A	Stive Loan De	pın (ı	ncnes)				
Hydric Soil P	resent (Y/N):	)				1.18	8		
Notes: ( )	1 1 3.	4 1 NA	1 1		- i i		N .		
1	1 rost in 3	7 10	assine steek	7, 1	21-51	10, 500	of been	iable loan	
3.10	sa waton!	00	Portifive al	rha	4/10	ha. 12a	mins 26	sor. Dr. confitures	
						1			
HYDROLOGY	PRIMARY INDICA	TORS (	any one indicator is suf	ficien	t)	SECONDAR	Y INDICATORS (	2 or more required)	
Surface Wate	r (A1)	Su	rface Soil Cracks (B6)	_ 1	) .	Water-staine Leaves (B9)		Stunted or Stressed Plants (D1)	
High Water Ta	able (A2) <u></u>	Inu (B	ındation Visible on Aeri 7)心	ial Im	agery	Drainage Patterns (B10)		Geomorphic Position (D2)	
Saturation (A3	B)		arsely Vegetated ncave Surface (B8)	W		Oxidized Rhizospheres along Living Roots (C3)		Shallow Aquitard (D3)	
Water Marks	(B1) _ N	Ma	arl Deposits (B15)	70	-	Presence of Iron (C4)		Microtopographic Relief (D4)	
Sediment Dep	oosits (B2) _ $\wedge$		drogen Sulfide lor (C1)			Salt Deposits	Salt Deposits (C5) / FAC-Neutral Test (D5) _		
Drift Deposits	(B3)	Dr. Wa	y-Season ater Table (C2)			Notes:	72	3 h-1	
Algal Mat or C	Crust (B4)		her (Explain in Notes):	N	1.2				
Iron Deposits	ron Deposits (B5)								
				100					
Surface Wate	r Present (Y/N): 🔎		Depth (in): 📈			05		· . 1.	
Water Table F	Present (Y/N):		Depth (in):	2	w N	etland Hydro	ology Present (Y/	N):	
Saturation Pre	esent (Y/N):		Depth (in):		E	c: NA	+		
Notes:									
			3.5						

# AQUATIC SITE ASSESSMENT DATA FORM

VEGETATION VARIABLES P= Plot, M= Matrix
Primary Vegetation Type (P): Vegetation Lacking Forested-Deciduous-Needle-leaved Forested-Deciduous-Needle-leaved Forested-Deciduous-Broad-leaved Forested-Deciduous-Broad-leaved Scrub Shrub-Deciduous-Needle-leaved Scrub Shrub-Deciduous-Broad-leaved Scrub Shrub-Evergreen-Needle-leaved Emergent-Non-persistent Emergent-Persistent Aquatic Bed
Percent Cover (P): Tree (>5 dbh, >6m tall)         Sapling (<5 dbh, <6m tall)         Tall shrub (2-6m)         Short shrub (0.5-2m)           Dwarf shrub (<0.5m)
Number of Wetland Types (M): Evenness of Wetland Type Distribution (M): EvenHighly UnevenModerately even
Vegetation Density/Dominance (P): Sparse (0-20%)       Low Density (20-40%)       Medium Density (40-60%)       High Density (60-80%)
Interspersion of Cover & Open Water (P): 100% Cover or Open Water <a href="#">25% Scattered/Peripheral Cover</a> 26-75% Scattered or Peripheral Cover N/A
Plant Species Diversity (P): Low (< 5 plant species) Medium (5-25 species) High (>25)
Presence of Islands (M): Absent (none) One or Few Several to Many N/A
Cover Distribution of Dominant Layer (P): No Veg Solitary, Scattered Stems 1 or More Large Patches; Parts of Site Open Small Scattered Patches Continuous Cover
Dead Woody Material (P): Low Abundance (0-25% of surface) Moderately Abundant (25-50% of surface) Abundant (>50% of surface)
Vegetative Interspersion (P):       Low (large patches, concentric rings)       Moderate (broken irregular rings)         High (small groupings, diverse and interspersed)
HGM Class (P): Slope Flat Lacustrine Fringe Depressional Riverine Estaurine Fringe
SOIL WARRANGER
SOIL VARIABLES
Soil Factors (P): Soil Lacking Histosol:Fibric Histosol:Hemic Histosol: Sapric Mineral: Gravelly Mineral: Sandy Mineral: Silty Mineral: Clayey
HYDROLOGIC VARIABLES
Inlet/Outlet Class (P): No Inlet/Outlet No Inlet/Intermittent Outlet No Inlet/Perennial Outlet Intermittent Inlet/No Outlet Intermittent Inlet/Intermittent Outlet Perennial Inlet/Intermittent Outlet Perennial Inlet/Perennial Outle
Wetland Water Regime (P): Drier; Seasonally Flooded, Temporarily Flooded, Saturated Wet: Perm. Flooded, Intermittently Exposed, Semiperm. Flooded
Evidence of Sedimentation (P): No Evidence Observed Sediment Observed on Wetland Substrate Fluvaquent Soils Sediment Created
Microrelief of Wetland Surface (P): Absent Poorly Developed (6in.) Well Developed (6-18in.) Pronounced (>18in.)
Frequency of Overbank Flooding (P): No Overbank Flooding Return Interval 1-2 yrs Return Interval >5 yrs
Degree of Outlet Restriction (P): No Outflow Restricted Outflow Unrestricted Outflow
Water pH (P): No surface water         Circumneutral (5.5-7.4)         Alkaline (>7.4)         Acid (<5.5)         pH Reading
Surficial Geologic Deposit Under Wetland (P): High Permeability Stratified Deposits Low Permeability Stratified Deposits Glacial Till/Not Permeable
Basin Topographic Gradient (M): Low Gradient (<2%) High Gradient (≥2%)
Evidence of Seeps and Springs (P): No Seeps or Springs Seeps Observed Intermittent Spring Perennial Spring
LANDSCAPE VARIABLES (M)
Wetland Juxtaposition:       Wetland Isolated       Wetlands within 400m, Not Connected       Only Connected Below         Only Connected Above       Connected Upstream & Downstream       Unknown
Wetland Land Use: High Intensity (i.e., ag.) Moderate Intensity (i.e., forestry) Low Intensity (i.e. open space)
Wetland Use:       High Intensity (i.e., ag.)       Moderate Intensity (i.e., forestry)       Low Intensity (i.e. open space)         Watershed Land Use:       0-5% Rural       5-25% Urbanized       25-50% Urbanized       >50% Urbanized

