

APPENDIX C. 1994 YUKON GOLD VEGETATION DATA

Table C-1. Number of hits by plant taxa for paired plot t tests and pooled plot means, based on two hits per sampling point for a total of 100 hits per plot for 1994 Yukon Gold site, Alaska. Data were collected 2-4 August 1994.

Plot	Graminoids								Forbs			Shrubs			
	CAAQ	CAAT	CABI	CASA	CASP	All Carex	ERAN	JUBI	EQVA	PESU	POVI	DRIN	SAAR	SALA	SARE
C1	7	0	9	0	0	16	8	0	0	0	0	4	0	1	0
C2	6	0	0	3	0	9	8	0	0	0	0	1	0	0	1
C3	3	0	0	4	0	7	9	0	0	0	0	0	0	0	0
C4	5	0	0	5	0	10	11	0	0	1	0	1	0	0	2
C5	5	0	0	2	0	7	20	0	0	1	0	0	2	0	1
C6	1	0	0	0	0	1	22	0	2	0	0	0	0	0	0
C7	1	0	0	0	0	1	15	0	0	0	0	1	0	4	1
C8	3	0	0	0	0	3	11	0	2	0	0	2	0	0	0
C10	3	2	0	0	1	6	11	0	0	1	0	0	0	0	1
C11	1	0	0	3	0	4	10	0	0	0	0	0	0	0	0
C12	4	0	0	6	0	10	12	0	0	1	0	0	0	0	0
C13	0	0	0	6	0	6	11	0	2	1	0	0	0	0	0
C14	3	0	0	0	0	3	11	0	0	0	0	0	2	0	1
C15	4	0	0	8	0	12	11	0	0	2	0	0	1	0	1
C16	4	0	0	2	0	6	5	0	0	0	0	0	0	0	2
C17	9	0	0	0	1	10	10	0	0	1	0	0	1	0	0
C18	3	0	0	4	0	7	14	0	0	1	0	0	1	0	0
C19	6	0	0	3	0	9	19	0	0	0	0	0	1	0	0
C20	7	1	0	0	0	8	7	0	0	0	0	1	1	0	1
C21	6	0	0	0	0	6	13	0	0	0	0	0	1	0	0
C22	3	0	0	0	0	3	2	0	0	0	0	6	2	0	0
C23	3	2	0	1	0	6	8	1	0	2	0	0	1	1	0
C24	2	0	0	0	1	3	2	0	0	0	1	2	1	2	1
C25	1	0	1	0	0	2	1	0	0	0	0	9	0	0	0
% Sum	90	5	10	47	3	155	251	1	6	11	1	27	14	8	12
Average	3.75	0.21	0.42	1.96	0.13	6.46	10.46	0.04	0.25	0.46	0.04	1.13	0.58	0.33	0.50
SD	2.27	0.59	1.84	2.44	0.34	3.67	5.26	0.20	0.68	0.66	0.20	2.23	0.72	0.92	0.66

C-1

Table C-1. Continued.

Plot	Non-Vascular								Barren	
	LICH	LIVE	BRPS	HYBA	ONWA	SCSC	TONI	MOSS	BARE	GRAV
C1	0	0	0	17	2	13	2	35	11	0
C2	0	0	0	0	0	12	0	12	16	0
C3	0	0	0	0	0	19	16	35	33	0
C4	0	0	0	7	0	42	0	49	22	0
C5	0	1	1	11	0	2	4	18	11	0
C6	0	0	2	0	0	8	0	10	22	0
C7	0	0	0	3	0	3	9	15	24	0
C8	0	0	0	0	0	47	0	47	26	0
C10	0	0	1	0	0	4	13	18	31	0
C11	0	0	0	0	0	4	0	4	27	0
C12	0	0	5	0	0	18	0	23	16	0
C13	0	0	2	0	0	8	0	10	20	0
C14	0	0	3	0	0	18	3	24	25	0
C15	0	0	1	0	0	6	1	8	8	0
C16	0	0	0	0	0	27	16	43	29	0
C17	0	0	1	0	1	20	7	29	15	0
C18	0	1	0	0	0	7	0	7	20	0
C19	0	0	1	0	0	14	0	15	12	0
C20	0	0	1	1	0	18	17	37	22	0
C21	0	0	1	1	0	4	0	6	14	0
C22	0	0	0	2	0	9	38	49	30	0
C23	0	0	2	0	1	11	0	14	12	0
C24	0	0	0	7	0	16	23	46	33	0
C25	3	0	0	0	3	3	38	44	31	0
Sum	3	2	21	49	7	333	187	598	510	0
Average	0.13	0.08	0.88	2.04	0.29	13.88	7.79	24.92	21.25	0.00
SD	0.61	0.28	1.23	4.29	0.75	11.54	11.59	15.58	7.77	0.00

Table C-1. Continued.

Plot	Graminoids						Forbs			Shrubs					
	CAAQ	CAAT	CABI	CASA	CASP	All Carex	ERAN	JUBI	EQVA	PESU	POVI	DRIN	SAAR	SALA	SARE
I1	0	0	0	0	0	0	18	0	0	0	0	0	0	0	0
I2	2	0	0	1	0	3	8	0	0	0	0	0	0	0	0
I3	1	2	0	0	0	3	3	0	1	0	0	0	0	0	0
I4	1	0	0	0	0	1	8	0	0	0	0	0	0	0	0
I5	2	0	0	0	0	2	10	0	1	0	0	0	0	0	0
I6	4	0	0	1	0	5	6	0	0	1	0	0	0	0	0
I7	2	0	0	1	0	3	13	0	0	0	0	0	0	0	0
I8	2	0	0	0	0	2	0	0	0	0	0	0	0	0	0
I10	0	0	0	3	0	3	9	0	0	0	0	0	0	0	0
I11	1	0	0	2	2	5	9	0	0	0	0	0	0	0	1
I12	2	0	0	3	0	5	4	0	0	1	0	0	0	0	0
I13	0	0	0	0	0	0	8	0	0	0	0	0	0	0	0
I14	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
I15	1	0	0	1	0	2	2	0	0	0	0	0	0	0	0
I16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
I17	0	0	0	1	0	1	11	0	0	0	0	0	0	0	0
I18	1	0	0	1	0	2	14	0	0	0	0	0	0	0	0
I19	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0
I20	2	0	0	0	0	2	3	0	0	0	0	0	0	0	0
I21	4	0	0	2	0	6	7	0	0	0	0	0	0	0	0
I22	1	0	0	0	0	1	0	0	1	0	0	0	0	0	0
I23	5	0	0	6	0	11	13	0	0	0	0	0	0	0	0
I24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
I25	1	0	0	2	0	3	9	0	0	0	0	0	0	0	0
Sum	32	2	0	24	2	60	158	0	3	2	0	0	0	0	1
Average	1.33	0.08	0.00	1.00	0.08	2.50	6.58	0.00	0.13	0.08	0.00	0.00	0.00	0.00	0.04
SD	1.40	0.41	0.00	1.44	0.41	2.55	5.12	0.00	0.34	0.28	0.00	0.00	0.00	0.00	0.20

Table C-1. Continued.

