

STADIA SURVEY NOTES

AREA TITALUK RIVER STATE or PROVINCE ALASKA PAGE No. 1
 LINE No.(s) 45 PARTY No. 1184 DATE 21 Day 2 Mo. 77 Yr. BOOK No. _____
 SURVEYOR W.D. HELANDER RODMAN L. COMIN 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				TAKE OFF			BAS	#4	501			311.7		MARKER PIPE AT
2														BAS #4501 =
3	N	1197		86-50-10					14.0	-52.1	-52.2	259.5		SP 600+233
4	"	1197		273-10-35					14.0	-52.3				
5	"	1430		86-44-05										
6		0												
7	S	330		74-39-35					24.0		+57.5		217.0	- 600
8	"	2090		91-54-03					HI	5.7	-5.7		253.8	600-7 π
9	"	2090		268-06-25					10.0		-36.8		222.7	- 601
10	"	2090		91-54-03					16.0	-79.3	-79.2		180.3	0 602
11	"	2090		268-06-25					10.0	-79.0				0 ₁
12	N	1760		70-39-50					5.0	+25.4	+25.3	205.6		Δ
13	"	1760		269-20-25					5.0	+25.3				Δ ₁
14		0												
15	S	1760		90-19-52					5.8		-5.8		199.8	603 π
16	"	2750		90-13-00					10.0		-20.2		185.4	- 604 THE DISTANCE
17	"	2750		269-47-30					10.0	-20.4	-20.2		185.4	0 604-5 BETWEEN SP4'S
18	"	2750		269-47-30					10.0	-20.0				0 ₁ IS SHORT 440'
19	N	880		91-47-25					10.0	+37.5	+37.4	222.8		Δ 1847
20	"	880		268-13-00					10.0	+37.4				Δ ₁
21	"	550		92-32-50					10.0		-34.4		188.4	- 605
22		0												
23									HI	5.8	-5.8		212.0	605-3 π

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STADIA SURVEY NOTES

AREA TITALUK RIVER STATE or PROVINCE ALASKA PAGE No. 2
 LINE No.(s) 45 PARTY No. 1184 DATE 21 Day 2 Mo. 77 Yr. BOOK No. _____
 SURVEYOR W.D. HELANDER RODMAN L. COMIN 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	Correction			Center Hair	INST.		
1											222.8		604.5	
2														
3	S	1210		91-47-45				10.0	-47.9	-47.0		175.8	O	606
4	"	1210		268-17-44				0.0	-46.0				O	
5	N	1210		90-32-55				10.0	+21.6	+21.5	192.3		Δ	
6	"	1210		269-27-40				10.0	+21.4				Δ ₁	
7	"	220		92-18-18				10.0		-19.8		178.5	-	606-5
8		0						5.8		-5.9		191.5	-	606-6 π
9	S	220		93-17-00				2.0		-14.6		182.7	-	606-7
10	"	550		90-46-10				10.0		-17.4		179.9	-	607
11	"	2310		90-13-11				10.0	-18.9	-19.7		178.6	O	608 ✓ 177.3
12	"	2310		269-47-13				10.2	-18.6				O ₁	
13	N	550		98-02-22				14.0	+90.9	+90.9	269.5		Δ	
14	"	550		261-58-25				14.0	+90.8				Δ ₁	
15		0						41 5.6		-5.6		263.9	-	608-3 π
16	S	1210		87-50-05				5.0		+40.7		310.2	-	609
17	"	2970		87-11-44				10.0	+135.3	+135.5		405.0	O	610
18	"	2970		272-48-40				10.0	+135.7				O ₁	
19														
20														

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STADIA SURVEY NOTES

AREA TITALUK RIVER STATE or PROVINCE ALASKA PAGE No. 3
 LINE No.(s) 45 PARTY No. 1184 DATE 21 Day 2 Mo. 77 Yr. BOOK No. _____
 SURVEYOR W. D. HELANDER RODMAN L. COMIN WEATHER: _____ P.T.S. No. _____

LINE	Bearing of Sight	Stadia Distance	BEAMAN OR VERNIER			ROD READING				Angular Elev. Diff.	Final Elev. Diff.	ELEVATIONS		Abs. OF S. - S.S.	Station	REMARKS
			Level	Inclined	Angle or Factor	Hair Read	Reading	Correc-tion	Center Hair			INST.	ROD			
1													705.0			
2															610	
3	N	990		93-03-43				14.0	66.9	+66.8	471.8			Δ		
4	"	990		266-56-38				14.0	66.8					Δ ₁		
5		0													610-5	π
6	S	550		91-28-22				10.0		-24.1			466.1	-	611	447.3
7	"	1100		91-48-50				14.0	-48.8	-48.8			495.1			
8	"	1100		268-11-35				14.0	-48.7				423.0	0	611-3	
9	N	1980		88-06-33				5.0	-60.3	-60.5	362.5			0 ₁		422.6 ✓ 420.8
10	"	1980		271-54-00				5.0	-60.6					Δ ₁		
11	"	770		88-57-22				5.0		+9.0			371.5	-	612	
12		0						5.7		-5.7			356.8		612-4	π
13	S	990 ✓						10.3	-10.3	-10.5			352.0	0	613	
14	"	990		90-20-03				5.0	-10.8					0 ₁		351.7
15	N	1210		88-23-30				10.0	-24.0	-24.0	328.0			Δ		
16	"	1210		271-37-00				10.0	-24.1					Δ		
17		0						5.6		-5.6			322.4		613-6	π
18	S	990		92-18-45				10.0	-49.9	-49.9			278.1	0	614	
19	"	990		267-41-50				10.0	-49.8					0 ₁	277.8 ✓	275.5
20																

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AREA TITALUK RIVER STATE or PROVINCE ALASKA PAGE No. 4
 LINE No.(s) 45 PARTY No. 1184 DATE 21 Day 2 Mo. 77 Yr. BOOK No.
 SURVEYOR W.D. HELANDER RODMAN L. COMIN WEATHER: P.T.S. No.

LINE	Bearing of Sight	Stadia Distance	BEAMAN OR VERNIER			ROD READING			Center Hair	Angular Elev. Diff.	Final Elev. Diff.	ELEVATIONS		AB.S. OF S. - S.S.	Station	REMARKS
			Level	Inclined	Angle or Factor	Hair Read	Reading	Correction				INST.	ROD			
1												278.1				
2														614		
3	N	2530		89-08-42				5.0	-32.8	-33.0	245.1		Δ			
4	"	2530		270-52-00				5.0	-33.3				Δ ₁			
5	"	770		91-37-30				5.0		-26.8		218.3	-	615		
6	"	440		92-57-25				10.0		-32.7		212.4	-	615-2		
7		0						HI 5.7		-5.7		239.4		615-4	π	
8	S	990		88-20-44				5.0		+23.6		268.7	-	616		
9	"	1320		88-10-55				10.0	+31.9	+31.9		277.0	0	616-2		
10	"	1320		271-49-10				10.0	+31.9				0		276.8	
11	N	1430		90-48-55				10.0	+30.3	+30.3	302.3		Δ			
12	"	1430		269-11-33				10.0	+30.2				Δ ₁			
13		0						HI 5.7		-5.7		301.6		617	π	
14	S	1210		89-16-53				14.0	+1.2	+1.2		308.5	0	617-6		
15	"	1210		270-43-26				14.0	+1.3				0		308.3 / 305.4	
16																
17																
18																
19																
20																

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STADIA SURVEY NOTES

AREA TITALUK RIVER STATE or PROVINCE ALASKA PAGE No. 5
 LINE No.(s) ± 45 PARTY No. 1184 DATE 23 Day 2 Mo. 77 Yr. BOOK No.
 SURVEYOR W.D. HELANDER RODMAN L. COMIN WEATHER: 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												308.5	0	617-6		
3	N	1980		88-55-15				14.0	-23.3	-23.3	295.2		Δ	617-6		
4	"	1980		87-04-53				14.0	-23.4				Δ			
5	"	1430		88-50-55				10.0		+18.7		303.9	-	618		
6		0					H1	5.6		-5.6		279.6	-	618-7	π	
7	S	330		90-27-05				10.0		-12.6		272.6	-	619		
8	"	1100		91-21-15				14.0		-40.0		245.2	-	619-4		
9	"	2090		90-18-40				10.0		-21.3		263.9	-	620		
10	"	2420		90-03-30				10.0	-12.5	-12.3		272.9	0	620-2		
11	"	2420		89-56-55				10.0	-12.2				0		272.6	
12	N	2860		90-39-30				10.0	+42.9	+42.8	315.7		Δ			
13	"	2860		89-20-40				10.0	+42.7				Δ			
14	"	1430		90-44-17				10.0		-28.4		287.3	-	621		
15		0					H1	5.8		-5.8		309.9	-	621-7	π	
16	S	330		89-18-15				5.0		-1.0		314.7	-	622		
17	"	2090		89-32-32				10.0		+6.7		322.4	-	623		
18	"	3300		88-38-11				14.0	+64.5	+64.7		380.4	0	623-6		
19		3300		271-22-12				14.0	+64.9				0		380.0	✓ 376-1
20																

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AREA TITALUK STATE or PROVINCE ALASKA PAGE No. 6
 LINE No.(s) 45 PARTY No. 1184 DATE 23 Day 2 Mo. 77 Yr. BOOK No. _____
 SURVEYOR W. D. HELANDER RODMAN S. CHERVINSKAS 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.	ROD		
1															
2												380.4	0	623-6	
3	N	1100		90-33-07				10.0	+20.6	+20.5	400.9			Δ	
4	"	1100		269-27-45				10.0	+20.3					Δ	
5	"	550	✓					8.0		-8.0		392.9	-	624	
6		0					HI	5.9		-5.9		395.0		624-3	κ
7	S	1210	✓					14.3	-14.3	-14.3		386.4	0	625	
8	"	1210		90-12-02				10.0	-14.2				0		386.2
9	N	2090		90-21-38				10.0	+26.8	+26.9	413.5		Δ		
10	"	2090		269-31-55				10.0	+27.1				Δ		
11	"	339		90-44-15				10.0		-14.2		399.3	-	626	
12		0					HI	5.7		-5.7		402.8		626-2	κ
13	S	1430		87-03-50				10.0		+43.2		476.7	-	627	
14	"	1760		87-11-53			13	20.2	+45.8	+46.0		479.5	0	627-2	
15	"	1760		272-48-44				20.2	+46.2				0		479.2 ✓ 474-8
16	N	3520		87-45-55				12.2	-125.1	-125.3	354.2		Δ		
17	"	3520		272-14-33				12.2	-125.5				Δ		
18	"	2090		88-15-45				5.0		+58.4		412.6	-	628	
19	"	660		93-10-30				10.0		-46.6		307.6	-	628-7	
20	"	330		92-46-25				10.0		-26.0		328.2	-	629	

