

HORIZONTAL AND VERTICAL SURVEY NOTES

GSI AREA HARRISON BAY STATE/COUNTY ALASKA BOOK NO. 2 PAGE 71 OF
 LINE/LOOP NO. 16-81 TYPE SURVEY Vert CLIENT USGS DATE 17 DY 2 MO 81 YR
 SURVEYOR M. O'GRADY INSTRUMENT DESC/SERIAL NO. T-2 Wild CREW NO. 1186

LINE	<input type="checkbox"/> Δ <input type="checkbox"/> T <input type="checkbox"/> SS <input type="checkbox"/> ⊙	STATION	VERTICAL					ELEVATION		L/R OR DI	RIGHT TURNED HORIZONTAL ANGLE	LINE	REMARKS	
			DISTANCE	<input type="checkbox"/> FEET <input type="checkbox"/> METERS	VERTICAL ANGLE OBS.	ROD RDG OR HI	ELEV DIFF	FINAL ELEVATION DIFF	INST					ROD
			SLOPE	HORIZ										
1											1			
2	Δ	BARR MARK 81447	-0-		90	5.7					2	BARR MARK		
3											3	ELEV 67.1		
4											4			
5	T	BARR MARK 81447 81447	-0-		90	5.7		72.8			5			
6											6			
7											7			
8	⊙	SP 500	7104.32		90 03 41	5.3					8			
9					269 55 42	5.3			60.3		9			
10											10			
11	Δ	SP 500	-0-		90	5.0					11			
12											12			
13	T	SP 500	0		90	5.0		65.3			13			
14											14			
15	SS	BARR MARK	7104.32		89 55 35	5.8	+4.4				15			
16					270 04 16	5.8	+4.2		69.5		16	67.1 - 69.5 =		
17											17	2.2 MISTIE		

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SYMBOLS Δ = BACKSIGHT T = INSTRUMENT SET-UP SS = SIDESHOT ⊙ = FORESIGHT

HORIZONTAL AND VERTICAL SURVEY NOTES

GSI AREA Harrison Bay STATE/COUNTY Alaska BOOK NO. 2 PAGE 72 OF
 LINE/LOOP NO. 16-81 TYPE SURVEY Vert CLIENT USGS DATE 17 DY 2 MO 81 YR
 SURVEYOR M. O'GRADY INSTRUMENT DESC/SERIAL NO. T-2 W14 CREW NO. 1186

LINE	 	STATION	VERTICAL					ELEVATION		L/R OR DI	RIGHT TURNED HORIZONTAL ANGLE	LINE	REMARKS	
			DISTANCE	<input checked="" type="checkbox"/> FEET <input type="checkbox"/> METERS	VERTICAL ANGLE OBS.	ROD RDG OR HI	ELEV DIFF	FINAL ELEVATION DIFF	INST					ROD
				SLOPE										
1														
2		SP 500	2140		89 53 42	11		+6.0					Corrected Elev	
3					270 06 20	11							OF SP 500	
4		TS 999	2200		89 54 57	11			59.8				59.2	
5		TS 998	1760		89 51 52	11			55.7				60.3 - 1/2(2.2) =	
6		497	1370		89 43 55	11			57.7				59.2	
7		496	880		89 38 18	11			57.1					
8		495	440		89 08 42	11			58.1					
9		TS 994	-0-		90	5.4		65.2	59.8					
10		493	440		89 07 56	11			58.2					
11		492	880		89 28 31	11			59.6					
12		491	1370		89 40 08	11			59.2					
13		490	1760		89 44 11	11			59.7					
14		489	2200		89 47 37	11			59.5					
15		488	2690		89 49 50	11			59.5					
16														
17														

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HORIZONTAL AND VERTICAL SURVEY NOTES

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GSI AREA Harrison Bay STATE/COUNTY Alaska BOOK NO. 2 PAGE 73 OF
 LINE/LOOP NO. 16-81 TYPE SURVEY Vert. CLIENT USGS DATE 17 DY 2 MO 81 YR
 SURVEYOR M. O'GRADY INSTRUMENT DESC/SERIAL NO. T-2 Wild CREW NO. 1186

LINE	 	STATION	VERTICAL					ELEVATION		L/R OR DI	HORIZONTAL		REMARKS	
			DISTANCE	<input type="checkbox"/> FEET <input type="checkbox"/> METERS	VERTICAL ANGLE OBS.	ROD RDG OR HI	ELEV DIFF	FINAL ELEVATION DIFF	INST		ROD	RIGHT TURNED HORIZONTAL ANGLE		LINE
			SLOPE	HORIZ										
1												1		
2	A	SP 500	2640		89 42 35	11		-2.5				2	Corrected Elev	
3					276 17 26	11						3	of SP500	
4		501	2200		89 39 06	11						4	Elev = 59.2	
5		502	1760		89 33 29	11						5		
6		503	1320		89 28 07	11						6		
7		504	880		89 37 36	11						7		
8		505	440		89 22 00	11						8		
9	T	506	-0-		90	5.3			56.7			9		
10		507	440		89 27 42	11						10		
11		508	880		89 48 13	11						11		
12		509	1320		89 56 49	11						12		
13		510	1760		89 58 50	11						13		
14		511	2200		89 52 40	11						14		
15	O	512	2640		89 58 10	11		-9.4				15		
16					270 01 48	11				47.2		16		
17												17		

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HORIZONTAL AND VERTICAL SURVEY NOTES

GSI AREA Harrison Bay STATE/COUNTY ALASKA BOOK NO. 2 PAGE 14 OF 4
 LINE/LOOP NO. 16-81 TYPE SURVEY Vert CLIENT USGS DATE 17 DY 2 MO 81 YR
 SURVEYOR M. O'GRADY INSTRUMENT DESC/SERIAL NO. 7-2 Wild CREW NO. 1186

LINE	<input type="checkbox"/> Δ <input type="checkbox"/> ⚓ <input type="checkbox"/> SS <input type="checkbox"/> ⊙	STATION	VERTICAL					ELEVATION		L/R OR DJ	HORIZONTAL		REMARKS	
			DISTANCE	<input type="checkbox"/> FEET <input type="checkbox"/> METERS	VERTICAL ANGLE OBS.	ROD RDG OR HI	ELEV DIFF	FINAL ELEVATION DIFF	INST		ROD	RIGHT TURNED HORIZONTAL ANGLE		LINE
			SLOPE	HORIZ										
1	Δ	SP 512	3080		89 44 03	11		-3.5				1		
2					270 16 04	11						2		
3		SP 513	2140		89 54 31	11						3		
4		" 514	2200		89 54 32	11						4		
5		" 515	1760		89 51 07	11						5		
6		" 516	1320		89 38 28	11						6		
7		" 517	880		89 37 38	11						7		
8		" 518	440		89 15 52	11						8		
9	Δ	SP 519	- 0 -		90	5.3		43.7				9		
10		520	440		90 05 43	11						10		
11		521	880		90 12 23	11						11		
12		522	1320		89 54 32	11						12		
13		523	1760		89 57 43	11						13		
14		524	2200		90 12 37	11						14		
15	TP	525			89 41 41	11		+2.6				15		
16		524 +	2537		270 18 07	11				46.3		16		
17												17		

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HORIZONTAL AND VERTICAL SURVEY NOTES

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GSI AREA Harrison Bay STATE/COUNTY Alaska BOOK NO. 2 PAGE 75 OF
 LINE/LOOP NO. 16-81 TYPE SURVEY Vert CLIENT USGS DATE 18 DY 2 MO 81 YR
 SURVEYOR M. O'GRADY INSTRUMENT DESC/SERIAL NO. T-2 Wild CREW NO. 186

LINE	 	STATION	VERTICAL						HORIZONTAL			REMARKS		
			DISTANCE	<input checked="" type="checkbox"/> FEET <input type="checkbox"/> METERS	VERTICAL ANGLE OBS.	ROD RDG OR HI	ELEV DIFF	FINAL ELEVATION DIFF	ELEVATION		L/R OR DI		RIGHT TURNED HORIZONTAL ANGLE	LINE
				SLOPE					HORIZ	INST				
1		SP 524 + 333 337	2303		89 30 18	11		-9.0				1		
2					270 29 51	11						2		
3		SP 525	2200		89 54 48	11						3		
4		526	1760		89 46 08	11						4		
5		527	1320		89 49 26	11						5		
6		528	880		89 52 48	11						6		
7		529	440		89 38 53	11						7		
8		530	-0-		90	5.6			37.2			8		
9		531	446		89 52 50	11						9		
10		532	880		89 48 38	11						10		
11		533	1320		89 50 56	11						11		
12		534	1760		89 36 35	11		+1.1				12		
13					270 23 26	11				38.3		13		
14												14		
15		SP 534	2200		89 42 32	11		-1.3				15		
16					270 17 27	11						16		
17												17		

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HORIZONTAL AND VERTICAL SURVEY NOTES

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GSI AREA Harrison Bay STATE/COUNTY Alaska BOOK NO. 2 PAGE 76 OF
 LINE/LOOP NO. 16-81 TYPE SURVEY Vert CLIENT USGS DATE 18 DY 2 MO 81 YR
 SURVEYOR M. O'Grady INSTRUMENT DESC/SERIAL NO. T-2 Wild CREW NO. 1186

LINE	<input type="checkbox"/> Δ <input type="checkbox"/> K <input type="checkbox"/> SS <input type="checkbox"/> ⊙	STATION	VERTICAL					ELEVATION		L/R OR D/I	RIGHT TURNED HORIZONTAL ANGLE	LINE	REMARKS	
			DISTANCE	<input type="checkbox"/> FEET <input type="checkbox"/> METERS	VERTICAL ANGLE OBS.	ROD RDG OR HI	ELEV DIFF	FINAL ELEVATION DIFF	INST					ROD
			SLOPE	HORIZ										
1		SP 535	1760		89 59 57	11					1			
2		536	1320		89 51 18	11					2			
3		537	880		89 33 36	11					3			
4		538	440		89 16 42	11					4			
5	<input checked="" type="checkbox"/> K	539	0		90	5.3		38.0			5			
6		540	440		89 08 13	11					6			
7		541	880		89 44 42	11					7			
8		542	1320		89 54 42	11					8			
9		543	1760		89 38 40	11					9			
10		544	2200		89 36 45	11					10			
11	<input checked="" type="checkbox"/> ⊙	545	2640		89 43 22	11	+1.9				11			
12					89 16 32	11		39.9			12			
13											13			
14	<input checked="" type="checkbox"/> A	SP 545	1760		89 53 19	11	+7.5				14			
15					270 06 42	11					15			
16		546	1320		89 49 19	11					16			
17											17			

