

STADIA SURVEY NOTES

AREA IKPIRPUK RIVER STATE or PROVINCE ALASKA PAGE No. 1
 LINE No.(s) R-1 PARTY No. 1173 DATE 22 Day MAR Mo. 78 Yr. BOOK No. _____
 SURVEYOR T. SHERRILL RODMAN K. BARR WEATHER: CLEAR P.T.S. No. _____

LINE	Bearing of Sight	Stadia Distance	BEAMAN OR VERNIER			ROD READING				Angular Elev. Diff.	Final Elev. Diff.	ELEVATIONS		▲B.S. OF S. - S.S.	Station	REMARKS
			Level	Inclined	Angle or Factor	Hair Read	Reading	Correc-tion	Center Hair			INST.	ROD			
1												625.7			TBM - 78119	
2	S	880		89 32 30						-1.5	624.2				Δ S.I. 4 - 78119	
3		✓		270 23 30											Δ	
4		0	✓									619.2		π	3	
5	N	880		91 33 00						-5.0		587.8			2	
6		1760		90 47 30						-35.3		588.9			1	
7		2640		90 44 00						-44.6		579.5			T.S. 1	
8		3520		90 47 10						-59.0		565.1		○	T.S. 2	
9																
10	S	880		87 45 40						-73.4	541.7			○	T.S. 2	
11		0	✓							-5.0		536.7		π	T.S. 3	
12	N	880		92 20 10						-39.9		501.9			T.S. 4	
13		1760		92 02 10						-66.5		475.3			T.S. 5	
14		2640		91 52 20						-90.1		457.6		○	T.S. 6	
15																
16																
17																
18																
19																
20																

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STADIA SURVEY NOTES

AREA IKPIKPIK RIVER STATE or PROVINCE ALASKA PAGE No. 2
 LINE No.(s) R-1 PARTY No. 1173 DATE 22 Day MAR Mo. 78 Yr. BOOK No.
 SURVEYOR T. SHERRILL RODMAN K. BARR WEATHER: CLEAR P.T.S. No.

LINE	Bearing of Sight	Stadia Distance	BEAMAN OR VERNIER			ROD READING				Angular Elev. Diff.	Final Elev. Diff.	ELEVATIONS		A.B.S. OF S. S.S.	Station	REMARKS
			Level	Inclined	Angle or Factor	Hair Read	Reading	Correc-tion	Center Hair			INST.	ROD			
1												625.7		TBM 78119		
2	N	1760		90 46 30				9.0		+23.3	660.0			Δ 51.4 = 78119		
3		✓	269 11 20					9.0						Δ		
4		880		90 07 10				11.0		-12.8		647.2		51.5		
5		0	✓					5.0		-5.0		655.0		π 6		
6	S	880		89 53 40				11.0		-9.4		650.6		7		
7		1760		89 43 20				11.0		-2.4		657.6		8		
8		2640		89 38 50				11.0		+4.6		664.6		0 9		
9		✓	270 19 10					11.0						0		
10																
11	N	2640		91 26 20				11.0		+77.9	743.3			Δ 9		
12		✓	268 31 40					11.0						Δ		
13		1760		91 42 20				11.0		-63.6		679.7		10		
14		880		91 14 00				11.0		-29.9		713.4		11		
15		0	✓					5.0		-5.0		738.3		π 12		
16	S	880		89 08 00				11.0		+2.3		745.6		13		
17		1760		89 25 10				11.0		+6.9		750.2		14		
18	1980	1760		89 33 30				11.0		+3.7		747.0		0 14 + 220		
19		✓	270 24 20					11.0						0 14 + 220		
20																

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STADIA SURVEY NOTES

AREA IKAIKPAK RIVER STATE or PROVINCE ALASKA PAGE No. 3
 LINE No.(s) R-1 PARTY No. 1173 DATE 22 Day MON Mo. 78 Yr. BOOK No. _____
 SURVEYOR T. SHERRILL RODMAN K. BARK WEATHER: CLEAR P.T.S. No. _____

LINE	Bearing of Sight	Stadia Distance	BEAMAN OR VERNIER			ROD READING				Angular Elev. Diff.	Final Elev. Diff.	ELEVATIONS		Station	REMARKS
			Level	Inclined	Angle or Factor	Hair Read	Reading	Correction	Center Hair			INST.	ROD		
1															
2	N	2420	89	23	40				110	-13.9	733.4			Δ	14+220
3		✓	270	34	10				110					Δ	
4		1760	89	57	00				110	-9.4		724.0		15	
5		880	93	39	30				110	-6.21		666.3		16	
6		660	95	45	00				110	-7.1		656.3		16+220	
7		0	✓						510	-5.0		728.4		π	17
8	S	880	86	44	10				110	+38.8		772.2		0	18
9		✓	273	13	40				110					0	
10															
11	N	2200	92	33	40				110	+109.9	882.3			Δ	18
12		✓	267	24	10				110					Δ	
13		1320	92	46	10				110	-74.7		807.6		19	
14		440	92	09	00				110	-27.5		854.8		20	
15		0	✓						510	-5.0		877.3		π	20+440
16	S	251	89	36	10				20	+0.3		882.6		0	20+791 = 787 78/120
17		✓	270	21	40				20					0	
18												882.63		TBM	78/120
19															
20												-2.2		MISTIE	RAW

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STADIA SURVEY NOTES

AREA IKPIK PUK RIVER STATE or PROVINCE ALASKA PAGE No. 4
 LINE No.(s) R-1 PARTY No. 1173 DATE 23 Day MAR Mo. 78 Yr. BOOK No. _____
 SURVEYOR T. SHERKILL RODMAN L. BARK WEATHER: CLEAR P.T.S. No. _____

LINE	Bearing of Sight	Stadia Distance	BEAMAN OR VERNIER			ROD READING				Angular Elev. Diff.	Final Elev. Diff.	ELEVATIONS		Station	REMARKS
			Level	Inclined	Angle or Factor	Hair Read	Reading	Correc-tion	Center Hair			INST.	ROD		
1												882.6		TBM 78120	
2	N	3609	87	06	20						-116.2	715.8		Δ 20+791 = 78120	
3		✓	272	50	50									Δ	
4		3520	87	06	30						+166.8	882.6		21	
5		2640	87	22	20						+110.2	826.0		22	
6		1760	88	10	50						+44.9	760.7		23	
7		880	90	41	20						-21.6	694.2		24	
8		0	✓								-5.0	710.8	π	25	
9	S	880	88	10	50						+16.9	730.7		26	
10		1760	88	41	00						+29.2	745.0	0	27	
11		✓	271	17	40								0		
12															
13	N	1100	91	10	30						+33.8	778.3		Δ 27	
14		✓	268	47	50									Δ	
15		220	89	08	00										
16		0	✓								-7.7	770.6		28	
17	S	660	92	28	00						-5.0	773.3	π	28+220	
18		1540	91	37	30						-39.4	738.9		29	
19			268	20	40						-55.0	723.3	0	30	
20													0		

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STADIA SURVEY NOTES

AREA IKPIKPAK RIVER STATE or PROVINCE ALASKA PAGE No. 5
 LINE No.(s) R-1 PARTY No. 1173 DATE 23 Day MAR Mo. 78 Yr. BOOK No. _____
 SURVEYOR T. SHERRILL RODMAN K. BARK WEATHER: CLEAR P.T.S. No. _____

LINE	Bearing of Sight	Stadia Distance	BEAMAN OR VERNIER			ROD READING				Angular Elev. Diff.	Final Elev. Diff.	ELEVATIONS		▲B.S. OF.S. -S.S.	Station	REMARKS
			Level	Inclined	Angle or Factor	Hair Read	Reading	Correc-tion	Center Hair			INST.	ROD			
1																
2	N	2640		87 20 30				11.0		-110.7	612.3		Δ	30		
3				272 37 10				11.0					Δ			
4		1760		87 22 20				11.0		+69.8	682.1			31		
5		880		87 27 00				11.0		+28.2	640.5			32		
6		0	✓					5.0		-5.0	607.3		π	33		
7	S	880		93 47 40				11.0		-69.5	542.8		⊙	34		
8		✓		266 10 10				11.0					0			
9																
10	N	2640		90 09 00				11.0		+18.7	561.2		Δ	34		
11		✓		269 48 40				11.0					Δ			
12		1760		92 48 40				11.0		-97.3	463.9			35		
13		880		93 15 00				11.0		-60.9	500.3			36		
14		0	✓					5.0		-5.0	556.2		π	37		
15	S	880		86 17 40				11.0		+51.1	612.3		⊙	38	(45.1)	
16		✓		273 40 00				11.0					0			
17																
18	N	2640		88 35 40				11.0		-53.1	559.0		Δ	38		
19		✓		271 22 10				11.0					Δ			
20		1760		89 07 20				11.0		+16.0	575.0			39		

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STADIA SURVEY NOTES

AREA IKPIKAW RIVER STATE or PROVINCE MANITOBA PAGE No. 6
 LINE No.(s) R-1 PARTY No. 1173 DATE 23 Day MAR Mo. 78 Yr. BOOK No. _____
 SURVEYOR T. SHERNILL RODMAN K. BARR WEATHER: CLEAR P.T.S. No. _____

LINE	Bearing of Sight	Stadia Distance	BEAMAN OR VERNIER			ROD READING				Angular Elev. Diff.	Final Elev. Diff.	ELEVATIONS		Station	REMARKS
			Level	Inclined	Angle or Factor	Hair Read	Reading	Correction	Center Hair			INST.	ROD		
1															
2		880		90 03 40					11.0	-11.9		547.1		40	
3		660		93 49 40					11.0	-55.1		503.9		40 + 220	
4		0	✓						5.0	-5.0		554.0	π	41	
5	S	880		84 55 00					11.0	+66.7		625.7	0	42	
6		✓		275 03 00					11.0				0		
7															
8	N	660		90 55 00					11.0	+21.7	646.6		Δ	42	
9		✓		262 03 00					11.0				Δ		
10		0	✓						5.0	-5.0		641.6	π	42 + 660	
11	S	220		89 31 00					11.0	-9.1		637.5		43	
12		1100		91 22 20					11.0	-37.3		602.3		44	
13		1980		91 06 00					11.0	-48.9		597.7		45	
14		2860		89 19 00					11.0	+22.4		669.0	0	46	
15		✓		270 39 00					11.0				0		
16															
17	N	880		94 13 50					11.0	+76.2	745.0		Δ	46	
18		✓		265 44 10					11.0				Δ		
19		0	✓						5.0	-5.0		740.0	π	47	
20															

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STADIA SURVEY NOTES

AREA IKPIKPAK RIVER STATE or PROVINCE ALASKA PAGE No. 7
 LINE No.(s) R-1 PARTY No. 1173 DATE 23 Day MAR Mo. 78 Yr. BOOK No.
 SURVEYOR T. SHERRILL RODMAN K. BARR WEATHER: CLEAR P.T.S. No.

LINE	Bearing of Sight	Stadia Distance	BEAMAN OR VERNIER			ROD READING				Angular Elev. Diff.	Final Elev. Diff.	ELEVATIONS		B.S. OF.S. - S.S.	Station	REMARKS
			Level	Inclined	Angle or Factor	Hair Read	Reading	Correc-tion	Center Hair			INST.	ROD			
1																
2	S	499	88	17	40					+10.7		755.7	0	47+499 = 78121		
3		✓	271	39	50								0			
4												755.7	✓	TBA 78121		
5																
6												+2.9		MISTIE - RAW		
7																
8												755.7		TBA 78121		
9	N	2141	87	58	50				11.0	50	-69.7	685.8		Δ 47+499 = 78121		
10		✓	271	58	20				11.0	80				Δ		
11		1760	87	44	40				11.0		+58.3	744.1		48		
12		880	87	31	50				11.0		+26.9	712.7		49		
13		0	✓						5.0		-51.0	680.8		π 50		
14	S	880	90	53	40				11.0		-24.7	666.1		51		
15		1760	90	43	20				11.0		-33.1	652.7		52		
16		2420 5318	90	47	40				11.0		-45.4	640.4	0	52 + 660		
17		✓	269	09	40				11.0					0		
18																
19	N	1980	85	24	50				11.0		-14.7	493.5		Δ 52 + 660		
20		✓	274	32	40				11.0					Δ		

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ADJUSTED VERTICAL COLUMNATION
AFTER B.S.
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2nd _____

STADIA SURVEY NOTES

AREA IKPIKPUK RIVER STATE or PROVINCE ALASKA PAGE No. 8
 LINE No.(s) R-1 PARTY No. 1173 DATE 73 Day MON Mo. 78 Yr. BOOK No. _____
 SURVEYOR T. SHERRILL RODMAN K. BARR WEATHER: CLEAR P.T.S. No. _____

LINE	Bearing of Sight	Stadia Distance	BEAMAN OR VERNIER			ROD READING			Angular Elev. Diff.	Final Elev. Diff.	ELEVATIONS		Station	REMARKS
			Level	Inclined	Angle or Factor	Hair Read	Reading	Correc-tion			Center Hair	INST.		
1														
2	N	1760		85 41 30				11.0	+121.3	614.8		53		
3		880		85 55 20				11.0	+51.6	545.1		54		
4		0	✓					5.0	-5.0	489.5	π	55		
5	S	880		92 37 00				11.0	-51.2	442.3		56		
6	1650	2530		92 51 30				11.0	-93.2	400.3	0	56 + 770		
7		✓		267 08 30				11.0			0			
8														
9	N	990		88 17 50				11.0	-18.4	381.7		56 + 770		
10		✓		271 42 10				11.0			Δ			
11		880		89 09 40				11.0	+1.9	383.6		57		
12		0	✓					5.0	-5.0	376.7	π	58		
13	S	880		89 14 10				11.0	+0.7	382.4		59		
14		1760		87 01 50				11.0	+80.2	461.9	0	60		
15		✓		272 58 10				11.0			0			
16														
17	N	2860		89 16 40				11.0	-25.2	436.3		60		
18		✓		270 43 20				11.0			Δ			
19		1980		89 12 50				11.0	+16.2	452.5		61		
20		1100		88 56 00				11.0	+9.5	445.8		62		

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STADIA SURVEY NOTES

AREA IKPIKPAK RIVER STATE or PROVINCE ALASKA PAGE No. 9
 LINE No.(s) R-1 PARTY No. 1123 DATE 23 Day MAR Mo. 78 Yr. BOOK No.
 SURVEYOR T. SHERILL RODMAN K. BARR WEATHER: CLEAR P.T.S. No.