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AREA TITALUK RIVER STATE or PROVINCE ALASKA PAGE No. 7
 LINE No.(s) 45 PARTY No. 1184 DATE 23 Day 2 Mo. 77 Yr. BOOK No. _____
 SURVEYOR W. D. HELANDER RODMANS. CHERVINSKAS 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.	ROD		
1												354.2			
2															
3		0						HI	5.7		-5.7	348.5		629-2	π
4	S	1430		89-09-08					10.0		+11.2	365.4	-	630	
5	"	2200		89-17-30					10.0	+17.2	+17.3	371.5	0	630-4	
6	"	2200		270-42-40					10.0	+17.3			0		371.3
7	N	1980		90-58-10					10.0	+42.5	+42.3	414.8			
8	"	1980		269-02-30					10.0	+43.1			Δ		
9	"	990		91-07-50					10.0		-29.5	386.3	-	631	
10		0						HI	5.8		-5.8	409.0		631-5	π
11	S	770		88-41-30					5.0		+12.6	427.4	-	632	474.6
12	"	2530		88-16-37					10.0	+66.1	+66.3	481.1	0	633	INT L-45 SP 633
13	"	2530		271-49-00					10.0	+66.5			0		420.8 L-68 SP 907
14	W	770	✓						8.0	+8.0	+8.0	489.1			MARKER PIPE
15	"	770		89-51-16					10.0	+8.0			Δ		
16		0							-5.8		-5.8	483.3			
17	E	1540		89-15-35					5.0	+14.9	+15.0	504.1	0	BAS #6825	
18	"	1540		270-44-44					5.0	+15.0		504.1	0		
19												498.2			True elev. 603.8
20												+5.9			ver. mistle 498.2 + 5.4

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AREA TITALUK RIVER STATE or PROVINCE ALASKA PAGE No. 8
 LINE No.(s) 45 PARTY No. 1184 DATE 23 Day 2 Mo. 77 Yr. BOOK No. _____
 SURVEYOR W.D. HELANDER RODMAN S. CHERVINSKAS WEATHER: _____ P.T.S. No. _____

LINE	Bearing of Sight	Stadia Distance	BEAMAN OR VERNIER			ROD READING				Angular Elev. Diff.	Final Elev. Diff.	ELEVATIONS		ABS. OF S. - S.S.	Station	REMARKS
			Level	Inclined	Angle or Factor	Hair Read	Reading	Correc-tion	Center Hair			INST.	ROD			
1			TAKE OFF BAS			#	6825									
2												492.2	0		MARKER # 6825	
3	E	1540		89-15-33				5.0	-14.9	-15.0	483.2		Δ			
4	"	1540		270-44-44				5.0	-15.0				Δ			
5		0														π
6	W	1260		88-47-44				10.0	+16.5	+16.5		499.7	0			499.5
7	"	1260		271-12-35				10.0	+16.6				0			
8	N	840		89-46-15				10.0	+6.6	+6.6	506.3		Δ			
9	"	840		270-14-23				10.0	+6.5				Δ			
10		0					HI	5.8		-5.8		500.5			634	π
11	S	1760		91-30-14				10.0		-56.2		450.1	-		635	
12	"	2750		90-45-44				10.0	-46.6	-46.4		459.9	0		635-5	499.5
13	"	2750		269-14-40				10.0	-46.3				0			
14	N	2530	✓					3.9	+3.9	+3.9	463.8		Δ			
15	"	2530		89-58-33				5.0	+3.9				Δ			
16	"	1760		90-23-40				10.0		-22.1		441.7	-		636	
17		0					HI	5.7		-5.7		458.1			637	π
18	S	1760		88-26-30				10.0		+37.9		501.7	-		638	
19	"	2750		88-24-50				10.0	+16.1	+66.3		530.1	0		638-5	529.4
20	"	2750		271-35-35				10.0	+66.5				0			

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AREA TITALUK RIVER STATE or PROVINCE ALASKA PAGE No. 9
 LINE No.(s) 45 PARTY No. 1184 DATE 23 Day 2 Mo. 77 Yr. BOOK No. _____
 SURVEYOR W.D. HELANDER RODMAN'S S. CHERVINSKAS WEATHER: _____ P.T.S. No. _____

LINE	Bearing of Sight	Stadio 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													530.1			
2																
3	N	1760		90-06-42				14.0	+17.4	+17.2	547.3			Δ		
4	"	1760		269-54-10				14.0	+17.0					Δ		
5	"	990	✓					4.8		-4.8			542.5	-	639	
6		0					HI	5.7		-5.7			541.6		639-5	
7	S	770		90-55-33				5.0		-17.4			529.9	-	640	
8	"	2530		89-32-35				10.0	+10.2	+10.4			552.7	0	641	556.8
9	"	2530		270-28-00				10.0	+10.6					0		
10	N	1390		91-46-05				10.0	+52.9	+52.8	610.5			Δ		
11	"	1390		268-14-20				10.0	+52.7					Δ		
12		0					HI	6.65		-6.65			603.8	0	BAS #4504	
13													602.8		TRUE Elev. 602.8	
14													+1.0	ver. mist		
15																
16																
17																
18																
19																
20																

14.95 1/2
2.05

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AREA TITALUK RIVER STATE or PROVINCE ALASKA PAGE No. 10
 LINE No.(s) 45 PARTY No. 1184 DATE 25th Day Feb. Mo. 1977 Yr. BOOK No. _____
 SURVEYOR W.D. HELANDER RODMAN D. JENSON WEATHER: Clear & cold 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			TAKE OFF BAS #4504													
2												602.8	0			
3	W	77	✓					7.0	+7.0	+7.0	609.8		Δ			
4	"	77		91-30-28				5.0	+7.0	+7.0			Δ ₁			
5		0														π
6	S	400	✓					9.2	-9.2	-9.2		600.6	0	642		600.6
7	"	400		89-53-12				10.0	-9.2				0 ₁			
8	N	3190		88-48-05				5.0	-6.7	-62.0	538.6		Δ			
9	"	3190		271-12-26				5.0	-62.2				Δ ₁			
10	"	1430	✓					8.2		-8.2		530.4	-	643		
11	"	660		96-11-10				14.0		-85.1		453.5	-	643-4		
12		0					HI	5.7		-5.7		532.9	-	643-7		π
13	S	330		87-13-11				5.0		+11.0		549.6	-	644		
14	"	1540		87-28-50				14.0	+53.7	+53.8		592.4	0	644-6		592.8
15	"	1540		272-31-40				14.0	+53.9				0 ₁			592.6
16	N	2310	✓					4.8	+4.8	+4.8	597.2		Δ			
17	"	2310		89-52-10				10.0	+4.7				Δ ₁			
18	"	1760		90-13-27				10.0		-16.9		580.3	-	645		
19	"	0					HI	5.7		-5.7		591.5	-	646		π
20	S	1210		91-59-40				14.0		-56.1		541.1	-	646-6		

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AREA TITALUK RIVER STATE or PROVINCE ALASKA PAGE No. 11
 LINE No.(s) 45 PARTY No. 1184 DATE 25 Day 2 Mo. 77 Yr. BOOK No.
 SURVEYOR W.D. HELANDER RODMAN D. JENSON WEATHER: Clear & Cold 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												597.2				
2																
3	S	1760		90-29-10				10.0		-24.9		572.3	-	647		
4	"	3190		89-55-30				5.0	-0.8	-0.6		596.6	0	647-7		597.4
5	"	3190		270-05-00				5.0	-0.4				0			596.7
6	N	1320		92-38-00				10.0	+70.6	+70.5	667.1		Δ			
7	"	1320		267-22-35				10.0	+70.4				Δ			
8	"	990		92-42-30				21.5		-68.3		598.8	-	648		
9		0					HI	5.8		-5.8		661.3	-	648-5		K
10	S	770		88-40-08				5.0		+12.9		680.0	-	649		
11	"	2530		87-47-20				10.0	+87.6	+87.8		754.9	0	650	754.9	756.0
12	"	2530		272-13-05				10.0	+87.9				0			
13	N	2090		91-01-13				10.0	+156.5	+156.2	911.1		Δ			
14	"	2090		265-59-50				10.0	+155.9				Δ			
15	"	330		92-44-15				14.0		-29.8		881.3	-	651		
16		0					HI	5.6		-5.6		905.5	-	651-2		K
17	S	660		87-15-44				5.0	+24.5	+26.6		937.7	0			939.0
18	"	660		272-44-55				5.0	+26.6				0		937.8	
19	N	448		91-12-00				10.0	+19.2	+19.2	956.9		Δ			
20	"	440		262-48-20				10.0	+19.2				Δ			

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STADIA SURVEY NOTES

AREA TITALUK RIVER STATE or PROVINCE Pet. 4 - ALASKA PAGE No. 12
 LINE No.(s) 45 PARTY No. 1184 DATE 25th Day Feb. Mo. 1977 Yr. BOOK No. _____
 SURVEYOR W.D. Helander RODMAN D. Jensen WEATHER: Clear & Cold 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												956.9				
2		0						H1	5.6		-5.6				651-7	π
3		400		89-34-18					2.0	+1.0	+1.0			0	ATRADE	
4		400		270-26-03					2.0	+1.0		957.9	0.			
5												959.3				959.3
6												-1.4				
7																
8																
9																
10																
11																
12																
13			TAKE OFF			ATRADE							959.3			
14																
15	E	400		89-34-18					2.0	-1.0	-1.0	958.3		Δ		
16	"	400		270-26-03					2.0	-1.0				Δ		
17		0													651-7	π
18	S	330	✓						7.9			950.4	-		652	
19	"	1100		70-40-51					10.0	-23.1	-23.0	935.3	0		652-4	935.3
20	"	1100		269-19-33					10.0	-22.9			0.			