Plot	Non-Vascular								Barren	
	LICH	LIVE	BRPS	HYBA	ONWA	SCSC	TONI	MOSS	BARE	GRAV
I1	0	0	0	1	0	19	0	20	29	0
I2	0	0	0	7	0	5	0	12	33	0
I3	0	0	0	2	0	17	12	31	45	0
I4	0	0	1	0	0	2	0	3	30	0
I5	0	0	0	6	0	5	2	13	34	0
I6	0	0	4	0	0	3	0	7	40	0
I7	0	0	0	1	0	8	0	9	32	0
I8	0	0	1	1	0	31	4	37	49	0
I10	0	0	0	0	0	12	3	15	33	0
I11	0	0	1	2	0	0	9	12	26	0
I12	0	0	0	0	0	9	0	9	26	0
I13	0	0	0	1	2	3	12	18	35	0
I14	0	0	0	0	0	10	0	10	41	0
I15	0	0	1	3	0	33	0	37	35	0
I16	1	0	0	0	0	4	36	40	41	0
I17	0	1	0	0	1	25	2	28	37	3
I18	0	0	0	0	0	18	0	18	20	2
I19	0	0	1	0	0	8	8	17	46	4
I20	0	0	0	2	0	17	13	32	25	0
I21	0	0	1	0	0	17	0	18	20	11
I22	0	0	4	7	0	23	14	48	35	0
I23	0	0	0	0	0	13	0	13	12	3
I24	0	0	1	0	0	24	9	34	30	0
I25	0	0	0	0	0	27	0	27	23	0
Sum	1	1	15	33	3	333	124	508	777	23
Average	0.04	0.04	0.63	1.38	0.13	13.88	5.17	21.17	32.38	0.96
SD	0.20	0.20	1.13	2.22	0.45	9.67	8.25	12.11	8.95	2.44

Table C-2. Number of hits by category for paired plot t tests and pooled plot means, based on two hits per sampling point for a total of 100 hits per plot for 1994 Yukon Gold site, Alaska. Data were collected 2-4 August 1994.

Plot	Graminoids	Forbs	Shrubs	Combined Vascular Plants	Combined Non-Vascular Plants	Live Vegetation	Barren	Dead Plant Material
C1	24	0	5	29	35	64	11	25
C2	17	0	2	19	12	31	16	53
C3	16	0	0	16	35	51	33	16
C4	21	1	3	25	49	74	22	4
C5	27	1	3	31	19	50	11	39
C6	23	2	0	25	10	35	22	43
C7	16	0	6	22	15	37	24	39
C8	14	2	2	18	47	65	26	9
C10	17	1	1	19	18	37	31	32
C11	14	0	0	14	4	18	27	55
C12	22	1	0	23	23	46	16	38
C13	17	3	0	20	10	30	20	50
C14	14	0	3	17	24	41	25	34
C15	23	2	2	27	8	35	8	57
C16	11	0	2	13	43	56	29	15
C17	20	1	1	22	29	51	15	34
C18	21	1	1	23	8	31	20	49
C19	28	0	1	29	15	44	12	44
C20	15	0	3	18	37	55	22	23
C21	19	0	1	20	6	26	14	60
C22	5	0	8	13	49	62	30	8
C23	15	2	2	19	14	33	12	55
C24	5	1	6	12	46	58	33	9
C25	3	0	9	12	47	59	31	10
Sum	407	18	61	486	603	1089	510	801
Average	16.96	0.75	2.54	20.25	25.13	45.38	21.25	33.38
SD	6.49	0.90	2.54	5.53	15.68	14.40	7.77	18.01

Table C-2. Continued.

Plot	Graminoids	Forbs	Shrubs	Combined Vascular Plants	Combined Non-Vascular Plants	Live Vegetation	Barren	Dead Plant Material
I1	18	0	0	18	20	38	29	33
I2	11	0	0	11	12	23	33	44
I3	6	1	0	7	31	38	45	17
I4	9	0	0	9	3	12	30	58
I5	12	1	0	13	13	26	34	40
I6	11	1	0	12	7	19	40	41
I7	16	0	0	16	9	25	32	43
I8	2	0	0	2	37	39	49	12
I10	12	0	0	12	15	27	33	40
I11	14	0	1	15	12	27	26	47
I12	9	1	0	10	9	19	26	55
I13	8	0	0	8	18	26	35	39
I14	1	0	0	1	10	11	41	48
I15	4	0	0	4	37	41	35	24
I16	0	0	0	0	41	41	41	18
I17	12	0	0	12	29	41	40	19
I18	16	0	0	16	18	34	22	44
I19	2	0	0	2	17	19	50	31
I20	5	0	0	5	32	37	25	38
I21	13	0	0	13	18	31	31	38
I22	1	1	0	2	48	50	35	15
I23	24	0	0	24	13	37	15	48
I24	0	0	0	0	34	34	30	36
I25	12	0	0	12	27	39	23	38
Sum	218	5	1	224	510	734	800	866
Average	9.08	0.21	0.04	9.33	21.25	30.58	33.33	36.08
SD	6.35	0.41	0.20	6.36	12.21	10.10	8.52	12.65
Total	625	23	62	710	1113	1823	1310	1667

APPENDIX D. 1995 YUKON GOLD VEGETATION DATA

Table D-1. Number of hits by plant taxa for paired plot t tests and pooled plot means, based on two hits per sampling point for a total of 100 hits per plot for 1995 Yukon Gold site, Alaska. Data were collected 27–29 July 1995.

Plot	Graminoids							Forbs					Shrubs			
	CAAQ	CAAT	CABI	CAMI	CASA	CASP	All Carex	ERAN	JUBI	CAPA	EQVA	PESU	POVI	SAHI	DRIN	SAAR
C1	13	0	0	0	3	0	16	29	0	0	1	0	2	0	0	4
C2	7	0	0	3	11	0	21	23	0	0	0	0	0	0	1	3
C3	12	0	0	0	0	0	12	27	0	0	0	0	1	0	6	6
C4	5	0	0	2	8	0	15	27	0	0	0	2	1	0	0	3
C5	6	0	0	1	1	0	8	33	0	0	0	1	0	0	0	2
C6	8	0	0	2	0	2	12	28	0	1	0	1	0	0	3	4
C7	5	0	12	1	0	1	19	23	0	0	0	1	0	0	2	1
C8	6	0	0	0	0	1	7	28	0	0	0	1	0	0	3	1
C9	10	1	0	0	0	4	15	23	0	0	1	0	0	1	2	0
C10	5	0	0	0	3	1	9	36	0	0	0	0	0	0	0	0
C11	2	0	2	0	2	2	8	33	0	0	2	0	0	0	1	3
C12	4	0	0	0	14	1	19	27	0	0	0	1	0	0	0	0
C13	4	0	2	0	16	1	23	21	0	0	0	0	0	0	0	0
C14	1	0	0	0	7	1	9	36	0	0	0	1	0	0	0	1
C15	2	0	0	0	5	0	7	40	0	0	0	0	0	0	0	0
C16	7	0	0	0	1	1	9	30	0	0	2	0	0	0	2	0
C17	7	0	0	0	0	0	7	37	0	0	0	0	0	0	3	1
C18	13	0	0	0	6	0	19	22	1	0	0	0	0	0	4	1
C19	4	0	0	0	7	0	11	37	0	0	0	1	0	0	0	0
C20	8	0	1	0	2	7	18	25	0	0	2	0	0	0	1	1
C21	7	0	0	0	2	0	9	30	0	0	0	2	1	0	1	2
C22	1	0	0	0	9	2	12	29	0	0	1	1	2	0	3	0
C23	6	8	0	0	0	3	17	24	0	0	0	0	1	1	3	2
C24	10	0	0	2	1	3	16	27	0	0	1	0	0	0	1	0
C25	4	0	0	0	9	0	13	32	0	0	0	0	0	0	0	3
Sum	157	9	17	11	107	30	331	727	1	1	10	12	8	2	36	38
Average	6.28	0.36	0.68	0.44	4.28	1.20	13.24	29.08	0.04	0.04	0.40	0.48	0.32	0.08	1.44	1.52
SD	3.40	1.60	2.43	0.87	4.71	1.66	4.86	5.28	0.20	0.20	0.71	0.65	0.63	0.28	1.61	1.64

D-1

Table D-1. Continued.