LINE	Bearing of Sight	Stadia Distance	BEAMAN OR VERNIER			ROD READING			Angular Elev. Diff.	Final Elev. Diff.	ELEVATIONS		Station	REMARKS
			Level	Inclined	Angle or Factor	Hair Read	Reading	Correction			Center Hair	INST.		
1														
2	N	220		88 59 10				11.0	-7.1	429.2		63		
3		0	✓					5.0	-5.0	431.3	+	63+220		
4	S	660		90 17 00				11.0	-14.3	422.0		64		
5		1540		88 27 20				11.0	+30.6	466.9		65		
6		2420		87 43 20				11.0	+85.4	521.7	○	66		
7		✓		272 16 50				11.0			○			
8														
9	NE	990		94 15 50				11.0	+84.6	606.2	Δ	66		
10		✓		265 44 10				11.0			Δ			
11		110		90 34 30				11.0	-12.1	594.1		67		
12		0	✓					5.0	-5.0	606.2	+	67+110		
13	S	770		89 55 00				11.0	-9.9	596.3	○	68		
14		✓		270 05 00				11.0			○			
15														
16	N	2640		88 16 30				11.0	-68.6	527.5		68		
17		✓		271 43 30				11.0			Δ			
18		1760		89 10 20				11.0	+14.5	542.0		69		
19		880		90 52 00				11.0	-24.3	503.2		70		
20		0	✓					5.0	-5.0	522.5	+	71		

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STADIA SURVEY NOTES

AREA IKPIKUR RIVER STATE or PROVINCE ALASKA PAGE No. 10
 LINE No.(s) R-1 PARTY No. 1173 DATE 23 Day MON Mo. 78 Yr. BOOK No. _____
 SURVEYOR T. SHARPLE RODMAN L. BARK WEATHER: CLEAR P.T.S. No. _____

LINE	Bearing of Sight	Stadia Distance	BEAMAN OR VERNIER			ROD READING			Angular Elev. Diff.	Final Elev. Diff.	ELEVATIONS		B.S. OF S. - S.S.	Station	REMARKS
			Level	Inclined	Angle or Factor	Hair Read	Reading	Correc-tion			Center Hair	INST.			
1															
2	S	880		86 51 10				11.0	+37.3	564.8			72		
3		1760		87 07 00				11.0	+77.6	605.1	0		73		
4		✓		272 53 00				11.0				0			
5															
6	N	1760		92 22 10				11.0	+83.7	608.5		Δ	73		
7		✓		267 37 50				11.0				Δ			
8		880		93 22 00				11.0	-62.7	625.8			74		
9		0	✓					5.0	-5.0	603.5	π		75		
10	S	880		88 19 40				11.0	+14.7	703.2			76		
11		1760		88 27 30				11.0	+36.4	724.9			77		
12		2640		88 36 20				11.0	+53.4	741.9	0		78		
13		✓		271 23 40				11.0				0			
14															
15	N	1219		93 51 30				11.0	+62.4	834.0		Δ	78		
16		✓		266 08 20				11.0				Δ			
17		330		92 52 30				11.0	-25.6	808.4			79		
18		0	✓					5.0	-5.0	829.0	π		79+330		
19		550		89 25 40				11.0	-5.5	828.5			80		
20		1430		89 20 00				11.0	+5.7	839.7			81		

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STADIA SURVEY NOTES

AREA IKPIKUK RIVER STATE or PROVINCE ALASKA PAGE No. 11
 LINE No.(s) R-1 PARTY No. 1173 DATE 23 Day MAR Mo. 78 Yr. BOOK No. _____
 SURVEYOR T. SHARPLES RODMAN R. BARR WEATHER: CLEAR P.T.S. No. _____

LINE	Bearing of Sight	Stadia Distance	BEAMAN OR VERNIER			ROD READING			Angular Elev. Diff.	Final Elev. Diff.	ELEVATIONS		Station	REMARKS
			Level	Inclined	Angle or Factor	Hair Read	Reading	Correc-tion			Center Hair	INST.		
1														
2	S	2310		88 54 20					+33.2		867.2	0	82	
3		✓		71 05 40								0		
4														
5	N	1850		90 55 50					+41.0	903.2		Δ	82	
6		✓		269 04 10								Δ		
7		970		90 39 00					-22.0		886.2		83	
8		90	✓						-7.0		901.2		84	
9		0	✓						-6.0		902.2	Δ	84+90 = TBM 78123	
10		0	✓						-6.0		902.2	0		
11		0	✓									0		
12											902.24		TBM 78123	
13														
14											+1.9		MISTIE	RAW
15														
16											902.2		TBM 78123	
17	N	1450	✓						+13.5	915.5		Δ	84+90 = 78123	
18			✓									Δ		
19		660		90 28 00					-16.4		899.1		85	
20		0	✓						-5.0		910.5		85+660	

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STADIA SURVEY NOTES

AREA IKPIKIVK RIVER STATE or PROVINCE ALASKA PAGE No. 12
 LINE No.(s) R-1 PARTY No. 1173 DATE 24 Day MAR Mo. 78 Yr. BOOK No. _____
 SURVEYOR T. SHERMILL RODMAN K. BARR WEATHER: CLEAR P.T.S. No. _____

LINE	Bearing of Sight	Stadia Distance	BEAMAN OR VERNIER			ROD READING			Angular Elev. Diff.	Final Elev. Diff.	ELEVATIONS		B.S. OF S. - S.S.	Station	REMARKS
			Level	Inclined	Angle or Factor	Hair Read	Reading	Correction			Center Hair	INST.			
1															
2	S	220	✓					12.0	-12.0	903.5			86		
3		1100		90 29 00				11.0	-20.3	895.2			87		
4		1430		90 53 20				11.0	-33.4	882.1	0		87 + 330		
5		✓		269 05 40				11.0			0				
6															
7	N	2310		88 50 00				11.0	-36.1	845.7		Δ	87 + 330		
8		✓		271 10 00				11.0				Δ			
9		1760		89 29 20				11.0	+ 4.8	850.5			88		
10		880		90 11 30				11.0	-13.9	831.8			89		
11		0	✓					5.0	-5.0	840.7	π		90		
12	S	880		90 16 40				11.0	-15.3	830.4			91		
13		1760	✓					10.5	-10.5	835.2			92		
14		2640		89 55 50				11.0	-7.7	838.0	0		93		
15		✓		270 04 10				11.0				0			
16															
17	N	660		91 49 10				11.0	+ 31.8	869.5		Δ	93		
18		✓		268 11 40				11.0				Δ			
19		0	✓					5.0	-5.0	864.5	π		93 + 660		
20	S	220		90 25 00				11.0	-12.6	856.9			94		

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STADIA SURVEY NOTES

AREA IKPIKUK RIVER STATE or PROVINCE ALASKA PAGE No. 13
 LINE No.(s) R-1 PARTY No. 1173 DATE 24 Day MAR Mo. 78 Yr. BOOK No. _____
 SURVEYOR T. SHERRILL RODMAN K. BARR WEATHER: CLEAR P.T.S. No. _____

LINE	Bearing of Sight	Stadia Distance	BEAMAN OR VERNIER			ROD READING				Angular Elev. Diff.	Final Elev. Diff.	ELEVATIONS		B.S. O.F.S. - S.S.	Station	REMARKS
			Level	Inclined	Angle or Factor	Hair Read	Reading	Correc-tion	Center Hair			INST.	ROD			
1																
2	S	1100		90 55 00					11.0	-28.6		840.9		95		
3		1980		90 55 10					11.0	-42.7		826.8		96		
4		2530		90 50 10					11.0	-48.0		821.5	0	96+550		
5		✓		269 09 20					11.0				0			
6																
7	N	2310		90 36 00					11.0	+35.1	856.4		0	96+550		
8		✓		269 23 50					11.0				0			
9		1980		90 58 30					11.0	-44.6		811.8		97		
10		1100		91 04 00					11.0	-31.5		824.9		98		
11		220		90 40 50					11.0	-13.6		842.8		99		
12		0		✓					5.0	-50		851.4	π	99+220		
13	S	830		92 47 00					11.0	-27.0		829.4		99+550		
14		660		89 22 00					11.0	-3.7		852.7		100		
15		1210		89 12 00					11.0	+5.9		862.3	0	100+550		
16		✓		270 47 40					11.0				0			
17																
18	N	2090		91 25 10					11.0	+62.8	924.8		0	100+550		
19		✓		268 34 20					11.0				0			
20		1760		92 11 40					11.0	-78.3		846.5		101		

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2nd _____

STADIA SURVEY NOTES

AREA IKPIKPUK RIVER STATE or PROVINCE ALASKA PAGE No. 14
 LINE No.(s) R-1 PARTY No. 1173 DATE 24 Day MAR Mo. 78 Yr. BOOK No. _____
 SURVEYOR T. SHERKILL RODMAN K. BARR WEATHER: CLEAR P.T.S. No. _____

LINE	Bearing of Sight	Stadia Distance	BEAMAN OR VERNIER			ROD READING				Angular Elev. Diff.	Final Elev. Diff.	ELEVATIONS		B.S. OF.S. -S.S.	Station	REMARKS
			Level	Inclined	Angle or Factor	Hair Read	Reading	Correction	Center Hair			INST.	ROD			
1																
2	N	1430	92	59 00				11.0		-85.4		839.4			102 + 330	
3		880	92	27 40				11.0		-48.8		876.0			102	
4		0	✓					5.0		-5.0		919.0	π		103	
5	S	880	86	34 20				11.0		+41.6		966.4			104	
6		1760	86	29 50				2.0		+705.6		1030.4			105	
7		2640	85	50 00				11.0		+181.1		1105.9	0		106	
8		✓	274	10 20				11.0					0			
9																
10	N	1940	90	33 20				11.0		+29.7	1135.6		0		106	
11		✓	269	26 50				11.0					Δ			
12		1060	90	19 20				11.0		-16.9		1118.7			107	
13		180	✓					9.0		-9.0		1126.6			108	
14		0	✓					5.0		-5.0		1130.6	π		108 + 180	
15		4	✓					6.6				1129.0	0		108 + 184 = 13018	
16		✓	✓					6.6					0		SP. 886.404 LINE 138	
17												1129.0	TBM		328	11268
18																
19												+1.3			MISSTIE RAIL	
20																

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STADIA SURVEY NOTES

AREA IKPIKUK RIVER STATE or PROVINCE ALASKA PAGE No. 15
 LINE No.(s) R-1 PARTY No. 1173 DATE 7-4 Day MON Mo. 78 Yr. BOOK No. _____
 SURVEYOR T. SHILLW RODMAN K. BARR WEATHER: CLEAR P.T.S. No. _____

LINE	Bearing of Sight	Stadia Distance	BEAMAN OR VERNIER			ROD READING				Angular Elev. Diff.	Final Elev. Diff.	ELEVATIONS		Station	REMARKS
			Level	Inclined	Angle or Factor	Hair Read	Reading	Correc-tion	Center Hair			INST.	ROD		
1												1129.0		T.B.M. 3818	
2		0	✓							+6.6	1135.9			Δ 108+194 = 3818	
3		0	✓											Δ = SP. 886 + 204 - L 138	
4		0	✓							-6.6		1129.3		π 108+194	
5	S	696		88 51	00					+3.0		1138.9		109	
6		1136		89 23	30					+1.1		1137.0		0 109 + 440	
7		✓		270 36	30									0	
8															
9	N	3080		90 41	00					+47.7		1185.2		Δ 109 + 440	
10		✓		269 18	40									Δ	
11		2690		90 49	40					-49.0		1136.2		1100	
12		1760		91 15	40					-49.7		1135.5		111	
13		880		91 28	30					-33.6		1151.6		112	
14		0	✓							-5.0		1180.2		π 113	
15	S	880		90 03	30					-11.9		1193.3		114	
16		1760		89 45	10					-3.3		1181.9		115	
17		2310		90 00	40					-11.5		1173.7		0 113 + 550	
18		✓		269 58	50									0	
19															
20															

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2nd _____

STADIA SURVEY NOTES

AREA KUKIUK RIVER STATE or PROVINCE ALASKA PAGE No. 16
 LINE No.(s) R-1 PARTY No. 1173 DATE 24 Day MAH Mo. 7B Yr. BOOK No. _____
 SURVEYOR T. SHERRILL RODMAN K. BARR WEATHER: CLEAR P.T.S. No. _____

LINE	Bearing of Sight	Stadia Distance	BEAMAN OR VERNIER			ROD READING				Angular Elev. Diff.	Final Elev. Diff.	ELEVATIONS		B.S. OF S. - S.S.	Station	REMARKS
			Level	Inclined	Angle or Factor	Hair Read	Reading	Correc-tion	Center Hair			INST.	ROD			
1																
2	N	2530		88 32 10					11.0		-53.7	1120.8		Δ	115 + 550	
3		✓		271 27 40					11.0					Δ		
4		2200		88 39 46					11.0		+40.5	1161.3			116	
5		1320		89 06 00					11.0		+9.8	1130.6			117	
6		440		88 43 10					11.0		-1.2	1119.6			118	
7		0	✓						5.0		-5.0	1115.8		π	118 + 440	
8	S	440		91 17 40					11.0		-20.9	1099.9			119	
9		1320		91 33 30					11.0		-46.9	1073.9			120	
10		2200		90 46 10					11.0		-40.4	1080.4			121	
11		3080		90 07 20					11.0		-17.4	1103.4		○	122	
12		✓		269 52 40					11.0					○		
13																
14	N	880		91 20 10					11.0		+31.5	1135.2		Δ	122	
15		✓		268 39 50					11.0					Δ		
16		0	✓						5.0		-5.0	1130.2		π	123	
17	S	880		90 52 46					11.0		-24.5	1110.7		○	124	
18		✓		269 07 20					11.0					○		
19																
20																

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STADIA SURVEY NOTES

AREA IKPIKPUK RIVER STATE or PROVINCE ALASKA PAGE No. 17
 LINE No.(s) R-1 PARTY No. 1123 DATE 24 Day MAR Mo. 78 Yr. BOOK No. _____
 SURVEYOR T. SHERRILL RODMAN K. BAIN WEATHER: CLEAR P.T.S. No. _____