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STADIA SURVEY NOTES

AREA KIGALIK RIVER STATE or PROVINCE ALASKA PAGE No. 13
 LINE No.(s) 45 PARTY No. 1184 DATE 26 Day 2 Mo. 77 Yr. BOOK No. _____
 SURVEYOR W.D. HELANDER RODMAN D. JENSEN 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.	ROD		
1															
2												935.3		652.4	
3	N	2750		88-27-47				14.0	-59.9	-59.9	975.4		Δ		
4	"	2750		271-32-37				14.0	-40.1				Δ ₁		
5	"	1760		88-27-53				5.0		+42.2		712.4	-	653	
6		0						HI 5.8		-5.8		809.6		654	π
7	S	990		91-11-33				10.0	-30.6	-30.6		844.9	⊙	654.5	8451
8	"	990		268-48-55				10.0	-30.8				⊙ ₁		
9	N	2530		86-33-40				10.0	-141.9	-141.9	703.0		Δ		
10	"	2530		273-26-35				10.0	-141.9				Δ ₁		
11	"	1760		86-29-00				10.0		+98.0		801.6	-	655	
12		0						HI 5.6		-5.6		697.4		656	π
13	S	1760		93-23-20				10.0	-114.0	-113.9		589.1	⊙	657	589.4
14	"	1760		266-37-10				10.0	-113.8				⊙ ₁		
15	N	2750		87-23-11				5.0	-120.4	-120.7	468.4		Δ		
16	"	2750		272-37-30				5.0	-120.9				Δ ₁		
17	"	990		88-39-11				5.0		+18.3		486.7	-	658	
18		0						HI 5.8		-5.8		462.6		658.5	π
19	S	770		94-03-10				5.0		-59.4		409.0	-	659	
20															

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STADIA SURVEY NOTES

AREA KIGALIK RIVER STATE or PROVINCE ALASKA PAGE No. 14
 LINE No.(s) 45 PARTY No. 1184 DATE 26 Day 2 Mo. 77 Yr. BOOK No. _____
 SURVEYOR W.D. HELANDER RODMAN D. JENSEN WEATHER: _____ 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												468.4				
2																
3	S	2530		90-27-25				10.0	-30.2	-30.1			438.3	0	660	438.7
4	"	2530		28-32-55				10.0	-29.9					0		
5	N	2970		92-50-40				10.0	+157.4	+157.1		598.4		Δ		
6	"	2970		267-10-00				10.0	+156.8					Δ		
7	"	1210		93-00-38				10.0		-73.5		521.9		-	661	
8		0						HI 5.7		-5.7		589.7			661-6	π
9	S	550		90-04-00				14.0		-14.6		580.8		-	662	
10	"	2310		89-14-10				10.0	+20.8	+21.1		616.5	0	0	663	617.1
11	"	2310		270-46-38				10.0	+21.3					0		
12	N	1760		91-38-33				10.0	+60.4	+60.3		676.8		Δ		
13	"	1760		268-21-50				10.0	+60.3					Δ		
14		0						HI 5.7		-5.7					664	π
15	S	1760		86-16-50				5.0		+109.2		671.1		-	665	786.3
16	"	2310		86-01-11				5.0	+155.3	+155.6		791.4		0	665-3	833.1
17	"	2310		273-59-33				5.0	+155.8			832.4		0		
18	N	1320		92-52-05				10.0	+76.0	+76.0		908.4		Δ		
19	"	1320		267-00-11				10.0	+75.9					Δ		
20	"	110		74-05-40				10.0		-17.9		890.5		-	666	

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AREA KIGALIK RIVER STATE or PROVINCE ALASKA PAGE No. 15
 LINE No.(s) 45 PARTY No. 1184 DATE 26 Day 2 Mo. 77 Yr. BOOK No. _____
 SURVEYOR W.D. HELANDER RODMAN D. JENSEN WEATHER: _____ P.T.S. No. _____

LINE	Bearing of Sight	Stadia Distance	BEAMAN OR VERNIER			ROD READING				Angular Elev. Diff.	Final Elev. Diff.	ELEVATIONS		ABS. OF S. - S.S.	Station	REMARKS
			Level	Inclined	Angle or Factor	Hair Read	Reading	Correc-tion	Center Hair			INST.	ROD			
1												908.4				
2																
3		0						HI	5.7		-5.8	902.6		66-1	π	
4	S	1650		89-32-40					5.0		+3.1	916.5	-	667		
5	"	2860		89-17-00					5.0	+30.8	+30.9	939.3	0	667-6	940.1	
6	"	2860		270-43-20					5.0	+36.0			0.			
7	N	1320		90-17-00					14.0	+20.5	+20.4	959.7	Δ			
8	"	1320		269-43-30					14.0	+20.3			Δ.			
9	"	770		90-11-22					5.0		-7.5	952.2	-	668		
10		0						HI	5.7		-5.7	954.0		668-4	π	
11	WS	740		89-19-00					5.0	+3.8	+3.8	963.5	0		964.4	
12	"	740		270-41-05					5.0	+3.8			0.	BAS #4505		
13																
14																
15																
16																
17																
18																
19																
20	V															

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STADIA SURVEY NOTES

AREA KIGALIK RIVER STATE or PROVINCE ALASKA PAGE No. 16
 LINE No.(s) 45 PARTY No. 1184 DATE 27 Day 2 Mo. 77 Yr. BOOK No. _____
 SURVEYOR W.D. HELANDER RODMAN D. JENSEN WEATHER: _____ 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			TAKE OFF BAS # 4505													
2													964.4			
3	N	1520		89-33-10				10.0	-1.9	-2.0		962.4		Δ		
4	"	1520		270-27-20				10.0	-2.1					Δ		
5	"	990						8.9		-8.9			959.5	-	669	
6		0						5.7		-5.7			956.7		669-5	π
7	S	770		91-13-13				5.0		-21.4			941.0	-	670	
8	"	2530		90-34-17				10.0	-35.2	-35.0			927.4	0	671	
9	"	2530		269-26-20				10.0	-34.8					0		
10	N	3520		90-23-35				10.0	+34.1	+33.6		961.0		Δ		
11	"	3520		269-37-35				10.0	+33.0					Δ		
12	"	1760		90-29-35				10.0		-25.1			935.9	-	672	
13		0					H1	5.6		-5.6			955.4		673	π
14	S	880		89-27-00				5.0		+3.4			964.4	-	674	SP. 673 BEGN
15	"	1760		89-25-40				5.0		+12.6			973.6	-	675	12" FOLD
16	"	2310		89-26-50				14.0	+8.3	+8.4			969.4	0	675-3	880' SPREAD
17	"	2310		270-33-22				14.0	+8.4					0		970.1
18	N	2970		88-37-00				5.0	-16.7	-67.0		902.4		Δ		
19	"	2970		271-23-50				5.0	-67.4					Δ		
20																

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12.6 1/2
5.0
7 1/2
14.7
14.7
2.0
12.7
2
25.40

STADIA SURVEY NOTES

AREA KIGALIK RIVER STATE or PROVINCE ALASKA PAGE No. 17
 LINE No.(s) 45 PARTY No. 1184 DATE 27 Day 2 Mo. 77 Yr. BOOK No. _____
 SURVEYOR W.D. HELANDER RODMAN D. JENSEN WEATHER: _____ 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	Correction	Center Hair			INST.	ROD			
1												902.4				
2																
3	N	2640		88-39-20				5.0		+56.9		959.3	-	676		
4	"	1760		88-51-00				5.0		+30.3		932.7	-	677		
5	"	880		88-48-24				5.0		+13.3		915.7	-	678		
6		0							H1	5.6		896.8		679		π
7	S	880		89-51-45				10.0		-7.9		894.5	-	680		creek bottom
8	"	1760		89-00-25				5.0		+25.5		927.9	-	681		
9	"	2640		88-26-18				5.0	+66.9	+47.2		969.6	0	682		
10	"	2640		77-34-15				5.0	+67.4				0			
11	N	2430		94-26-30				10.0	+120.7	+120.8	1090.4		Δ			
12	"	1430		265-33-10				10.0	+120.9				Δ			
13	"	550		94-42-13				5.0		-50.1		1040.3	-	683		
14	"	0						5.7		-5.7		1084.7		683-3		π
15	S	330		87-48-00				2.0	+10.7	+10.7		1101.1	0	684		1102.3
16	"	330		87-11-44				2.0	+10.6				0			
17	N	550		90-17-15				14.0	+16.8	+16.7	1117.8		Δ			
18	"	550		268-43-40				14.0	+16.6				Δ			
19		0							H1	5.8		1112.0		684-3		↑
20																

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STADIA SURVEY NOTES

AREA KIGALIK RIVER STATE or PROVINCE ALASKA PAGE No. 18
 LINE No.(s) 45 PARTY No. 1184 DATE 27 Day 2 Mo. 77 Yr. BOOK No. _____
 SURVEYOR W.D. HELANDER RODMAN L. COMIN WEATHER: _____ 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												1117.8				
2																
3	S	330		90-34-20				5.0		-8.3		1109.5	-	685		
4	"	1210		90-31-45				10.0		-21.2		1096.6	-	686		
5	"	1760		90-42-50				14.0	-38.5	-38.6		1079.2	0	686-3		
6	"	1760		289-11-50				14.0	-33.7				0			
7	N	2970		89-12-00				10.0	-31.5	-31.8		1047.4				
8	"	2970		270-48-40				10.0	-32.0					4		
9	"	2640		89-27-35				5.0		+19.9		1067.3	-	687		
10	"	1760	✓					7.0		-7.0		1040.4	-	688		
11	"	880		91-01-50				5.0		-20.2		1026.6	-	689		
12		0					H1	5.9		-5.9		1041.5		690		x
13	S	880		89-23-40				10.0		-0.7		1046.2	-	691		
14	"	1760		89-33-10				15.0		-1.3		1046.1	-	692		
15	"	2640		89-40-57				10.0	+4.6	+4.8		1052.2	0	693		1054.0
16	"	2640		270-19-22				10.0	+4.9				0			
17	N	2640		88-56-10				10.0	-39.0	-39.3		1012.9				
18	"	2640		271-04-36				10.0	-39.6					4		
19	"	1760		88-52-20				5.0		+29.6		1042.5	-	694		
20	"	880		89-11-30				5.0		+7.4		1020.3	-	695		

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STADIA SURVEY NOTES

AREA KIGALIK RIVER STATE or PROVINCE ALASKA PAGE No. 19
 LINE No.(s) 45 PARTY No. 1184 DATE 27th Day Feb. Mo. 1977 Yr. BOOK No.
 SURVEYOR W.D. HELANDER RODMAN D. JENSEN WEATHER: P.T.S. No.

LINE	Bearing of Sight	Stadia Distance	BEAMAN OR VERNIER			ROD READING				Angular Elev. Diff.	Final Elev. Diff.	ELEVATIONS		ABS. OF S. - S.S.	Station	REMARKS
			Level	Inclined	Angle or Factor	Hair Read	Reading	Correc-tion	Center Hair			INST.	ROD			
1												1012.9				
2																
3		0														
4	S	880		89-10-44				HI 5.7		-5.7		1007.2		696	X	
5	"	1760		88-38-40				5.0		+7.6		1020.5	-	697		
6	"	2640		88-23-50				10.0		+31.6		1044.5	-	698		
7	"	2640		88-23-50				15.0	+58.8	+59.0		1071.9	0	699		
8	"	2640		271-36-40				15.0	+58.2				0			
9	N	880		91-18-00				10.0	+30.0	+29.8	1101.9		0			
10	"	880		262-43-00				10.0	+29.7				0			
11		0						HI 5.6		-5.6		1096.1		700	X	
12	S	880		89-28-11				10.0		-1.9		1099.8	-	701		
13	"	1760		89-31-50				13.0		+1.4		1103.1	-	702		
14	"	2640		89-33-16				15.0	+5.5	+5.1		1107.4	0	703	1109.8	
15	"	2640		870-27-18				15.0	+6.0				0			
16	N	1210		90-48-11				10.0	+27.0	+26.8	1134.2		Δ			
17	"	1210		267-12-33				10.0	+26.7				Δ			
18	"	336		90-53-55				5.0		-10.2		1124.0	-	704		
19		0						5.7		-5.7		1128.5		704-2	X	
20	S	550		90-56-07				10.0		-19.0		1115.2	-	705		