Plot	Graminoids							Forbs					Shrubs			
	CAAQ	CAAT	CABI	CAMI	CASA	CASP	All Carex	ERAN	JUBI	CAPA	EQVA	PESU	POVI	SAHI	DRIN	SAAR
I1	9	0	2	2	0	2	15	31	0	0	0	0	0	0	0	0
I2	7	0	0	0	3	3	13	32	0	0	1	0	1	1	1	1
I3	3	0	0	0	6	6	15	30	0	0	1	0	1	1	1	1
I4	7	0	0	0	0	0	7	33	0	0	0	0	0	0	0	0
I5	9	0	0	0	9	9	27	20	0	0	0	0	0	0	0	0
I6	7	0	0	0	1	1	9	27	0	0	1	1	2	3	3	3
I7	4	0	0	0	2	2	8	32	0	0	1	0	1	1	1	1
I8	11	0	0	0	0	0	11	2	0	0	3	0	3	3	3	3
I9	13	0	0	0	0	0	13	0	0	0	0	0	0	0	0	0
I10	4	0	0	0	0	0	4	7	0	0	3	0	3	3	3	3
I11	8	0	0	0	0	0	8	27	0	0	0	0	0	0	0	0
I12	7	0	0	0	0	0	7	6	0	0	0	0	0	0	0	0
I13	6	0	0	0	0	0	6	18	0	0	0	0	0	0	0	0
I14	7	0	0	0	2	2	11	23	0	0	0	0	0	0	0	0
I15	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
I16	0	0	0	0	0	0	0	2	0	0	2	0	2	2	2	2
I17	2	0	0	0	0	0	2	14	0	0	1	0	1	1	1	1
I18	5	0	0	0	1	1	7	16	0	0	1	0	1	1	1	1
I19	9	0	0	0	0	0	9	26	0	0	0	0	0	0	0	0
I20	15	0	0	0	4	4	23	12	0	0	1	0	1	1	1	1
I21	7	0	0	0	1	1	9	24	0	0	2	0	2	2	2	2
I22	6	0	0	0	0	0	6	2	0	0	4	0	4	4	4	4
I23	0	0	0	0	2	2	4	21	0	0	0	0	0	0	0	0
I24	3	0	0	0	2	2	7	26	0	0	0	0	0	0	0	0
I25	1	0	0	0	3	3	7	37	0	0	0	0	0	0	0	0
Sum	151	0	2	2	36	38	229	468	0	0	21	1	22	23	23	23
Average	6.04	0	0.08	0.08	1.44	1.52	9.16	18.72	0	0	0.84	0.04	0.88	0.92	0.92	0.92
SD	3.8566	0	0.4	0.4	2.2189	2.2008	6.175759	11.866	0	0	1.1431	0.2	1.1662	1.222	1.222	1.222

D-2

Table D-1. Continued.

Plot	Shrubs			Non-Vascular										Barren	
	SALA	SARE	SARO	LIVE	BRPS	DISP	FUHY	HYBA	MOMX	ONWA	SCSC	TONI	Moss	Canopy	Ground
C1	0	0	0	0	2	0	0	0	0	0	8	0	10	2	0
C2	0	0	0	0	2	0	0	0	0	0	1	1	4	4	0
C3	4	1	0	0	3	0	0	0	0	0	1	0	4	1	0
C4	0	0	2	0	1	0	0	1	0	0	1	0	3	4	0
C5	0	0	0	0	1	0	0	0	0	0	2	1	4	6	5
C6	0	3	0	0	0	0	0	0	0	0	0	2	2	5	0
C7	0	3	0	0	0	0	1	0	0	0	2	4	7	6	0
C8	1	0	0	0	0	0	0	3	0	5	2	5	15	9	0
C9	0	0	0	0	0	3	0	14	2	0	7	2	28	9	1
C10	1	0	0	0	1	1	0	1	0	0	0	0	3	3	2
C11	0	0	0	0	0	1	0	1	0	0	7	3	12	4	0
C12	0	0	0	0	0	0	0	0	0	0	6	0	6	3	0
C13	0	0	0	0	0	0	0	0	0	0	5	0	5	4	0
C14	0	0	0	0	0	1	0	0	1	0	8	0	10	3	1
C15	0	0	0	0	1	0	0	0	0	0	0	0	1	3	0
C16	0	4	0	0	2	1	0	0	0	0	3	2	8	4	0
C17	0	5	0	0	0	0	0	0	0	0	0	4	4	1	0
C18	0	0	0	0	0	0	0	0	2	0	3	0	5	4	1
C19	0	0	0	0	0	0	0	0	0	0	1	0	1	0	1
C20	0	0	1	0	0	0	0	2	0	0	3	7	12	4	0
C21	0	0	0	0	1	0	0	1	3	0	15	2	22	4	3
C22	2	0	0	0	0	0	0	0	1	0	3	2	6	2	2
C23	0	0	0	1	1	0	0	1	3	0	5	2	12	4	0
C24	0	3	0	0	0	2	0	0	0	0	0	5	7	1	1
C25	0	0	0	0	0	0	0	0	0	0	5	0	5	0	0
Sum	8	19	3	1	15	9	1	24	12	5	88	42	196	90	17
Average	0.32	0.76	0.12	0.04	0.60	0.36	0.04	0.96	0.48	0.20	3.52	1.68	7.84	3.60	0.68
SD	0.90	1.51	0.44	0.20	0.87	0.76	0.20	2.82	0.96	1.00	3.56	1.99	6.41	2.29	1.22

Table D-1. Continued.

Plot	Shrubs			Non-Vascular									Barren		
	SALA	SARE	SARO	LIVE	BRPS	DISP	FUHY	HYBA	MOMX	ONWA	SCSC	TONI	Moss	Canopy	Ground
I1	0	0	0	0	1	0	0	0	0	0	0	0	1	7	2
I2	0	1	0	0	3	0	0	0	0	0	5	2	10	5	0
I3	0	1	1	0	0	0	0	0	0	0	0	0	0	8	0
I4	0	0	0	0	0	0	0	0	0	0	7	0	7	8	0
I5	0	0	0	0	0	0	0	0	0	0	3	0	3	11	3
I6	0	3	0	0	0	0	1	3	0	0	0	0	4	12	3
I7	0	1	0	0	0	0	0	1	0	0	0	2	3	11	0
I8	0	3	0	0	1	0	0	0	0	0	1	2	4	34	2
I9	0	0	0	0	0	0	0	1	0	0	1	6	8	36	5
I10	0	3	0	0	0	0	0	26	0	0	0	5	31	34	4
I11	0	0	0	0	3	0	0	0	0	0	0	1	4	15	0
I12	0	0	0	0	0	0	0	0	0	0	3	14	17	35	2
I13	0	0	0	0	0	0	0	0	1	0	0	6	7	23	2
I14	0	0	0	0	2	0	0	0	0	0	0	2	4	15	0
I15	0	0	0	0	0	0	0	0	0	0	7	8	15	49	2
I16	0	2	0	0	0	0	0	0	0	0	7	0	7	46	2
I17	0	1	0	0	0	0	0	1	0	0	0	21	22	28	1
I18	0	1	0	0	0	0	0	0	0	0	2	3	5	24	0
I19	0	0	0	0	0	0	0	1	0	0	6	5	12	14	1
I20	0	1	0	0	0	0	0	0	0	0	0	2	2	18	5
I21	0	2	0	0	1	0	0	0	2	0	10	1	14	13	1
I22	0	4	0	0	1	0	0	0	0	0	2	0	3	36	2
I23	0	0	0	0	0	0	0	0	0	0	0	0	0	27	1
I24	0	0	0	0	0	0	0	0	0	0	16	0	16	15	0
I25	0	0	0	0	0	0	0	0	1	0	9	0	10	7	0
Sum	0	23	1	0	12	0	1	33	4	0	79	80	209	531	38
Average	0	0.92	0.04	0	0.48	0	0.04	1.32	0.16	0	3.16	3.2	8.36	21.24	1.52
SD	0	1.222	0.2	0	0.9183	0	0.2	5.1859	0.4726	0	4.2	4.9917	7.4715	12.888	1.5578

Table D-2. Number of hits by category for paired plot t tests and pooled plot means, based on two hits per sampling point for a total of 100 hits per plot for 1995 Yukon Gold site, Alaska. Data were collected 27–29 July 1995.