LINE	Bearing of Sight	Stadia Distance	BEAMAN OR VERNIER			ROD READING				Angular Elev. Diff.	Final Elev. Diff.	ELEVATIONS		Station	REMARKS
			Level	Inclined	Angle or Factor	Hair Read	Reading	Correction	Center Hair			INST.	ROD		
1															
2	N	3080	88	22	20				110		-76.7	1034.5		A	124
3		✓	27	37	40				110					A	
4		2200	83	33	40				110		+44.3	1078.8			125
5		1320	88	56	50				110		+13.3	1047.8			126
6		440	✓						113		-11.3	1023.2			127
7		0	✓						510		-5.0	1029.5		π	127 + 440
8	S	440	90	39	10				110		-16.0	1018.5			128
9		1320	89	25	20				110		+2.3	1036.8			129
10	1870	2500	89	43	00				110		-1.6	1032.9		0	129 + 550
11		✓	270	17	20				110					0	
12															
13	N	2090	91	00	00				110		+47.3	1080.2		A	129 + 550
14		✓	269	00	20				110					A	
15		1760	97	22	30				110		-53.2	1027.0			130
16		880	91	41	30				110		-37.0	1043.2			131
17		0	✓						510		-5.0	1075.2		π	132
18	S	156	✓						4.8		-4.8	1075.4		0	132 + 156 = 78124
19		✓	✓						4.8					0	
20												1075.4		TBM	78124

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-2.4 MISTIE RAW

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CHECKED BY 1st _____

2nd _____

1075.58

STADIA SURVEY NOTES

AREA IKPIKPIK RIVER STATE or PROVINCE ALASKA PAGE No. 18
 LINE No.(s) R-1 PARTY No. 1173 DATE 25 Day MAR Mo. 78 Yr. BOOK No. _____
 SURVEYOR T. SHERRILL RODMAN K. BARR WEATHER: _____ P.T.S. No. _____

LINE	Bearing of Sight	Stadia Distance	BEAMAN OR VERNIER			ROD READING			Angular Elev. Diff.	Final Elev. Diff.	ELEVATIONS		Station	REMARKS
			Level	Inclined	Angle or Factor	Hair Read	Reading	Correc-tion			Center Hair	INST.		
1											1075.4		TR 4 78124	
2	N	944	89	31	30			3.0	-4.6	1071.0		A	132 + 156 = 78124	
3		✓	270	26	30			3.0				Δ		
4		220	87	00	00			11.0	+0.5		1071.5		133	
5		0	✓					5.0	-5.0		1066.0		π	133 + 220
6	S	380	91	22	10			11.0	-18.9		1052.1		133 + 550	
7		660	90	16	40			11.0	-14.2		1056.8		134	
8		1540	89	15	20			11.0	+9.1		1080.1		135	
9		2090	89	19	10			11.0	+13.8		1084.8		○	135 + 550
10		✓	270	40	20			11.0					○	
11														
12	N	2090	88	59	00			11.0	-26.2		1058.8		Δ	135 + 550
13		✓	271	01	00			11.0					Δ	
14		1760	89	04	20			11.0	+17.6		1076.4		136	
15		380	91	00	10			11.0	-26.4		1032.4		137	
16		0	✓					5.0	-5.0		1053.8		π	138
17	S	880	89	06	10			11.0	+2.8		1061.6		○	139
18		✓	270	53	50			11.0					○	
19														
20														

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2nd _____

STADIA SURVEY NOTES

AREA IKPIKPIK RIVER STATE or PROVINCE ALASKA PAGE No. 19
 LINE No.(s) R-1 PARTY No. 1173 DATE 25 Day MAR Mo. 78 Yr. BOOK No. _____
 SURVEYOR T. SHERKILL RODMAN K. BALL WEATHER: CLEAR P.T.S. No. _____

LINE	Bearing of Sight	Stadia Distance	BEAMAN OR VERNIER			ROD READING			Angular Elev. Diff.	Final Elev. Diff.	ELEVATIONS		B.S. OF.S. -S.S.	Station	REMARKS
			Level	Inclined	Angle or Factor	Hair Read	Reading	Correction			Center Hair	INST.			
1															
2	N	2640	89	36	40			11.0		-6.9	1054.7		A	139	
3		✓	270	23	00			11.0					A		
4		1760	90	14	50			11.0		-18.5	1036.2			140	
5		880	91	44	00			11.0		-37.6	1017.1			141	
6		0	✓					5.0		-5.0	1042.7		π	142	
7	S	880	88	30	20			11.0		+11.9	1066.6		⊙	143	
8		✓	271	29	20			11.0					0		
9															
10	N	2640	89	51	50			11.0		+4.7	1071.7		⊙	143	
11		✓	270	07	50			11.0					A		
12		1760	90	46	20			11.0		-34.7	1037.0			144	
13		1320	90	22	20			11.0		-19.5	1052.2			144 + 440	
14		880	90	48	10			11.0		-23.3	1048.4			145	
15		0	✓					5.0		-5.0	1066.7		π	146	
16	S	880	91	00	40			11.0		-26.5	1045.2			147	
17		1760	88	41	40			11.0		+29.2	1100.9			148	
18		2640	88	26	30			11.0		+60.9	1132.6		⊙	149	
19		✓	271	33	30			11.0					0		
20															

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STADIA SURVEY NOTES

AREA IKPIKPAK RIVER STATE or PROVINCE ALASKA PAGE No. 20
 LINE No.(s) R-1 PARTY No. 1173 DATE 25 Day MAK Mo. 78 Yr. BOOK No.
 SURVEYOR T. SHERRILL RODMAN K. BARR WEATHER: CLEAR P.T.S. No.

LINE	Bearing of Sight	Stadia Distance	BEAMAN OR VERNIER			ROD READING				Angular Elev. Diff.	Final Elev. Diff.	ELEVATIONS		Station	REMARKS
			Level	Inclined	Angle or Factor	Hair Read	Reading	Correction	Center Hair			INST.	ROD		
1															
2	✓	3063	✓					10.5		+10.3	1142.9		Δ	149	
3			✓					10.5					Δ		
4		2182		90 07 00				21.0 ^{HA}		-25.3		1117.6		150	
5		1303		90 09 00				15.0		-18.4		1124.5		151	
6		423	✓					3.8		-3.8		1139.1		152	
7		0	✓					5.0		-5.0		1137.9	κ	152+	= TBM 78125
8		0	✓					5.0		-5.0		1137.9	0	152+	= TBM 78125
9		0	✓					5.0					0		
10												1137.9	TBM	78125	1137.96
11															
12												-0.7		MISTIE	RAW
13															
14												1137.9		TBM	78125
15		0	✓					5.0		+5.0	1142.9		Δ	152+423	= 78125
16		0	✓					5.0					Δ		
17		0	✓					5.0		-5.0		1137.9	κ	152+423	
18		457	✓					13.0		-13.0		1129.9		153	
19		1337		90 29 10				11.0		-22.3		1120.6		154	
20		2217		90 40 40				11.0		-37.1		1105.8		155	

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STADIA SURVEY NOTES

AREA IKPILPAK RIVER STATE or PROVINCE ALASKA PAGE No. 21
 LINE No.(s) R-1 PARTY No. 1123 DATE 25 Day MON Mo. 78 Yr. BOOK No. _____
 SURVEYOR T. SHERRILL RODMAN K. BALL WEATHER: CLEAR P.T.S. No. _____

LINE	Bearing of Sight	Stadia Distance	BEAMAN OR VERNIER			ROD READING				Angular Elev. Diff.	Final Elev. Diff.	ELEVATIONS		B.S. OF S. - S.S.	Station	REMARKS
			Level	Inclined	Angle or Factor	Hair Read	Reading	Correc-tion	Center Hair			INST.	ROD			
1																
2	S	3097		90 29 30					11.0		-37.4		1105.5	0	156	
3		✓		269 30 30					11.0					0		
4																
5	N	660		88 37 00					11.0		-4.9	1100.6		Δ	156	
6		✓		271 23 00					11.0					Δ		
7		0	✓						5.0		-5.0		1095.6	π	156 + 660	
8	S	220		91 49 00					11.0		-18.0		1082.6		157	
9		1100		93 42 40					11.0		-82.2		1018.4		158	
10		1980		93 47 30					11.0		-141.9		958.7		159	
11		2860		93 03 10					11.0		-163.1		937.5	0	160	
12		✓		266 56 50					11.0					0		
13																
14	N	1540		93 03 10					11.0		+93.0	1030.5		Δ	160	
15		✓		266 56 50					11.0					Δ		
16		660		92 48 00					11.0		-43.2		987.3		161	
17		0	✓						5.0		-5.0		1025.5	π	161 + 660	
18	S	220		86 56 10					11.0		+0.8		1031.3		162	
19		1100		88 12 30					11.0		+23.4		1053.9		163	
20																

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STADIA SURVEY NOTES

AREA IKPUPUK RIVER STATE or PROVINCE ALASKA PAGE No. 22
 LINE No.(s) R-1 PARTY No. 1173 DATE 25 Day MW Mo. 78 Yr. BOOK No.
 SURVEYOR T. SHRELL RODMAN K. BALL WEATHER: CLEAR P.T.S. No.

LINE	Bearing of Sight	Stadia Distance	BEAMAN OR VERNIER			ROD READING				Angular Elev. Diff.	Final Elev. Diff.	ELEVATIONS		B.S. OF.S. - S.S.	Station	REMARKS
			Level	Inclined	Angle or Factor	Hair Read	Reading	Correc-tion	Center Hair			INST.	ROD			
1																
2	S	1980		88 30	10				11.0		+40.8		1071.2	0	164	
3		✓		271 29	50				11.0					0		
4																
5	N	770		87 59	20				11.0		-15.9	1055.4		Δ	164	
6		✓		271 59	20				11.0					Δ		
7		0							5.0		-5.0		1050.4	π	164+770	
8	S	110		90 32	30				11.0		-12.0		1043.4		165	
9		990		23 05	00				11.0		-64.2		991.1	0	166	
10		✓		266 55	00				11.0					0		
11																
12	N	1760		84 39	40				11.0		-153.1	938.0		Δ	166	
13		✓		275 21	20				11.0					Δ		
14		880		84 13	00				11.0		+97.7		915.7		167	
15		0							5.0		-5.0		933.0	π	168	
16	S	550		97 32	40				11.0		-83.2		754.8		168+550 (AWUNA RIVER)	
17		880		92 32	00				11.0		-49.9		788.1		169	
18		1760		89 20	30				11.0		+9.3		847.3		170	
19		2640		88 23	20				11.0		+63.6		901.7	0	171	
20		✓		271 37	20				11.0					0		

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STADIA SURVEY NOTES

AREA 1 KM PAK RIVER STATE or PROVINCE ALASKA PAGE No. 23
 LINE No.(s) R-1 PARTY No. 1173 DATE 26 Day MAR Mo. 78 Yr. BOOK No.
 SURVEYOR T. STELLER RODMAN K. BARR WEATHER: CLEAR P.T.S. No.

LINE	Bearing of Sight	Stadia Distance	BEAMAN OR VERNIER			ROD READING				Angular Elev. Diff.	Final Elev. Diff.	ELEVATIONS		▲B.S. ○F.S. -S.S.	Station	REMARKS
			Level	Inclined	Angle or Factor	Hair Read	Reading	Correc-tion	Center Hair			INST.	ROD			
1																
2	N	1340		91 24 00					11.0		+43.5	945.2		Δ	171	
3				268 37 00					11.0					Δ		
4		460		90 35 00					11.0		-15.7	929.5			172	
5		0	✓						5.0		-5.0	940.2	π		172 + 460	= 78126
6		0	✓						5.0		-5.0	940.2	○		172 + 460	= 78126
7		0	✓						5.0				○			
8												940.2	TBM		78126	940.16
9																
10												0.0			MISTIE LAW	
11																
12												940.2	TBM		78126	
13		0	✓						5.0		+5.0	945.3		Δ	172 + 460	= 78126
14		0	✓						5.0					Δ		
15		0	✓						5.0		-5.0	940.2	π		172 + 460	
16	S	420		88 54 40					11.0		-3.0	942.3			173	
17		1080	✓						11.4		-11.2	934.1	○		173 + 660	
18			✓						11.0					○		
19																
20																

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STADIA SURVEY NOTES

AREA IKPIKPUK RIVER STATE or PROVINCE ALASKA PAGE No. 24
 LINE No.(s) R-1 PARTY No. 1173 DATE 28 Day MON Mo. 78 Yr. BOOK No. _____
 SURVEYOR T. SPERLILL RODMAN K. BALL WEATHER: CLEAR P.T.S. No. _____

LINE	Bearing of Sight	Stadia Distance	BEAMAN OR VERNIER			ROD READING				Angular Elev. Diff.	Final Elev. Diff.	ELEVATIONS		Station	REMARKS
			Level	Inclined	Angle or Factor	Hair Read	Reading	Correc-tion	Center Hair			INST.	ROD		
1															
2	N	2640		89 16 00					11.0		-23.1	911.4		Δ	173+660
3		✓		270 44 30					11.0					Δ	
4		2420		89 19 40					11.0		+17.5		928.9		174
5		1540		89 48 50					11.0		-5.9		905.5		175
6		660		91 22 40					11.0		-26.9		884.5		176
7		0	✓						5.0		-5.0		906.4	π	176+660
8	S	220	✓						4.0		-4.0		907.4		177
9		1100		88 16 20					11.0		+22.2		933.6		178
10		1980		88 22 20					11.0		+45.3		956.7		179
11		2860		87 51 50					11.0		+95.9		1007.3	0	180
12		✓		272 08 30					11.0					0	
13															
14	N	1210		92 46 10					11.0		+69.4	1076.9		Δ	180
15		✓		267 14 10					11.0					Δ	
16		330		91 53 10					11.0		-21.9		1055.0		181
17		0	✓						5.0		-5.0		1071.9	π	181+330
18	S	550		90 40 00					11.0		-17.4		1059.5		182
19		1430		89 03 00					11.0		+12.8		1089.7		183
20															

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STADIA SURVEY NOTES

AREA LOOKOUT RIDGE STATE or PROVINCE ALASKA PAGE No. 25
 LINE No.(s) R-1 PARTY No. 1123 DATE 26 Day MAR Mo. 78 Yr. BOOK No. _____
 SURVEYOR T. SHILLIN RODMAN K. BARR WEATHER: CLEAR P.T.S. No. _____