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SYMBOLS Δ = BACKSIGHT K = INSTRUMENT SET-UP SS = SIDESHOT ⊙ = FORESIGHT

HORIZONTAL AND VERTICAL SURVEY NOTES

GSI AREA Harrison Bay STATE/COUNTY ALASKA BOOK NO. 2 PAGE 77 OF 77
 LINE/LOOP NO. 16-81 TYPE SURVEY Vert CLIENT USGS DATE 18 DY 2 MO 81 YR
 SURVEYOR M. O'GRADY INSTRUMENT DESC/SERIAL NO. T-2 Wild CREW NO. 1186

LINE	<input type="checkbox"/> Δ <input type="checkbox"/> ∇ <input type="checkbox"/> SS <input type="checkbox"/> \odot	STATION	VERTICAL					ELEVATION		L/R OR DI	RIGHT TURNED HORIZONTAL ANGLE	LINE	REMARKS	
			DISTANCE	<input type="checkbox"/> FEET <input type="checkbox"/> METERS	VERTICAL ANGLE OBS.	ROD RDG OR HI	ELEV DIFF	FINAL ELEVATION DIFF	INST					ROD
			SLOPE	HORIZ										
1		SP 547	880		89 45 37	11						1		
2		548	440		89 20 39	11						2		
3	∇	549	-0-		90	5.9		47.4				3		
4		550	490		89 13 56	11						4		
5		551	880		89 37 32	11						5		
6		552	1320		89 43 52	11						6		
7		553	1760		89 45 32	11						7		
8		554	2260		89 34 25	11						8		
9	\odot	555	2640		89 37 06	11	+6.7		54.1			9		
10					270 22 49	11						10		
11												11		
12	Δ	SP 535	3080		89 54 30	11	+5.9					12		
13					270 05 30	11						13		
14		SP 556	2640		89 58 42	11						14		
15		557	2200		89 59 49	11						15		
16		558	1760		90 00 20	11						16		
17												17		

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SYMBOLS Δ = BACKSIGHT ∇ = INSTRUMENT SET-UP SS = SIDESHOT \odot = FORESIGHT

HORIZONTAL AND VERTICAL SURVEY NOTES

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GSI AREA HARRISON BAY STATE/COUNTY ALASKA BOOK NO. 2 PAGE 38 OF
 LINE/LOOP NO. 16-81 TYPE SURVEY Vert CLIENT USGS DATE 18 DY 2 MO 81 YR
 SURVEYOR M. O'GRADY INSTRUMENT DESC/SERIAL NO. T-2 CREW NO. 1186

LINE	<input type="checkbox"/> Δ <input type="checkbox"/> ⚓ <input type="checkbox"/> SS <input type="checkbox"/> ⊙	STATION	VERTICAL					ELEVATION		L/R OR DI	HORIZONTAL		REMARKS	
			DISTANCE	<input type="checkbox"/> FEET <input type="checkbox"/> METERS	VERTICAL ANGLE OBS.	ROD RDG OR HI	ELEV DIFF	FINAL ELEVATION DIFF	INST		ROD	RIGHT TURNED HORIZONTAL ANGLE		LINE
				SLOPE										
1		SP 559	1320		89 53 24						1			
2		560	880		89 50 55						2			
3		561	490		89 24 06						3			
4	⚓	562	-0-		90	5.3		59.9			4			
5		563	440		89 19 58						5			
6		56A	880		89 35 23						6			
7		565	1320		89 42 11						7			
8		566	1760		89 48 31						8			
9		567	2200		89 49 32						9			
10		568	2640		89 51 15						10			
11	⊙	569	3080		89 52 27		-4.0	55.9			11			
12					270 07 29						12			
13											13			
14	Δ SP	569	1760		89 48 20		+2.4				14			
15	Δ	569			270 16 50						15			
16											16			
17											17			

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SYMBOLS Δ = BACKSIGHT ⚓ = INSTRUMENT SET-UP SS = SIDESHOT ⊙ = FORESIGHT

HORIZONTAL AND VERTICAL SURVEY NOTES

GSI AREA Harrison Bay STATE/COUNTY Alaska BOOK NO. 2 PAGE 79 OF 9
 LINE/LOOP NO. 16-81 TYPE SURVEY Vert CLIENT USGS DATE 18 DY 2 MO 81 YR
 SURVEYOR M. O'BRADY INSTRUMENT DESC/SERIAL NO. T-2 Wild CREW NO. 1186

LINE	<input type="checkbox"/> Δ <input type="checkbox"/> T <input type="checkbox"/> SS <input type="checkbox"/> ⊙	STATION	VERTICAL					ELEVATION		L/R OR D/I	RIGHT TURNED HORIZONTAL ANGLE	LINE	REMARKS	
			DISTANCE	<input type="checkbox"/> FEET <input type="checkbox"/> METERS	VERTICAL ANGLE OBS.	ROD RDG OR HI	ELEV DIFF	FINAL ELEVATION DIFF	INST					ROD
			SLOPE	HORIZ										
1		570	1320		89 44 25	11						1		
2		571	800		89 40 08	11						2		
3		572	440		89 09 34	11						3		
4	A	573	-0-		90	53		58.2				4		
5		574	440		90 56 50	11						5		
6		575	880		90 21 22	11						6		
7		576	1320		90 21 54	11						7		
8		577	1760		90 16 00	11						8		
9		578	2200		90 09 55	11						9		
10		579	2690		90 06 38	11						10		
11	⊙	580	3800		90 04 29	11		-14.8		43.4		11		
12					269 55 25	11						12		
13												13		
14	A	580	1760		89 39 38	11		±.5				14		
15					270 20 25	11						15		
16		581	1320		89 51 38	11						16		
17												17		

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SYMBOLS Δ = BACKSIGHT T = INSTRUMENT SET-UP SS = SIDESHOT ⊙ = FORESIGHT

HORIZONTAL AND VERTICAL SURVEY NOTES

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GSI AREA HARRISON Bay STATE/COUNTY ALASKA BOOK NO. 2 PAGE 80 OF
 LINE/LOOP NO. 16-81 TYPE SURVEY Vert CLIENT USGS DATE 18 DY 2 MO 81 YR
 SURVEYOR M. O'GRADY INSTRUMENT DESC/SERIAL NO. T-2 Wild CREW NO. 1186

LINE	<input type="checkbox"/> Δ <input type="checkbox"/> ∇ <input type="checkbox"/> SS <input type="checkbox"/> \odot	STATION	VERTICAL					ELEVATION		L/R OR D/I	HORIZONTAL		REMARKS	
			DISTANCE	<input checked="" type="checkbox"/> FEET <input type="checkbox"/> METERS	VERTICAL ANGLE OBS.	ROD RDG OR HI	ELEV DIFF	FINAL ELEVATION DIFF	INST		ROD	RIGHT TURNED HORIZONTAL ANGLE		LINE
				SLOPE										
1		582	880		89 48 07	11						1		
2		583	440		90 09 38	11						2		
3	∇	584	-0-		90	5.3		43.9				3		
4		585	440		89 04 23	11						4		
5		586	880		89 11 32	11						5		
6		587	1320		89 46 58	11						6		
7		588	1760		89 38 30	11						7		
8		589	2200		88 35 45	11						8		
9	\odot	590	2640		88 40 40	11	50.1		94.0			9		
10					271 19 19	11						10		
11												11		
12	∇	SP590	1760		89 27 35	11	-5.7					12		
13	∇				270 32 23	11						13		
14		591	1320		89 35 29	11						14		
15		592	880		89 15 43	11						15		
16		593	440		88 18 06	11						16		
17												17		

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HORIZONTAL AND VERTICAL SURVEY NOTES

GSI AREA Harrison Bay STATE/COUNTY Alaska BOOK NO. 2 PAGE 81 OF 11
 LINE/LOOP NO. 14-81 TYPE SURVEY Vert CLIENT USGS DATE 18 DY 2 MO 81 YR
 SURVEYOR M. O'GRADY INSTRUMENT DESC/SERIAL NO. T-2 Wild CREW NO. 1186

LINE	<input type="checkbox"/> Δ <input type="checkbox"/> K <input type="checkbox"/> SS <input type="checkbox"/> ⊙	STATION	VERTICAL					ELEVATION		L/R OR DI	RIGHT TURNED HORIZONTAL ANGLE	LINE	REMARKS	
			DISTANCE	<input type="checkbox"/> FEET <input type="checkbox"/> METERS	VERTICAL ANGLE OBS.	ROD RDG OR HI	ELEV DIFF	FINAL ELEVATION DIFF	INST					ROD
			SLOPE 	HORIZ 										
1	<input checked="" type="checkbox"/> K	SP594	-0-		90	5.3		88.3			1			
2		595	440		90 29 58	11					2			
3		596	880		90 36 32	11					3			
4		597	1320		90 21 20	11					4			
5		598	1760		90 15 51	11					5			
6		599	2200		90 12 41	11					6			
7	<input checked="" type="checkbox"/> ⊙	600	2640		90 11 41	11	-19.8		108.5		7			
8					269 48 16	11					8			
9											9			
10	<input checked="" type="checkbox"/> Δ	SP600	1320		90 07 17	11	+13.8				10			
11					269 52 47	11	+13.7				11			
12		601	880		90 09 11	11					12			
13		602	440		89 57 07	11					13			
14	<input checked="" type="checkbox"/> K	603	-0-		90	5.2		88.2			14			
15		604	440		89 00 15	11					15			
16	<input checked="" type="checkbox"/> ⊙	605	880		89 47 05	11	-7.7		114.0		16			
17					270 12 53	11					17			