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STADIA SURVEY NOTES

AREA KIGALIK RIVER STATE or PROVINCE ALASKA PAGE No. 20
 LINE No.(s) 45 PARTY No. 1184 DATE 27th Day Feb. Mo. 1977 Yr. BOOK No. _____
 SURVEYOR W.D. HELANDER RODMAN D. JENSEN WEATHER: _____ P.T.S. No. _____

LINE	Bearing of Sight	Stadia Distance	BEAMAN OR VERNIER			ROD READING				Angular Elev. Diff.	Final Elev. Diff.	ELEVATIONS		ABS. OF S. - S.S.	Station	REMARKS
			Level	Inclined	Angle or Factor	Hair Read	Reading	Correc-tion	Center Hair			INST.	ROD			
1												1134.2				
2																
3	S	1430		91-36-55				17.5		-57.8		1076.4	-	706		
4	"	2310		91-18-50				22.5		-75.5		1058.7	-	707		
5	"	3190		91-16-30				10.0	-81.0	-80.9		1053.3	0	708		
6	"	3190		268-43-40				10.0	-80.8				0			
7	N	2640		91-14-44				10.0	+62.4	+62.2	1120.5		Δ			
8	"	2640		268-45-50				10.0	+62.0				Δ			
9	"	1760		91-36-00				10.6		-59.1		1061.4	-	709		
10	"	880		92-11-30				10.0		-43.7		1076.8	-	710		
11		0						5.9		-57.9		1114.6		711	X	
12	S	880		89-19-00				15.0		-4.5		1116.0	-	712		
13	"	1760		89-02-15				5.0	+24.6	+24.8		1145.3	0	713	MARKER PIPE	
14	"	1760		270-53-31				5.0	+25.0				0		1148.3	
15	N	2310		89-12-00				5.0	-27.3	-27.6	1117.7		Δ			
16	"	2310		270-48-55				5.0	-27.9				Δ			
17	"	1430		89-34-25				5.0		+5.6		1123.3	-	714		
18	"	550		92-06-46				5.0		-25.3		1092.4	-	715		
19		0						5.8		-5.8		1111.9		715-3	X	
20	S	330		70-54-50				5.0		-16.3		1107.4	-	716		

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STADIA SURVEY NOTES

AREA KIGALIK RIVER STATE or PROVINCE ALASKA PAGE No. 21
 LINE No.(s) 45 PARTY No. 1184 DATE 27th Day Feb. Mo. 19th Yr. 1977 BOOK No. _____
 SURVEYOR: W.D. HELANDER RODMAN D. JENSEN WEATHER: _____ 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												1117.7				
2																
3	S	1210		90-54-07				10.0		-29.0		1088.7	-	717		
4	"	2090		90-15-40				10.0		-19.5		1098.2	-	718		
5	"	2970		89-48-25				10.0	± 0.0	+0.2		1117.9	0	719		
6	"	2970		270-12-00				10.0	+0.4				0.			
7	N	2310		90-23-05				15.0	+30.5	+30.3	1148.2		Δ			
8	"	2310		269-17-35				15.0	+30.1				A.			
9	"	1430		90-33-18				5.0		-18.8		1129.4	-	720		
10	"	550		91-38-10				10.0		-25.7		1126.5	-	721		
11		0						-5.8		-5.8		1142.4		721-3		
12	S	330		91-27-82				5.0		-13.4		1124.8	-	722		
13	"	1210		87-59-55				10.0		+32.3		1180.5	-	723		
14	"	2090		87-38-35				14.0	+72.0	+72.0		1220.2	0	724	1223-9	9
15	"	2090		272-21-30				14.0	+72.0				0.			
16	N	2640		87-41-50				10.0	-96.1	-96.2	1124.0		Δ			
17	"	2640		272-18-38				10.0	-96.4				Δ.			
18	"	1760		87-53-25				10.0		+54.8		1178.8	-	725		
19	"	880		87-46-40				14.0		+20.1		1144.1	-	726		
20		0						HI 5.8		-5.8		1188.2		727	π	

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STADIA SURVEY NOTES

AREA KIGALIK RIVER STATE or PROVINCE ALASKA PAGE No. 22
 LINE No.(s) 45 PARTY No. 1184 DATE 28 Day, 2 Mo. 77 Yr. BOOK No. _____
 SURVEYOR W.D. HELANDER RODMAN D. JENSEN WEATHER: _____ 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												1124.0				
2																
3	S	770		93-43-47				5.0		-55.1		1048.9	-	727		
4	"	880		93-15-40				5.0		-55.1		1048.9	-	728		
5	"	1760		90-57-52				5.0		-34.6		1089.4	-	729		
6	"	2640		89-25-15				5.0		+21.7		1145.7	-	730		
7	"	3190		88-39-26				5.0	+69.8	+70.1		1194.1	0	730-3	1198.2	
8	"	3190		271-21-22				5.0	+70.5				0			
9	N	330		71-15-48				14.0	21.3	+21.3	1215.4		Δ			
10	"	330		268-44-44				14.0	+21.2				Δ			
11		0						HI 5.7		-5.7		1209.7		731	π	†
12	W	1920		88-57-27				5.0	+29.9	+29.9		1245.3	0			
13	"	1920		271-02-26				5.0	+29.9				0			
14	E	1640		88-51-17				10.0	-22.8	-23.0	1222.3		Δ			
15	"	1640		271-09-34				10.0	-23.2				Δ			
16		0						HI 6.2		-6.2		1216.1		4508	π	TBM #4508
17												1220.5		Elev.		1220.5
18												-4.4		veg		mistie
19																
20																

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2nd _____

STADIA SURVEY NOTES

AREA ANUNA River STATE or PROVINCE ALASKA PAGE No. 23
 LINE No.(s) 45 PARTY No. 1184 DATE 1st Day MARCH Mo. 1977 Yr. BOOK No.
 SURVEYOR W.D. HELANDER RODMAN D. JENSEN 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			TAKE OFF			4508								+1/2
2										1220.5	0	TBM # 4508		
3		0												
4	E	1640		88-51-17										
5	"	1640		271-09-34										
6	W	1920		88-57-27										
7	"	1920		271-02-26										
8		0												
9	S	550		90-43-28										
10	"	550		269-16-40										
11	N	2090		87-11-40										
12	"	2090		272-49-00										
13	"	1760		87-08-05										
14	"	880		87-05-40										
15		0												
16	S	880		90-27-55										
17	"	1760		90-12-50										
18	"	2640		89-45-18										
19	"	2640		270-15-00										
20														

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STADIA SURVEY NOTES

AREA AWUNA RIVER STATE or PROVINCE ALASKA PAGE No. 24
 LINE No.(s) 45 PARTY No. 1184 DATE 1st Day MARCH Mo. 1977 Yr. BOOK No. _____
 SURVEYOR W.D. HELANDER RODMAN D. JENSEN WEATHER: _____ P.T.S. No. _____

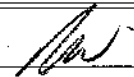
LINE	Bearing of Sight	Stadia Distance	BEAMAN OR VERNIER			ROD READING				Angular Elev. Diff.	Final Elev. Diff.	ELEVATIONS		Station	REMARKS
			Level	Inclined	Angle or Factor	Hair Read	Reading	Correc-tion	Center Hair			INST.	ROD		
1													1106.8		
2														737	
3	N	1650		90-22-35				70.0	+20.8	+20.7	1127.5		Δ		
4	"	1650		249-32-00				10.0	+20.6				Δ		
5	"	770		90-19-30				14.0		-18.4		1109.1	-	738	
6		0						5.8		-5.8		1121.7	-	738-3	π
7		110	✓					9.3		-9.3		1118.2	-	739	
8	S	990		89-33-00				10.0		-2.2		1125.3	-	740	
9	"	1870		89-19-18				10.0	+12.1	+12.3		1139.8	0	741	
10	"	1870		270-41-08				10.0	+12.4				0		
11	N	2640		87-27-40				10.0	-14.2	-15.1	1124.7		Δ		
12	"	2640		270-33-05				10.0	-15.4				Δ		
13	"	1760		89-40-17				5.0		+5.1		1129.8	-	742	
14	"	880		89-52-00				10.0		-8.0		1116.7	-	743	
15		0						5.8		-5.8		1112.9	-	744	π
16	S	880	✓					12.7	-12.7	-12.7		1112.0	0	745	
17	"	880		90-10-41				10.0	-12.7				0		
18	N	2640		86-51-22				14.0	-130.8	-130.9	981.1		Δ		
19	"	2640		273-09-03				14.0	-131.1				Δ		
20															

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STADIA SURVEY NOTES

AREA AWUNA River STATE or PROVINCE ALASKA PAGE No. 25
 LINE No.(s) 45 PARTY No. 1184 DATE 1st Day MARCH Mo. 1977 Yr. BOOK No. _____
 SURVEYOR H.D. HELANDER RODMAN D. JENSEN WEATHER: _____ P.T.S. No. _____

LINE	Bearing of Sight	Stadia Distance	BEAMAN OR VERNIER			ROD READING			Angular Elev. Diff.	Final Elev. Diff.	ELEVATIONS		Abs. of S.S.	Station	REMARKS
			Level	Inclined	Angle or Factor	Hair Read	Reading	Correc-tion			Center Hair	INST.			
1											981.1				
2															
3	N	1760		86-53-40				5.0	+90.3		1071.4	-	746		
4	"	880		87-08-27				5.0	+38.9		1020.0	-	747		
5		0					LI	5.7	-5.7		975.4		748	X	
6	S	880		91-58-40				10.0	-40.4		940.7	-	749		
7	"	1760		92-00-55				10.0	-71.9		909.2	-	750		
8	"	2640		91-59-40				10.0	-101.9	-101.6	879.5	0	751		
9	"	2640		268-01-00				10.0	-101.4			0			
10															
11															
12															
13															
14															
15															
16															
17															
18															
19															
20															

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STADIA SURVEY NOTES

AREA AWUNA RIVER STATE or PROVINCE ALASKA PAGE No. 26
 LINE No.(s) 45 PARTY No. 1184 DATE 1 Day 3 Mo. 77 Yr. BOOK No. _____
 SURVEYOR W.D. HELANDER RODMAN D. JENSEN WEATHER: _____ P.T.S. No. _____

LINE	Bearing of Sight	Stadia Distance	BEAMAN OR VERNIER			ROD READING				Angular Elev. Diff.	Final Elev. Diff.	ELEVATIONS		AB.S. OF S. - S.S.	Station	REMARKS
			Level	Inclined	Angle or Factor	Hair Read	Reading	Correc-tion	Center Hair			INST.	ROD			
1													879.5	0	751	
2	N	880		87-55-55				5.0	-26.9	-26.9	852.6			A		
3	"	880		272-04-40				5.0	-26.9					A		
4		0						HI 5.7		-5.7			846.9		752	κ
5	S	550		91-51-25				5.0	-22.8	-22.7			829.9	0	752-3	
6	"	550		88-09-10				5.0	-22.7					0		
7	N	660		88-38-00				2.0	-13.7	-13.8	816.1			A		
8	"	660		111-22-32				2.0	-13.8					A		
9	"	330		95-31-45				4.0		-32.7			778.4	-	753	
10		0						5.8		-5.8			810.3	-	753-2	κ
11	S	550		87-05-11				10.0		+18.0			934.1	-	754	
12	"	1430		86-27-45				5.0		+83.2			917.5	-	755	899.2
13	"	1760		86-33-31				10.0	+95.6	+95.8			911.9	0	755-2	
14	"	1760		273-27-05				10.0	+96.0					0		
15	N	1430		89-34-30				14.0	+3.4	+3.2	915.1			A		
16	"	1430		270-26-33				14.0	+3.0					A		
17	"	880		87-33-44				5.0		+1.7			916.8	-	756	
18		0						HI 5.7		-5.7			909.4		757	κ
19	S	880		70-17-31				10.0	-14.5	-14.5			900.6	0	758	
20	"	880	✓					14.5	-14.5					0		