LINE	Bearing of Sight	Stadia Distance	BEAMAN OR VERNIER			ROD READING				Angular Elev. Diff.	Final Elev. Diff.	ELEVATIONS		B.S. OF.S. -S.S.	Station	REMARKS
			Level	Inclined	Angle or Factor	Hair Read	Reading	Correc-tion	Center Hair			INST.	ROD			
1																
2	S	2310		88 27 30					11.0	+51.4		1128.3	0	184		
3		✓		271 32 50					11.0				0			
4																
5	N	2640		89 36 50					11.0	-7.0	1121.3		Δ	184		
6		✓		270 23 20					11.0				Δ			
7		1760		89 53 00					11.0	-7.4		1113.9		185		
8		880		92 14 30					11.0	-45.4		1075.9		186		
9		0	✓						5.0	-5.0		1116.3	π	187		
10	S	660		86 39 10					11.0	+27.6		1148.9	0	187+660		
11		✓		273 21 10					11.0				0			
12																
13	N	3080		89 23 50					11.0	-21.7	1127.3		Δ	187+660		
14		✓		270 36 30					11.0				Δ			
15		2860		89 17 00					11.0	+24.9		1152.2		188		
16		1900		89 52 20					11.0	-6.5		1120.8		189		
17		1100		92 52 20					11.0	-66.1		1061.2		190		
18		990		93 47 40					11.0	-76.5		1050.8		190+110		
19		220		93 26 20					11.0	-24.2		1103.1		191		
20		0	✓						5.0	-5.0		1122.3	π	191+220		

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STADIA SURVEY NOTES

AREA LOOKOUT RIDGE STATE or PROVINCE ALASKA PAGE No. 26
 LINE No.(s) R-1 PARTY No. 1173 DATE 26 Day MON Mo. 78 Yr. BOOK No. _____
 SURVEYOR T. STEWART RODMAN K. BARR WEATHER: CLEAR P.T.S. No. _____

LINE	Bearing of Sight	Stadia Distance	BEAMAN OR VERNIER			ROD READING				Angular Elev. Diff.	Final Elev. Diff.	ELEVATIONS		B.S. OF S. - S.S.	Station	REMARKS
			Level	Inclined	Angle or Factor	Hair Read	Reading	Correc-tion	Center Hair			INST.	ROD			
1																
2	S	660		85 30 30					11.0		+40.7		1168.0	0	192	
3		✓		274 29 40					11.0					0		
4																
5	N	1760		93 49 30					11.0		+128.3	1296.4		Δ	192	
6		✓		266 10 40					11.0					Δ		
7		880		96 03 10					11.0		-103.8		1192.6		193	
8		0	✓						5.0		-5.0		1291.4	π	194	
9	S	880		85 40 40					11.0		+55.4		1356.8	0	195	
10		✓		274 19 40					11.0					0		
11																
12	N	2640		93 02 00					13.0		+152.9	1504.7		Δ	195	
13		✓		266 57 00					13.0					Δ		
14		1760		93 02 20					17.0		-110.2		1394.5		196	
15		880		92 58 10					11.0		-56.6		1448.1		197	
16		0	✓						5.0		-5.0		1499.7	π	198	
17	S	110		86 42 10					11.0		-4.7		1500.0	0	198 + 110	
18		✓		273 17 50					16.0					0		
19																
20																

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STADIA SURVEY NOTES

AREA Howard Pass STATE or PROVINCE ALASKA PAGE No. 27
 LINE No.(s) R-1 PARTY No. 1123 DATE 27 Day MAR Mo. 78 Yr. BOOK No.
 SURVEYOR T. SHERNICK RODMAN K. BARR WEATHER: CLAR P.T.S. No.

LINE	Bearing of Sight	Stadia Distance	BEAMAN OR VERNIER			ROD READING				Angular Elev. Diff.	Final Elev. Diff.	ELEVATIONS		B.S. OF.S. -S.S.	Station	REMARKS
			Level	Inclined	Angle or Factor	Hair Read	Reading	Correc-tion	Center Hair			INST.	ROD			
1																
2	N	1850 ^s		81 37 40					11.0	-258.5	1241.7		Δ	198+200		
3		✓		278 22 40					11.0				Δ			
4		1100		83 53 00					4.0	+113.2	1254.9			199		
5		220		85 51 30					4.0	+11.9	1253.6			200		
6		0	✓						5.0	-5.0	1236.7	π		200+220		
7	S	660		96 35 40					11.0	-86.8	1254.9			201		
8		1540		95 44 00					11.0	-164.8	1076.9			202		
9		2200		94 31 00					11.0	-184.1	1057.6		○	202+660		
10		✓		265 29 00					11.0				○			
11																
12	N	1850 ^s		84 40 00					11.0	-170.3	887.6		Δ	202+660		
13		✓		275 20 00					11.0				Δ			
14		1760		86 37 00					4.0	+90.9	987.5			203	880's	
15		880	✓						6.0	-6.0	881.6			204	↑	
16		440	✓						4.0	-4.0	883.6			205	420's	
17		0	✓						5.0	-5.0	882.6	π		206		
18	S	440	✓						5.0	-5.0	882.6			207		
19		880	✓						5.5	-5.5	882.1			208		
20		1360	✓						5.0	-5.0	882.6			209		

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STADIA SURVEY NOTES

AREA Howland Pass STATE or PROVINCE ALASKA PAGE No. 28
 LINE No.(s) R-1 PARTY No. 1173 DATE 27 Day MAH Mo. 78 Yr. BOOK No. _____
 SURVEYOR T. SHEDDEN RODMAN K. BARR WEATHER: CLEAR P.T.S. No. _____

LINE	Bearing of Sight	Stadia Distance	BEAMAN OR VERNIER			ROD READING				Angular Elev. Diff.	Final Elev. Diff.	ELEVATIONS		Station	REMARKS
			Level	Inclined	Angle or Factor	Hair Read	Reading	Correc-tion	Center Hair			INST.	ROD		
1	S											887.6			
2	1760		✓						4.0	-4.0		883.6		210	
3	2200			90	00	00			11.0	-14.7		872.9		211	
4	2640			80	03	12			11.0	-13.3		874.3		212	
5	3080			89	57	20			11.0	-8.4		879.2	0	213	
6	✓			270	02	40			11.0				0		
7															
8	N	3080	✓						11.1	+10.9		890.5		213	
9	✓	✓	✓						11.1						
10		2640	✓						13.0	-13.0		877.5		214	
11		2200	✓						12.5	-12.5		878.0		215	
12		1760	✓						10.5	-10.5		880.0		216	
13		1320	✓						8.5	-8.5		882.0		217	
14		880	✓						8.5	-8.5		882.0		218	
15		440	✓						7.0	-7.0		883.5		219	
16		0	✓						5.0	-5.0		885.5	+	220	
17	S	440	✓						6.0	-6.0		884.5		221	
18		880	✓						3.0	-3.0		887.5		222	
19		1320		89	30	00			11.0	+0.6		891.1		223	
20		1760		89	34	00			11.0	+2.4		892.9		224	

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STADIA SURVEY NOTES

AREA HOWARD PASS STATE or PROVINCE ALASKA PAGE No. 29
 LINE No.(s) R-1 PARTY No. 1173 DATE 27 Day MON Mo. 78 Yr. BOOK No. _____
 SURVEYOR T. SHERKILL RODMAN K. BAMA WEATHER: CLEAR P.T.S. No. _____

LINE	Bearing of Sight	Stadia Distance	BEAMAN OR VERNIER			ROD READING				Angular Elev. Diff.	Final Elev. Diff.	ELEVATIONS		Station	REMARKS
			Level	Inclined	Angle or Factor	Hair Read	Reading	Correc-tion	Center Hair			INST.	ROD		
1												890.5			
2	S	2200		89 38 50				11.0		+2.1		893.1		225	
3		2640		89 41 50				11.0		+3.1		893.6		226	
4		3080		89 44 00				11.0		+3.5		894.0	0	227	
5		✓		270 16 00				11.0					0		
6															
7	WNW	5595		89 51 50				11.0		-2.9		891.1			
8		✓		270 08 10				11.0							
9		0	✓					5.0							78128 = 8504
10		0	✓					5.0				886.1	0		78128 = 8504
11		0	✓					5.0					0		
12												886.1	0		78128 = 8504
13															
14															-2.0 MISTIE RAW
15															
16															
17												894.0	Δ	227	REPER L-4
18	N	2640		90 23 30				11.0		+29.3		923.3	Δ	227	
19		✓		269 35 30				11.0					Δ	227	
20		2200		90 28 30				11.0		-29.1		894.2		228	

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STADIA SURVEY NOTES

AREA HOWARD PASS STATE or PROVINCE ALASKA PAGE No. 30
 LINE No.(s) R-1 PARTY No. 1123 DATE 28 Day MAY Mo. 78 Yr. BOOK No. _____
 SURVEYOR T. SPERRILL RODMAN K. BALL WEATHER: LIGHT SNOW FLARES P.T.S. No. _____

LINE	Bearing of Sight	Stadia Distance	BEAMAN OR VERNIER			ROD READING				Angular Elev. Diff.	Final Elev. Diff.	ELEVATIONS		A.B.S. OF S. - S.S.	Station	REMARKS
			Level	Inclined	Angle or Factor	Hair Read	Reading	Correc-tion	Center Hair			INST.	ROD			
1																
2		1760		90 32	50				11.0		-27.7	895.6			229	
3		1320		90 45	00				11.0		-28.2	895.1			230	
4		880		91 08	00				11.0		-28.4	894.9			231	
5		440		91 36	00				11.0		-23.3	900.0			232	
6		0	✓						5.0		-5.0	918.3	π		233	
7	S	440		87 04	00				11.0		+11.5	934.8			234	
8		880		87 45	10				11.0		+23.5	946.8			235	
9		1320		87 39	50				11.0		+42.8	966.1			236	
10		1760		87 08	20				11.0		+76.9	1000.2			237	
11		2200		86 49	00				11.0		+111.3	1034.6			238	
12		2640		87 07	30				11.0		+126.2	1049.5	0		239	
13		✓		272 53	50				11.0					0		
14																
15	N	880		91 12	00				11.0		+29.3	1078.8		Δ	239	
16		✓		268 49	00				11.0					Δ		
17		440		90 10	00				11.0		-12.3	1066.5			240	
18		0	✓						5.0		-5.0	1073.8	π		241	
19	S	440		89 24	30				11.0		-6.5	1072.3			242	
20																

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STADIA SURVEY NOTES

AREA HOWARD PASS STATE or PROVINCE ALASKA PAGE No. 31
 LINE No.(s) R-1 PARTY No. 1173 DATE 28 Day MAR Mo. 78 Yr. BOOK No. _____
 SURVEYOR T. SKRALL RODMAN K. BARR WEATHER: HAZY P.T.S. No. _____

LINE	Bearing of Sight	Stadia Distance	BEAMAN OR VERNIER			ROD READING				Angular Elev. Diff.	Final Elev. Diff.	ELEVATIONS		Station	REMARKS
			Level	Inclined	Angle or Factor	Hair Read	Reading	Correction	Center Hair			INST.	ROD		
1												1078.8			
2	S	880		90 29 30				11.0		-18.5		1060.2	0	243	
3		✓		269 30 50				11.0					0		
4															
5	N	1320		82 59 30				11.0		-150.1	910.1		Δ	243	
6		✓		277 00 30				11.0					Δ		
7		880	✓					13.6		-13.6		896.5		244	
8		440	✓					8.5		-8.5		901.6		245	
9		0	✓					5.0		-5.0		905.1	π	246	
10	S	440	✓					2.5		-2.5		907.6		247	
11		880	✓					3.5		-3.5		906.6		248	
12		1320	✓					2.5		-2.5		907.6		249	
13		1760		89 39 30				11.0		-0.4		909.7	0	250	
14		✓		270 20 30				11.0					0		
15															
16	N	2640		90 01 30				11.0		+12.0	921.7		Δ	250	
17		✓		269 58 30				11.0					Δ		
18		2200	✓					13.0		-13.0		908.7		251	
19		1760	✓					11.5		-11.5		910.2		252	
20		1320	✓					10.5		-10.5		911.2		253	

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STADIA SURVEY NOTES

AREA HOWARD PASS STATE or PROVINCE ALASKA PAGE No. 32
 LINE No.(s) R-1 PARTY No. 1173 DATE 28 Day MAR Mo. 78 Yr. BOOK No. _____
 SURVEYOR T. SIKERALL RODMAN K. BARK WEATHER: CLEAR P.T.S. No. _____

LINE	Bearing of Sight	Stadia Distance	BEAMAN OR VERNIER			ROD READING				Angular Elev. Diff.	Final Elev. Diff.	ELEVATIONS		Station	REMARKS
			Level	Inclined	Angle or Factor	Hair Read	Reading	Correc-tion	Center Hair			INST.	ROD		
1												921.7			
2	N	880	✓						9.0	-9.0		912.2		254	
3		640	✓						8.0	-8.0		913.7		255	
4		0	✓						5.0	-5.0		916.7	π	256	
5	S	440	✓						4.5	-4.5		917.2		257	
6		880	✓						4.5	-4.5		917.2		258	
7		1320	✓						4.0	-4.0		917.7		259	
8		1760	✓						3.0	-3.0		918.7		260	
9		2200	✓						2.0	-2.0		919.7		261	
10		2640		89	45	30			1.0	+0.3		922.0	0	262	
11				270	14	30			11.0				0		
12															
13	N	3080		90	10	40			11.0	+20.4		942.4	Δ	262	
14				267	49	20			11.0				Δ		
15		2640		90	07	40			11.0	-16.7		925.7		263	
16		2200	✓						13.0	-13.0		929.4		264	
17		1760	✓						12.0	-12.0		930.4		265	
18		1320	✓						10.0	-10.0		932.4		266	
19		880	✓						9.0	-9.0		933.4		267	
20		440	✓						7.5	-7.5		934.9		268	

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STADIA SURVEY NOTES

AREA HOWARD PASS STATE or PROVINCE ALASKA PAGE No. 33
 LINE No.(s) R-1 PARTY No. 1173 DATE 28 Day MAR Mo. 78 Yr. BOOK No. _____
 SURVEYOR T. SHERRILL RODMAN W. BARR WEATHER: CLEAR P.T.S. No. _____