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HORIZONTAL AND VERTICAL SURVEY NOTES

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GSI AREA Harrison Bay STATE/COUNTY Alaska BOOK NO. 2 PAGE 02 OF
 LINE/LOOP NO. 16-81 TYPE SURVEY Vert CLIENT USGS DATE 18 DY 2 MO 81 YR
 SURVEYOR M. O'Grady INSTRUMENT DESC/SERIAL NO. T-2 Wild CREW NO. 1186

LINE	 	STATION	VERTICAL					ELEVATION		L/R OR D/I	RIGHT TURNED HORIZONTAL ANGLE	LINE	REMARKS	
			DISTANCE	<input checked="" type="checkbox"/> FEET <input type="checkbox"/> METERS	VERTICAL ANGLE OBS.	ROD RDG OR HI	ELEV DIFF	FINAL ELEVATION DIFF	INST					ROD
			SLOPE	HORIZ										
1		SP 605	2200		88 48 48	11						1		
2					271 12 15	11						2		
3		606	1760		89 05 20	11						3		
4		607	1320		89 43 51	11						4		
5		608	880		89 32 10	11						5		
6		609	440		89 09 25	11						6		
7		610	-0-		90	5.3		39.9				7		
8		611	440		89 08 03	11						8		
9		612	880		89 43 10	11						9		
10		613	1320		89 49 09	11						10		
11		614	1760		88 45 46	11						11		
12		615	2200		89 03 31	11	25.2					12		
13					270 56 13	11			65.1			13		
14		616			89							14		
15		615	2640		90 02 11	11	+12.5					15		
16					269 57 39	11						16		
17												17		

1760
 440
 2200

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HORIZONTAL AND VERTICAL SURVEY NOTES

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GSI AREA Harrison Bay STATE/COUNTY ALASKA BOOK NO. 2 PAGE 83 OF
 LINE/LOOP NO. 16-81 TYPE SURVEY Vert CLIENT USGS DATE 18 DY 2 MO 81 YR
 SURVEYOR M. O'GRADY INSTRUMENT DESC/SERIAL NO. T-2 wild CREW NO. 1186

LINE	<input type="checkbox"/> Δ <input type="checkbox"/> ∇ <input type="checkbox"/> SS <input type="checkbox"/> \odot	STATION	VERTICAL					ELEVATION		L/R OR DI	RIGHT TURNED HORIZONTAL ANGLE	LINE	REMARKS	
			DISTANCE	<input type="checkbox"/> FEET <input type="checkbox"/> METERS	VERTICAL ANGLE OBS.	ROD RDG OR HI	ELEV DIFF	FINAL ELEVATION DIFF	INST					ROD
			SLOPE	HORIZ										
1		SP 616	2200		90 03 22	11					1			
2		617	1760		90 05 06	11					2			
3		618	1320		90 02 12	11					3			
4		619	880		89 56 35	11					4			
5		620	440		89 37 42	11					5			
6	∇	621	-0-		90	5.2		77.7			6			
7		622	440		88 59 39	11					7			
8		623	880		89 23 35	11					8			
9		624	1320		89 34 44	11					9			
10		625	1760		89 40 38						10			
11		626	2200		89 43 00	11					11			
12	\odot	627	2640		89 42 36	11	+2.5				12			
13					270 17 28	11			80.2		13			
14											14			
15		62									15			
16											16			
17											17			

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SYMBOLS Δ = BACKSIGHT ∇ = INSTRUMENT SET-UP SS = SIDESHOT \odot = FORESIGHT

HORIZONTAL AND VERTICAL SURVEY NOTES

GSI AREA Harrison Bay STATE/COUNTY Alaska BOOK NO. 2 PAGE 84 OF
 LINE/LOOP NO. 16-B1 TYPE SURVEY Vert CLIENT USGS DATE 19 DY 2 MO 81 YR
 SURVEYOR M. O'GRADY INSTRUMENT DESC/SERIAL NO. T-2 wild CREW NO. 1186

LINE	 	STATION	VERTICAL					ELEVATION		L/R OR DJ	RIGHT TURNED HORIZONTAL ANGLE	LINE	REMARKS	
			DISTANCE	<input checked="" type="checkbox"/> FEET <input type="checkbox"/> METERS	VERTICAL ANGLE OBS.	ROD RDG OR HI	ELEV DIFF	FINAL ELEVATION DIFF	INST					ROD
			SLOPE	HORIZ										
1		SP 627	1760		90 0742	11		+1.9			1			
2					269 5229	11					2			
3		628	1320		90 0440	11					3			
4		629	880		89 48 28	11					4			
5		630	440		89 02 31	11					5			
6		SP 631	0		90	5.4		95.1			6			
7		632	440		89 42 11	11					7			
8		633	880		90 2309	11					8			
9		634	1320		90 04 08	11					9			
10		635	1760		89 58 29	11					10			
11		636	2200		89 55 24	11					11			
12		637	2640		89 57 11	11					12			
13		638	3080		89 51 50	11		-3.5			13			
14					270 08 12	11			91.6		14			
15											15			
16		SP 638	3080		89 34 10	11		-12.3			16			
17					270 25 58	11					17			

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HORIZONTAL AND VERTICAL SURVEY NOTES

GSI AREA Harrison Bay STATE/COUNTY Alaska BOOK NO. 2 PAGE 85 OF
 LINE/LOOP NO. 16-81 TYPE SURVEY Vert CLIENT USGS DATE 19 DY 2 MO 81 YR
 SURVEYOR M. O'GRADY INSTRUMENT DESC/SERIAL NO. T-2 Wild CREW NO. 1186

LINE	 	STATION	VERTICAL					ELEVATION		L/R OR DI	RIGHT TURNED HORIZONTAL ANGLE	LINE	REMARKS	
			DISTANCE	<input checked="" type="checkbox"/> FEET <input type="checkbox"/> METERS	VERTICAL ANGLE OBS.	ROD RDG OR HI	ELEV DIFF	FINAL ELEVATION DIFF	INST					ROD
			SLOPE	HORIZ										
1		SP 639	2640		89 39 02	11						1		
2		" 640	2200		89 41 30	11						2		
3		" 641	1760		89 41 30	11						3		
4		" 642	1320		89 35 25	11						4		
5		" 643	880		89 26 13	11						5		
6		" 644	440		89 12 06	11						6		
7		SP 645	-0-		90	5.3		79.2				7		
8		" 646	440		89 17 11	11						8		
9		" 647	880		89 39 56	11						9		
10		" 648	1320		89 46 15	11						10		
11		" 649	1760		89 50 20	11						11		
12		" 650	2200		89 38 09	11						12		
13		" 651	2640		89 35 23	11		8.0		87.2		13		
14					270 24 20	11						14		
15												15		
16		SP 651	2640		90 16 23	11		+23.4				16		
17					219 43 38	11						17		

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HORIZONTAL AND VERTICAL SURVEY NOTES

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GSI AREA Harrison Bay STATE/COUNTY Alaska BOOK NO. 2 PAGE 56 OF
 LINE/LOOP NO. 16-81 TYPE SURVEY Vert CLIENT USGS DATE 19 DY 2 MO 81 YR
 SURVEYOR N. O'GRADY INSTRUMENT DESC/SERIAL NO. T-2 Wild CREW NO. 7186

LINE	 	STATION	VERTICAL					ELEVATION		L/R OR D/I	RIGHT TURNED HORIZONTAL ANGLE	LINE	REMARKS	
			DISTANCE	<input checked="" type="checkbox"/> FEET <input type="checkbox"/> METERS	VERTICAL ANGLE OBS.	ROD RDG OR HI	ELEV DIFF	FINAL ELEVATION DIFF	INST					ROD
			SLOPE	HORIZ										
1		5P652	2200		90 22 28	11						1		
2		653	1760		90 23 00	11						2		
3		654	1320		90 31 26	11						3		
4		655	880		90 46 40	11						4		
5		656	440		91 24 37	11						5		
6		657	-0-		90	5.3		110.6				6		
7		658	440		91 32 29	11						7		
8		659	880		92 50 55	11						8		
9		660	1320		91 53 03	11						9		
10		661	1760		91 26 37	11						10		
11		662	2200		91 08 00	11						11		
12		663	2690		90 49 21	11		-48.8				12		
13					269 10 33	11			61.8			13		
14												14		
15		663	1925		91 06 23	11		-48.1				15		
16					268 53 45	11						16		
17												17		

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HORIZONTAL AND VERTICAL SURVEY NOTES

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GSI AREA HARRISON BAY STATE/COUNTY ALASKA BOOK NO. 2 PAGE 07 OF
 LINE/LOOP NO. 16-81 TYPE SURVEY Vert CLIENT USGS DATE 19 DY 2 MO 01 YR
 SURVEYOR M. O'GRADY INSTRUMENT DESC/SERIAL NO. T-2 Wild CREW NO. 1136

LINE	 	STATION	VERTICAL					ELEVATION		L/R OR D/I	RIGHT TURNED HORIZONTAL ANGLE	LINE	REMARKS	
			DISTANCE	<input checked="" type="checkbox"/> FEET <input type="checkbox"/> METERS	VERTICAL ANGLE OBS.	ROD RDG OR HI	ELEV DIFF	FINAL ELEVATION DIFF	INST					ROD
			SLOPE	HORIZ										
1		66A	1485		91 19 42	11					1			
2		665	1045		90 56 55	11					2			
3		666	605		90 20 40	11					3			
4		667	165		89 23 11	11					4			
5		TP 667+165	- 0 -		90 00 00	5.0		109.9			5			
6											6			
7		B.M. MARK	5000+		90 00 00	9.5			100.4		7	98.5 - 100.4 = 1.9		
8		81465			270 00 00	9.4					8	1.9 + IE		
9		B.M. MARK	5000+		90 00 00	9.5					9	81465 ELE = 98.48		
10		81465			270 00 00	9.4					10			
11		TP 667+165	- 0 -		90	5.0		108.0			11			
12		SP 668	275		89 27 04	11					12			
13		SP 669	715		89 32 36	11					13			
14		" 670	1155		89 41 27	11					14			
15		" 671	1595		89 49 13	11					15			
16		SP 672	2035		90 06 11	11					16			
17											17			