Plot	Graminoids	Forbs	Shrubs	Combined Vascular Plants	Combined Non-Vascular Plants	Live Vegetation	Barren	Dead Plant Material	Percent Standing Water	Percent Strangmoor Ridge
C1	45	3	4	52	10	62	2	36		7
C2	44	0	4	48	4	52	4	44	0	75
C3	39	1	17	57	4	61	1	38		
C4	42	3	5	50	3	53	4	43		
C5	41	1	2	44	4	48	11	41	95	2
C6	40	2	10	52	2	54	5	41	70	33
C7	42	1	6	49	7	56	6	38		
C8	35	1	5	41	15	56	9	35	0	27
C9	38	2	2	42	28	70	10	20	50	50
C10	45	0	1	46	3	49	5	46	30	0
C11	41	2	4	47	12	59	4	37	0	
C12	46	1	0	47	6	53	3	44	30	
C13	44	0	0	44	5	49	4	47		
C14	45	1	1	47	10	57	4	39		2
C15	47	0	0	47	1	48	3	49	0	0
C16	39	2	6	47	8	55	4	41		40
C17	44	0	9	53	4	57	1	42		30
C18	42	0	5	47	5	52	5	43	40	20
C19	48	1	0	49	1	50	1	49	5	0
C20	43	2	3	48	12	60	4	36	25	40
C21	39	3	3	45	22	67	7	26	0	35
C22	41	4	5	50	6	56	4	40	10	30
C23	41	2	5	48	13	61	4	35	0	60
C24	43	1	4	48	7	55	2	43	15	30
C25	45	0	3	48	5	53	0	47	5	0
Sum	1059	33	104	1196	197	1393	107	1000	375	481
Average	42.36	1.32	4.16	47.84	7.88	55.72	4.28	40.00	22.06	25.32
SD	3.05	1.14	3.74	3.44	6.44	5.61	2.72	6.64	28.01	22.30

Table D-2. Continued.

Plot	Graminoids	Forbs	Shrubs	Combined Vascular Plants	Combined Non-Vascular Plants	Live Vegetation	Barren	Dead Plant Material	Percent Standing Water	Percent Strangmoor Ridge
I1	42	0	1	43	1	44	9	47		5
I2	42	1	1	44	10	54	5	41		
I3	39	1	1	41	0	41	8	51		
I4	40	0	0	40	7	47	8	45		5
I5	38	0	0	38	3	41	14	45	0	0
I6	35	2	3	40	4	44	15	41		45
I7	38	1	1	40	3	43	11	46	90	8
I8	13	3	0	16	4	20	36	44	40	60
I9	13	1	0	14	8	22	41	37	0	0
I10	11	4	0	15	31	46	38	16		10
I11	35	0	0	35	4	39	15	46	80	20
I12	13	1	1	15	17	32	37	31		70
I13	26	0	1	27	7	34	25	41		40
I14	33	0	2	35	4	39	15	46	30	6
I15	1	0	0	1	15	16	51	33	60	40
I16	2	2	0	4	7	11	48	41	30	
I17	17	1	4	22	22	44	29	27	0	100
I18	22	1	3	26	5	31	24	45	0	22
I19	35	2	0	37	12	49	15	36	0	25
I20	31	1	0	32	2	34	23	43	0	20
I21	32	2	2	36	14	50	14	36		
I22	8	4	2	14	3	17	38	45		0
I23	23	0	0	23	0	23	28	49	75	
I24	31	0	0	31	16	47	15	38	30	
I25	41	0	0	41	10	51	7	42	2	0
Sum	661	27	22	710	209	919	569	1012	437	476
Average	26.44	1.08	0.88	28.40	8.36	36.76	22.76	40.48	29.13	25.05
SD	13.11	1.22	1.17	12.68	7.47	12.26	13.64	7.65	33.06	27.85

APPENDIX E. YUKON GOLD ICE PAD PERMIT

DEPARTMENT OF THE ARMY PERMIT

Permittee BP Exploration (Alaska) Inc.
Permit No. 4-930426 (Staines River 1)
Issuing Office U. S. Army Engineer District, Alaska

NOTE: The term "you" and its derivatives, as used in this permit, means the permittee or any future transferee. The term "this office" refers to the appropriate district or division office of the Corps of Engineers having jurisdiction over the permitted activity or the appropriate official of that office acting under the authority of the commanding officer.

You are authorized to perform work in accordance with the terms and conditions specified below.

Project Description: To retain a 2.6 acre insulated ice pad. Approximately 584,000 gallons of water was required for the 6- to 24-inch thick ice pad with largest dimensions of 384' X 272' and covered with about 600 insulated 8' X 24' panels. Each panel consists of 4-inch thick expanded polystyrene foam beadboard sandwiched between Oriented Strand Board. The insulation will be removed in the fall/winter of 1993 prior to drilling operation. The remaining ice pad will be left to melt during the spring breakup of 1994.

All work will be performed in accordance with the attached plan, 5 sheets dated June 28, 1993, and one sheet dated September 3, 1993.

Project Location: Section 13, T. 8 N., R. 23 E., Umiat Meridian.

Permit Conditions:

General Conditions:

1. The time limit for completing the work authorized ends on July 30, 1994. If you find that you need more time to complete the authorized activity, submit your request for a time extension to this office for consideration at least one month before the above date is reached.
2. You must maintain the activity authorized by this permit in good condition and in conformance with the terms and conditions of this permit. You are not relieved of this requirement if you abandon the permitted activity, although you may make a good faith transfer to a third party in compliance with General Condition 4 below. Should you wish to cease to maintain the authorized activity or should you desire to abandon it without a good faith transfer, you must obtain a modification of this permit from this office, which may require restoration of the area.
3. If you discover any previously unknown historic or archeological remains while accomplishing the activity authorized by this permit, you must immediately notify this office of what you have found. We will initiate the Federal and state coordination required to determine if the remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.

4. If you sell the property associated with this permit, you must obtain the signature of the new owner in the space provided and forward a copy of the permit to this office to validate the transfer of this authorization.
5. If a conditioned water quality certification has been issued for your project, you must comply with the conditions specified in the certification as special conditions to this permit. For your convenience, a copy of the certification is attached if it contains such conditions.
6. You must allow representatives from this office to inspect the authorized activity at any time deemed necessary to ensure that it is being or has been accomplished in accordance with the terms and conditions of your permit.

Special Conditions:

1. A revised monitoring plan addressing vegetation, surface tundra disturbance/soil compaction, and bird use shall be submitted within 30 days from the date of permit issuance for Corps of Engineers approval. The vegetation component shall comprise the crux of the monitoring effort. Specific criteria for the monitoring plan duration and thresholds for active rehabilitation efforts are cited in the attached table and shall be incorporated within the revised monitoring plan.

(Continued on Page 2-A)

Further Information:

1. Congressional Authorities: You have been authorized to undertake the activity described above pursuant to:
 - Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. 403).
 - Section 404 of the Clean Water Act (33 U.S.C. 1344).
 - Section 103 of the Marine Protection, Research and Sanctuaries Act of 1972 (33 U.S.C. 1413).
2. Limits of this authorization.
 - a. This permit does not obviate the need to obtain other Federal, state, or local authorizations required by law.
 - b. This permit does not grant any property rights or exclusive privileges.
 - c. This permit does not authorize any injury to the property or rights of others.
 - d. This permit does not authorize interference with any existing or proposed Federal project.
3. Limits of Federal Liability. In issuing this permit, the Federal Government does not assume any liability for the following:
 - a. Damages to the permitted project or uses thereof as a result of other permitted or unpermitted activities or from natural causes.
 - b. Damages to the permitted project or uses thereof as a result of current or future activities undertaken by or on behalf of the United States in the public interest.
 - c. Damages to persons, property, or to other permitted or unpermitted activities or structures caused by the activity authorized by this permit.
 - d. Design or construction deficiencies associated with the permitted work.