LINE	Bearing of Sight	Stadia Distance	BEAMAN OR VERNIER			ROD READING				Angular Elev. Diff.	Final Elev. Diff.	ELEVATIONS		Station	REMARKS
			Level	Inclined	Angle or Factor	Hair Read	Reading	Correction	Center Hair			INST.	ROD		
1												942.4			
2		0	✓								-5.0	937.4	π	269	
3	S	440	✓								-4.0	938.4		270	
4		880	✓								-2.5	939.9		271	
5		1320	✓								-2.0	940.4		272	
6		1760		82	38	40					0.0	942.4		273	
7		2200		89	39	20					+2.3	944.7		274	
8		2640		89	40	40					+4.0	946.4		275	
9		3080		89	44	20					-0.8	946	⊙	276	
10		✓		270	15	40							⊙		
11															
12	N	3080		90	09	20					+4.5	964.8	Δ	278	
13		✓		269	50	40					+23.8		Δ		
14		2640		90	13	00					-20.8	944.0		277	
15		2200		90	15	10					-20.6	944.8		278	
16		1760		90	05	00					-13.5	951.9		279	
17		1320	✓								-11.0	959.8		280	
18		880	✓								-10.6	954.8		281	
19		440	✓								-7.0	957.8		282	
20		0	✓								-5.0	959.8	π	283	

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STADIA SURVEY NOTES

AREA HOWARD PASS STATE or PROVINCE ALASKA PAGE No. 34
 LINE No.(s) R-1 PARTY No. 1173 DATE 28 Day MAR Mo. 78 Yr. BOOK No. _____
 SURVEYOR T. SHERRILL RODMAN K. BARR WEATHER: CLEAR P.T.S. No. _____

LINE	Bearing of Sight	Stadia Distance	BEAMAN OR VERNIER			ROD READING				Angular Elev. Diff.	Final Elev. Diff.	ELEVATIONS		▲B.S. OF S. - S.S.	Station	REMARKS
			Level	Inclined	Angle or Factor	Hair Read	Reading	Correc-tion	Center Hair			INST.	ROD			
1												964.8				
2	S	440	✓						8.0	-8.0		956.8		284		
3		880	✓						5.0	-5.0		959.8		285		
4		1320	✓						2.5	-2.5		962.3		286		
5		1760	✓						4.0	-4.0		966.8		287		
6		2200	✓						0.0	-0.0		964.8		288		
7		2640		89	47	40			11.0	-7.4		963.3	0	289		
8		✓		270	12	20			11.0				0			
9																
10	N	3080	90	09	55				11.0	+20.4		983.7		A	289	
11		✓	269	48	32				11.0					A		
12		2640	✓						14.8	-14.8		968.9		290		
13		2200	✓						14.5	-14.5		969.2		291		
14		1760	✓						14.4	-14.4		969.3		292		
15		1320	✓						13.5	-13.5		970.2		293		
16		880	✓						12.6	-12.6		971.7		294		
17		440	✓						10.6	-10.6		973.1		295		
18		0	✓						5.0	-5.0		978.7	K	296		
19		440	✓						4.5	-4.5		979.2		297		
20		880	88	49	40				11.0	+7.0		990.7		298		

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STADIA SURVEY NOTES

AREA Howard Pass STATE or PROVINCE Alaska PAGE No. 35^f
 LINE No.(s) R 1 PARTY No. 1173 DATE 29 Day 3 Mo. 78 Yr. BOOK No. _____
 SURVEYOR R. Tippisch RODMAN K. Barr WEATHER: Clear -42° P.T.S. No. _____

LINE	Bearing of Sight	Stadia Distance	BEAMAN OR VERNIER			ROD READING				Angular Elev. Diff.	Final Elev. Diff.	ELEVATIONS		B.S. I.F.S. -S.S.	Station	REMARKS
			Level	Inclined	Angle or Factor	Hair Read	Reading	Correc-tion	Center Hair			INST.	ROD			
1												983.7				
2		1320	88	50	23				11.0	+15.8		999.5		299		
3		1760	88	28	15				11.0	+36.0		1019.7		300		
4		2200	88	11	09				11.0	+58.7		1042.5	0	301		
5		✓	271	48	48				11.0				0			
6									11.0							
7		880	91	47	56				11.0	+38.6		1091.1		Δ		
8		✓	268	12	02				11.0					Δ		
9		440	91	48	08				11.0	-24.8		1056.3		302		
10		0	✓						5.0	-5.0		1076.1	κ	303		
11		440	88	20	02				11.0	+1.8		1082.9		304		
12		880	88	53	00				11.0	+6.2		1087.3		305		
13		1680	89	40	32				5.0	+4.6		1085.7	0	TBM		1085.67
14		✓	270	19	41				5.0				0			
15												1085.7		TBM 78130		
16																
17												0.0		MISTIE RAW		
18																
19																
20																

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STADIA SURVEY NOTES

AREA Howard Pass STATE or PROVINCE Alaska PAGE No. 36
 LINE No.(s) R 1 PARTY No. 1173 DATE 30 Day 3 Mo. 78 Yr. BOOK No.
 SURVEYOR R. Ippisch RODMAN K. Banc WEATHER: Clear 52° P.T.S. No.

LINE	Bearing of Sight	Stadia Distance	BEAMAN OR VERNIER			ROD READING			Angular Elev. Diff.	Final Elev. Diff.	ELEVATIONS		B.S. OF S. - S.S.	Station	REMARKS
			Level	Inclined	Angle or Factor	Hair Read	Reading	Correction			Center Hair	INST.			
1											1085.7		TBM 78130		
2	✓	1520	90	14	12			15.0	+21.5	1107.5		Δ	78130		
3	✓	269	44	25				15.0				Δ			
4		1760	90	16	18			15.0	-23.3	1084.2			306		
5		1320	90	19	27			15.0	-22.4	1085.1			307		
6		880	90	20	09			15.0	-20.1	1087.4			308		
7		440	✓					15.0	-15.0	1092.5			309		
8		0	✓					5.0	-5.0	1102.5		X	310		
9		440	✓					3.6	-3.6	1103.9			311		
10		880	✓					3.5	-3.5	1104.0			312		
11		1320	✓					3.0	-3.0	1104.5			313		
12		1760	✓					7.0	-7.0	1100.5			314		
13		2200	✓					11.2	-11.0	1096.5		0	315		
14		✓	✓					10.9				0			
15															
16		3080	88	24	32			5.0	-80.8	1016.0		Δ			
17		✓	271	35	42			5.0				Δ			
18		2640	89	38	00			4.5	+12.5	1028.5			316		
19		2200	✓					10.6	-10.6	1005.4			317		
20		1760	✓					10.7	-10.7	1005.3			318		

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STADIA SURVEY NOTES

AREA Howard Pass STATE or PROVINCE Alaska PAGE No. 37
 LINE No.(s) R1 PARTY No. 1173 DATE 30 Day 3 Mo. 78 Yr. BOOK No. _____
 SURVEYOR R. Ipsich RODMAN K. Baer WEATHER: Clear 52 P.T.S. No. _____

LINE	Bearing of Sight	Stadia Distance	BEAMAN OR VERNIER			ROD READING				Angular Elev. Diff.	Final Elev. Diff.	ELEVATIONS		Station	REMARKS
			Level	Inclined	Angle or Factor	Hair Read	Reading	Correc-tion	Center Hair			INST.	ROD		
1															
2		1320	✓						9.8		-9.8	1006.2		319	
3		880	✓						8.2		-8.2	1007.8		320	
4		440	✓						7.1		-7.1	1008.9		321	
5		0	✓						5.0		-5.0	1011.0	π	322	
6		440	✓						8.2		-8.2	1007.8		323	
7		880	✓						9.0		-9.0	1007.0		324	
8		1320	✓						6.4		-6.4	1009.6		325	
9		1760	✓						3.9		-3.9	1012.1		326	
10		2200	89	40	38				15.0		-2.4	1013.6	0	327	
11		✓	270	19	50				15.0				0		
12															
13		3080	90	01	55				15.0		+16.3	1030.2		Δ	
14		✓	269	58	35				15.0					X	
15		2640	90	05	42				15.0		-19.2	1011.0		328	
16		2200	90	02	50				15.0		-16.7	1013.5		329	
17		1760	✓						12.4		-12.4	1017.8		330	
18		1320	✓						10.7		-10.7	1019.5		331	
19		880	✓						9.6		-9.6	1020.6		332	
20		440	✓						9.0		-9.0	1021.2		333	

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STADIA SURVEY NOTES

AREA Howard Pass STATE or PROVINCE Alaska PAGE No. 38
 LINE No.(s) R 1 PARTY No. 1173 DATE 30 Day 3 Mo. 78 Yr. BOOK No. _____
 SURVEYOR R. Tappesch RODMAN K. Barr WEATHER: Clear - 52° P.T.S. No. _____

LINE	Bearing of Sight	Stadia Distance	BEAMAN OR VERNIER			ROD READING				Angular Elev. Diff.	Final Elev. Diff.	ELEVATIONS		B.S. OF.S. -S.S.	Station	REMARKS
			Level	Inclined	Angle or Factor	Hair Read	Reading	Correction	Center Hair			INST.	ROD			
1																
2		0	✓						5.0		-5.0	1025.2	π	334		
3		440	✓						4.7		-4.7	1025.5		335		
4		880	✓						3.8		-3.8	1026.4		336		
5		1320	✓						4.0		-4.0	1026.2		337		
6		1760	✓						5.2		-5.2	1025.0		338		
7		2200	89	34	50				15.0		+1.2	1031.4		339		
8		2640	89	39	00				15.0		+1.8	1032.0	0	340		
9		✓	270	22	27				15.0				0			
10																
11		440	✓						7.2		+7.1	1039.3	Δ			
12		✓	✓						7.0				Δ			
13		0	✓						5.0		-5.0	1034.3	π	341		
14		440	✓						3.7		-3.7	1035.6		342		
15		880	✓						1.8		-1.8	1037.5		343		
16		1320	89	22	00				5.0		+9.6	1048.9		344		
17		1760	87	01	07				15.0		+76.6	1115.9		345		
18		2030	87	23	48				15.0		+77.7	1117.0	0	345+270		
19		✓	272	57	30				15.0				0			
20												1117.0		TBM	78/31 111697	

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STADIA SURVEY NOTES

AREA Howard Pass STATE or PROVINCE Alaska PAGE No. 39
 LINE No.(s) R-1 PARTY No. 1173 DATE 30 Day 3 Mo. 78 Yr. BOOK No. _____
 SURVEYOR R Tippisch RODMAN K Balf WEATHER: Clear P.T.S. No. _____

LINE	Bearing of Sight	Stadia Distance	BEAMAN OR VERNIER			ROD READING				Angular Elev. Diff.	Final Elev. Diff.	ELEVATIONS		Δ B.S. OF S. - S.S.	Station	REMARKS
			Level	Inclined	Angle or Factor	Hair-Read	Reading	Correction	Center Hair			INST.	ROD			
1												1112.0		TRM	78131	(1169)
2		2370	89	29	45					-16.2	1100.8		Δ	345+270		
3	✓		270	31	00								Δ			
4		2200	89	30	04					+14.3		1115.1		346		
5		1760	89	27	40					+11.6		1112.4		347		
6		1320	89	42	48					+1.6		1102.4		348		
7		880	89	48	25					-2.0		1098.8		349		
8		440	✓							-7.2		1093.6		350		
9		0	✓							-5.0		1095.8	∇	351		
10		440	89	12	50					+1.0		1101.8		352		
11		880	88	24	15					+19.5		1120.3		353		
12		1320	88	21	50					+27.9		1128.7	0	354		
13		1320	271	38	55								0			
14	✓															
15		2640	90	12	17					+24.1	1153.0		Δ			
16	✓		269	48	20								Δ			
17		2200	90	07	38					-19.8		1133.2		355		
18		1760	✓							-15.0		1138.0		356		
19		1320	✓							-8.7		1144.8		357		
20		880	✓							-7.8		1145.2		358		

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STADIA SURVEY NOTES

AREA Howard Pass STATE or PROVINCE Alaska PAGE No. 40
 LINE No.(s) R 1 PARTY No. 1173 DATE 30 Day 3 Mo. 78 Yr. BOOK No. _____
 SURVEYOR R Ippisch RODMAN K Barr WEATHER: Clear P.T.S. No. _____

LINE	Bearing of Sight	Stadia Distance	BEAMAN OR VERNIER			ROD READING				Angular Elev. Diff.	Final Elev. Diff.	ELEVATIONS		Station	REMARKS
			Level	Inclined	Angle or Factor	Hair Read	Reading	Correction	Center Hair			INST.	ROD		
1															
2		440	✓						6.6		-6.6	1146.4		359	
3		0	✓						5.0		-5.0	1148.0	π	360	
4		440	✓						8.4		-8.4	1144.6		361	
5		880	✓						9.9		-9.9	1143.1		362	
6		1320	90	02	55				15.0		-16.1	1136.9		363	
7		1760	✓						10.8		-10.8	1142.2		364	
8		2200	89	58	48				1.0		+0.2	1153.2	0	365	
9		✓	270	02	17				1.0				0		
10															
11		2640	90	17	55				15.0		+29.1	1182.4	Δ		
12		✓	269	40	55				15.0				Δ		
13		2200	90	08	42				15.0		-20.5	1161.9		366	
14		1760	✓						16.0		-16.0	1166.4		367	
15		1320	✓						12.8		-12.8	1169.6		368	
16		880	✓						9.6		-9.6	1172.8		369	
17		440	✓						7.9		-7.9	1174.5		370	
18		0	✓						5.0		-5.0	1177.4	π	371	
19		440	✓						3.5		-3.5	1178.9		372	
20		880	89	40	12				5.0		+0.1	1182.5		373	

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STADIA SURVEY NOTES

AREA Howard Pass STATE or PROVINCE Alaska PAGE No. 41
 LINE No.(s) R-1 PARTY No. 1173 DATE 1 Day 4 Mo. 78 Yr. BOOK No. _____
 SURVEYOR R. Tippich RODMAN K. Barr WEATHER: Clear -35° P.T.S. No. _____