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HORIZONTAL AND VERTICAL SURVEY NOTES

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GSI AREA Harrison Bay STATE/COUNTY ALASKA BOOK NO. 2 PAGE 89 OF
 LINE/LOOP NO. 16-81 TYPE SURVEY Vert CLIENT USGS DATE 19 DY 2 MO 81 YR
 SURVEYOR M. O'BRYEN INSTRUMENT DESC/SERIAL NO. T-2 Wild CREW NO. 1186

LINE	<input type="checkbox"/> Δ <input type="checkbox"/> T <input type="checkbox"/> SS <input type="checkbox"/> ⊙	STATION	VERTICAL					ELEVATION		L/R OR D/I	HORIZONTAL		REMARKS	
			DISTANCE	<input type="checkbox"/> FEET <input type="checkbox"/> METERS	VERTICAL ANGLE OBS.	ROD RDG OR HI	ELEV DIFF	FINAL ELEVATION DIFF	INST		ROD	RIGHT TURNED HORIZONTAL ANGLE		LINE
				SLOPE										
1	⊙	SP 673	2475		90 06 34	11		-15.6		92.5		1		
2					269 53 44	11						2		
3												3		
4	Δ	SP 673	1760		88 40 08	11						4		
5					271 19 52	11						5		
6		674	1320		88 22 09	11						6		
7		675	880		88 29 05	11						7		
8		676	440		88 22 37	11						8		
9	T	677	0		90	5.3			62.5			9		
10		678	440		89 15 56	11						10		
11		679	880		88 10 23	11						11		
12		680	1320		88 25 23	11						12		
13	⊙	681	1760		88 40 29	11						13		
14		682	2200		271 19 18	11				92.3		14		
15												15		
16	Δ	681	2200		89 52 23	11						16		
17					270 07 46	11						17		

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HORIZONTAL AND VERTICAL SURVEY NOTES

GSI AREA Harrison Bay STATE/COUNTY Alaska BOOK NO. 2 PAGE 87 OF
 LINE/LOOP NO. 16-81 TYPE SURVEY Vert CLIENT USGS DATE 19 DY 2 MO 81 YR
 SURVEYOR M. OGLADY INSTRUMENT DESC/SERIAL NO. T-2 Wild CREW NO. 1186

LINE	 	STATION	VERTICAL					ELEVATION		L/R OR D/I	RIGHT TURNED HORIZONTAL ANGLE	LINE	REMARKS	
			DISTANCE	<input checked="" type="checkbox"/> FEET <input type="checkbox"/> METERS	VERTICAL ANGLE OBS.	ROD RDG OR HI	ELEV DIFF	FINAL ELEVATION DIFF	INST					ROD
			SLOPE	HORIZ										
1		682	1760		89 47 18	11					1			
2		683	1320		89 41 49	11					2			
3		684	880		89 31 28	11					3			
4		685	ddd		89 06 15	11					4			
5		686	0		90	5.3			090 12		5			
6		687	440		89 21 24	11					6			
7		688	880		89 22 54	11					7			
8		689	1320		89 23 26	11					8			
9		690	1760		89 22 42	11					9			
10		691	2200		89 20 44	11					10			
11		692	2640		89 22 51	11					11			
12		693	3080		89 22 58	11					12			
13					270 37 08	11				120 17	13			
14											14			
15											15			
16											16			
17											17			

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HORIZONTAL AND VERTICAL SURVEY NOTES

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GSI AREA HARRISON BAY STATE/COUNTY ALASKA BOOK NO. 2 PAGE 90 OF
 LINE/LOOP NO. 16-81 TYPE SURVEY Vert CLIENT 4565 DATE 20 DY 2 MO 81 YR
 SURVEYOR M. O'GRADY INSTRUMENT DESC/SERIAL NO. T-2 WIL CREW NO. 1186

LINE	 	STATION	VERTICAL					ELEVATION		L/R OR D/I	RIGHT TURNED HORIZONTAL ANGLE	LINE	REMARKS	
			DISTANCE	<input checked="" type="checkbox"/> FEET <input type="checkbox"/> METERS	VERTICAL ANGLE OBS.	ROD RDG OR HI	ELEV DIFF	FINAL ELEVATION DIFF	INST					ROD
			SLOPE	HORIZ										
1		SP 693	1760		89 02 39							1		
2					270 57 14							2		
3		SP 694	1320		89 04 01							3		
4		" 695	880		89 54 22							4		
5		" 696	440		88 19 34							5		
6		SP 697	0		90	5.3		102.3				6		
7		" 698	440		90 21 12							7		
8		" 699	880		90 29 30							8		
9		" 700	1320		90 19 48							9		
10		SP 701	1760		89 53 37							10		
11		702	2200		89 47 11							11		
12					89 47 10							12		
13					270 12 30			99.5				13		
14												14		
15		SP 702	2200		89 34 15							15		
16					270 25 55							16		
17												17		

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HORIZONTAL AND VERTICAL SURVEY NOTES

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GSI AREA Harrison Bay STATE/COUNTY Alaska BOOK NO. 2 PAGE 91 OF
 LINE/LOOP NO. 16-81 TYPE SURVEY Vert CLIENT USGS DATE 20 DY 2 MO 8 L YR
 SURVEYOR M. O'BRADY INSTRUMENT DESC/SERIAL NO. T-2 Wild CREW NO. 1186

LINE	 	STATION	VERTICAL					ELEVATION		L/R OR DJ	RIGHT TURNED HORIZONTAL ANGLE	LINE	REMARKS	
			DISTANCE	<input checked="" type="checkbox"/> FEET <input type="checkbox"/> METERS	VERTICAL ANGLE OBS.	ROD RDG OR HI	ELEV DIFF	FINAL ELEVATION DIFF	INST					ROD
			SLOPE 	HORIZ 										
1		SP 703	1760		89 55 49	11						1		
2		SP 704	1320		89 51 32	11						2		
3		705	880		89 44 37	11						3		
4		706	440		89 26 15	11						4		
5		707	- 0 -		90	54						5		
6		708	440		88 32 40	11						6		
7		709	880		89 07 33	11						7		
8		710	1320		89 20 19	11						8		
9		711	1760		89 17 47	11						9		
10		712	2200		89 24 46	11						10		
11		713	2640		89 32 3A	11						11		
12					270 27 23	11						12		
13												13		
14		SP 713	3080		90 06 08	11						14		
15					269 54 07	11						15		
16		714	2640		90 04 40	11						16		
17												17		

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HORIZONTAL AND VERTICAL SURVEY NOTES

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GSI AREA HARRISON BAY STATE/COUNTY Alaska BOOK NO. 2 PAGE 92 OF
 LINE/LOOP NO. 16-81 TYPE SURVEY VERT. CLIENT USGS DATE 20 BY 2 MO 81 YR
 SURVEYOR M. O'GRADY INSTRUMENT DESC/SERIAL NO. T-2 Wild CREW NO. 1186

LINE	<input type="checkbox"/> Δ <input type="checkbox"/> ⚓ <input type="checkbox"/> SS <input type="checkbox"/> ⊙	STATION	VERTICAL					ELEVATION		L/R OR DJI	RIGHT TURNED HORIZONTAL ANGLE	LINE	REMARKS	
			DISTANCE	<input type="checkbox"/> FEET <input type="checkbox"/> METERS	VERTICAL ANGLE OBS.	ROD RDG OR HI	ELEV DIFF	FINAL ELEVATION DIFF	INST					ROD
			SLOPE	HORIZ										
1		SP 715	2200		90 00 58	11					1			
2		716	1760		89 54 01	11					2			
3		717	1320		89 55 32	11					3			
4		718	880		89 51 08	11					4			
5		719	440		90 02 44	11					5			
6	Δ	SP 720	-0-		90	5.3		120.2			6			
7		721	440		89 56 00	11					7			
8		722	880		90 57 13	11					8			
9		723	1320		90 35 02	11					9			
10		724	1760		90 25 02	11					10			
11		725 725	2200		90 14 52	11					11			
12	⊙	726	2640		90 11 24	11					12			
13					269 48 28	11		100.6			13			
14											14			
15	Δ	SP 726	2200		90 17 39	11					15			
16					269 42 30	11					16			
17											17			

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SYMBOLS Δ = BACKSIGHT ⚓ = INSTRUMENT SET-UP SS = SIDESHOT ⊙ = FORESIGHT

HORIZONTAL AND VERTICAL SURVEY NOTES

GSI AREA HARRISON BAY STATE/COUNTY ALASKA BOOK NO. 2 PAGE 23 OF 23
 LINE/LOOP NO. 16-81 TYPE SURVEY Vert. CLIENT USGS DATE 20 DY 2 MO 81 YR
 SURVEYOR M. O'BREADY INSTRUMENT DESC/SERIAL NO. T-2 Wild CREW NO. 1186

LINE	 	STATION	VERTICAL					ELEVATION		L/R OR DJ	RIGHT TURNED HORIZONTAL ANGLE	LINE	REMARKS	
			DISTANCE	<input checked="" type="checkbox"/> FEET <input type="checkbox"/> METERS	VERTICAL ANGLE OBS.	ROD RDG OR HI	ELEV DIFF	FINAL ELEVATION DIFF	INST					ROD
				SLOPE										
1		SP 727	1760		90 27 46	11					1			
2		728	1320		90 36 08	11					2			
3		729	880		90 42 20	11					3			
4		730	440		89 54 49	11					4			
5		SP 731	0-		90	5.4		122.7			5			
6		732	440		89 08 44	11					6			
7		733	880		89 32 50	11					7			
8		734	1320		89 46 31	11					8			
9		735	1760		89 58 55	11					9			
10		736	2200		89 58 23	11					10			
11					270 01 52	11		112.9			11			
12											12			
13											13			
14											14			
15											15			
16											16			
17											17			