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STADIA SURVEY NOTES

AREA AWUNA RIVER STATE or PROVINCE ALASKA PAGE No. 27
 LINE No.(s) 45 PARTY No. 1184 DATE 1 Day 3 Mo. 77 Yr. BOOK No. _____
 SURVEYOR W.D. HELANDER RODMAN D. JENSEN 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.	ROD		
1													900.6		
2														758	
3	N	880		89-19-40				5.0	-5.3	-5.4	895.2		Δ		
4	"	880		87-40-35				5.0	-5.4				Δ		
5		0											889.5	759	π
6	S	880	✓					15.0	-15.0	-14.9			880.3	760	0
7	"	880		90-19-14				10.0	-14.9						0
8	E	1150		92-05-30				10.0	+52.0	+51.8	932.1		Δ		
9	"	1150		86-55-45				10.0	+51.6					Δ	
10		0						5.8		-5.8			926.3		π
11	W	680		86-46-44				10.0	+28.2	+28.2			960.3	0	
12	"	680		87-13-38				10.0	+28.3					0	
13	E	1710		90-38-17				10.0	+29.0	+28.9	989.2		Δ		
14	"	1710		89-22-11				10.0	+28.8					Δ	
15		0						HI 5.5		-5.5			983.7	4509	π
16													984.2 Elev.		
17													-0.5 Ver		mistia
18															
19															
20															

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STADIA SURVEY NOTES

AREA AWUNA RIVER STATE or PROVINCE ALASKA PAGE No. 28
 LINE No.(s) 45 PARTY No. 1184 DATE 2 Day 3 Mo. 77 Yr. BOOK No. _____
 SURVEYOR W. D. HELANDER RODMAN D. JENSEN WEATHER: _____ P.T.S. No. _____

LINE	Bearing of Sight	Stadia Distance	BEAMAN OR VERNIER			ROD READING				Angular Elev. Diff.	Final Elev. Diff.	ELEVATIONS		AB.S. OF S. - S.S.	Station	REMARKS
			Level	Inclined	Angle or Factor	Hair Read	Reading	Correc-tion	Center Hair			INST.	ROD			
1																
2																
3	W	1460		88-48-00					10.0	-22.3	-22.4	961.8	984.2	0	TBM # 4509	
4	"	1460		271-16-30					10.0	-22.5				Δ		
5		0														
6	E	1648		92-52-22					10.0	-92.2	-92.1		869.7	0	761	870.2
7	"	1640		267-08-10					10.0	-91.9				0		
8	N	2648		91-16-11					5.0	+63.5	+63.6	933.3		Δ		
9	"	2648		268-43-40					5.2	+63.6				Δ		
10	"	1760		91-51-20					14.0		-71.0		862.3	-	762	
11	"	880		91-47-30					5.0		-32.5		900.8	-	763	
12		0						HI	5.7		-5.7		927.6		764	π
13	S	880		87-24-25					10.0		+22.3		960.6	-	765	
14	"	1210		87-55-15					5.0	+38.9	+39.0		972.3	0	765-2	973.5
15	"	1210		212-05-10					5.0	+39.0				0		
16	N	2640		92-18-45					10.0	+116.6	+116.2	1028.5		Δ		
17	"	2640		267-42-05					10.0	+115.9				0		
18	"	2090		92-40-35					10.0		-127.6		980.9	-	766	
19	"	1210		72-51-50					10.0		-70.5		1018.0	-	767	
20	"	330		93-28-50					4.0		-24.0		1064.5	-	768	

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STADIA SURVEY NOTES

AREA AWUNA RIVER STATE or PROVINCE ALASKA PAGE No. 29
 LINE No.(s) 45 PARTY No. 1184 DATE 2 Day 3 Mo. 77 Yr. BOOK No. _____
 SURVEYOR W.D. HELANDER RODMAN D. JENSEN WEATHER: _____ 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												1082.5				
2																
3		0														
4	S	550														
5	"	1430		91-28-30												
6	"	2310		9043-55												
7	"	3190		89-50-35												
8	"	3190		270-09-07												
9	N	880		96-22-00												
10	"	880		262-39-35												
11	"	0														
12	S	880		89-47-30												
13	"	1760		82-14-55												
14	"	1760		271-46-05												
15	N	1760		92-26-33												
16	"	1760		267-34-14												
17	"	880		94-41-22												
18		0														
19	S	880		83-43-11												
20	"	880		276-17-27												

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STADIA SURVEY NOTES

AREA COLVILLE RIVER STATE or PROVINCE ALASKA PAGE No. 30
 LINE No.(s) 45 PARTY No. 1184 DATE 2 Day 3 Mo. 77 Yr. BOOK No. _____
 SURVEYOR W.D. HGLANDER RODMAN D. JENSEN WEATHER: _____ 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													1322.4			
2															778	
3	N	632		92-42	40			14.0	+43.9	+43.8	1326.4			Δ		
4	"	632		267-18	15			14.0	+43.7					Δ ₁		
5		0						5.8		-5.8			1360.6		778+632	π
6	S	248	✓					14.6	-14.6	-14.6			1351.8	0	779	1355.1
7	"	248		91-02	35			10.0	-14.5					0 ₁		
8	N	1870		86-55	00			5.0	-95.6	-95.8	1256.0			Δ		
9	"	1870		273-05	40			5.0	-95.9					Δ ₁		
10	"	990		88-01	37			5.0		+29.1			1285.1	-	780	
11	"	110		87-54	22			4.0		±0.0			1256.0	-	781	
12		0						5.8		-5.8			1250.2		781-1	π
13	S	770		94-50	30			10.0		-75.0			1181.0	-	782	
14	"	1650		73-51	03			14.0		-124.8			1131.2	-	783	
15	"	2530		73-35	33			10.0	-168.5	-168.2			1087.8	0	784	1091.9
16	"	2530		76-25	10			10.0	-168.0					0 ₁		
17	N	2460		88-58	22			10.0	-34.1	-34.4	1053.4			Δ		
18	"	2460		271-02	24			10.0	-34.7					Δ ₁		
19	"	1600		89-33	22			5.0		+7.4			1060.8	-	785	
20	E	740		89-45	17			5.0		-1.8			1051.6	-	786	

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13.3
1.0 1/2
13.3

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STADIA SURVEY NOTES

AREA COLVILLE RIVER STATE or PROVINCE ALASKA PAGE No. 31
 LINE No.(s) 45 PARTY No. 1184 DATE 2 Day 3 Mo. 77 Yr. BOOK No. _____
 SURVEYOR W. D. HELANDER RODMAN D. JENSEN WEATHER: _____ P.T.S. No. _____

LINE	Bearing of Sight	Stadia Distance	BEAMAN OR VERNIER			ROD READING			Angular Elev. Diff.	Final Elev. Diff.	ELEVATIONS		ABS. OF S. - S.S.	Station	REMARKS
			Level	Inclined	Angle or Factor	Hair Read	Reading	Correction			Center Hair	INST.			
1											1053.4				
2															
3		0												A	
4	W	2830		90-13-07				10.0	-20.8	-20.5		0	BAS 4510		
5	"	2830		269-47-30				10.0	-20.3		1032.9	0			
6											1037.9				
7											-5.0		lev. ver. mistie	1037.9	
8															
9															
10															
11															
12															
13				TAKE OFF BAS #			4510				1037.9	0	73M 4510		
14	W	2830		90-13-07				10.0	+20.8	+20.5	1058.4				
15	"	2830		269-47-30				10.0	+20.3						
16		0						5.8		-5.8	1052.6			A	
17	SE	370		90-43-33				10.0		-14.7	1043.7	-	787		
18	"	1130		92-16-53				5.0	-50.0	-49.9	1008.5	0	788	1008.9	
19	"	1130		267-43-48				5.0	-49.8			0			
20															

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24.8
3.5 F

W

STADIA SURVEY NOTES

AREA COLVILLE RIVER STATE or PROVINCE ALASKA PAGE No. 32
 LINE No.(s) 45 PARTY No. 1184 DATE 2 Day 3 Mo. 77 Yr. BOOK No. _____
 SURVEYOR W.D. HELANDER RODMAN D. JENSEN WEATHER: _____ P.T.S. No. _____

LINE	Bearing of Sight	Stadia Distance	BEAMAN OR VERNIER			ROD READING				Angular Elev. Diff.	Final Elev. Diff.	ELEVATIONS		AB.S. OF S. - S.S.	Station	REMARKS
			Level	Inclined	Angle or Factor	Hair Read	Reading	Correc-tion	Center Hair			INST.	ROD			
1												1008.5				
2														788		
3	N	1760		89-06-00				5.0	-22.6	-22.9	985.6		Δ			
4	"	1760		270-54-50				5.0	-23.1				Δ			
5	"	880		89-21-50				4.0		+5.8		991.4	-	789		
6		0						H.I. 5.8		-5.8		979.8		790		π
7	S	880		90-26-45				4.0		-10.8		974.8	-	791		
8	"	1760		90-14-55				10.0	-17.6	-17.4		968.2	0	792		968.9
9	"	1760		269-46-00				10.0	-17.2				0			
10	N	1760	✓					1.8		+1.8	970.0		Δ			
11	"	1760		87-53-50				5.0	+1.8				Δ			
12	"	880		91-18-33				4.0		-24.1		945.9	-	793		
13		0						H.I. 5.6		-5.6		964.4		794		π
14	S	880		90-41-00				4.0		-14.5		955.5	-	795		
15	"	1760		90-31-28				4.0		-20.1		949.9	-	796		
16	"	2640		89-16-31				10.0	-22.7	-22.4		947.6	0	797		948.7
17	"	2640		267-44-11				10.0	-22.1				0			
18	N	2640		89-33-04				5.0	-15.7	-15.7	931.9		Δ			
19	"	2640		270-26-47				5.0	-15.6				Δ			
20	"	1760		89-38-40				4.0		+6.9		938.8	-	798		

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STADIA SURVEY NOTES

AREA COLVILLE RIVER STATE or PROVINCE ALASKA PAGE No. 33
 LINE No.(s) 45 PARTY No. 1184 DATE 3 Day 3 Mo. 77 Yr. BOOK No. _____
 SURVEYOR W.D. HELANDER RODMAN D. JENSEN WEATHER: _____ P.T.S. No. _____