Page 4 of 4

# Wetland Determination Form QA/QC Checklist

This form to be completed before leaving the field site.

Feature ID: W8-(A-(730 Field Target: 15215 Date: 7/15/15
For all items not checked, please provide detailed explanation in the notes section of data form.
the finite of the section of data form.
1. Site Description
<ul><li>Site description, site parameters and summary of findings are complete?</li><li>A detailed site sketch is included in logbook?</li></ul>
2. Vegetation
2. Vegetation
At least 80% of onsite vegetation has been keyed to species, or collected for later identification?
✓ Vegetation names are entered legibly for all strata present?
Cover calculations are complete and correct?
All dominant species have been determined and recorded per strata?  Indicator status is correct for each species?
Dominance Test and Prevalence Index have been completed?
3. Soil
☑       Soil profile is complete?         ☑       Appropriate hydric soil indicators are marked?
4. Hydrology
<ul><li>Appropriate hydrology indicators are marked?</li><li>Surface water, water table, and saturation depths are recorded if present?</li></ul>
5. Functions and Values
Vegetation, soil, hydrologic variables, and landscape variables complete if site is a wetland?
6. Field Logbook
Notes have been recorded at each site, including general description, sketch, and
accuracy of pre-mapped wetland boundary as appropriate?  Each logbook page is initialed and dated?
7. Maps
✓ Wetland boundaries have been corrected if necessary? ✓ Maps are initialed and dated?

### 8. Photos

Four photos were taken for each Wetland Determination Data Form (2 vegetation, 1 soil pit, 1 soil plug)?

NAME Two photos were taken for each Observation Point (vegetation/site overview)?

Wetland Scientist (print)

Signature / Date

Field Crew Chief (print)