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HORIZONTAL AND VERTICAL SURVEY NOTES

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GSI AREA Harrison Bay STATE/COUNTY Alaska BOOK NO. 2 PAGE 94 OF 94
 LINE/LOOP NO. 16-81 TYPE SURVEY Vert CLIENT USGS DATE 21 DY 2 MO 81 YR
 SURVEYOR M. O'GRADY INSTRUMENT DESC/SERIAL NO. T-2 Wild CREW NO. 1186

LINE	 	STATION	VERTICAL					ELEVATION		L/R OR DI	RIGHT TURNED HORIZONTAL ANGLE	LINE	REMARKS	
			DISTANCE	<input checked="" type="checkbox"/> FEET <input type="checkbox"/> METERS	VERTICAL ANGLE OBS.	ROD RDG OR HI	ELEV DIFF	FINAL ELEVATION DIFF	INST					ROD
			SLOPE	HORIZ										
1		SP 736	2475		89 50 42	11						1		
2					270 09 09	11						2		
3		SP 737	2035		89 51 26	11						3		
4		738	1595		89 52 56	11						4		
5		739	1155		90 08 21	11						5		
6		740	715		89 58 21	11						6		
7		741	275		89 27 58	11						7		
8		TP 741 + 275	0		90	5.3		17.2				8		
9		742	1165		91 29 26	11						9		
10		743	605		90 16 38	11						10		
11		744	1045		89 50 23	11						11		
12		745	1485		89 43 18	11						12		
13		746	1925		89 53 48	11						13		
14		747	2365		270 05 51	11						14		
15					270 05 56	11		109.6				15		
16												16		
17												17		

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HORIZONTAL AND VERTICAL SURVEY NOTES

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GSI AREA Harrison Bay STATE/COUNTY Alaska BOOK NO. 2 PAGE 95 OF
 LINE/LOOP NO. 16-81 TYPE SURVEY Vert CLIENT USGS DATE 21 DY 2 MO 81 YR
 SURVEYOR M. O'GRADY INSTRUMENT DESC/SERIAL NO. T-2 Wild CREW NO. 1186

LINE	 	STATION	VERTICAL					ELEVATION		L/R OR DI	HORIZONTAL		REMARKS	
			DISTANCE	<input checked="" type="checkbox"/> FEET <input type="checkbox"/> METERS	VERTICAL ANGLE OBS.	ROD RDG OR HI	ELEV DIFF	FINAL ELEVATION DIFF	INST		ROD	RIGHT TURNED HORIZONTAL ANGLE		LINE
				SLOPE										
1		SP 746	2640		89 21 42	11						1		
2					270 38 19	11						2		
3		SP 747	2200		89 34 11	11						3		
4		748	2760		89 39 05	11						4		
5		749	1320		89 32 50	11						5		
6		750	880		89 18 46	11						6		
7		751	440		89 12 31	11						7		
8		SP 752	0 -		90	5.3		91.1				8		
9		753	440		88 58 19	11						9		
10		754	880		89 33 31	11						10		
11		755	1320		89 39 49	11						11		
12		756	1760		89 45 38	11						12		
13		757	2200		89 46 47	11						13		
14		758	2640		89 44 56	11						14		
15					270 14 50	11		91.7				15		
16												16		
17												17		

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HORIZONTAL AND VERTICAL SURVEY NOTES

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GSI AREA Harrison Bay STATE/COUNTY ALASKA BOOK NO. 2 PAGE 96 OF
 LINE/LOOP NO. 16-81 TYPE SURVEY Vert CLIENT 4565 DATE 21 DY 2 MO 81 YR
 SURVEYOR M. O'GRADY INSTRUMENT DESC/SERIAL NO. T-2 Wild CREW NO. 1186

LINE	 	STATION	VERTICAL					ELEVATION		L/R OR DI	RIGHT TURNED HORIZONTAL ANGLE	LINE	REMARKS	
			DISTANCE	<input checked="" type="checkbox"/> FEET <input type="checkbox"/> METERS	VERTICAL ANGLE OBS.	ROD RDG OR HI	ELEV DIFF	FINAL ELEVATION DIFF	INST					ROD
			SLOPE	HORIZ										
1		SP 758	2200		90 00 50	11					1			
2					269 58 45	11	269°59'13"				2			
3		SP 759	1760		89 59 07	11					3			
4		760	1320		89 55 44	11					4			
5		761	880		89 43 38	11					5			
6		762	440		89 18 38	11					6			
7		SP 763	- 0 -		90	5.4		103.1			7			
8		764	440		91 47 14	11					8			
9		765	880		90 22 13	11					9			
10		766	1320		90 03 50	11					10			
11		767	1760		90 03 15	11					11			
12		768	2200		90 04 02	11					12			
13					269 55 57	11		89.6			13			
14											14			
15		SP 768	3080		90 20 36						15			
16					269 39 17	11					16			
17											17			

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GSI AREA HARRISON BAY STATE/COUNTY ALASKA BOOK NO. 2 PAGE 97 OF
 LINE/LOOP NO. 16-81 TYPE SURVEY Vert CLIENT USGS DATE 21 DY 2 MO 81 YR
 SURVEYOR M. O'GRADY INSTRUMENT DESC/SERIAL NO. T-2 Wilk CREW NO. 1186

LINE	 	STATION	VERTICAL					ELEVATION		L/R OR DI	RIGHT TURNED HORIZONTAL ANGLE	LINE	REMARKS	
			DISTANCE	<input checked="" type="checkbox"/> FEET <input type="checkbox"/> METERS	VERTICAL ANGLE OBS.	ROD RDG OR HI	ELEV DIFF	FINAL ELEVATION DIFF	INST					ROD
			SLOPE	HORIZ										
1		769	2640		90 26 09	11					1			
2		770	2200		90 23 41	11					2			
3		771	1760		90 27 40	11					3			
4		772	1320		90 23 50	11					4			
5		773	880		90 27 45	11					5			
6		774	440		90 17 50	11					6			
7		775	0		90	5,4		118.9			7			
8		776	440		89 06 35	11					8			
9		777	880		89 34 08	11					9			
10		778	1320		89 37 06	11					10			
11		779	1760		89 46 23	11					11			
12					89 46 36	11					12			
13					270 13 12	11			114.8		13			
14					3						14			
15		SP 779	2640		89 37 34	11					15			
16					270 22 32	11					16			
17											17			

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HORIZONTAL AND VERTICAL SURVEY NOTES

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GSI AREA Harrison Bay STATE/COUNTY Alaska BOOK NO. 2 PAGE 98 OF
 LINE/LOOP NO. 16-81 TYPE SURVEY Vert CLIENT USGS DATE 21 DY 2 MO 81 YR
 SURVEYOR M. O'GRADY INSTRUMENT DESC/SERIAL NO. T-2 Wild CREW NO. 1186

LINE	 SS	STATION	VERTICAL						ELEVATION		L/R OR DI	RIGHT TURNED HORIZONTAL ANGLE	LINE	REMARKS
			DISTANCE	<input checked="" type="checkbox"/> FEET <input type="checkbox"/> METERS	VERTICAL ANGLE OBS.	ROD RDG OR HI	ELEV DIFF	FINAL ELEVATION DIFF	INST	ROD				
			SLOPE	HORIZ										
1		SP 780	2200		89 43 50	11						1		
2		781	1760		89 44 04	11						2		
3		782	1320		89 39 24	11						3		
4		783	800		89 34 17	11						4		
5		784	440		89 16 48	11						5		
6		785	-0-		-90	5.4			106.4			6		
7		786	440		89 24 28	11						7		
8		787	880		89 52 09	11						8		
9		788	1320		89 54 12	11						9		
10		789	1760		89 56 20	11						10		
11		790	2200		89 58 13	11						11		
12		791	2640		89 58 36	4.0						12		
13		SP 792	3080		89 50 33	11						13		
14					270 09 24	11			106.0			14		
15												15		
16		SP 792	1760		89 44 31	11						16		
17					270 15 25	11						17		

WORKED BY WMO CHECKED BY 1ST _____ 2ND _____

SYMBOLS = BACKSIGHT
 = INSTRUMENT SET-UP
 SS = SIDESHOT
 = FORESIGHT

HORIZONTAL AND VERTICAL SURVEY NOTES

29

GSI AREA Harrison Bay STATE/COUNTY Alaska BOOK NO. 2 PAGE 99 OF
 LINE/LOOP NO. 16-81 TYPE SURVEY Vert CLIENT USGS DATE 21 DY 2 MO 81 YR
 SURVEYOR M. O'GRADY INSTRUMENT DESC/SERIAL NO. T-2 Wild CREW NO. 1186

LINE	 	STATION	VERTICAL					ELEVATION		L/R OR D/I	RIGHT TURNED HORIZONTAL ANGLE	LINE	REMARKS	
			DISTANCE	<input checked="" type="checkbox"/> FEET <input type="checkbox"/> METERS	VERTICAL ANGLE OBS.	ROD RDG OR HI	ELEV DIFF	FINAL ELEVATION DIFF	INST					ROD
			SLOPE	HORIZ										
1		SP 793	1320		89 31 22	11						1		
2		794	880		89 20 55	11						2		
3		795	440		89 02 40	11						3		
4	A	796	6-		90	5.3		109.1				4		
5		797	440		89 30 09	11						5		
6		798	880		89 47 02	11						6		
7		799	1320		89 51 56	11						7		
8		800	1760		89 46 19	11						8		
9	O	801	2200		89 52 03	11						9		
10					270 07 53	11		163.2				10		
11												11		
12	A	SP 801	2200		89 17 06	11						12		
13					270 42 48	11						13		
14		802	1760		89 12 50	11						14		
15		803	1320		89 07 60	11						15		
16		804	880		88 50 38	11						16		
17												17		