LINE	Bearing of Sight	Stadia Distance	BEAMAN OR VERNIER			ROD READING				Angular Elev. Diff.	Final Elev. Diff.	ELEVATIONS		ABS. OF S. - S.S.	Station	REMARKS
			Level	Inclined	Angle or Factor	Hair Read	Reading	Correc-tion	Center Hair			INST.	ROD			
1												931.9				
2																
3	N	880		90-05-05				4.0		-5.3		926.6	-	799		
4		0						HI 5.8		-5.8		926.1	-	800	π	
5	S	880		90-12-55				4.0		-7.3		924.6	-	801		
6		1760		90-08-33				4.0		-8.4		923.5	-	802		
7		2640		89-43-24				10.0	+2.7	+3.0		934.9	0	803		936.5
8		2640		270-17-25				10.0	+3.4				0,			
9	N	2640		89-52-00				10.0	3.9	+3.9	938.8		Δ			
10		2640		270-08-00				10.0	3.9				Δ,			
11		1760		89-59-34				4.0		-3.8		935.0	-	804		
12		880		90-07-20				4.0		-5.9		932.9	-	805		
13		0						HI 5.8		-5.8		9330	-	806	π	
14	S	880		88-49-20				4.0		+14.1		952.9	-	807		
15		1760		88-13-45				4.0		+50.4		989.2	-	808		
16		2640		87-42-00				5.0	100.9	+101.3		1040.1	0	809		1042.2
17		2640		272-18-51				5.0	101.6				0,			
18	N	450		90-28-40				10.0	13.8	+13.8	1053.9		Δ			
19		450		269-31-17				10.0	13.8				Δ,			
20																

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STADIA SURVEY NOTES

AREA COLVILLE RIVER STATE or PROVINCE ALASKA PAGE No. 34
 LINE No.(s) 45 PARTY No. 1184 DATE 3 Day 3 Mo. 77 Yr. BOOK No. _____
 SURVEYOR W. D. HELANDER RODMAN D. JENSEN WEATHER: _____ P.T.S. No. _____

3.97
 2.6
 1.97

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.			
1															
2															
3		0													
4		197		90-30-08"				2.0	-3.7			1050.2	⊙	BAS 4511'	
5		197		269-29-32				2.0	-3.7				⊙	INT L-45 SP 804+260	
6											ELEV. 1052.4			L-85 1052.4	
7														MARKER PIPE	
8											MISTIE -2.2			LINE COULD BE	
9														MOVED AS BEING	
10														SHOT BY OTHER	
11														CRSW. SEE L-85	
12														FOR DETAILS	
13															
14														<i>Pete Helander</i>	
15															
16															
17															
18															
19															
20															

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STADIA SURVEY NOTES

AREA COLVILLE RIVER STATE or PROVINCE ALASKA PAGE No. 35
 LINE No.(s) 45 PARTY No. 1784 DATE 3 Day 3 Mo. 77 Yr. BOOK No.
 SURVEYOR W.D. HELANDER RODMAN D. JENSEN WEATHER: P.T.S. No.

LINE	Bearing of Sight	Stadia Distance	BEAMAN OR VERNIER			ROD READING				Angular Elev. Diff.	Final Elev. Diff.	ELEVATIONS		ABS. OF S. - S.S.	Station	REMARKS
			Level	Inclined	Angle or Factor	Hair Read	Reading	Correc-tion	Center Hair			INST.	ROD			
1				TAKE OFF BASE					4.511			1052.4				
2																
3	N	197		90-30-03				2.0	3.7	+3.7	1056.1		Δ			
4	"	197		269-29-52				2.0	3.7				Δ ₁			
5		0														π
6	S	390		104-21-25				25.0		-122.5		933.6	-	810		BOTTOM OF STEEP
7	"	720		101-16-46				10.0		-151.5		904.6	-	810-2		BANK!
8	"	1270		96-22-02				10.0	-151.1	-151.0		905.1	0	811		905.2
9	"	1270		263-38-31				10.0	-150.9				0 ₁			
10	N	880 ✓						3.3		+3.3	908.4		Δ			
11	"	880		89-53-10				5.0	3.3				Δ ₁			
12		0					HI	5.7		-5.7		902.7		812		π
13	S	880 ✓						6.7		+6.7		901.7	-	813		
14	"	1760 ✓						14.3		-14.3		894.1	-	814		
15	"	2310 ✓						7.0		-7.0		901.4	0	814-3		901.5
16	"	8310 ✓		98-02-53				5.0	-6.9				0 ₁			
17	N	2090 ✓						10.4		+10.4	911.8		Δ			
18	"	2090		89-54-10				14.0	10.5				Δ ₁			
19	"	1760 ✓						16.8		-16.8		895.0	-	815		ON RIVER
20	"	880 ✓						9.7		-9.7		902.1	-	816		

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122
5.0
7.90
14.7
20.6
35.70

STADIA SURVEY NOTES

AREA COLVILLE RIVER STATE or PROVINCE ALASKA PAGE No. 36
 LINE No.(s) 45 PARTY No. 1184 DATE 4 Day 3 Mo. 77 Yr. BOOK No. _____
 SURVEYOR: W.D. HELANDER RODMAN D. JENSEN WEATHER: _____ P.T.S. No. _____

LINE	Bearing of Sight	Stadia Distance	BEAMAN OR VERNIER			ROD READING				Angular Elev. Diff.	Final Elev. Diff.	ELEVATIONS		AB.S. OF.S. - S.S.	Station	REMARKS
			Level	Inclined	Angle or Factor	Hair Read	Reading	Correc-tion	Center Hair			INST.	ROD			
1												911.8				
2																
3		0						HI	5.7		-5.7		906.1		817	π
4	S	880		89-05-11					5.0		+9.0		920.8	-	818	
5	"	1430		89-09-10					10.0	11.1	+11.2		923.0	0	818-3	923.8
6	"	1430		70-51-16					10.0	11.3				0		
7	N	2090	✓						10.1		+10.1	933.1		Δ		
8	"	2090		89-53-33					14.0	10.1				Δ		
9	"	1760		90-17-44					4.0		-13.1		926.0	-	819	
10	"	880		90-16-35					4.0		-8.2		924.9	-	820	
11		0						HI	5.8		-5.8		927.3		821	π
12	S	880		89-44-00					4.0		+0.1		933.2	-	822	
13	"	1760		89-52-11					5.0		-1.0		932.1	-	823	
14	"	2640		89-50-26					10.0	-2.7	-2.4		930.7	0	824	931.9
15	"	2640		70-10-30					10.0	-2.1				0		
16	N	2640	✓						13.0		+13.0	943.7		Δ		
17	"	2640		90-03-55					10.0	13.0				Δ		
18	"	1760		90-12-38					4.0		-10.5		933.2	-	825	
19	"	880		90-26-50					4.0		-10.9		932.8	-	826	
20		0						HI	5.6		-5.6		938.1		827	π

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STADIA SURVEY NOTES

AREA COLVILLE RIVER STATE or PROVINCE ALASKA PAGE No. 37
 LINE No.(s) 45 PARTY No. 1104 DATE 4 Day 3 Mo. 77 Yr. BOOK No. _____
 SURVEYOR W.D. HELANDER RODMAN MYSELF WEATHER: _____ P.T.S. No. _____

LINE	Bearing of Sight	Stadia Distance	BEAMAN OR VERNIER			ROD READING			Angular Elev. Diff.	Final Elev. Diff.	ELEVATIONS		ABS. OF S. - S.S.	Station	REMARKS
			Level	Inclined	Angle or Factor	Hair Read	Reading	Correc-tion			Center Hair	INST.			
1											943.7				
2															
3	S	880		90-15-20				7.0	-10.9		932.8	-	828		
4	"	1760		90-05-22				4.0	-6.7		937.0	-	829		
5	"	2640	✓					7.9	-7.9		935.8	0	830	937.5	
6	"	2640		89-57-16				10.0	-7.9			0,			
7	N	2640		91-46-55				10.0	92.1	+91.9	1027.7		Δ		
8	"	2640		268-13-47				10.0	91.6				Δ,		
9	"	1760		92-40-05				4.0		-85.9	941.8	-	831		
10	"	880		93-20-25				4.0		-55.3	972.4	-	832		
11		0					HI	5.7		-5.7	1022.0		833		
12	S	880		86-36-46				10.0	42.0	+42.0	1069.7	0	834	1071.7	
13	"	880		713-23-41				10.0	42.1				0,		
14	N	530		90-10-07 90-09-46				14.0	15.5	+15.4	1085.1		Δ		
15	"	530		269-51-31				14.0	15.3				Δ,		
16		0					HI	6.4		-6.4	1078.7		835 45 12	X	
17											1080.8			1080.8	
18															
19															
20											MISTIE	-2.1			

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STADIA SURVEY NOTES

AREA COLVILLE RIVER STATE or PROVINCE ALASKA PAGE No. 38
 LINE No.(s) 45 PARTY No. 1184 DATE 4 Day 3 Mo. 77 Yr. BOOK No.
 SURVEYOR W.D. HELANDER RODMAN D. JENSEN WEATHER: P.T.S. No.

LINE	Bearing of Sight	Stadia Distance	BEAMAN OR VERNIER			ROD READING				Angular Elev. Diff.	Final Elev. Diff.	ELEVATIONS		Abs. OF S. - S.S.	Station	REMARKS
			Level	Inclined	Angle or Factor	Hair Read	Reading	Correc-tion	Center Hair			INST.	ROD			
1				TAKE OFF												
2																
3		0														
4	S	350		90-20-10												
5	"	900		89-55-05												
6	"	900		70-06-00												
7	N	2970		88-51-50												
8	"	2970		71-08-51												
9	"	2640		89-00-10												
10	"	1760		89-10-13												
11	"	880		89-53-30												
12		0														
13	S	880		86-30-05												
14	"	880		73-20-33												
15	N	1760		90-51-36												
16	"	1760		29-09-00												
17	"	880		90-36-20												
18		0														
19	S	880		89-41-32												
20																

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STADIA SURVEY NOTES

AREA COLVILLE RIVER STATE or PROVINCE ALASKA PAGE No. 39
 LINE No.(s) 45 PARTY No. 1184 DATE 4 Day 3 Mo. 77 Yr. BOOK No. _____
 SURVEYOR W.D. HELANDER RODMAN D. JENSEN WEATHER: _____ 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												1114.5				
2																
3	S	1760		89-36-53				5.0	6.8	+7.0		1121.5	0	844	1120.4	
4	"	1760		270-23-50				5.0	7.2				0			
5	N	2640	✓					13.5		+13.5	1135.0		Δ			
6	"	2640		89-59-20				14.0	13.5				Δ			
7	"	1760		89-58-16				25.6		-24.7		1110.3	-	845		
8	"	880	✓					9.9		-9.9		1125.1	-	846		
9		0						5.7		-5.7		1129.3		847	π	
10	S	880		89-43-00				5.0		-0.6		1134.4	-	848		
11	"	1760		89-34-11				5.0		+8.2		1143.2	-	849		
12	"	2640		89-23-35				10.0	18.0	+18.3		1153.3	0	850	1151.4	
13	"	2640		870-37-14				10.0	18.6				0			
14	N	1760		90-50-44				14.0	40.0	+39.9	1193.2		Δ			
15	"	1760		269-09-43				14.0	39.8				Δ			
16	"	880		91-08-05				4.0		-21.4		1171.8	-	851		
17		0						5.7		-5.7		1187.5		852	π	
18	S	880		89-50-15				4.0		-1.5		1191.7	-	853		
19	"	1430		89-59-20				14.0	-13.7	-13.6		1179.6	0	853-3	1177.3	
20	"	1430		270-01-14				14.0	-13.5				0			