LINE	Bearing of Sight	Stadia Distance	BEAMAN OR VERNIER			ROD READING				Angular Elev. Diff.	Final Elev. Diff.	ELEVATIONS		B.S. O.F.S. -S.S.	Station	REMARKS
			Level	Inclined	Angle or Factor	Hair Read	Reading	Correc-tion	Center Hair			INST.	ROD			
1																
2		1320	89	46	07				10.0		-4.6	1177.8			374	
3		1760	89	45	40				15.0		-7.6	1174.8			375	
4		2200	89	48	25				15.0		-7.5	1174.9			376	
5		2640	89	50	02				15.0		-7.1		1175.3	0	377	
6		✓	270	10	08				15.0					0		
7																
8		3080	✓						12.2		+11.9	1187.5		Δ		
9		✓	✓						12.0					Δ		
10		2640	✓						10.4		-10.4		1177.1		378	
11		2200	✓						3.7		-3.7		1183.8		379	
12		1760	✓						5.6		-5.6		1181.9		380	
13		1320	90	02	14				15.0		-15.8		1171.7		381	
14		880	90	20	08				21.0	HR	-26.1		1161.4		382	
15		440	✓						9.6		-9.6		1177.9		383	
16		0	✓						5.0		-5.0		1182.5	π	384	
17		440	✓						6.2		-6.2		1181.3		385	
18		880	✓						5.3		-5.3		1182.2		386	
19		1320	✓						4.6		-4.6		1182.9		387	
20		1760	✓						3.7		-3.7		1183.8		388	

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STADIA SURVEY NOTES

AREA Howard Pass STATE or PROVINCE Alaska PAGE No. 42
 LINE No.(s) R 1 PARTY No. 1123 DATE 1 Day 4 Mo. 28 Yr. BOOK No. _____
 SURVEYOR R Ippisch RODMAN K Barr WEATHER: Clear P.T.S. No. _____

LINE	Bearing of Sight	Stadia Distance	BEAMAN OR VERNIER			ROD READING			Center Hair	Angular Elev. Diff.	Final Elev. Diff.	ELEVATIONS		Station	REMARKS
			Level	Inclined	Angle of Factor	Hair Read	Reading	Correc-tion				INST.	ROD		
1															
2		2200	89	54	04			5.0		-1.1	1186.4		389		
3		2640	89	46	10			5.0		+5.8	1193.3		390		
4		3080	89	27	37			15.0		+14.7		1202.2	0	391	
5		✓	270	33	27			15.0					0		
6															
7		2640	✓					13.0		+12.6	1215.1		Δ		
8		✓	✓					12.5					Δ		
9		2200	✓					9.2		-9.2		1205.9		392	
10		1760	✓					7.8		-7.8		1207.3		393	
11		1320	✓					5.9		-5.9		1209.2		394	
12		880	✓					4.1		-4.1		1211.0		395	
13		440	✓					4.6		-4.6		1210.5		396	
14		0	✓					5.0		-5.0		1210.1	κ	397	
15		440	90	19	33			15.0		-17.5		1197.6		398	
16		880	90	08	35			15.0		-17.3		1197.8		399	
17		1320	✓					14.0		-14.0		1201.1		400	
18		1760	✓					11.2		-11.2		1203.9		401	
19		2200	✓					5.3		-5.3		1209.8		402	
20		2640	✓					7.0		-7.0		1208.1		403	

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STADIA SURVEY NOTES

AREA Howard Pass STATE or PROVINCE Alaska PAGE No. 43
 LINE No. (s) R-1 PARTY No. 1173 DATE 1 Day 4 Mo. 78 Yr. BOOK No. _____
 SURVEYOR R Ippisch RODMAN K Barr WEATHER: Clear P.T.S. No. _____

LINE No.	Bearing of Sight	Stadia Distance	BEAMAN OR VERNIER			ROD READING				Angular Elev. Diff.	Final Elev. Diff.	ELEVATIONS		Δ B.S. OF S. - S.S.	Station	REMARKS	
			Level	Inclined	Angle or Factor	Hair Read	Reading	Correction	Center Hair			INST.	ROD				
1																	
2		308.0	✓						9.0		-8.6	1206.5	0	404			
3		✓	✓						8.5				0				
4																	
5		2361	30	08	38				14.0		+20.8	1227.3			Δ		
6		✓	269	51	25				15.0						Δ		
7		1321	30	11	40				15.0		-21.4	1205.9		405			
8		1481	30	09	50				15.0		-19.2	1208.1		406			
9		1041	✓						15.5		-15.5	1211.8		407			
10		601	✓						12.6		-12.6	1214.7		408			
11		161	✓						8.41		-8.4	1218.9		409			
12		0	✓						5.0		-5.0	1222.3	π	409+161		(78132)	
13																	(222-29)
14																	
15												170					Mistie RAW
16																	
17																	
18																	
19																	
20																	

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STADIA SURVEY NOTES

AREA Howard Pass STATE or PROVINCE Alaska PAGE No. 44
 LINE No.(s) R-1 PARTY No. 1173 DATE 2 Day 4 Mo. 28 Yr. BOOK No. _____
 SURVEYOR R. Ippusch RODMAN K Barr WEATHER: clear P.T.S. No. _____

LINE	Searing of Sight	Stadia Distance	BEAMAN OR VERNIER			ROD READING				Angular Elev. Diff.	Final Elev. Diff.	ELEVATIONS		B.S. OF S. - S.S.	Station	REMARKS
			Level	Inclined	Angle or Factor	Hair Read	Reading	Correc-tion	Center Hair			INST.	ROD			
1												1222.3		TBM	78132	
2		0	✓								+5.0	1227.1		Δ	409+161 = (78132)	
3		0	✓											Δ		
4		0	✓								-5.0	1222.1		π	409+161 = (78132)	
5		279	89	21	15						-1.9	1225.2			410	
6		719	89	33	45						+0.5	1227.6			411	
7		1159	89	36	00						+3.1	1230.2			412	
8		1599	89	31	12						+8.4	1235.5			413	
9		2039	89	16	50					HR	+4.7	1231.8			414	
10		2479	89	27	33						+8.5	1235.6			415	
11		2919	89	19	10						+20.2	1247.3		6	416	
12		✓	270	41	40									0		
13																
14		2640	90	09	45						+12.7	1259.8		Δ		
15		✓	269	50	30									Δ		
16		2200	90	10	22						-12.0	1247.8			417	
17		1760	✓								-11.7	1248.1			418	
18		1320	✓								-7.8	1252.0			419	
19		880	✓								-5.4	1254.4			420	
20		440	✓								-3.0	1256.8			421	

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STADIA SURVEY NOTES

AREA Howard Pass STATE or PROVINCE Alaska PAGE No. 45
 LINE No.(s) R 1 PARTY No. 1173 DATE 2 Day 4 Mo. 78 Yr. BOOK No. _____
 SURVEYOR R. Tippisch RODMAN K. Bass WEATHER: Clear P.T.S. No. _____

LINE	Bearing of Sight	Stadia Distance	BEAMAN OR VERNIER			ROD READING				Angular Elev. Diff.	Final Elev. Diff.	ELEVATIONS		B.S. OF S. - S.S.	Station	REMARKS
			Level	Inclined	Angle or Factor	Hair Read	Reading	Correc-tion	Center Hair			INST.	ROD			
1																
2		0	✓						5.0	-5.0	1254.8	κ	422			
3		440	✓						3.3	-3.3	1256.5		423			
4		880	✓						3.5	-3.5	1256.3		424			
5		1320	89	21	41				15.0	-0.3	1259.5		425			
6		1760	89	20	45				15.0	+5.2	1265.0		426			
7		2200	89	25	28				15.0	+9.2	1267.0		427			
8		2640	89	22	35				15.0	+13.9	1273.7		428			
9		3080	89	21	25				15.0	+20.0	1279.8	o	429			
10		✓	270	39	02				15.0			o				
11																
12		2640	90	46	15				15.0	+50.3	1329.9	Δ				
13		✓	269	13	50				15.0			Δ				
14		2200	90	46	09				15.0	-44.4	1285.5		430			
15		1760	90	40	50				15.0	-35.8	1294.1		431			
16		1320	90	26	00				15.0	-24.9	1305.0		432			
17		880	90	07	45				15.0	-17.0	1312.9		433			
18		440	✓						10.0	-10.0	1319.9		434			
19		0	✓						5.0	-5.0	1324.9	κ	435			
20		440	✓						2.9	-2.9	1327.0		436			

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STADIA SURVEY NOTES

AREA Howard Pass STATE or PROVINCE Alaska PAGE No. 46
 LINE No.(s) R-1 PARTY No. 1173 DATE 2 Day 4 Mo. 78 Yr. BOOK No. _____
 SURVEYOR R. Ipsich RODMAN K. Barr WEATHER: Clear P.T.S. No. _____

LINE	Bearing of Sight	Stadia Distance	BEAMAN OR VERNIER			ROD READING			Angular Elev. Diff.	Final Elev. Diff.	ELEVATIONS		B.S. OF S. - S.S.	Station	REMARKS
			Level	Inclined	Angle or Factor	Hair Read	Reading	Correc-tion			Center Hair	INST.			
1															
2		880	89	09	10			15.0	-2.0		1322.9		437		
3		1320	89	20	55			15.0	0.0		1329.9		438		
4		1760	89	24	32			15.0	+3.2		1333.1		439		
5		2200	89	26	05			15.0	+6.8		1336.7		440		
6		2640	89	28	45			15.0	+13.2		1343.1	0	441		
7		✓ 270	270	36	50			15.0				0	441		
8		✓													
9		2200	89	27	14			15.0	+108.9		1452.0		Δ		
10		✓	267	33	20			15.0					Δ		
11		1760	92	38	00			15.0	-95.8		1356.2		442		
12		1320	92	48	42			15.0	-79.9		1372.3		443		
13		880	93	10	33			15.0	-63.7		1389.3		444		
14		440	93	00	18			15.0	-38.1		1413.9		445		
15		0	✓					5.0	-5.0		1447.0	π	446		
16		440	88	25	53			5.0	+7.0		1459.0		447		
17		880	88	35	20			15.0	+6.7		1458.7	0	448		
18		✓	271	24	58			15.0				0			
19															
20															

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STADIA SURVEY NOTES

AREA Howard Pass STATE or PROVINCE Alaska PAGE No. 47
 LINE No.(s) R 1 PARTY No. 1173 DATE 2 Day 4 Mo. 78 Yr. BOOK No. _____
 SURVEYOR R Ippisch RODMAN K Barr WEATHER: Clear P.T.S. No. _____

LINE	Bearing of Sight	Stadia Distance	BEAMAN OR VERNIER			ROD READING				Angular Elev. Diff.	Final Elev. Diff.	ELEVATIONS		Station	REMARKS
			Level	Inclined	Angle or Factor	Hair Read	Reading	Correc-tion	Center Hair			INST.	ROD		
1															
2		2200	89	06	10					5.0	-29.8	1428.7		Δ 348	448
3		✓	270	54	30					5.0				Δ	
4		1760	89	04	44					5.0	+23.4	1452.1		349	
5		1320	89	23	55					5.0	+8.9	1437.6		350	
6		880	✓							5.7	-5.7	1423.0		351	
7		440	✓							12.7	-12.7	1416.0		352	
8		0	✓							5.0	-5.0	1423.7		353	
9		440	88	32	45					5.0	+6.2	1434.9		354	
10		880	88	08	50					5.0	+23.5	1452.2		355	
11		1320	87	36	10					5.0	+50.2	1478.9		356	
12		1760	86	53	15					5.0	+89.6	1516.3		357	
13		2200	86	36	36					5.0	+125.2	1553.9		358	
14	X	2310	86	27	40					15.0	+127.9	1556.6	0	358+110	
15		✓	223	32	50					15.0				0	
16															
17		2090	91	47	10					15.0	+80.5	1637.0		Δ	
18		✓	268	11	26					15.0				Δ	
19		1760	92	18	15					15.0	-85.7	1551.3		359	
20		1320	93	30	46					15.0	-95.8	1541.2		360	466

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STADIA SURVEY NOTES

AREA Howard Pass STATE or PROVINCE Alaska PAGE No. 48
 LINE No.(s) R 1 PARTY No. 1173 DATE 3 Day 4 Mo. 78 Yr. BOOK No. _____
 SURVEYOR R. Ipsich RODMAN K. Barr WEATHER: Clear P.T.S. No. _____

LINE	Bearing of Sight	Stadia Distance	BEAMAN OR VERNIER			ROD READING				Angular Elev. Diff.	Final Elev. Diff.	ELEVATIONS		Station	REMARKS
			Level	Inclined	Angle or Factor	Hair Read	Reading	Correc-tion	Center Hair			INST.	ROD		
1															
2		880	94	37	45				25.0	HR	-96.0	1541.0		461	
3		440	93	38	52				15.0		-43.0	1594.0		462	
4		0	✓						5.0		-5.0	1632.0	π	463	
5		440	87	12	00				5.0		+16.5	1653.5		464	
6		880	85	46	30				5.0		+59.8	1696.8		465	
7		1320	85	55	25				5.0		+89.0	1726.0	0	466	
8		✓	274	05	02				5.0					0	
9															
10		880	91	20	27				15.0		+35.6	1761.5		Δ	
11		✓	268	39	23				15.0					Δ	
12		440	✓						17.0	HR	-12.0	1744.5		467	
13		0	✓						5.0		-5.0	1756.5	π	468	
14		440	✓						11.7		-11.7	1749.8		469	
15		880	91	11	08				15.0		-33.2	1728.3	0	470	
16		✓	268	49	02				15.0					0	
17															
18		2640	87	49	00				5.0		-95.8	1632.3		Δ	
19		✓	272	11	20				5.0					Δ	
20		2200	88	05	05				5.0		+68.6	1700.9		471	

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STADIA SURVEY NOTES

AREA Howard Pass STATE or PROVINCE Alaska PAGE No. 49
 LINE No.(s) R1 PARTY No. 117.3 DATE ? Day 4 Mo. 78 Yr. BOOK No. _____
 SURVEYOR R. Ippisch RODMAN K Barr WEATHER: Clear P.T.S. No. _____