WORKED BY _____ CHECKED BY 1ST _____ 2ND _____

SYMBOLS = BACKSIGHT = INSTRUMENT SET-UP = SIDESHOT = FORESIGHT

HORIZONTAL AND VERTICAL SURVEY NOTES

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GSI AREA Harrison Bay STATE/COUNTY Alaska BOOK NO. 2 PAGE 100 OF 100
 LINE/LOOP NO. 16-81 TYPE SURVEY Vert CLIENT USGS DATE 21 DY 2 MO 81 YR
 SURVEYOR M. O'GRADY INSTRUMENT DESC/SERIAL NO. T-2 Wild CREW NO. 1186

LINE	 	STATION	VERTICAL					ELEVATION		L/R OR DI	RIGHT TURNED HORIZONTAL ANGLE	LINE	REMARKS	
			DISTANCE	<input checked="" type="checkbox"/> FEET <input type="checkbox"/> METERS	VERTICAL ANGLE OBS.	ROD RDG OR HI	ELEV DIFF	FINAL ELEVATION DIFF	INST					ROD
			SLOPE	HORIZ										
1		SP 805	440		88 48 40	11						1		
2		806	-0-		90	5.4		86.7				2		
3		off 806		280'	90	0.3						3		
4		off 807	440	280'	90	0.3						4		
5		808	880	230'	90	0.3						5		
6		809	1320		89 33 14	11						6		
7		810	1760		89 39 10	11						7		
8		811	2200		89 40 41	11						8		
9					270 19 26	11			88.2			9		
10												10		
11		BARV MARK	-0-		90	4.9						11	94.9	
12		81468										12		
13		BARV MARK	0		90	4.9			99.8			13		
14		81468										14	SP 811 Elev.	
15		SP 811	5000+		90 00 00	8.2						15	91.6 - 88.2 =	
16					270 00 00	8.3			91.6			16	3.4 mistake	
17												17		

WORKED BY MTO CHECKED BY 1ST _____ 2ND _____

SYMBOLS = BACKSIGHT = INSTRUMENT SET-UP = SIDESHOT = FORESIGHT

HORIZONTAL AND VERTICAL SURVEY NOTES

GSI AREA HANSON BAY STATE/COUNTY Alaska BOOK NO. 2 PAGE 101 OF 31
 LINE/LOOP NO. 16-81 TYPE SURVEY Vert CLIENT USGS DATE 21 DY 2 MO 81 YR
 SURVEYOR M. O'GRADY INSTRUMENT DESC/SERIAL NO. T-2 CREW NO. 1186

LINE	 	STATION	VERTICAL						ELEVATION		L/R OR D/I	RIGHT TURNED HORIZONTAL ANGLE	LINE	REMARKS
			DISTANCE	<input checked="" type="checkbox"/> FEET <input type="checkbox"/> METERS	VERTICAL ANGLE OBS.	ROD RDG OR HI	ELEV DIFF	FINAL ELEVATION DIFF	INST	ROD				
				SLOPE										
1		SP 81	3080		269 56 18	11		+4.1		91.6		1		
2					90 03 43	11						2		
3		812	2640		90 25 06	11						3		
4		813	2200		90 10 36	11						4		
5		814	1760		90 08 20	11						5		
6		815	1320		90 07 20	11						6		
7		816	880		89 58 43	11						7		
8		817	440		89 27 29	11						8		
9		818	-0-		90	5.4			105.7			9		
10		819	440		89 53 30	11						10		
11		820	880		90 15 53	11						11		
12		821	1320		90 18 34	11						12		
13		822	1760		90 09 30	11						13		
14		823	2200		90 03 32	11						14		
15		824	2640		90 03 57	11		-13.9				15		
16					219 56 00	11				91.8		16		
17												17		

WORKED BY MFO CHECKED BY 1ST _____ 2ND _____

SYMBOLS = BACKSIGHT = INSTRUMENT SET-UP = SIDESHOT = FORESIGHT

HORIZONTAL AND VERTICAL SURVEY NOTES

32

GSI AREA Harrison Bay STATE/COUNTY ALASKA BOOK NO. 2 PAGE 102 OF 102
 LINE/LOOP NO. 16-81 TYPE SURVEY Ver L CLIENT USGS DATE 21 BY 2 MO 81 YR
 SURVEYOR M. OBRADY INSTRUMENT DESC/SERIAL NO. T-2 Wild CREW NO. 1186

LINE	<input type="checkbox"/> Δ <input type="checkbox"/> T <input type="checkbox"/> SS <input type="checkbox"/> ⊙	STATION	VERTICAL					ELEVATION		L/R OR DJI	HORIZONTAL		REMARKS	
			DISTANCE	<input type="checkbox"/> FEET <input type="checkbox"/> METERS	VERTICAL ANGLE OBS.	ROD RDG OR HI	ELEV DIFF	FINAL ELEVATION DIFF	INST		ROD	RIGHT TURNED HORIZONTAL ANGLE		LINE
			SLOPE	HORIZ										
1	Δ	824	2200		89 29 20	11		-8.7				1		
2					270 30 38	11						2		
3		825	1760		89 37 55	11						3		
4		826	1320		89 53 08	11						4		
5		827	880		89 47 18	11						5		
6		828	440		89 27 00	11						6		
7	T	829	-0-		90	5.5			83.1			7		
8		830	440		88 45 28	11						8		
9		831	880		88 55 41	11						9		
10		832	1320		89 13 12	11						10		
11		833	1760		89 12 50	11						11		
12	⊙	834	2200		89 22 40	11		+13.0				12		
13					270 37 24	11				96.1		13		
14												14		
15	Δ	SP 834	2200		90 07 04	11		+15.4				15		
16					269 53 06	11						16		
17												17		

WORKED BY MTO CHECKED BY 559 8010 1ST _____ 2ND _____

SYMBOLS Δ = BACKSIGHT T = INSTRUMENT SET-UP SS = SIDESHOT ⊙ = FORESIGHT

HORIZONTAL AND VERTICAL SURVEY NOTES

33

GSI AREA Harrison Bay STATE/COUNTY ALASKA BOOK NO. 2 PAGE 103 OF
 LINE/LOOP NO. 16-81 TYPE SURVEY Vert CLIENT USGS DATE 21 BY 2 MO 81 YR
 SURVEYOR M. O'GRADY INSTRUMENT DESC/SERIAL NO. T-2 Wild CREW NO. 1186

LINE	<input type="checkbox"/> Δ <input type="checkbox"/> T <input type="checkbox"/> SS <input type="checkbox"/> ⊙	STATION	VERTICAL					ELEVATION		L/R OR DJI	RIGHT TURNED HORIZONTAL ANGLE	LINE	REMARKS	
			DISTANCE	<input type="checkbox"/> FEET <input type="checkbox"/> METERS	VERTICAL ANGLE OBS.	ROD RDG OR HI	ELEV DIFF	FINAL ELEVATION DIFF	INST					ROD
			SLOPE	HORIZ										
1		SP 835	1760		90 10 52	11					1			
2		836	1320		90 09 25	11					2			
3		837	880		89 54 25	11					3			
4		838	440		89 30 26	11					4			
5	T	839	0		90	5.3		111.5			5			
6		840	440		89 21 49	11					6			
7		841	880		89 48 49	11					7			
8	⊙	842	1320		90 10 55	11	75.2				8			
9					269 49 10	11			96.4		9			
10											10			
11											11			
12											12			
13											13			
14											14			
15											15			
16											16			
17											17			

WORKED BY MTO CHECKED BY 1ST _____ 2ND _____

SYMBOLS Δ = BACKSIGHT T = INSTRUMENT SET-UP SS = SIDESHOT ⊙ = FORESIGHT

HORIZONTAL AND VERTICAL SURVEY NOTES

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GSI AREA Harrison Bay (Quad) STATE/COUNTY ALASKA BOOK NO. 2 PAGE 104 OF
 LINE/LOOP NO. 16-81 TYPE SURVEY Vent CLIENT USGS DATE 22 BY 2 MO 81 YR
 SURVEYOR M. O'BRADY INSTRUMENT DESC/SERIAL NO. T-2 Wild CREW NO. 1186

LINE	△ ⊥ SS ⊙	STATION	VERTICAL					ELEVATION		L/R OR D/I	RIGHT TURNED HORIZONTAL ANGLE	LINE	REMARKS	
			DISTANCE	<input checked="" type="checkbox"/> FEET <input type="checkbox"/> METERS	VERTICAL ANGLE OBS.	ROD RDG OR HI	ELEV DIFF	FINAL ELEVATION DIFF	INST					ROD
			SLOPE 	HORIZ 										
1	A	SP 842	2160		89 51 22	11		+4.2			1			
2					270 08 48	11					2			
3		843	2260		90 00 41	11					3			
4		844	1760		90 11 33	11					4			
5		845	1320		90 26 26	11					5			
6		846	880		90 29 14	11					6			
7		847	410		89 45 21	11					7			
8	A	848	-0-		90	53			100.5		8			
9		849	440		89 07 00	11					9			
10		850	880		89 24 00	11					10			
11		851	1320		89 22 50	11					11			
12		852	1760		89 23 16	11					12			
13		853	2200		89 29 52	11					13			
14		854	2160		89 33 41	11					14			
15	⊙	855	3080		89 31 33	11		+9.3			15			
16					270 22 23	11				109.8	16			
17											17			

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SYMBOLS △ = BACKSIGHT ⊥ = INSTRUMENT SET-UP SS = SIDESHOT ⊙ = FORESIGHT

HORIZONTAL AND VERTICAL SURVEY NOTES

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GSI AREA Teshkepuk Quad. STATE/COUNTY ALASKA BOOK NO. 2 PAGE 105 OF
 LINE/LOOP NO. 16-81 TYPE SURVEY Vert CLIENT USGS DATE 22 DY 2 MO 81 YR
 SURVEYOR M. O'GRADY INSTRUMENT DESC/SERIAL NO. T-2 Wild CREW NO. 1186