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STADIA SURVEY NOTES

AREA COLVILLE RIVER STATE or PROVINCE ALASKA PAGE No. 40
 LINE No.(s) 95 PARTY No. 1184 DATE 4 Day 3 Mo. 77 Yr. BOOK No. _____
 SURVEYOR W.D. HELANDER RODMAN D. JENSEN WEATHER: _____ 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	Correction	Center Hair			INST.	ROD			
1													1179.6			
2															853-3	
3	N	1210		88-14-33				5.0	-32.1	-32.2			1147.4	Δ		
4	"	1210		271-46-09				5.0	-32.3					Δ		
5	"	880		88-44-44				4.0		+15.3			1162.7	-	854	
6		0						5.7		-5.7			1141.7		865	π
7	S	880		90-42-30				4.0		-14.9			1132.5	-	856	
8	"	1760		89-41-03				4.0		+5.7			1153.1	-	857	
9	"	2441		89-21-37				10.0	17.3	+17.6				0	866 4513	
10	"	2441		270-39-26				10.0	18.0				1165.0	0		
11													1162.2			1162.2
12																
13																
14																
15																
16																
17																
18																
19																
20																

14.3 1/2
2.0

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STADIA SURVEY NOTES

AREA SMITH MOUNTAIN STATE or PROVINCE ALASKA PAGE No. 41
 LINE No.(s) 45 PARTY No. 1184 DATE 6 Day 3 Mo. 77 Yr. BOOK No. _____
 SURVEYOR W.D. HELANDER RODMAN D. JENSEN WEATHER: _____ P.T.S. No. _____

LINE	Bearing of Sight	Stadia Distance	BEAMAN OR VERNIER			ROD READING			Angular Elev. Diff.	Final Elev. Diff.	ELEVATIONS		ABS. OF S. - S.S.	Station	REMARKS
			Level	Inclined	Angle or Factor	Hair Read	Reading	Correc-tion			Center Hair	INST.			
1				<u>TAKE OFF</u>				<u>4513</u>				<u>1162.2</u>			<u>MARVER PIPE</u>
2															
3	<u>N</u>	<u>949</u>		<u>88-57-55</u>				<u>10.0</u>	<u>-7.1</u>	<u>-7.2</u>	<u>1155.0</u>		<u>Δ</u>		
4	"	<u>949</u>		<u>271-03-00</u>				<u>10.0</u>	<u>-7.4</u>				<u>Δ,</u>		
5	"	<u>550</u>		<u>88-52-33</u>				<u>5.0</u>		<u>+5.8</u>		<u>1160.8</u>	<u>-</u>	<u>858</u>	
6		<u>0</u>												<u>858-3</u>	<u>κ</u>
7	<u>S</u>	<u>336</u>		<u>92-45-47</u>				<u>4.0</u>		<u>-19.9</u>		<u>1135.1</u>	<u>-</u>	<u>859</u>	
8	"	<u>1210</u>		<u>91-58-50</u>				<u>4.0</u>		<u>-45.8</u>		<u>1109.2</u>	<u>-</u>	<u>860</u>	
9	"	<u>2090</u>		<u>91-01-22</u>				<u>4.0</u>		<u>-41.3</u>		<u>1113.7</u>	<u>-</u>	<u>861</u>	
10	"	<u>2970</u>	✓					<u>6.9</u>		<u>-6.9</u>		<u>1148.1</u>	<u>0</u>	<u>862</u>	
11	"	<u>2970</u>		<u>89-56-17</u>				<u>10.0</u>	<u>-6.8</u>				<u>0,</u>		
12	<u>N</u>	<u>1430</u>		<u>90-38-48</u>				<u>14.0</u>	<u>30.1</u>	<u>+30.0</u>	<u>1178.1</u>		<u>Δ</u>		
13	"	<u>1430</u>		<u>269-21-44</u>				<u>14.0</u>	<u>29.9</u>				<u>Δ,</u>		
14	"	<u>550</u>		<u>90-22-10</u>				<u>4.0</u>		<u>-7.5</u>		<u>1170.6</u>	<u>-</u>	<u>863</u>	
15		<u>0</u>												<u>863-3</u>	<u>κ</u>
16	<u>S</u>	<u>530</u>		<u>90-26-20</u>				<u>4.0</u>		<u>-6.5</u>		<u>1171.6</u>	<u>-</u>	<u>864</u>	
17	"	<u>1210</u>		<u>90-13-53</u>				<u>4.0</u>		<u>-8.9</u>		<u>1169.2</u>	<u>-</u>	<u>865</u>	
18	"	<u>2090</u>		<u>90-10-50</u>				<u>4.0</u>		<u>-10.6</u>		<u>1167.5</u>	<u>-</u>	<u>866</u>	
19	"	<u>2970</u>	✓					<u>11.8</u>		<u>-11.8</u>		<u>1166.3</u>	<u>0</u>	<u>867</u>	
20	"	<u>2970</u>		<u>90-02-10</u>				<u>10.0</u>	<u>-11.9</u>				<u>0,</u>		

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STADIA SURVEY NOTES

AREA SMITH MOUNTAIN STATE or PROVINCE ALASKA PAGE No. 42
 LINE No.(s) 45 PARTY No. 1184 DATE 6 Day 3 Mo. 77 Yr. BOOK No. _____
 SURVEYOR W.D. HELANDER RODMAN D. JENSEN WEATHER: _____ 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															867	
3	N	2640		90-24-06				10.0	28.5	+28.3	1194.6			Δ		
4	"	2640		269-4-34				10.0	28.0					Δ		
5	"	1760		90-53-56				4.0		-31.6		1163.0		-	868	
6	"	880		91-05-48				4.0		-20.8		1173.8		-	869	MARKER PIPE
7		0						H) 5.7		-5.7		1188.9			870	X
8	S	880		88-43-06				4.0		+15.7		1210.3		-	871	
9	"	1760		88-05-30				4.0		+54.6		1249.2		-	872	
10	"	2640		87-58-33				5.0	88.2	+88.5		1283.1		0	873	
11	"	2640		272-02-08				5.0	88.8					0,		
12	N	1430		91-22-55				10.0	44.5	+44.4	1327.5			Δ		
13	"	1430		268-37-50				10.0	44.2					Δ,		
14	"	550		91-10-38				4.0		-15.3		1312.2		-	874	
15		0													874-3	X
16	S	330		90-15-25				4.0		-5.5		1312.0		-	875	1321.6
17	"	1210		90-41-00				14.0	-28.4	-28.3		1299.2		0	876	
18	"	1210		269-19-45				14.0	-28.2					0,		
19																
20																

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STADIA SURVEY NOTES

AREA SMITH MOUNTAIN

STATE or PROVINCE

ALASKAPAGE No. 43LINE No.(s) 45PARTY No. 1184DATE 6Day 3Mo. 77Yr. BOOK No.SURVEYOR W.D. HELANDER RODMAN D. JENSEN

WEATHER:

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															876	
3	N	2640		88-34-20				5.8	-60.8	-60.9	1238.3		Δ			
4	"	2640		271-26-05				5.0	-61.1				Δ ₁			
5	"	1760		88-49-00				4.0		+32.3		1270.6	-	877		
6	"	880		89-25-05				4.0		+4.9		1243.2	-	878		
7		0														
8	S	880		90-48-25				5.7		-5.7		1232.6	-	879		π
9	"	1760		90-44-33				4.0		-16.4		1221.9	-	880		
10	"	2640		90-42-55				4.0		-26.8		1211.5	-	881		
11	"	2969		90-37-16				4.0		-37.0		1201.3	-	882		
12	"	2969		269-23-25				10.0	-42.2	-41.9		1196.4	0	882-329	BAS 4514	
13													0 ₁			MARKER PIPE
14												1196.5				
15																
16																
17																
18																
19																
20																

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CHECKED BY 1st

2nd

STADIA SURVEY NOTES

AREA SMITH MOUNTAIN STATE or PROVINCE ALASKA PAGE No. 44
 LINE No.(s) 45 PARTY No. 1184 DATE 6 Day 3 Mo. 77 Yr. BOOK No. _____
 SURVEYOR W.D. HELANDER RODMAN D. JENSEN WEATHER: _____ P.T.S. No. _____

LINE	Bearing of Sight	Stadia Distance	BEAMAN OR VERNIER			ROD READING				Angular Elev. Diff.	Final Elev. Diff.	ELEVATIONS		AB.S. OF S. - S.S.	Station	REMARKS
			Level	Inclined	Angle or Factor	Hair Read	Reading	Correc-tion	Center Hair			INST.	ROD			
1			TAKE OFF			BAS	45	14				1196.5				MARKER PIPE
2																
3	N	2311		89-06-30				5.0	-31.6	-31.8	1164.7		Δ			
4	"	2311		87-55-13				5.0	-32.1				Δ			
5	"	1760		89-12-50				4.0		+20.1	1184.8		-	883		
6	"	880		89-38-00				4.0		+1.6	1166.3		-	884		
7		0						H1 5.7		-5.7	1159.0			885		π
8	S	880		90-32-18				4.0		-12.3	1152.4		-	886		
9	"	1760		90-16-40				4.0		-12.5	1152.2		-	887		
10	"	2640	✓					13.5		-13.5	1151.2		0	888		1150.6
11	"	2640		90-04-26				10.0	-13.4				0			
12	N	2640		90-31-20				14.0	38.1	+37.8	1189.0		Δ			
13	"	2640		269-27-20				14.0	37.5				Δ			
14	"	1760		90-34-40				4.0		-21.7	1167.3		-	889		
15	"	880		90-41-40				4.0		-14.7	1175.3		-	890		
16		0						H1 5.7		-5.7	1183.2			891		π
17	S	880		89-58-50				4.0		-3.7	1185.3		-	892		
18	"	1760		89-57-00				10.0		-8.5	1180.5		-	893		
19	"	2640		89-58-08 89-57-30				15.0	-13.1	-12.9	1176.1		0	894		1174.9
20	"	2640		87-03-00				15.0	-12.7				0			