Special Conditions cont:

2. Annual monitoring reports shall be submitted by January 15 of the year following the annual monitoring effort. The final report shall be due by March 15, following the end of the final field monitoring period.

e. Damage claims associated with any future modification, suspension, or revocation of this permit.

4. Reliance on Applicant's Data: The determination of this office that issuance of this permit is not contrary to the public interest was made in reliance on the information you provided.

5. Reevaluation of Permit Decision. This office may reevaluate its decision on this permit at any time the circumstances warrant. Circumstances that could require a reevaluation include, but are not limited to, the following:

a. You fail to comply with the terms and conditions of this permit.


b. The information provided by you in support of your permit application proves to have been false, incomplete, or inaccurate (See 4 above).

c. Significant new information surfaces which this office did not consider in reaching the original public interest decision.

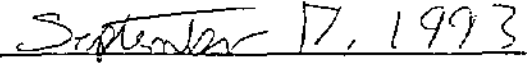
Such a reevaluation may result in a determination that it is appropriate to use the suspension, modification, and revocation procedures contained in 33 CFR 325.7 or enforcement procedures such as those contained in 33 CFR 326.4 and 326.5. The referenced enforcement procedures provide for the issuance of an administrative order requiring you to comply with the terms and conditions of your permit and for the initiation of legal action where appropriate. You will be required to pay for any corrective measures ordered by this office, and if you fail to comply with such directive, this office may in certain situations (such as those specified in 33 CFR 209.170) accomplish the corrective measures by contract or otherwise and bill you for the cost.

6. Extensions. General condition 1 establishes a time limit for the completion of the activity authorized by this permit. Unless there are circumstances requiring either a prompt completion of the authorized activity or a reevaluation of the public interest decision, the Corps will normally give favorable consideration to a request for an extension of this time limit.

Your signature below, as permittee, indicates that you accept and agree to comply with the terms and conditions of this permit.

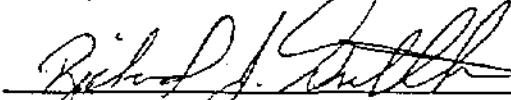


(PERMITTEE) AND TITLE
Supervisor, Permitting

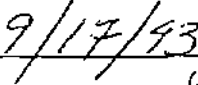


(DATE)

This permit becomes effective when the Federal official, designated to act for the Secretary of the Army, has signed below.



(DISTRICT ENGINEER) Colonel John W. Pierce
Jeffrey K. Towner, Chief, Enforcement Section
Regulatory Branch



(DATE)

When the structures or work authorized by this permit are still in existence at the time the property is transferred, the terms and conditions of this permit will continue to be binding on the new owner(s) of the property. To validate the transfer of this permit and the associated liabilities associated with compliance with its terms and conditions, have the transferee sign and date below.

(TRANSFEEE)

(DATE)

Yukon Gold Monitoring Plan: Vegetation, 1993-1996

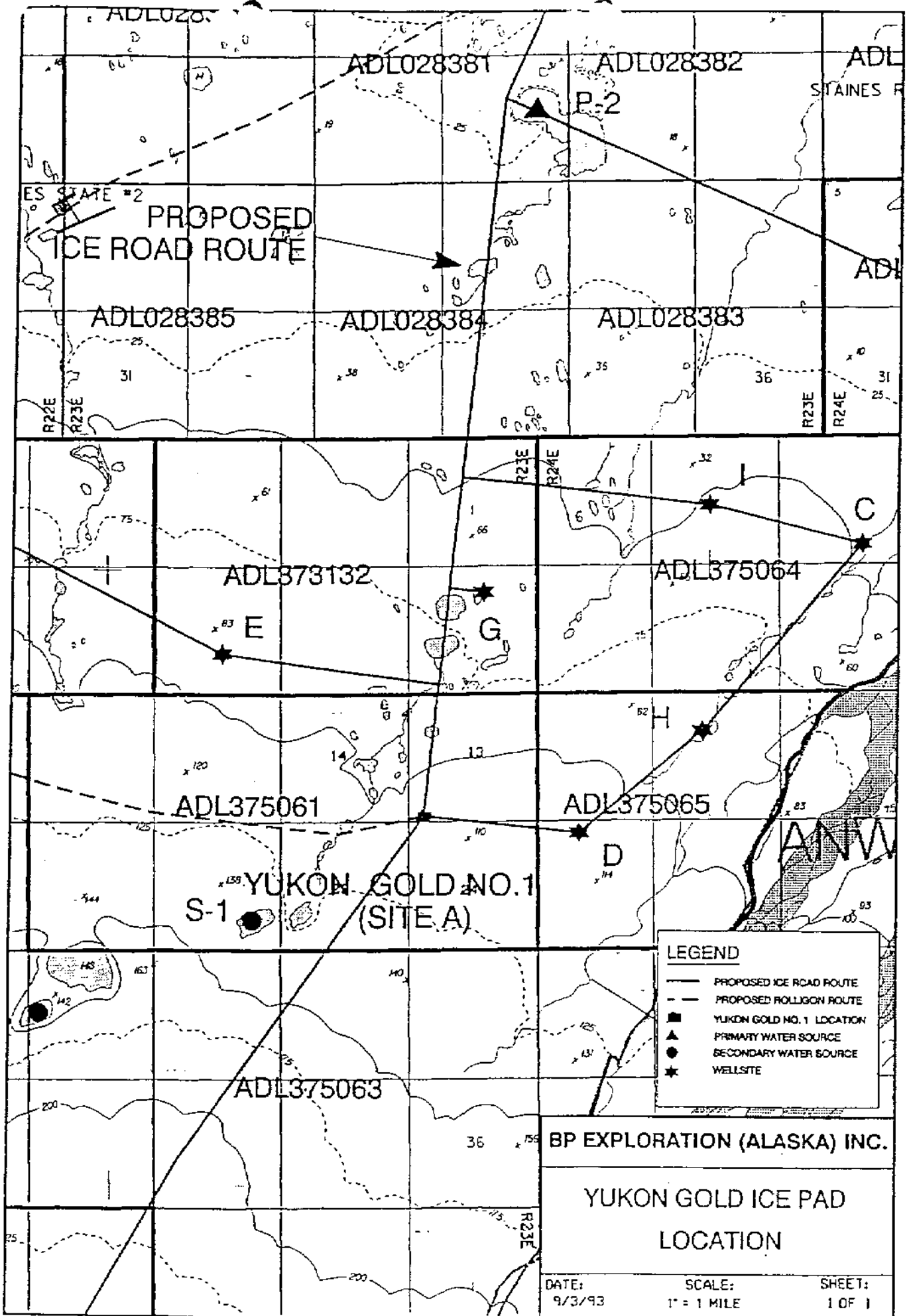
Criterion	1993	1994	1995	1996
Pad construction; oversummer 1993	Photograph; vegetation control plot sampling; breeding bird study			
≥70 % total live vegetation coverage*		Photograph; vegetation control and impact plot comparison; final report; project complete		
30-69 % total live vegetation coverage		Photograph; vegetation control and impact plot comparison; interim report	Photograph; vegetation control and impact plot comparison; positive rate of natural site recovery (≥10 % recovery from 1994 sampling) and with a ≥50% total live vegetation cover; final report; project complete If total live vegetation cover <50% or if recovery rate <10%, continue sampling in 1996	Photograph; vegetation control and impact plot comparison; positive rate of natural site recovery (≥10% recovery from 1995 sampling) and with a ≥50% total live vegetation cover; final report; project complete If total live vegetation cover <50% or if annual recovery rate <10%, reassess mitigation approach in consultation with USACE
≤29 % total live vegetation coverage		Photograph; vegetation control and impact plot comparison; consultation with USACE; fertilizer application; interim report	Photograph; vegetation control and impact plot comparison; interim report	Reassess mitigation approach in consultation with USACE

* Relative to mean vegetation cover of adjacent undisturbed control plots plus 0.5 standard deviation (SD) (e.g., 1993 mean control plot vegetation cover was 34.0% and cumulative SD of eight dominant species classes was 14.3%; $0.5 \times SD = 7.2\%$, thus base condition percent cover equals $34.0\% + 7.2\%$ or 41.2%). The criterion of 70% of vegetation cover would equal 28.8% ($41.2\% \times 0.7$) total live vegetation cover.