Signature / Date

CITE DESCRIPTION	THE PERSON OF TH	Side training		A STATE OF THE PARTY OF THE PAR
SITE DESCRIPTION  Survey Type: Centerline X Acce	ess Road (explain) Other (ex	rolain)	Field Target: 15217	Map #: <u>40</u> Map Date: <u>6/3</u> 9
Date: 7/15/15	Project Name & No.: Alaska LN		Feature Id	- Ann -
Investigators: P	e Apinaulo Fishe	1		Team No.: ( 8 - )
State: Alaska	Region: Alaska	Milepost:	337.1	, , , , , , , , , , , , , , , , , , ,
Latitude: 66° 0°/1 58.	1		514933°W	Datum: WGS84
Logbook No.: (7)	Logbook Page No.: 49			NEG WE PIT PLACE
			200771021	
SITE PARAMETERS		L andfarm (b)		
Subregion: Jule 17.4			lislope, terrace, hummock	- Cirade
Slope (%): 2 - 3 % estmate			concave, convex, none):	1
Pre-mapped Alaska LNG/NWI classific  Are climatic/hydrologic conditions on the			Wildlife Use: ₩ 2 €	
Yes No (if no exp	plain in Notes) Dry Cand			
Are Vegetation, Soil, or Hy	drologySignificantly Disturbe	d? No <u>K</u>	_(If yes, explain in Notes	)
Are Vegetation, Soil, or Hy	drology Naturally Problematic	? No <del>/</del> _	_ (If yes, explain in Notes	3.)
SUMMARY OF FINDINGS	当自然特定规范则的特		This is the same	Thirties of the same of the sa
Hydrophytic Vegetation Present? Yes_	1No	Is the Sampled A	Area within a Wetland?	Yes No
Hydric Soil Present? Yes_	Д No	Wetland Type:	PEMILSSIB	
Wetland Hydrology Present? Yes_	No	Alaska Vegetatio	n Classification (Viereck):	111142, 11 02
Notes and Site Sketch: Please include corridor. Burner PICMAr Thick over of Fri Point mores to beta Occur in the area.	2. Mostly 15-25 VAC mixed with p ter inform mapping	21to Tom couplates.	th sparce 3- and scattered Pockets of c	8' SNOS Scettered BCTWMW (15-3'-1011) mborned PICMAR-SOP
		3 3 4	, , , , , , , , , , , , , , , , , , ,	
	1 1 1	1	1 1	1 HAAT
	PEMISSIB PS	A71028 53/4B D2, 11A3 EST	MIX 111 A: cm 2	PSSYB 11AZ  FSSYB 11AZ  of 111AZ tossock  s sedse meadow  incz low willow. birch:  11bthe swaln