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STADIA SURVEY NOTES

AREA SMITH MOUNTAIN STATE or PROVINCE ALASKA PAGE No. 45
 LINE No.(s) 45 PARTY No. 1184 DATE 6 Day 3 Mo. 77 Yr. BOOK No. _____
 SURVEYOR W.D. HELANDER RODMAN D. JENSEN WEATHER: _____ 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													1176.1			
2															894	
3	N	880	✓						10.1	+10.1	1186.2		Δ			
4	"	880		89-44	37				14.8	10.1			Δ ₁			
5		0						H1	5.8	-5.8		11804		895	π	
6	S	880		89-02	26				4.0	+10.7		1196.9	-	896		
7	"	1760		88-15	-14				14.0	39.6	+39.7		0	897	1224.5	
8	"	1760		271-45	20				14.0	39.9			0 ₁			
9	N	880		90-43 30		90-42	50		10.0	21.0	+20.8	1246.7		Δ		
10	"	880		269-18	04				10.0	20.7				Δ ₁		
11		0						H1	5.8	-5.8		1240.9		898	π	
12	S	880		89-28	22				4.0	+4.1		1250.8	-	899		
13	"	1760		89-25 35		89-28	12		4.0	+12.3		1259.0	-	900		
14	"	2640		89-08	30				10.0	29.5	+29.7		0	901	1274.6	
15	"	2640		270-32	05				10.0	30.0			0 ₁			
16	N	2640		91-20	33				10.0	71.9	+71.7	1348.1		Δ		
17	"	2640		268-40	00				10.0	71.4				Δ ₁		
18	"	1760		91-34	20				4.0	-52.3		1295.8	-	902		
19	"	880		91-46	17				4.0	-31.2		1316.9	-	903		
20		0						H1	5.7	-5.7		1342.4		904	π	

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STADIA SURVEY NOTES

AREA SMITH MOUNTAIN STATE or PROVINCE ALASKA PAGE No. 46
 LINE No.(s) 45 PARTY No. 1184 DATE 7 Day 3 Mo. 77 Yr. BOOK No. _____
 SURVEYOR W.D. HELMCKER RODMAN D. JENSEN WEATHER: _____ 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												1348.1				
2																
3	S	880		88-33-20				4.0		+18.2		1366.3	-	905		
4	"	1760		88-27-20				4.6		+43.4		1391.5	-	906		
5	"	2640		88-20-55				15.0	61.1	+61.2		1409.3	0	907		1406.9
6	"	2640		27-39-30				15.0	61.4					0		
7	N	1760		91-03-22				14.0	46.4	+46.6	1455.9			Δ		
8	"	1760		90-05-32 91-56-00				14.0	46.8					Δ		
9	"	880		91-15-20				4.0		-23.3		1432.6	-	908		
10		0						HI 5.4		-5.4		1450.5		909		X
11	W	567		87-27-27				10.0	15.2	+15.2		1471.1	0	BAS 4515		
12	"	567		27-32-14				10.0	15.1					0		1468.4
13												ELEV	1468.4			
14																
15												MISTIE	+2.7			
16																
17																
18																
19																
20																

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STADIA SURVEY NOTES

AREA SMITH MOUNTAIN STATE or PROVINCE ALASKA PAGE No. 47
 LINE No.(s) 45 PARTY No. 1184 DATE 7 Day 3 Mo. 77 Yr. BOOK No. _____
 SURVEYOR W.D. HELANDER RODMAN D. JENSEN WEATHER: _____ 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			TAKE OFF			BAS 4515							1468.4			
2																
3	W	568		88-02-55				5.0	-14.3	-14.4	1454.0		Δ			
4	"	568		271-57-47				5.0	-14.5				Δ ₁			
5		0						HI 5.7		-5.7		1448.3		909	π	
6	S	880		88-09-55				4.0		+8.8		1462.8	-	910		
7	"	1760		88-32-28				10.0	34.8	+35.0		1489.0	0	911		
8	"	1760		271-28-15				10.0	35.9				0			
9	N	1760		90-14-10				14.0	21.3	+21.1	1510.1		Δ			
10	"	1760		269-46-30				14.0	20.9				Δ ₁			
11	"	880		91-32-55				4.0		-12.4		1497.7	-	912		
12		0						HI 5.7		-5.7		1504.4		913	π	
13	S	880		91-36-00				14.0		-38.6		1471.5	-	914		
14	"	1760		91-25-45				15.0		-53.8		1456.3	-	915		
15	"	2640	✓					2.7		-2.7		1507.4	0	916		1508.4
16	"	2640		89-57-07				5.0	-2.8				0 ₁			
17	N	1760		90-40-17				14.0	34.6	+34.6	1542.0		Δ			
18	"	1760		269-20-00				14.0	34.5				Δ ₁			
19	"	880		91-06-00				4.0		-20.9		1521.1	-	917		
20		0						HI 5.8		-5.8		1536.2		918	π	

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2nd _____

STADIA SURVEY NOTES

AREA SMITH MOUNTAIN STATE or PROVINCE ALASKA PAGE No. 48
 LINE No.(s) 45 PARTY No. 1184 DATE 7 Day 3 Mo. 77 Yr. BOOK No. _____
 SURVEYOR W. D. HELANDER RODMAN D. JENSEN WEATHER: _____ P.T.S. No. _____

LINE	Bearing of Sight	Stadia Distance	BEAMAN OR VERNIER			ROD READING				Angular Elev. Diff.	Final Elev. Diff.	ELEVATIONS		AB.S. OF.S. - S.S.	Station	REMARKS
			Level	Inclined	Angle or Factor	Hair Read	Reading	Correction	Center Hair			INST.	ROD			
1												1542.0				
2																
3	S	880		89-24-15				4.0		+5.2		1547.2	-	919		
4	"	1760		88-42-10				4.0		+35.8		1577.8	-	920		
5	"	2640		88-22-32				15.0	59.8	+60.2		1602.2	0	921		
6	"	2640		271-38-30				15.0	60.6				0			
7	N	880		86-57-47				14.0	-32.6	-32.7	1569.5		4			
8	"	880		273-02-55				14.0	-32.8				4			
9		0														
10	S	880		95-00-20				41 5.8		-5.8		1563.7		922		π
11	"	1760		93-57-20				17.5		-94.3		1475.2	-	923		
12	"	2640		92-14-37				10.0		-131.4		1438.1	-	924		CREEK BOTTOM
13	"	2640		267-46-00				10.0	-113.4	-113.2		1456.3	0	925		1458.5
14													0			
15																
16																
17																
18																
19																
20																

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STADIA SURVEY NOTES

AREA SMITH MOUNTAIN STATE or PROVINCE ALASKA PAGE No. 49
 LINE No.(s) 45 PARTY No. 1184 DATE 8 Day 3 Mo. 77 Yr. BOOK No. _____
 SURVEYOR W. D. HELANDER RODMAN D. JENSEN WEATHER: _____ P.T.S. No. _____

LINE	Bearing of Sight	Stadia Distance	BEAMAN OR VERNIER			ROD READING				Angular Elev. Diff.	Final Elev. Diff.	ELEVATIONS		AB.S. OF S. - S.S.	Station	REMARKS
			Level	Inclined	Angle or Factor	Hair Read	Reading	Correc-tion	Center Hair			INST.	ROD			
1													1456.3			
2															925	
3	N	1430		70-49-14				14.0	34.5	+34.3	1490.6			Δ		
4	"	1430		269-11-53				14.0	34.0					Δ ₁		
5	"	550		70-45-50				4.0		-11.3			1479.3	-	926	
6		0						5.8		-5.8			1484.8		926.3	π
7	S	330		91-04-04				4.0		-10.1			1480.5	-	927	
8	"	1210		91-16-13				10.0	-36.8	-36.6			1454.0	0	928	1456.6
9	"	1210		268-44-55				10.0	-36.4					0 ₁		
10	N	1760		89-09-25				10.0	-15.9	-16.1	1437.9			Δ		
11	"	1760		270-31-17				10.0	-16.3					0 ₁		
12	"	880		89-28-30				4.0		+4.1			1442.0	-	929	
13		0						8.7		-5.7			1432.2		930	π
14	S	880		91-11-43				4.0		-22.4			1415.5	-	931	
15	"	1760		70-24-28				4.0		-16.5			1421.4	-	932	
16	"	2640		70-08-35				10.0	-16.6	-16.3			1421.6	0	933	10 MILE PIPE
17	"	2640		269-52-08				10.0	-16.0					0 ₁		1424.9
18	N	1760		88-56-08				5.0	-27.7	-27.9	1393.7			Δ		
19	"	1760		271-04-40				5.0	-28.1					Δ ₁		
20		880		89-09-05				4.0		+9.0			1402.7	-	934	

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STADIA SURVEY NOTES

AREA SMITH MOUNTAIN STATE or PROVINCE ALASKA PAGE No. 50
 LINE No.(s) 45 PARTY No. 1184 DATE 8 Day 3 Mo. 77 Yr. BOOK No. _____
 SURVEYOR W. D. HELANDER RODMAN D. JENSEN 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	Correction			Center Hair	INST.		
1											1393.7			
2														
3		0												
4	S	880		91-22-28								1387.9	935	π
5	"	1760		91-12-28								1368.6	-	936
6	"	2640		91-00-20								1352.6	-	937
7	"	2640		269-00-28								1337.7	0	938
8	N	2640		89-10-44										1341.7
9	"	2640		270-50-05										
10	"	1760		89-20-00										
11	"	880		89-43-40										
12		0												
13	S	880		88-55-35										
14	"	1760		88-56-37										
15	"	1760		271-04-04										
16	N	1760		89-43-00										
17	"	1760		270-18-05										
18	"	880		90-04-13										
19		0												
20	S	880		90-03-15										

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STADIA SURVEY NOTES

AREA SMITH MOUNTAIN STATE or PROVINCE ALASKA PAGE No. 51
 LINE No.(s) 45 PARTY No. 1184 DATE 9 Day 3 Mo. 77 Yr. BOOK No. _____
 SURVEYOR W. D. HELANDER RODMAN D. JENSEN WEATHER: _____ 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	Correction			Center Hair	INST.			
1											1329.2				
2															
3	S	1760	✓					4.2	-4.1		1325.1	0	947	1330.3	
4	"	1760		89-48-15				10.0	-4.0			0			
5	N	2640	✓					12.9	+12.9		1338.0	Δ			
6	"	2640		89-58-35				14.0	12.9			Δ			
7	"	1760		90-14-25				4.0	-11.4		1326.4	-	948		
8	"	880		90-20-36				4.0	-9.3		1328.7	-	949		
9		0						5.7	-5.7		1332.3		950	π	
10	S	880		70-44-10				4.0	-15.3		1322.7	-	951	THIS IS NOW THE	
11	"	1760		70-28-53				4.0	-18.8		1319.2	-	952	LAST SP ON LINE	
12	"	2640		90-09-15				10.0	-17.1		1320.9	0		MARKER PIPE	
13	"	2640		269-50-37				10.0	-17.2			0		1326.9	
14	N	1650		90-10-17				14.0	18.9	+19.1	1340.0	Δ			
15	"	1650		269-48-52				14.0	19.3			Δ			
16		0												π 954-3	
17	S	2162		89-00-50				10.0	27.2	+27.2	1367.2	0	BAS 4590		
18	"			270-59-00				10.0	27.1			0			
19											1373.8			1373.8	
20											-6.6			var. mistie	

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