The value for total live vegetation cover will be calculated annually based on the current year sampling results for mean cover and SD.

Yukon Gold Monitoring Plan: Tundra Surface Disturbance/Soil Compaction

1994—Photograph, including aerial oblique and on-ground, a minimum of three times; during early season site visit to assess cleanup requirements; at the time of vegetation monitoring in mid-late summer; and during final site inspection in mid-late fall. Visually monitor ice pad site to qualitatively assess amount, if any, of significant ponding at the ice pad location relative to the surrounding undisturbed tundra. If persistent ponding or other indications of surface impacts are identified including vegetation recovery <50%, annual photography will be continued in conjunction with the vegetation monitoring program. Photographs and a description of surface disturbances, including subsidence and the depth of ponding relative to surrounding undisturbed tundra, will be submitted as part of the vegetation monitoring report.



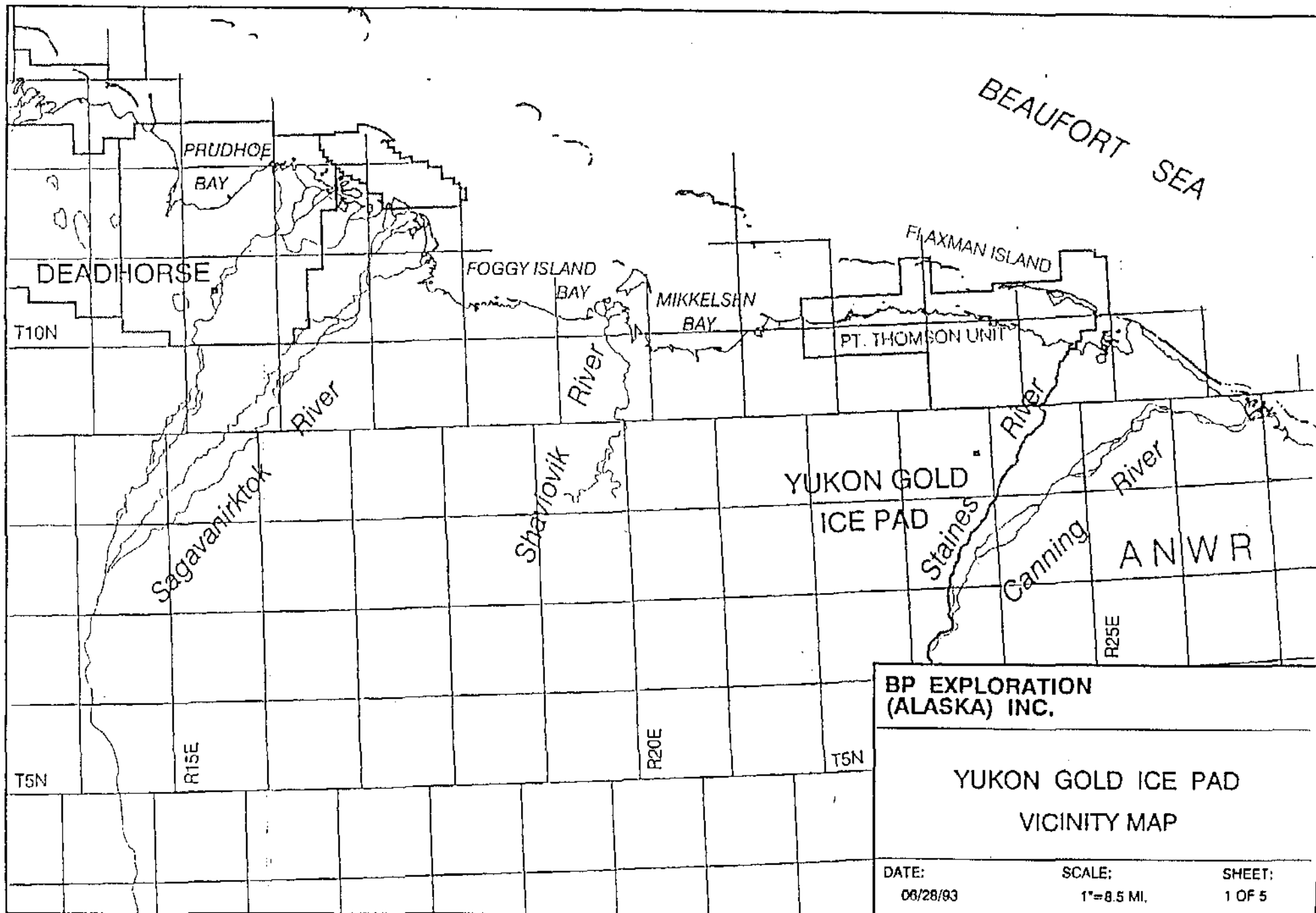
LEGEND

- PROPOSED ICE ROAD ROUTE
- - - PROPOSED ROLLIGON ROUTE
- ▲ YUKON GOLD NO. 1 LOCATION
- PRIMARY WATER SOURCE
- ◆ SECONDARY WATER SOURCE
- ★ WELL SITE

BP EXPLORATION (ALASKA) INC.

YUKON GOLD ICE PAD
LOCATION

DATE: 9/3/93 SCALE: 1" = 1 MILE SHEET: 1 OF 1



BEAUFORT SEA

PRUDHOE BAY

DEADHORSE

FOGGY ISLAND BAY

MIKKELSEN BAY

FLAXMAN ISLAND

PT. THOMSON UNIT

T10N

Sagavanirktok River

Shavlovik River

YUKON GOLD ICE PAD

Staines River

Canning River

Yukon River

ANWR

T15N

R15E

R20E

T5N

R25E

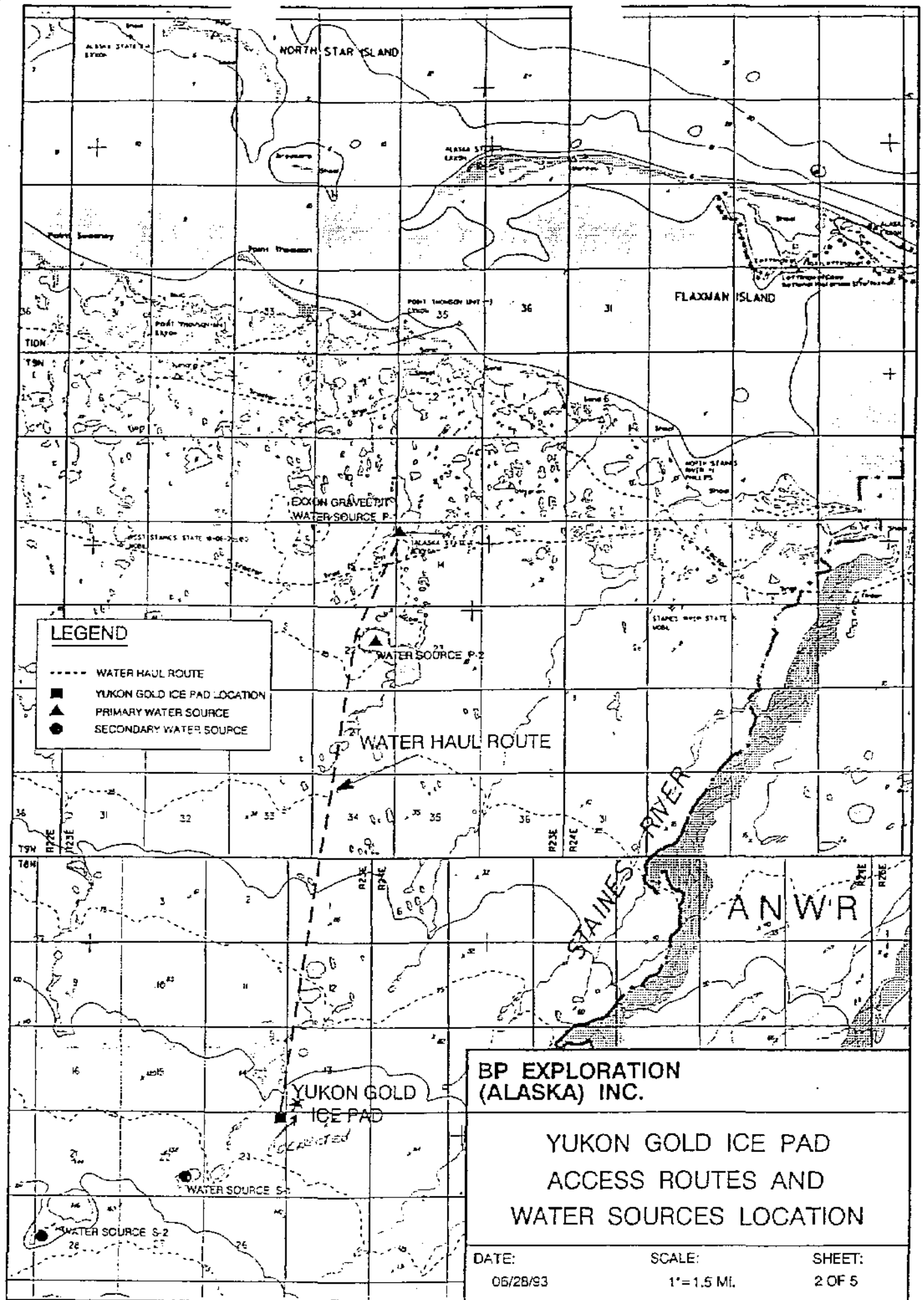
BP EXPLORATION (ALASKA) INC.