VEGETATION (use scientific names of plants				
Tree Stratum (Plot sizes: 100 f-1)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:  No. of Dominant Species that are OBL, FACW, or FAC: (A)
1		(Y/N)		Total Number of Dominant Species Across All Strata: 2 (B)
2.				% Dominant Species that are OBL, FACW, or FAC: (A/B)
3				
				THE RESERVE OF THE PARTY OF THE
4				Prevalence Index worksheet:
Total Cover		))/ of total one		Total % Cover of: Multiply by:
Sapling/Shrub Stratum ( 20 ft)		% of total cov	T	OBL species:X 1 =
Sapling/Shrub Stratum ( N. 47)	Absolute % Cover	Dominant Species? (Y/N)	Indicator Status	FAC species
1. Betula rara	6		Foe	FACU species X 4 = X 5 =
2. Vaccinium ulianosum	6		tac	Column Totals: 127 (A) 273 (B)
3. Vaccinium Vitis idaga	7		FOE	PI = B/A = 2 15
4. Phododerdrum tomento	sem 20	1	Fach	
5. Picea Maciana (11)	1.		Jac (V	
6.				
7.	-			
8.				
9.				
Total Cover:				
50% of total cover	<u>'\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\</u>	% of total cov	er: <u>{</u>	
VEGETATION (use scientific names of plants	)	TEN NO	field to a sui	
Herb Stratum ( 26++)				
	Absolute	Dominant	Indicator	Hydrophytic Vegetation Indicators:
	Absolute % Cover	Species?	Indicator Status	Hydrophytic Vegetation Indicators:  Dominance Test is > 50%
			Status	Dominance Test is > 50%  Prevalence Index is ≤ 3.0
1 Eriophorum vaginatum	% Cover	Species?	Status	Dominance Test is > 50%  Prevalence Index is ≤ 3.0  Morphological Adaptations¹ (Provide supporting data in
1 Erlophorum vaginatum 2. Rubus (hamae marus	% Cover 85	Species?	Status FACW FACW	Dominance Test is > 50%  Prevalence Index is ≤ 3.0  Morphological Adaptations¹ (Provide supporting data in Notes)
1 Erlophorum vaginatum 2. Rubus (hamae marus	% Cover 85	Species?	Status	Dominance Test is > 50%  Prevalence Index is ≤ 3.0  Morphological Adaptations¹ (Provide supporting data in Notes)  Problematic Hydrophytic Vegetation¹ (Explain)
1 Erlophorum vaginatum 2. Rubus Change mans 3. Change ion angustifolis.	% Cover 85	Species?	Status FACW FACW	Dominance Test is > 50%  Prevalence Index is ≤ 3.0  Morphological Adaptations¹ (Provide supporting data in Notes)
1 Eriophorum vaginatum  2. Rubus Change mans  3. Changion angustifoliv.  4.	% Cover 85	Species?	Status Facul FACW FACW	Dominance Test is > 50%  Prevalence Index is ≤ 3.0  Morphological Adaptations¹ (Provide supporting data in Notes)  Problematic Hydrophytic Vegetation¹ (Explain)  Indicators of hydric soil and wetland hydrology must be present unless
1 Erlophorum vaginatum  2. Rubus Change marus  3. (Na merion angustifoliu.  4.	% Cover 85	Species?	Status Facul FACW FACW	Dominance Test is > 50%  Prevalence Index is ≤ 3.0  Morphological Adaptations¹ (Provide supporting data in Notes)  Problematic Hydrophytic Vegetation¹ (Explain)  Indicators of hydric soil and wetland hydrology must be present unless
1 Erlaphorum vaginatum  2. Rubus Chamae marus  3. Chamerion angustifoliu.  4.  5.  6.	% Cover 85	Species?	Status Facul FACW FACW	Dominance Test is > 50%  Prevalence Index is ≤ 3.0  Morphological Adaptations¹ (Provide supporting data in Notes)  Problematic Hydrophytic Vegetation¹ (Explain)  ¹ Indicators of hydric soil and wetland hydrology must be present unless disturbed or problematic.
1 Eriopherum vaginatum  2. Rubus Change marus  3. Change ion angustifoliu.  4.  5.  6.	% Cover 85	Species?	Status Facul FACW FACW	Dominance Test is > 50%  Prevalence Index is ≤ 3.0  Morphological Adaptations¹ (Provide supporting data in Notes)  Problematic Hydrophytic Vegetation¹ (Explain)  ¹ Indicators of hydric soil and wetland hydrology must be present unless disturbed or problematic.  Means of the problematic of the pro
1 Erlaphorum vaginatum  2. Pulsus (hamae marus  3. (Na merion anaustifatu.  4.  5.  6.  7.  8.	% Cover 85	Species?	Status Facul FACW FACW	Dominance Test is > 50%  Prevalence Index is ≤ 3.0  Morphological Adaptations¹ (Provide supporting data in Notes)  Problematic Hydrophytic Vegetation¹ (Explain)  ¹ Indicators of hydric soil and wetland hydrology must be present unless disturbed or problematic.   Mean and the second of the secon
1 Eriophorum vaginatum  2. Rubus Chamae marus  3. Chamerion angustifoliu.  4.  5.  6.  7.  8.  9.	% Cover 85	Species?	Status Facul FACW FACW	Dominance Test is > 50%  Prevalence Index is ≤ 3.0  Morphological Adaptations¹ (Provide supporting data in Notes)  Problematic Hydrophytic Vegetation¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present unless disturbed or problematic.   ——————————————————————————————————
1 Erlapharum vaginatum  2. Rubus Change marus  3. (Na merian angustifalu.  4.  5.  6.  7.  8.  9.  10.  Total Cover.	% Cover 85 2 y T	Species? (Y/N)	Status Facul FACU FACU	Dominance Test is > 50%  Prevalence Index is ≤ 3.0  Morphological Adaptations¹ (Provide supporting data in Notes)  Problematic Hydrophytic Vegetation¹ (Explain)  ¹ Indicators of hydric soil and wetland hydrology must be present unless disturbed or problematic.   Mean and the second of the secon
1 Eriophorum vaginatum  2. Rubus Chamae marus  3. Chamerion angustifoliu.  4.  5.  6.  7.  8.  9.	% Cover 85 2 y T	Species?	Status Facul FACU FACU	Dominance Test is > 50%  Prevalence Index is ≤ 3.0  Morphological Adaptations¹ (Provide supporting data in Notes)  Problematic Hydrophytic Vegetation¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present unless disturbed or problematic.   ——————————————————————————————————