LINE	Bearing of Sight	Stadia Distance	BEAMAN OR VERNIER			ROD READING			Angular Elev. Diff.	Final Elev. Diff.	ELEVATIONS		Station	REMARKS
			Level	Inclined	Angle or Factor	Hair Read	Reading	Correc-tion			Center Hair	INST.		
1														
2		1760	88	12	28			5.0	+50.1	1632.4		472		
3		1320	88	22	12			5.0	+32.6	1664.9		473		
4		880	88	31	42			5.0	+17.6	1649.9		474		
5		440	88	30	15			5.0	+6.5	1638.8		475		
6		0	✓					5.0	-5.0	1627.3	X	476		
7		440	90	08	15			15.0	-16.15	1616.2		477		
8		880	90	52	25			15.0	-28.4	1603.9		478		
9		1320	91	10	40			15.0	-42.1	1590.2		479		
10		1760	91	25	03			15.0	-58.4	1573.9	0	480		
11		✓	268	35	03			15.0				0		
12														
13		1760	89	25	52			5.0	-12.6	1561.1		Δ		
14		✓	270	34	15			5.0				Δ		
15		1320	✓					9.5	-9.5	1551.6		481		
16		880	✓					9.9	-9.9	1551.2		482		
17		440	✓					9.9	-9.9	1551.2		483		
18		0	✓					5.0	-5.0	1556.1	X	484		
19		440	✓					4.9	-4.9	1556.2		485		
20		880	89	32	20			5.0	+2.1	1563.2		486		

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STADIA SURVEY NOTES

AREA Howard Hill STATE or PROVINCE Alaska PAGE No. 50
 LINE No.(s) R 1 PARTY No. 1173 DATE 3 Day 4 Mo. 78 Yr. BOOK No. _____
 SURVEYOR R Ippisch RODMAN K Bari WEATHER: Clear P.T.S. No. _____

LINE	Bearing of Sight	Stadia Distance	BEAMAN OR VERNIER			ROD READING			Angular Elev. Diff.	Final Elev. Diff.	ELEVATIONS		Station	REMARKS
			Level	Inclined	Angle or Factor	Hair Read	Reading	Correc-tion			Center Hair	INST.		
1														
2		1320	88	58	40			5.0	+18.6	1579.7		487		
3		1760	88	34	43			5.0	+38.7	1599.8		488		
4		2200	88	28	40			5.0	+53.5	1614.6		489		
5		2640	88	27	28			5.0	+66.2	1627.3		490		
6		3080	88	17	05			15.0	+77.4	1638.5	0	491		
7		✓	271	43	02			15.0			0			
8														
9		1760	90	38	15			15.0	+34.5	1672.8	Δ			
10		✓	269	21	52			15.0			Δ			
11		1320	90	29	20			15.0	-26.2	1646.6		492		
12		880	90	12	50			15.0	-18.3	1654.5		493		
13		440	✓					9.6	-9.6	1663.2		494		
14		0	✓					5.0	-5.0	1667.8	X	495		
15		440	✓					7.7	-7.7	1665.1		496		
16		880	90	25	12			15.0	-21.4	1651.4		497		
17		1320	✓					14.2	-14.2	1658.6		498		
18		1760	✓					15.0	-15.0	1657.8		499		
19		2200	89	48	45			5.0	+2.3	1675.1		500		
20		2640	89	42	00			15.0	-1.0	1671.8		501		

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AREA Howard Pass STATE or PROVINCE Alaska PAGE No. 51
 LINE No.(s) R1 PARTY No. 1473 DATE 3 Day 4 Mo. 78 Yr. BOOK No.
 SURVEYOR R Ippisch RODMAN K Barr WEATHER: Clear P.T.S. No.

LINE	Bearing of Sight	Stadia Distance	BEAMAN OR VERNIER			ROD READING				Angular Elev. Diff.	Final Elev. Diff.	ELEVATIONS		Station	REMARKS
			Level	Inclined	Angle or Factor	Hair Read	Reading	Correc-tion	Center Hair			INST.	ROD		
1															
2		3080	89	45	53				15.0		-2.1		1670.7	0	502
3		✓	270	14	10				15.0					0	
4															
5		2640	89	29	10				5.0		-18.9	1651.5		Δ	
6		✓	270	30	55				5.0					Δ	
7		2200	89	30	28				5.0		+14.0		1665.5		503
8		1760	89	42	50				5.0		+3.9		1655.4		504
9		1320	✓						7.8		-7.8		1643.7		505
10		880	✓						13.4		-13.4		1638.1		506
11		440	✓						8.4		-8.4		1643.1		507
12		0	✓						5.0		-5.0		1646.5	X	508
13		440	90	21	12				15.0		-17.7		1633.8		509
14		880	90	13	25				15.0		-18.4		1633.1		510
15		1320	90	07	28				15.0		-17.8		1633.7		511
16		1760	90	05	25				15.0		-17.7		1633.8		512
17		2200	90	02	12				15.0		-16.3		1635.3		513
18		2640	✓						14.0		-14.0		1637.5		514
19		3080	89	38	35				15.0		+4.5		1656.0	0	515
20		✓	270	21	35				15.0					0	

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STADIA SURVEY NOTES

AREA Howard Pass STATE or PROVINCE Alaska PAGE No. 52
 LINE No.(s) R 1 PARTY No. 1173 DATE 3 Day 4 Mo. 78 Yr. BOOK No.
 SURVEYOR R Ippisch RODMAN K Barr WEATHER: Clear P.T.S. No.

LINE	Bearing of Sight	Stadia Distance	BEAMAN OR VERNIER			ROD READING				Angular Elev. Diff.	Final Elev. Diff.	ELEVATIONS		Δ B.S. OF S. - S.S.	Station	REMARKS	
			Level	Inclined	Angle or Factor	Hair Read	Reading	Correc-tion	Center Hair			INST.	ROD				
1																	
2		1760	91	26	28				15.0	+59.2	1715.1		Δ	515			
3		✓	268	33	38				15.0				Δ				
4		1320	91	03	36				15.0	-39.4	1675.7			516			
5		880	90	31	42				15.0	-23.1	1692.0			517			
6		440	✓						14.6	-14.6	1700.5			518			
7		0	✓						5.0	-5.0	1710.1		X	519			
8		440	✓						9.2	-9.2	1705.9			520			
9		880	✓						12.7	-12.7	1702.4			521			
10		1320	✓						8.4	-8.4	1706.7			522			
11		1760	89	45	50				5.0	+2.3	1717.4			523			
12		2014	89	43	25				5.0	+5.0	1920.1		0	523+254	(78134)		
13		✓	270	17	22				5.0				0				
14											1720.1			TBM	78134	(1720.1)	
15																	
16																	
17											-2.0					Mistie RAW	
18																	
19																	
20																	

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STADIA SURVEY NOTES

AREA Howard Pass STATE or PROVINCE Alaska PAGE No. 53
 LINE No.(s) R 1 PARTY No. 1173 DATE 6 Day 4 Mo. 78 Yr. BOOK No. _____
 SURVEYOR R Ippisch - RODMAN K Beff WEATHER: Clear P.T.S. No. _____

LINE	Bearing of Sight	Stadia Distance	BEAMAN OR VERNIER			ROD READING				Angular Elev. Diff.	Final Elev. Diff.	ELEVATIONS		Station	REMARKS
			Level	Inclined	Angle or Factor	Hair Read	Reading	Correc-tion	Center Hair			INST.	ROD		
1												1720.1		TBM 78134	
2		2386	✓							+5.3	1725.8		Δ	823+254=78134	
3		✓	✓										Δ		
4		2200	✓							-7.0		1718.8		524	
5		1760	90	07	05					-18.6		1707.2		525	
6		1320	90	34	12					-28.1		1697.7		526	
7		886	90	39	15					-25.0		1700.8		527	
8		440	✓							-13.2		1712.6		528	
9		0	✓							-5.0		1720.8	π	529	
10		440	✓							-1.7		1724.1		530	
11		880	88	57	07					+11.1		1736.9		531	
12		1320	88	51	25					+21.4		1747.2		532	
13		1760	88	52	52					+19.3		1745.1	0	533	
14		✓	271	06	44								0		
15															
16		2200	90	28	26					+33.2	1779.0		Δ		
17		✓	269	31	27								Δ		
18		1760	90	47	57					-39.5		1739.5		534	
19		1320	90	20	38					-22.9		1756.1		535	
20		880	✓							-13.7		1765.3		536	

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STADIA SURVEY NOTES

AREA Howard Pass STATE or PROVINCE Alaska PAGE No. 54
 LINE No.(s) R-1 PARTY No. 1173 DATE 6 Day 4 Mo. 78 Yr. BOOK No. _____
 SURVEYOR R Ippisch RODMAN K Barr WEATHER: Clear P.T.S. No. _____

LINE	Bearing of Sight	Stadia Distance	BEAMAN OR VERNIER			ROD READING				Angular Elev. Diff.	Final Elev. Diff.	ELEVATIONS		Station	REMARKS
			Level	Inclined	Angle or Factor	Hair Read	Reading	Correc-tion	Center Hair			INST.	ROD		
1															
2		440	✓						9.4	-9.4	1769.6		537		
3		0	✓						5.0	-5.0	1774.0	K	538		
4		440	✓						7.4	-7.4	1771.6		539		
5		880	✓						6.9	-6.9	1772.1		540		
6		1320	89	33	13				5.0	+5.3	1784.3		541		
7		1760	89	22	10				5.0	+14.4	1793.4		542		
8		2200	89	24	30				5.0	+17.8	1796.8		543		
9		2640	89	19	40				5.0	+26.1	1805.1		544		
10		3080	88	59	04				15.0	+39.6	1810.6	0	545		
11		✓	271	00	32				15.0			0			
12															
13		880	✓						13.5	+13.5	1832.1	Δ			
14		✓	✓						13.5			Δ			
15		440	✓						3.3	-3.3	1820.8		546		
16		0	✓						5.0	-5.0	1827.1	K	547		
17		440	91	19	53				15.0	-25.2	1806.9	0	548		
18		✓	268	39	45				15.0			0			
19															
20															

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STADIA SURVEY NOTES

AREA Howard Pass STATE or PROVINCE Alaska PAGE No. 55
 LINE No.(s) R-1 PARTY No. 1173 DATE G Day 4 Mo. 78 Yr. BOOK No. _____
 SURVEYOR R Tippich RODMAN K Barr WEATHER: Clear P.T.S. No. _____

LINE	Bearing of Sight	Stadia Distance	BEAMAN OR VERNIER			ROD READING				Angular Elev. Diff.	Final Elev. Diff.	ELEVATIONS		Station	REMARKS
			Level	Inclined	Angle or Factor	Hair Read	Reading	Correc-tion	Center Hair			INST.	ROD		
1															
2		1980	88	28	04				15.0		-37.9	1769.0		Δ	548
3		✓	271	31	36				15.0					Δ	
4		1540	89	34	40				15.0		-3.6	1765.4			549
5		1100	91	16	45				15.0		-39.5	1729.5			550
6		660	92	44	30				15.0		-46.6	1722.4			551
7		220	92	53	08				15.0		-26.1	1742.9			552
8		0	✓						5.0		-5.0	1767.0		κ	552+220
9		220	✓						15.0		-15.0	1754.0		o	553
10		✓	✓						15.0					o	
11															
12		1320	80	58	48				5.0		-201.9	1552.9		Δ	
13		✓	279	00	55				5.0					Δ	
14		880	84	24	45				4.0		-81.7	1491.0			554
15		440	85	48	32				4.0		-28.2	1524.5			555
16		0	✓						5.0		-5.0	1549.7		κ	556
17		440	95	52	40				4.0		-49.1	1503.6			557
18		880	93	27	45				15.0		-68.1	1484.6			558
19		1320	92	34	10				15.0		-74.1	1478.6			559
20		1760	91	45	27				15.0		-68.9	1483.8			560

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STADIA SURVEY NOTES

AREA Howard Pass STATE or PROVINCE Alaska PAGE No. 56
 LINE No. (s) R1 PARTY No. 1173 DATE 6 Day 4 Mo. 78 Yr. BOOK No. _____
 SURVEYOR R Ippisch RODMAN K Barr WEATHER: Clear P.T.S. No. _____

LINE	Bearing of Sight	Stadia Distance	BEAMAN OR VERNIER			ROD READING				Angular Elev. Diff.	Final Elev. Diff.	ELEVATIONS		B.S. OF S. - S.S.	Station	REMARKS
			Level	Inclined	Angle of Factor	Hair Read	Reading	Correc-tion	Center Hair			INST.	ROD			
1																
2		2200	91	20	30				15.0		-166.4	1486.3		561		
3		2640	91	05	30				15.0		-165.0	1487.7	0	562		
4		✓ 268	55	00					15.0				0			
5																
6		1540	92	15	53				15.0		+102.5	1590.3		Δ		
7		✓ 266	44	38					15.0					Δ		
8		1100	94	03	30				15.0		-92.8	1497.5		563		
9		660	96	06	02				4.5		-74.6	1515.7		564		
10		220	97	05	05				4.5		-31.6	1558.7		565		
11		0	✓						5.0		-5.0	1585.3	X	565+220		
12		220	86	10	20				4.5		+10.2	1600.5		566		
13		660	86	30	00				10.0		+30.4	1620.7	0	567		
14		✓ 272	30	38					10.0				0			
15																
16		3080	91	52	15				15.0		+115.0	1736.4		Δ		
17		✓ 268	68	28					15.0					Δ		
18		2640	91	59	12				15.0		-106.4	1630.0		568		
19		2200	92	10	52				15.0		-98.6	1637.8		569		
20		1760	92	16	12				15.0		-84.6	1651.8		570		

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STADIA SURVEY NOTES

AREA Howard Pass STATE or PROVINCE Alaska PAGE No. 57
 LINE No.(s) R 1 PARTY No. 1173 DATE 6 Day 4 Mo. 78 Yr. BOOK No. _____
 SURVEYOR R. Ippisch RODMAN K. Baird WEATHER: Clear P.T.S. No. _____

LINE	Bearing of Sight	Stadia Distance	BEAMAN OR VERNIER			ROD READING				Angular Elev. Diff.	Final Elev. Diff.	ELEVATIONS		A.B.S. OF S. - S.S.	Station	REMARKS
			Level	Inclined	Angle or Factor	Hair Read	Reading	Correc-tion	Center Hair			INST.	ROD			
1																
2		1320	92	27	20				15.0	-71.5	1664.9		571			
3		880	91	49	50				15.0	-43.1	1693.3		572			
4		440	92	22	28				4.5	-22.7	1713.7		573			
5		0	✓						5.0	-5.0	1731.4	X	574			
6		440	88	35	10				5.0	+5.9	1742.3		575			
7		880	88	47	00				15.0	+3.7	1740.1		576			
8		1320	88	52	13				15.0	+11.1	1747.5		577			
9		1760	88	11	57				15.0	+40.4	1776.8		578			
10		2200	88	17	10				4.5	+61.4	1797.8		579			
11		2640	88	14	55				4.5	+76.3	1812.7		580			
12		2903	88	17	30				5.0	+81.8	1818.2	0	580+263 (78135)			
13		✓	271	42	48				5.0			0				
14											1818.2		TBM 78135	(1818.23)		
15																
16																
17											-2.5			Mistie Paul		
18																
19																
20																

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STADIA SURVEY NOTES

AREA Howard Pass STATE or PROVINCE Alaska PAGE No. 58
 LINE No.(s) R 1 PARTY No. 1178 DATE 7 Day 4 Mo. 78 Yr. BOOK No.
 SURVEYOR R Eppisch RODMAN K Barr WEATHER: Clear P.T.S. No.