YUKON GOLD ICE PAD VICINITY MAP

DATE: 06/28/93

SCALE: 1" = 8.5 MI.

SHEET: 1 OF 5



LEGEND

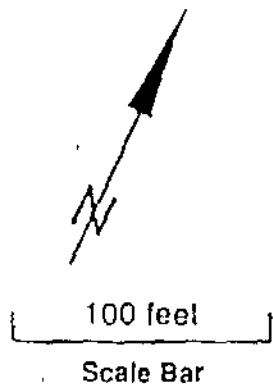
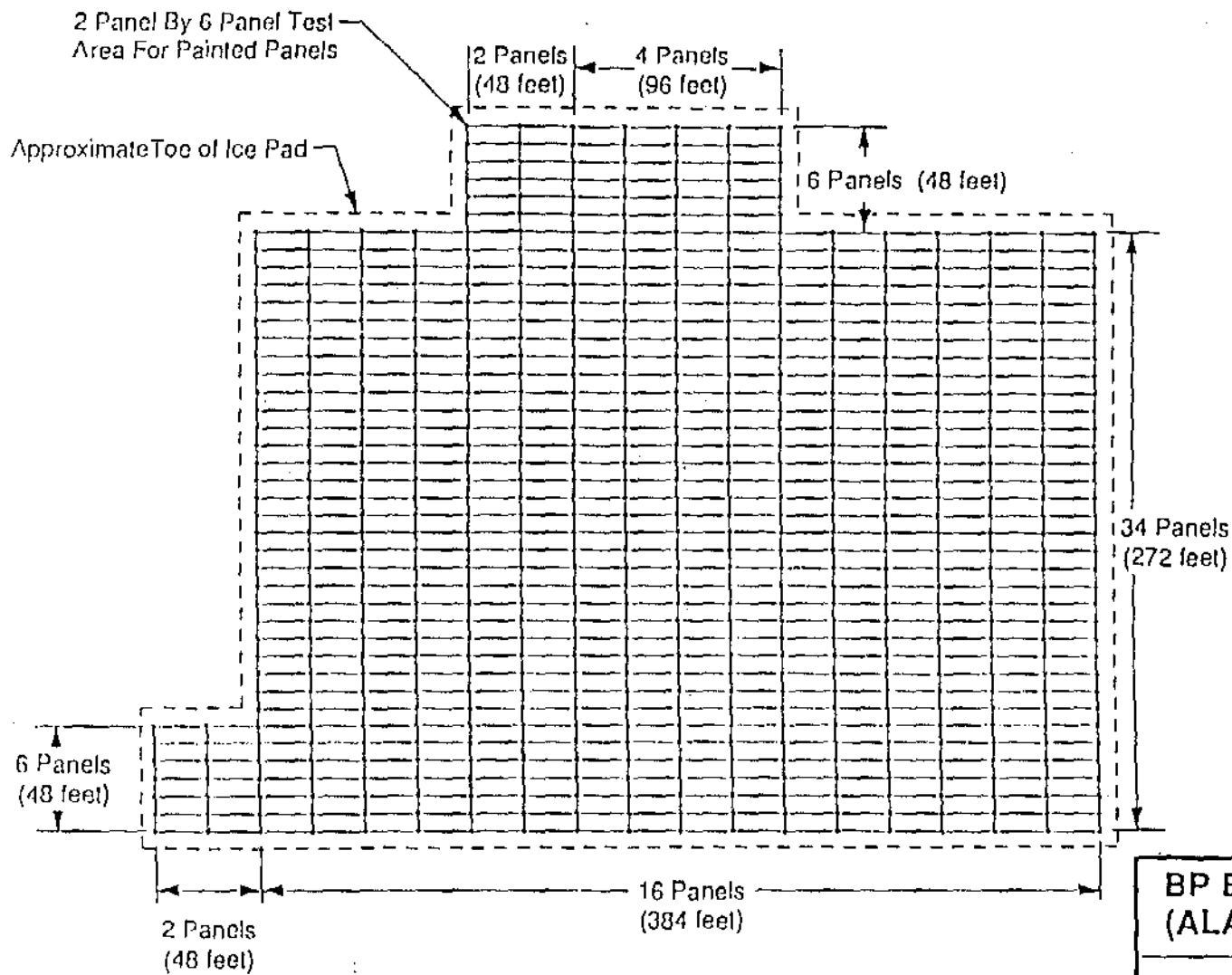
- WATER HAUL ROUTE
- YUKON GOLD ICE PAD LOCATION
- ▲ PRIMARY WATER SOURCE
- SECONDARY WATER SOURCE

**BP EXPLORATION
(ALASKA) INC.**

**YUKON GOLD ICE PAD
ACCESS ROUTES AND
WATER SOURCES LOCATION**

DATE: 06/28/93	SCALE: 1" = 1.5 MI.	SHEET: 2 OF 5
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E-9



LAYOUT OF 8" X 24' INSULATED PANELS

Area of Paneled Pad = 2.6 Acres

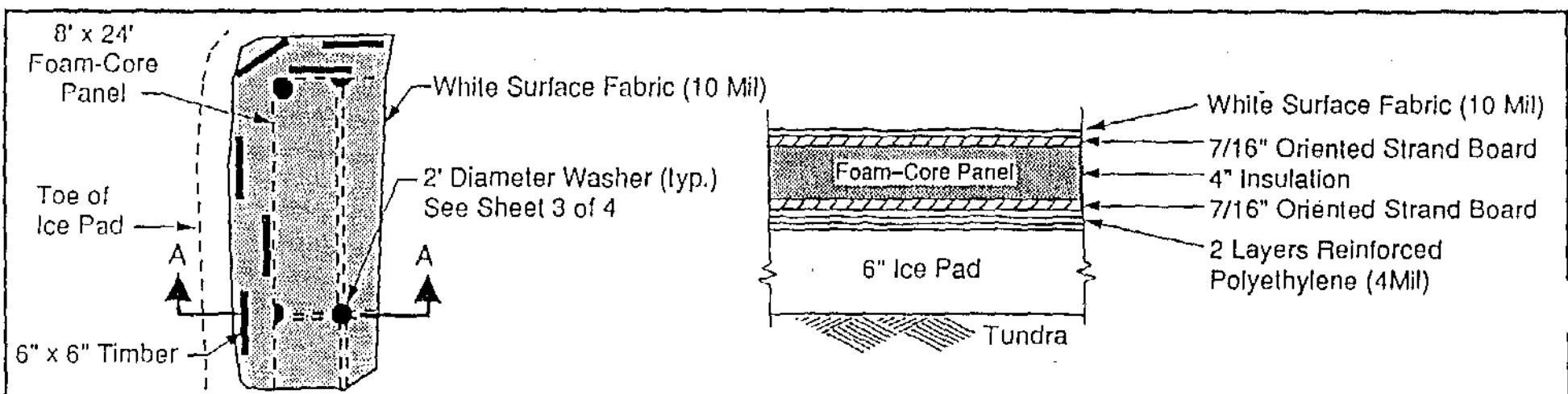
BP EXPLORATION
(ALASKA) INC.