LINE	 	STATION	VERTICAL					ELEVATION		L/R OR D/I	HORIZONTAL		REMARKS	
			DISTANCE	<input checked="" type="checkbox"/> FEET <input type="checkbox"/> METERS	VERTICAL ANGLE OBS.	ROD RDG OR HI	ELEV DIFF	FINAL ELEVATION DIFF	INST		ROD	RIGHT TURNED HORIZONTAL ANGLE		LINE
				SLOPE										
1		SP 855	2140		89 32 54	11		-10.0				1		
2					270 27 13	11						2		
3		SP 856	2200		89 29 28	11						3		
4		857	1760		89 28 53	11						4		
5		858	1320		89 33 59	11						5		
6		859	880		89 31 00	11						6		
7		860	440		89 08 16	11						7		
8		SP 861	- 0 -		90	5.3		99.8				8		
9		862	440		89 39 09	11						9		
10		863	880		90 01 54	11						10		
11		864	1320		90 00 42	11						11		
12		865	1760		89 47 18	11						12		
13		866	2200		89 45 26	11						13		
14		SP 867	2140		89 47 55	11						14		
15		868	3080		89 47 23	11		+1.5				15		
16					270 12 48	11			100.4			16		
17												17		

WORKED BY M.O CHECKED BY 1ST _____ 2ND _____

SYMBOLS = BACKSIGHT
 = INSTRUMENT SET-UP
 = SIDESHOT
 = FORESIGHT

HORIZONTAL AND VERTICAL SURVEY NOTES

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GSI AREA Testekuk STATE/COUNTY ALASKA BOOK NO. 2 PAGE 106 OF
 LINE/LOOP NO. 16-81 TYPE SURVEY Vert. CLIENT USGS DATE 22 DY 2 MO 81 YR
 SURVEYOR N. O'GRADY INSTRUMENT DESC/SERIAL NO. T-2 wild CREW NO. 1186

LINE	 	STATION	VERTICAL					ELEVATION		L/R OR D/I	RIGHT TURNED HORIZONTAL ANGLE	LINE	REMARKS	
			DISTANCE	<input checked="" type="checkbox"/> FEET <input type="checkbox"/> METERS	VERTICAL ANGLE OBS.	ROD RDG OR HI	ELEV DIFF	FINAL ELEVATION DIFF	INST					ROD
			SLOPE	HORIZ										
1		SP 868	3320		90 02 47	11		+13.6				1		
2					269 57 24	11						2		
3		869	3080		90 01 56	11						3		
4		870	2690		90 02 15	11						4		
5		871	2200		90 02 19	11						5		
6		872	1760		90 05 19	11						6		
7		873	1320		90 14 24	11						7		
8		874	880		90 22 06	11						8		
9		875	440		90 38 22	11						9		
10		876	-0-		90	5.3			113.9			10		
11		877	440		89 25 58	11						11		
12		878	880		89 59 33	11						12		
13		879	1320		90 03 28	11						13		
14		880	1760		90 09 43	11						14		
15		881	2200		89 58 53	11						15		
16		882	2640		89 50 48	11						16		
17												17		

WORKED BY WTO CHECKED BY 1ST 2ND

SYMBOLS = BACKSIGHT
 = INSTRUMENT SET-UP
 = SIDESHOT
 = FORESIGHT

HORIZONTAL AND VERTICAL SURVEY NOTES

GSI AREA Toshekpuk STATE/COUNTY Alaska BOOK NO. 2 PAGE 101 OF 37
 LINE/LOOP NO. 16-81 TYPE SURVEY Vert CLIENT USGS DATE 22 DY 2 MO 8 YR
 SURVEYOR M. O'GRADY INSTRUMENT DESC/SERIAL NO. T-2 Wild CREW NO. 1186

LINE	<input type="checkbox"/> Δ <input type="checkbox"/> T <input type="checkbox"/> SS <input type="checkbox"/> ⊙	STATION	VERTICAL					ELEVATION		L/R OR DJI	RIGHT TURNED HORIZONTAL ANGLE	LINE	REMARKS	
			DISTANCE	<input checked="" type="checkbox"/> FEET <input type="checkbox"/> METERS	VERTICAL ANGLE OBS.	ROD RDG OR HI	ELEV DIFF	FINAL ELEVATION DIFF	INST					ROD
			SLOPE	HORIZ										
1		883	3080		89 45 30	11					1			
2	⊙	884	3520		89 45 09	11	14.5				2			
3					270 14 44	11		118.3			3			
4											4			
5	Δ	SP 884	3080		89 38 34	11	-8.4				5			
6					270 21 28	11					6			
7		885	2640		89 41 52	11					7			
8		886	2200		89 39 42	11					8			
9		887	1760		89 42 19	11					9			
10		888	1320		89 41 23	11					10			
11		889	880		89 39 12	11					11			
12		890	446		89 07 55	11					12			
13	Δ	891	6-		90	54		109.9			13			
14		892	446		89 32 30	11					14			
15		893	880		90 00 42	11					15			
16		894	1320		90 08 31	11					16			
17											17			

WORKED BY MJO CHECKED BY 1ST _____ 2ND _____

SYMBOLS Δ = BACKSIGHT T = INSTRUMENT SET-UP SS = SIDESHOT ⊙ = FORESIGHT

HORIZONTAL AND VERTICAL SURVEY NOTES

GSI AREA Teshkeput STATE/COUNTY ALASKA BOOK NO. 2 PAGE 108 OF 38
 LINE/LOOP NO. 16-81 TYPE SURVEY Vent CLIENT USGS DATE 22 DY 2 MO 81 YR
 SURVEYOR MIO'GRADY INSTRUMENT DESC/SERIAL NO. T-2 Wild CREW NO. 1186

LINE	SYMBOL	STATION	VERTICAL					ELEVATION		L/R OR DJI	HORIZONTAL		REMARKS	
			DISTANCE	<input checked="" type="checkbox"/> FEET <input type="checkbox"/> METERS	VERTICAL ANGLE OBS.	ROD RDG OR HI	ELEV DIFF	FINAL ELEVATION DIFF	INST		ROD	RIGHT TURNED HORIZONTAL ANGLE		LINE
			SLOPE	HORIZ										
1		SP 895	1760		90 15 46	11						1		
2		896	2260		90 16 24	11						2		
3		897	2640		90 03 25	11						3		
4	⊙	898	3080		89 58 47	11	-9.7					4		
5					270 01 00	11			100.1			5		
6												6		
7	Δ	SP 898	1760		90 25 30	11	+24.0					7		
8					269 34 19	11						8		
9		SP 899	1320		90 26 00	11						9		
10		900	880		90 18 03	11						10		
11		901	440		89 51 49	11						11		
12	⊎	SP 902	-0-		90	5.4		124.1				12		
13												13		
14	⊙	Tri-Station		210'	90	2.4						14	Iris Tri-Station	
15		Army Corp of Engineer							121.7			15	Elev. 122.0	
16		1955 "Iris"										16	122.0 - 121.7	
17												17	0.3 + IE	

WORKED BY MIO CHECKED BY 1ST _____ 2ND _____

SYMBOLS Δ = BACKSIGHT ⊎ = INSTRUMENT SET-UP SS = SIDESHOT ⊙ = FORESIGHT

HORIZONTAL AND VERTICAL SURVEY NOTES

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GSI AREA Teshkepuk STATE/COUNTY ALASKA BOOK NO. 2 PAGE 109 OF
 LINE/LOOP NO. 16-81 TYPE SURVEY Vert CLIENT USGS DATE 22 BY 2 MO 81 YR
 SURVEYOR M. O'GRADY INSTRUMENT DESC/SERIAL NO. T-2 wild CREW NO. 1186

LINE	<input type="checkbox"/> Δ <input type="checkbox"/> T <input type="checkbox"/> SS <input type="checkbox"/> ⊙	STATION	VERTICAL						ELEVATION		L/R OR D/I	HORIZONTAL		REMARKS
			DISTANCE	<input checked="" type="checkbox"/> FEET <input type="checkbox"/> METERS	VERTICAL ANGLE OBS.	ROD RDG OR HI	ELEV DIFF	FINAL ELEVATION DIFF	INST	ROD		RIGHT TURNED HORIZONTAL ANGLE	LINE	
			SLOPE	HORIZ										
1	Δ	Tri-Station		210	90	2.4							1	
2		"Iris" 1955											2	Elev. 122.0
3		Army Corp of Engin											3	
4	T	SP 902	0-		90	5.4			124.4				4	
5		903	440		89 22 23	11							5	
6		904	880		89 57 17	11							6	
7		905	1320		90 08 58	11							7	
8		906	1760		90 10 57	11							8	
9	⊙	907	2200		90 16 05	11		-21.2					9	
10					269 43 44	11				103.1			10	
11													11	
12													12	
13													13	
14													14	
15													15	
16													16	
17													17	

WORKED BY WTO CHECKED BY 1ST 2ND

SYMBOLS Δ = BACKSIGHT T = INSTRUMENT SET-UP SS = SIDESHOT ⊙ = FORESIGHT

HORIZONTAL AND VERTICAL SURVEY NOTES

40

GSI AREA Testekpak STATE/COUNTY ALASKA BOOK NO. 2 PAGE 110 OF
 LINE/LOOP NO. 16-81 TYPE SURVEY Vert CLIENT USGS DATE 23 DY 2 MO 81 YR
 SURVEYOR M. O'GRADY INSTRUMENT DESC/SERIAL NO. T-2 Wild CREW NO. 1186

LINE	 	STATION	VERTICAL					ELEVATION		L/R OR DI	RIGHT TURNED HORIZONTAL ANGLE	LINE	REMARKS	
			DISTANCE	<input checked="" type="checkbox"/> FEET <input type="checkbox"/> METERS	VERTICAL ANGLE OBS.	ROD RDG OR HI	ELEV DIFF	FINAL ELEVATION DIFF	INST					ROD
			SLOPE	HORIZ										
1		SP 907	2640		89 13 03	11		-25.2				1		
2					270 46 59	11		-25.2				2		
3		908	2200		89 09 28	11						3		
4		909	1760		89 14 12	11						4		
5		910	1320		89 08 13	11						5		
6		911	880		89 08 10	11						6		
7		912	420		89 09 30	11						7		
8		913	-0-		90	5.3			27.9			8		
9		914	170		89 15 53	11						9		
10		915	880		89 44 27	11						10		
11		916	1320		89 51 11	11						11		
12		917	1760		89 48 23	11						12		
13		918	2200		89 45 22	11						13		
14		919	2640		89 45 07	11						14		
15		920	3080		89 47 51	11		+1				15		
16					270 12 01	11		0.0		78.0		16		
17												17		