Depth	Matrix		Redox Features						
(inches)	Color (moist)	%	Color (moist)	1%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Note	S
3-3			E				51 89	cha	recoal/charcoal
3-4	75-04/6	(01					Claylour		1.07.50
	· N4/0	90	7.5-12 4/6	10	clox	PL/RC			ssive Alpha alph
			1.,		1 1				
				2			V		
						L			aaaaaaaaaaaa
	Concentration, D=Deple	etion, RM	/I=Reduced Matrix, C	S=Cov	ered or Coa	ted Sand Gr			ore Lining, M=Matrix.
The state of the s	DIL INDICATORS	E	ALL SECTION	Jid St			THE RESERVE AND PARTY.		ROBLEMATIC HYDRIC SOIL
	Histel (A1) N		Alaska Gleyed				Alaska Color		
Histic Epipe	don (A2) _\dot\		Alaska Redox				Alaska Alpine		
Black Histic	(A3) \( \sum_		Alaska Gleyed	Pores	(A15) <u>\</u>		Alaska Redox		
Hydrogen S	ulfide (A4)						Layer	d without	5Y Hue or Redder Underlyin
Thick Dark	Surface (A12)						Other (Explain	n in Note	s)
<sup>3</sup> One indica	tor of hydrophytic vege	etation, c	one primary indicator	of wetla	and hydrolog	gy, and an a	ppropriate landso	cape posi	ition must be present unless
	present (Y/N): 1		- Permat						
Notes: Per Per Surface Water	GY PRIMARY INDICA	TORS (	any one indicator is surface Soil Cracks (B6	ufficien  Lerial Im	t) S  Lagery D	ECONDARY Vater-stained eaves (B9)	Indicators (	tes	e required)  Stunted or Stressed  Plants (D1)  Geomorphic Position (D2)
Notes: Per Per Surface Water	ons with property of Ausso	TORS (	any one indicator is surface Soil Cracks (B6	ufficien  Lerial Im	t) S  Magery D  Li	ECONDARY Vater-stained eaves (B9)	INDICATORS ( INDIC	+cs	e required)  Stunted or Stressed  Plants (D1)  Geomorphic Position (D2)  Shallow Aquitard (D3)
Notes: Per	GY PRIMARY INDICA	TORS (I	any one indicator is surface Soil Cracks (B6) undation Visible on A67) arsely Vegetated oncave Surface (B8) arl Deposits (B15)	ufficien  i) _ \( \text{\tint{\text{\te}\text{\texi}\text{\text{\text{\text{\text{\text{\text{\texi\texi{\texi}\texit{\text{\text{\text{\text{\text{\text{\texi}\text{\text{\texi}\texit{\	t) S  Magery D  Li  P	ECONDARY Vater-stained eaves (B9)	INDICATORS ( INDIC	es cav	e required)  Stunted or Stressed  Plants (D1)  Geomorphic Position (D2)  Shallow Aquitard (D3)  Microtopographic  Relief (D4)
Notes: Proceedings of the Process of	GY PRIMARY INDICA  oter (A1) N  Table (A2) N	TORS (substitution of the substitution of the	any one indicator is surface Soil Cracks (B6 undation Visible on Act of the concave Surface (B8)	ufficien  i) _ \( \text{\tint{\text{\te}\text{\texi}\text{\text{\text{\text{\text{\text{\text{\texi\texi{\texi}\texit{\text{\text{\text{\text{\text{\text{\texi}\text{\text{\texi}\texit{\	t) S  Magery D  Li  P  In	ECONDARY Vater-stained eaves (B9) Prainage Patt Exidized Rhiz iving Roots (coresence of Roon (C4)	INDICATORS ( INDIC	2 or mon	e required)  Stunted or Stressed Plants (D1)  Geomorphic Position (D2)  Shallow Aquitard (D3)  Microtopographic Relief (D4)
HYDROLO Surface Wa High Water Saturation ( Water Mark	GY PRIMARY INDICA  Iter (A1) N  Table (A2) N  (A3) N  (S) (B1) N	Su Inu - (B) Sp Cc	any one indicator is surface Soil Cracks (B6 undation Visible on A67) arsely Vegetated oncave Surface (B8) arl Deposits (B15)	ufficien  i) _ \( \text{\tint{\text{\te}\text{\texi}\text{\text{\text{\text{\text{\text{\text{\texi\texi{\texi}\texit{\text{\text{\text{\text{\text{\text{\texi}\text{\text{\texi}\texit{\	t) S  Agery D  Li  P  In	ECONDARY Vater-stained eaves (B9) Prainage Patte Dividized Rhiz iving Roots (Caresence of Roon (C4)	Indicators (Indicators (B10) cospheres along C3) Reduced / (C5)	2 or mon	e required)  Stunted or Stressed Plants (D1)  Geomorphic Position (D2)  Shallow Aquitard (D3)  Microtopographic Relief (D4)
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# AQUATIC SITE ASSESSMENT DATA FORM