YUKON GOLD
INSULATED PAD PROJECT
ICE PAD PLOT PLAN

DATE:
6/28/93

SCALE:
NOT TO SCALE

SHEET:
3 of 5



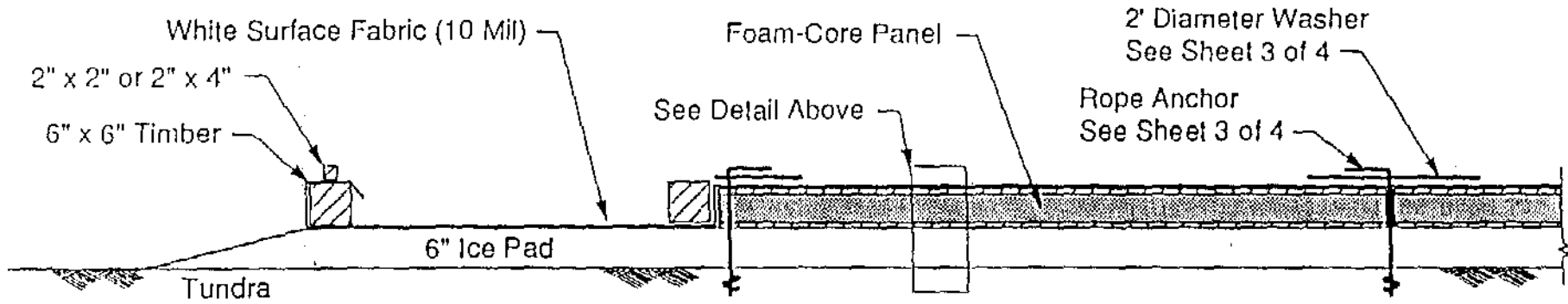
PLAN VIEW OF PAD CORNER

DETAIL OF FINISHED CROSS-SECTION

NOT TO SCALE

NOT TO SCALE

E-10



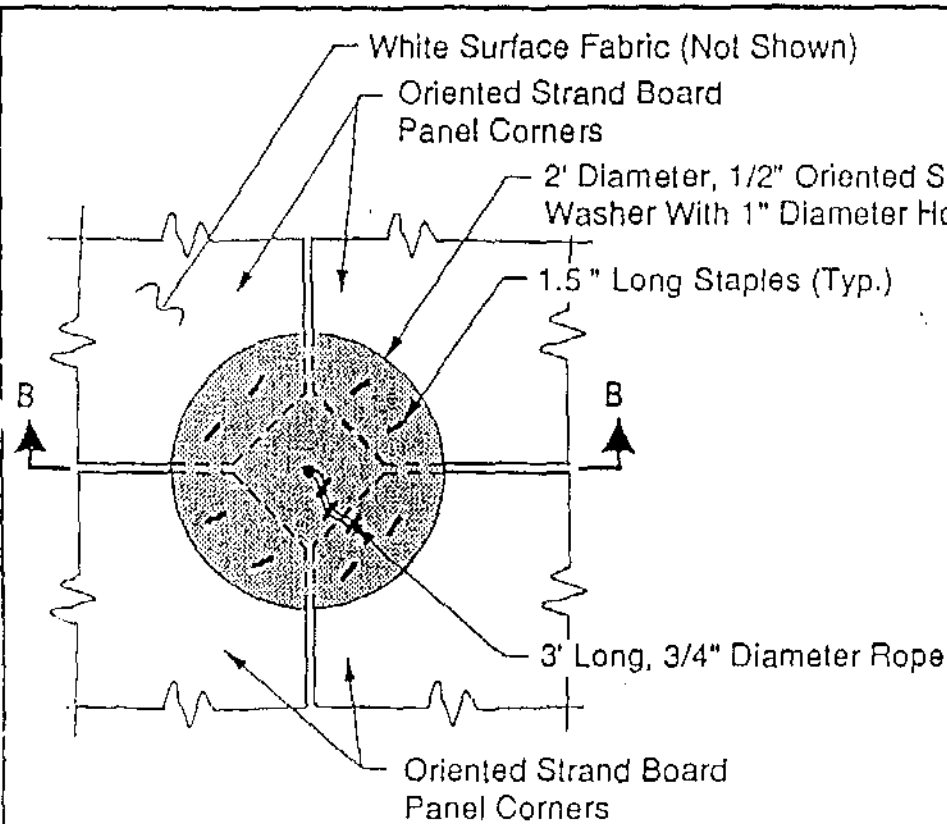
SECTION A-A

NOT TO SCALE

BP EXPLORATION
(ALASKA) INC.

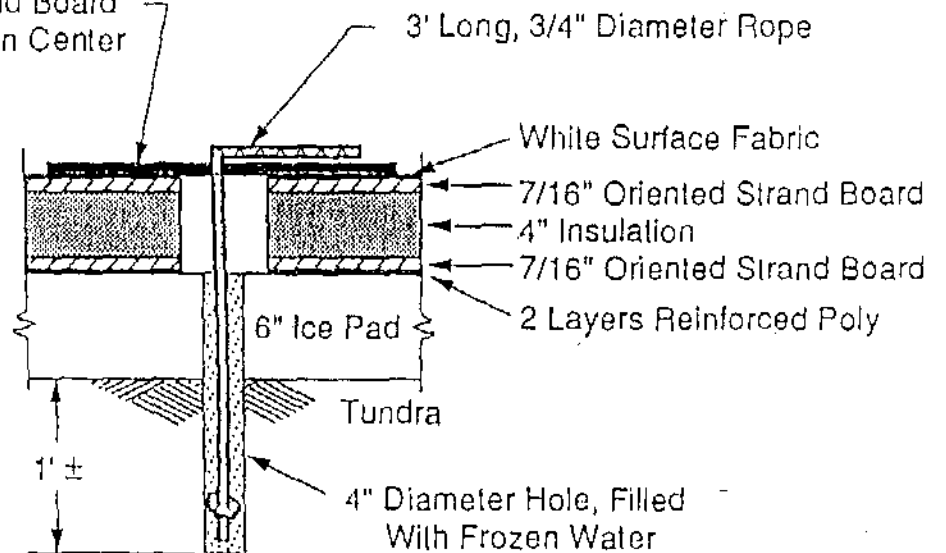
YUKON GOLD
INSULATED PAD PROJECT
PAD CROSS SECTIONS

DATE: 6/28/93	SCALE: NOT TO SCALE	SHEET: 4 of 5
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PLAN VIEW : TIE-DOWN SYSTEM

NOT TO SCALE



SECTION B-B : CROSS-SECTION OF ROPE ANCHOR

NOT TO SCALE

BP EXPLORATION
(ALASKA) INC.

YUKON GOLD
INSULATED PAD PROJECT
ANCHOR PLAN VIEW
AND CROSS SECTION

DATE:
6/28/93

SCALE:
NOT TO SCALE

SHEET:
5 of 5