LINE	Bearing of Sight	Stadia Distance	BEAMAN OR VERNIER			ROD READING				Angular Elev. Diff.	Final Elev. Diff.	ELEVATIONS		Station	REMARKS
			Level	Inclined	Angle or Factor	Hair Read	Reading	Correc-tion	Center Hair			INST.	ROD		
1															
2	1500	1497	✓										1818.2	TBM	78135
3		✓	✓											Δ	580+263- 78135
4		1320	✓												
5		880	93	32	10										581
6		440	92	35	38										582
7		0	✓												583
8		440	88	24	38										584
9		880	88	44	03										585
10		1320	88	23	35										586
11		1760	88	30	52										587
12		2200	88	44	58										588
13		2640	88	35	15										589
14		3080	88	19	04										590
15		✓	271	41	30										591
16															0
17		3080	93	36	40										591
18		✓	266	24	04										592
19		2640	93	37	45										593
20		2200	93	51	55										593

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STADIA SURVEY NOTES

AREA Howard Pass STATE or PROVINCE Alaska PAGE No. 59
 LINE No.(s) R-1 PARTY No. 1173 DATE 7 Day 4 Mo. 78 Yr. BOOK No. _____
 SURVEYOR R Tppisch RODMAN K Barr WEATHER: Clear P.T.S. No. _____

LINE	Bearing of Sight	Stadia Distance	BEAMAN OR VERNIER			ROD READING				Angular Elev. Diff.	Final Elev. Diff.	ELEVATIONS		▲B.S. OF.S. -S.S.	Station	REMARKS
			Level	Inclined	Angle or Factor	Hair Read	Reading	Correc-tion	Center Hair			INST.	ROD			
1																
2		1760	94	04	12				15.0		-139.9	1969.1			594	
3		1320	94	08	28				15.0		-110.3	1998.7			595	
4		880	94	10	08				15.0		-79.0	2030.0			596	
5		440	93	33	25				15.0		-42.3	2066.7			597	
6		0	✓						5.0		-5.0	2104.0	κ		598	
7		440	86	59	35				5.0		+18.1	2127.1			599	
8		660	87	11	27				15.0		+17.5	2126.5	0		599+ 2.20	
9		✓	272	49	42				15.0				0			
10																
11		2860	88	29	55				5.0		-70.6	2055.7		Δ		
12		✓	271	31	15				5.0					Δ		
13		2640	88	28	35				5.0		+65.3	2121.0			600	
14		2200	88	32	00				5.0		+51.4	2107.1			601	
15		1760	88	30	06				5.0		+41.1	2096.8			602	
16		1320	88	26	23				5.0		+31.0	2086.7			603	
17		880	88	21	10				5.0		+20.3	2076.0			604	
18		440	88	30	33				5.0		+6.5	2062.2			605	
19		0	✓						5.0		-5.0	2050.7	κ		606	
20		440	✓						9.1		-9.1	2046.6			607	

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STADIA SURVEY NOTES

AREA Howard Pass STATE or PROVINCE Alaska PAGE No. 60
 LINE No.(s) R-1 PARTY No. 1173 DATE 7 Day 4 Mo. 78 Yr. BOOK No. _____
 SURVEYOR R Tppisch RODMAN K Barr WEATHER: Clear P.T.S. No. _____

LINE	Bearing of Sight	Stadia Distance	BEAMAN OR VERNIER			ROD READING				Angular Elev. Diff.	Final Elev. Diff.	ELEVATIONS		Station	REMARKS
			Level	Inclined	Angle or Factor	Hair Read	Reading	Correc-tion	Center Hair			INST.	ROD		
1															
2		880	✓						5.0		-5.0	2050.7		608	
3		1320	✓						3.4		-3.4	2052.3		609	
4		1760	✓						5.5		-5.3	2050.4	0	610	
5		✓	✓						5.3				0		
6															
7		2640	89	50	00				5.0		-3.2	2047.1		Δ	
8		✓	270	11	02				5.0					Δ	
9		2200	✓						13.7		-13.7	2033.4		611	
10		1760	90	41	18				15.0		-36.1	2011.0		612	
11		1320	91	08	08				15.0		-41.1	2006.0		613	
12		880	91	07	30				15.0		-32.3	2014.8		614	
13		440	90	44	40				15.0		-20.7	2026.4		615	
14		0	✓						5.0		-5.0	2042.1	π	616	
15		440	✓						4.6		-4.6	2042.5		617	
16		880	90	04	45				15.0		-16.1	2031.0	0	618	
17		✓	269	56	10				15.0				0		
18															
19		1320	86	38	48				5.0		-72.4	1958.3		Δ	
20		✓	273	22	06				5.0					Δ	

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STADIA SURVEY NOTES

AREA Howard Pass STATE or PROVINCE Alaska PAGE No. 61
 LINE No.(s) R 1 PARTY No. 1173 DATE 7 Day 4 Mo. 78 Yr. BOOK No.
 SURVEYOR R Ippisch RODMAN K Barr WEATHER: Clear P.T.S. No.

LINE	Bearing of Sight	Stadia Distance	BEAMAN OR VERNIER			ROD READING				Angular Elev. Diff.	Final Elev. Diff.	ELEVATIONS		Station	REMARKS
			Level	Inclined	Angle or Factor	Hair Read	Reading	Correc-tion	Center Hair			INST.	ROD		
1															
2		880	87	34	55				5.0	+32.1	1990.4		619		
3		440	88	06	42				5.0	+9.5	1967.8		620		
4		0	✓						5.0	-5.0	1953.3	π	621		
5		440	94	32	50				15.0	-49.9	1908.4		622		
6		880	95	25	45				15.0	-98.2	1860.1		623		
7		1320	95	28	30				15.0	-140.9	1817.4		624		
8		1760	95	16	40				15.0	-176.8	1781.5		625		
9		2200	95	12	08				15.0	-214.4	1743.9		626		
10		2640	95	14	00				15.0	-255.7	1702.6		627		
11		3080	94	10	18				15.0	-238.7	1719.6	o	628		
12		✓	265	50	03				15.0			o			
13															
14		1760	90	20	43				15.0	+25.4	1744.7	A			
15		✓	269	39	40				15.0			A			
16		1320	90	56	53				15.0	-36.8	1707.9		629		
17		880	91	16	48				15.0	-34.6	1710.1		630		
18		440	96	43	40				15.0	-20.6	1724.1		631		
19		0	✓						5.0	-5.0	1739.7	π	632		
20		440	✓						2.6	-2.6	1742.1		633		

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STADIA SURVEY NOTES

AREA Howard Pass STATE or PROVINCE Alaska PAGE No. 62
 LINE No.(s) R 1 PARTY No. 1173 DATE 7 Day 4 Mo. 78 Yr. BOOK No. _____
 SURVEYOR R Ippisch RODMAN K Barr WEATHER: Clear P.T.S. No. _____

LINE	Bearing of Sight	Stadia Distance	BEAMAN OR VERNIER			ROD READING				Angular Elev. Diff.	Final Elev. Diff.	ELEVATIONS		A.B.S. OF S. - S.S.	Station	REMARKS
			Level	Inclined	Angle or Factor	Hair Read	Reading	Correc-tion	Center Hair			INST.	ROD			
1																
2		880	89	41	38				5.0		-0.3	1744.4		634		
3		* 9320	89	37	52				5.0		+56.8	1801.5		635		* 1320. - 1749.9
4		1760	89	40	45				5.0		+4.9	1749.6		636		
5		2200	89	40	04				5.0		+7.9	1752.6		637		
6		2640	89	38	00				5.0		+12.0	1756.7		638		
7		3080	89	27	20				15.0		+14.7	1759.4	0	639		
8		✓	270	33	13				15.0				0			
9																
10	7.2	1440	89	24	15				5.0		-10.1	1749.2		Δ		
11		✓	270	36	00				5.0					Δ		
12		0	✓						5.0		-5.0	1744.2	π	TP1		
13	6.5	1500	89	41	06				15.0		-22.7	1726.5	0	TP2		
14		✓	269	19	12				15.0				0			
15																
16	9.0	1800	89	40	50				5.0		-5.3	1720.9		Δ		
17		✓	270	19	55				5.0					Δ		
18		0	✓						5.0		-5.0	1715.9	π	TP3		
19	10.4	2080	89	40	45				5.0		+7.0	1727.9	0	TP4		
20		✓	270	19	58				5.0				0			

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STADIA SURVEY NOTES

AREA Howard Pass STATE or PROVINCE Alaska PAGE No. 63
 LINE No.(s) R 1 PARTY No. 1173 DATE 7 Day 4 Mo. 78 Yr. BOOK No. _____
 SURVEYOR R Tippisch RODMAN K Barr WEATHER: Clear P.T.S. No. _____

LINE	Bearing of Sight	Stadia Distance	BEAMAN OR VERNIER			ROD READING			Angular Elev. Diff.	Final Elev. Diff.	ELEVATIONS		B.S. OF.S. -S.S.	Station	REMARKS
			Level	Inclined	Angle or Factor	Hair Read	Reading	Correction			Center Hair	INST.			
1															
2	6.5	1300	89	48	00			5.0	+0.3	1728.2		Δ	TP4		
3		✓	270	12	50			5.0				Δ			
4		0	✓					5.0	-5.0	1723.2		κ	TBM 78136		
5		0	✓					5.0	-5.0	1723.2		0	TBM 78136		
6		0	✓					5.0				0			
7										1723.2		0	TBM 78136		
8															
9															
10											-1.7			Mistie Paw	
11															
12		0	✓					5.0	+5.0	1728.2		Δ	TBM 78136		
13		0	✓					5.0				Δ			
14		0	✓					5.0	-5.0	1723.2		κ			
15		1300	89	48	00			5.0	-0.3	1727.9		0	TP4		
16		✓	270	12	50			5.0				0			
17															
18		2080	89	40	45			5.0	-7.0	1721.0		Δ			
19		✓	270	19	58			5.0				Δ			
20		0	✓					5.0	-5.0	1716.0		κ	TP3		

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STADIA SURVEY NOTES

AREA Howard Pass STATE or PROVINCE Alaska PAGE No. 64
 LINE No.(s) R 1 PARTY No. 1173 DATE 7 Day 4 Mo. 78 Yr. BOOK No.
 SURVEYOR R. Ipsich RODMAN K Barr WEATHER: clear P.T.S. No.

LINE	Bearing of Sight	Stadia Distance	BEAMAN OR VERNIER			ROD READING				Angular Elev. Diff.	Final Elev. Diff.	ELEVATIONS		Station	REMARKS
			Level	Inclined	Angle or Factor	Hair Read	Reading	Correction	Center Hair			INST.	ROD		
1															
2		1800	89	40	50				5.0		+5.3		1726.3	0	TP2
3		✓	270	19	55				5.0					0	
4															
5		650	90	41	06				15.0		+22.7	1749.0		Δ	
6		✓	269	19	12				15.0					Δ	
7		0	✓						5.0		-5.0		1744.0	π	TP1
8		1440	89	24	15				5.0		+10.1		1759.1	0	639
9		✓	270	36	00				5.0					0	
10															
11		3080	90	24	00				15.0		+35.9	1795.0		Δ	
12		✓	269	36	52				15.0					Δ	
13		2640	90	23	45				15.0		-33.1		1761.9		640
14		2200	90	22	00				15.0		-29.0		1766.0		641
15		1760	90	20	35				15.0		-25.5		1769.5		642
16		1320	90	18	18				15.0		-22.0		1773.0		643
17		880	✓						17.0	hr	-17.0		1778.0		644
18		440	✓						10.3		-10.3		1784.7		645
19		0	✓						5.0		-5.0		1790.0	π	696
20		440	✓						4.0		-4.0		1791.0		647 PIPE

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STADIA SURVEY NOTES

AREA Howard Pass STATE or PROVINCE Alaska PAGE No. 65
 LINE No.(s) R 1 PARTY No. 1173 DATE 7 Day 4 Mo. 78 Yr. BOOK No. _____
 SURVEYOR R Ipsich RODMAN K Barr WEATHER: Clear P.T.S. No. _____

LINE	Bearing of Sight	Stadia Distance	BEAMAN OR VERNIER			ROD READING				Angular Elev. Diff.	Final Elev. Diff.	ELEVATIONS		Station	REMARKS
			Level	Inclined	Angle or Factor	Hair Read	Reading	Correction	Center Hair			INST.	ROD		
1															
2		880	✓						2.5	-2.5	1792.5		648		
3		1320	✓						3.1	-3.1	1791.9		649		
4		1760	✓						3.4	-3.3	1791.7		TS 1		
5		2200	✓						1.0	-0.9	1794.1		TS 2		
6		2640	✓						1.3	-1.2	1793.8		TS 3		
7		3080	89	47	04				10.0	+1.8	1796.8	0	TS 4		
8		3520	89	37	45				15.0	+8.0	1803.0		TS 5		
9		3960	89	38	52				15.0	+9.7	1804.7	0	TS 6		
10															
11		880	90	03	00				15.0	+15.8	1820.4		Δ		
12		440	90	47	10				4.5	-10.5	1809.9		TS 7		
13		0	✓						5.0	-5.0	1815.4	π	TS 8		
14		440	89	52	22				4.5	-3.5	1816.9		TS 9		
15		880	89	30	00				4.5	+3.2	1823.6		TS 10		
16		1320	89	23	50				4.5	+9.4	1829.8		TS 11		
17		1760	89	28	20				4.5	+14.3	1834.8		TS 12		
18															
19															
20															

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