VEGETATION VARIABLES P= Plot, M= Matrix
Primary Vegetation Type (P):       Vegetation Lacking Forested-Deciduous-Needle-leaved Forested-Deciduous-Needle-leaved Scrub Shrub-Deciduous-Needle-leaved Scrub Shrub-Deciduous-Broad-leaved Scrub Shrub-Evergreen-Broad-leaved Scrub Shrub-Evergreen-Needle-leaved Emergent-Non-persistent Emergent-Persistent Aquatic Bed
Percent Cover (P): Tree (>5 dbh, >6m tall)
Number of Wetland Types (M): Evenness of Wetland Type Distribution (M): Even Highly Uneven Moderately even
Vegetation Density/Dominance (P): Sparse (0-20%) Low Density (20-40%) Medium Density (40-60%) High Density (60-80%) Very High Density (80-100%)
Interspersion of Cover & Open Water (P): 100% Cover or Open Water <a href="#">&lt;25% Scattered/Peripheral Cover</a> 26-75% Scattered or Peripheral Cover N/A
Plant Species Diversity (P): Low (< 5 plant species) Medium (5-25 species) High (>25)
Presence of Islands (M): Absent (none) One or Few Several to Many N/A
Cover Distribution of Dominant Layer (P): No Veg Solitary, Scattered Stems 1 or More Large Patches; Parts of Site Open Small Scattered Patches Continuous Cover_ ×
Dead Woody Material (P): Low Abundance (0-25% of surface) Moderately Abundant (25-50% of surface) Abundant (>50% of surface)
Vegetative Interspersion (P): Low (large patches, concentric rings)   Moderate (broken irregular rings)  High (small groupings, diverse and interspersed)
HGM Class (P): Slope Flat_K_ Lacustrine Fringe Depressional Riverine Estaurine Fringe
SOIL VARIABLES
Soil Factors (P): Soil Lacking Histosol:Fibric Histosol:Hemic Histosol: Sapric_
Mineral: Gravelly Mineral: Sandy Mineral: Silty Mineral: Clayey
HYDROLOGIC VARIABLES
Inlet/Outlet Class (P): No Inlet/Outlet
Inlet/Outlet Class (P): No Inlet/Outlet No Inlet/Intermittent Outlet No Inlet/Perennial Outlet Intermittent Inlet/No Outlet Perennial Inlet/No Outlet Perennial Inlet/No Outlet Perennial
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# Wetland Determination Form QA/QC Checklist

This form to be completed before leaving the field site.

Feature ID: W	4A-1031	Field Target: 15216	_ Date: 7(15(15
For all items not	checked, please provi	de detailed explanation in ti	he notes section of data form.
1. Site De	scription		
△Site △ A de	description, site par stailed site sketch is	ameters and summary of included in logbook?	findings are complete?
2. Vegetat	ion	form	
⊠ Vege ⊠ Cove ⊠ All d ⊠ Indic	etation? etation names are er er calculations are co ominant species hav eator status is correc	ntered legibly for all strata complete and correct? we been determined and r	ecorded per strata?
3. Soil			
⊠ Soil ⊠ Appr	orofile is complete? opriate hydric soil in	dicators are marked?	
4. Hydrolo	gy		
☑ Appr ☑ Surfa	opriate hydrology ind ice water, water tabl	dicators are marked? e, and saturation depths	are recorded if present?
5. Function	ns and Values		
∠ Vege     wetla	tation, soil, hydrolog nd?	ic variables, and landsca	pe variables complete if site is a
6. Field Lo	gbook		
accui	s have been recorde acy of pre-mapped v logbook page is initi	wetiand boundary as app	general description, sketch, and ropriate?

## 7. Maps

Wetland boundaries have been corrected if necessary?

Maps are initialed and dated?

### 8. Photos

Example Four photos were taken for each Wetland Determination Data Form (2 vegetation, 1 soil pit, 1 soil plug)?

NA ☑ Two photos were taken for each Observation Point (vegetation/site overview)?

Wetland Scientist (print)

X

Metland Scientist (print)

Signature / Date

Field Crew Chief (print)

Signature / Date