WORKED BY MGO CHECKED BY 1ST 2ND

SYMBOLS = BACKSIGHT
 = INSTRUMENT SET-UP
 = SIDESHOT
 = FORESIGHT

HORIZONTAL AND VERTICAL SURVEY NOTES

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GSI AREA Toshokpak STATE/COUNTY Alaska BOOK NO. 2 PAGE 111 OF
 LINE/LOOP NO. 16-81 TYPE SURVEY Vert. CLIENT USGS DATE 23 DY 2 MO 8 YR
 SURVEYOR M. O'GRADY INSTRUMENT DESC/SERIAL NO. T-2 Wild CREW NO. 1186

LINE	 	STATION	VERTICAL					ELEVATION		L/R OR D/I	HORIZONTAL		REMARKS	
			DISTANCE	<input checked="" type="checkbox"/> FEET <input type="checkbox"/> METERS	VERTICAL ANGLE OBS.	ROD RDG OR HI	ELEV DIFF	FINAL ELEVATION DIFF	INST		ROD	RIGHT TURNED HORIZONTAL ANGLE		LINE
				SLOPE										
1		SP 920	2140		89 33 25	11		-9.6				1		
2					270 26 32	11						2		
3		SP 921	2200		89 35 40	11						3		
4		922	1760		89 38 21	11						4		
5		923	1320		89 41 31	11						5		
6		924	880		89 44 56	11						6		
7		925	440		89 16 55	11						7		
8		SP 926	-0-		90	5.4		68.4				8		
9		927	440		89 16 11	11						9		
10		928	880		89 31 17	11						10		
11		929	1320		89 40 31	11						11		
12		930	1760		89 46 45	11						12		
13		931	2200		89 48 39	11						13		
14		932	2140		89 49 20	11		-2.7				14		
15					270 10 33	11			65.7			15		
16												16		
17												17		

WORKED BY UMB CHECKED BY 1ST _____ 2ND _____

SYMBOLS = BACKSIGHT
 = INSTRUMENT SET-UP
 = SIDESHOT
 = FORESIGHT

HORIZONTAL AND VERTICAL SURVEY NOTES

42

GSI AREA Teshokpak STATE/COUNTY Alaska BOOK NO. 5 PAGE 112 OF
 LINE/LOOP NO. 16-81 TYPE SURVEY Vert CLIENT USGS DATE 23 DY 2 MO 81 YR
 SURVEYOR M. O'GRADY INSTRUMENT DESC/SERIAL NO. T-2 Wild CREW NO. 1186

LINE	<input type="checkbox"/> Δ <input type="checkbox"/> T <input type="checkbox"/> SS <input type="checkbox"/> ⊙	STATION	VERTICAL					ELEVATION		L/R OR D/I	RIGHT TURNED HORIZONTAL ANGLE	LINE	REMARKS	
			DISTANCE	<input checked="" type="checkbox"/> FEET <input type="checkbox"/> METERS	VERTICAL ANGLE OBS.	ROD RDG OR HI	ELEV DIFF	FINAL ELEVATION DIFF	INST					ROD
			SLOPE	HORIZ										
1	Δ	SP 932	2640		89 31 49	11		-10.8			1			
2					270 28 10	11					2			
3		933	2200		89 27 06	11					3			
4		934	1760		89 21 35	11					4			
5		935	1320		89 51 02	11					5			
6		936	880		90 10 18	11					6			
7		937	440		90 39 58	11					7			
8	T	SP 938	-0-		90	5.4		54.9			8			
9		939	440		89 28 56	11					9			
10		940	880		89 42 12	11					10			
11		941	1320		89 46 20	11					11			
12		942	1760		89 28 03	11					12			
13		943	2200		89 32 38	11					13			
14	⊙	944	2640		89 35 02	11		+8.3			14			
15					270 24 58	11			63.2		15			
16											16			
17											17			

WORKED BY *MO* CHECKED BY 1ST _____ 2ND _____

SYMBOLS Δ = BACKSIGHT T = INSTRUMENT SET-UP SS = SIDESHOT ⊙ = FORESIGHT

HORIZONTAL AND VERTICAL SURVEY NOTES

43

GSI AREA Teshkeguk STATE/COUNTY Alaska BOOK NO. 2 PAGE 13 OF
 LINE/LOOP NO. 16-81 TYPE SURVEY Vert CLIENT USGS DATE 23 DY 2 MO 81 YR
 SURVEYOR M. O'BRADY INSTRUMENT DESC/SERIAL NO. T-2 Wild CREW NO. 1186

LINE	<input type="checkbox"/> Δ <input type="checkbox"/> T <input type="checkbox"/> SS <input type="checkbox"/> ⊙	STATION	VERTICAL					ELEVATION		L/R OR D/I	RIGHT TURNED HORIZONTAL ANGLE	LINE	REMARKS	
			DISTANCE	<input checked="" type="checkbox"/> FEET <input type="checkbox"/> METERS	VERTICAL ANGLE OBS.	ROD RDG OR HI	ELEV DIFF	FINAL ELEVATION DIFF	INST					ROD
			SLOPE	HORIZ										
1	Δ	SPOKH	2620		89 53 07	11	89 54 42	+6.8			1			
2					270 00 00	11	270 05 24				2			
3		945	2200		89 53 25	11					3			
4		946	1760		89 58 58	11					4			
5		947	1320		89 55 56	11					5			
6		948	880		89 51 13	11					6			
7		949	440		89 21 49	11					7			
8	T	950	-0-		90	54		70.0			8			
9		951	440		89 21 16	11					9			
10		952	880		89 47 34	11					10			
11		953	1320		90 23 54	11					11			
12		954	1760		90 20 30	11					12			
13		955	2200		90 15 39	11					13			
14	⊙	956	2640		90 43 22	11					14			
15					90 11 54	11		-26.0			15			
16					269 48 00	11			50.0		16			
17											17			

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SYMBOLS Δ = BACKSIGHT T = INSTRUMENT SET-UP SS = SIDESHOT ⊙ = FORESIGHT

HORIZONTAL AND VERTICAL SURVEY NOTES

44

GSI AREA Teshkepuk STATE/COUNTY Alaska BOOK NO. 2 PAGE 114 OF
 LINE/LOOP NO. 16-81 TYPE SURVEY Vert CLIENT USGS DATE 23 BY Z MO 81 YR
 SURVEYOR M. O'GRADY INSTRUMENT DESC/SERIAL NO. T-2 Wild CREW NO. 1186

LINE	<input type="checkbox"/> Δ <input type="checkbox"/> T <input type="checkbox"/> SS <input type="checkbox"/> ⊙	STATION	VERTICAL					ELEVATION		L/R OR DI	RIGHT TURNED HORIZONTAL ANGLE	LINE	REMARKS	
			DISTANCE	<input checked="" type="checkbox"/> FEET <input type="checkbox"/> METERS	VERTICAL ANGLE OBS.	ROD RDG OR HI	ELEV DIFF	FINAL ELEVATION DIFF	INST					ROD
			SLOPE	HORIZ										
1	Δ	SP 956	2640		90 10 57	11		+19.3			1			
2		SR			269 48 55	11					2			
3		957	2200		90 11 16	11					3			
4		958	1760		90 14 23	11					4			
5		959	1320		90 17 43	11					5			
6		960	880		89 47 45	11					6			
7		961	440		89 28 04	11					7			
8	T	962	-0-		90	5.3			69.3		8			
9											9			
10	⊙	BARR MARK		680	90°	6.8				62.5	10	62.7 = Elev.		
11		81439									11	62.7 - 62.5 =		
12											12	0.2 tie		
13	Δ	BARR MARK		680	90°	6.8					13			
14		81439									14			
15	T	SP 962	-0-		90	5.3			69.5		15			
16		963	440		89 26 11	11					16			
17											17			

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SYMBOLS Δ = BACKSIGHT T = INSTRUMENT SET-UP SS = SIDESHOT ⊙ = FORESIGHT

HORIZONTAL AND VERTICAL SURVEY NOTES

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GSI AREA Teshkeguk STATE/COUNTY Alaska BOOK NO. 2 PAGE 115 OF 115
 LINE/LOOP NO. 110-81 TYPE SURVEY Vert CLIENT USGS DATE 23 DY 2 MO 81 YR
 SURVEYOR M. O'GRADY INSTRUMENT DESC/SERIAL NO. T-2 Wild CREW NO. 1186

LINE	<input type="checkbox"/> Δ <input type="checkbox"/> T <input type="checkbox"/> SS <input type="checkbox"/> ⊙	STATION	VERTICAL					ELEVATION		L/R OR D/I	RIGHT TURNED HORIZONTAL ANGLE	LINE	REMARKS	
			DISTANCE	<input checked="" type="checkbox"/> FEET <input type="checkbox"/> METERS	VERTICAL ANGLE OBS.	ROD RDG OR HI	ELEV DIFF	FINAL ELEVATION DIFF	INST					ROD
			SLOPE	HORIZ										
1		SP 964	880		89 56 04	11					1			
2		965	1320		90 03 11	11					2			
3	⊙	966	1760		90 05 31	11	-13.8				3			
4					89 54 25	11		55.7			4			
5											5			
6	Δ	SP 966	2200		90 01 23	11	+11.8				6			
7					269 58 37	11					7			
8		967	1760		90 08 06	11					8			
9		968	1320		90 14 04	11					9			
10		969	880		90 09 28	11					10			
11		970	440		89 45 52	11					11			
12	T	SP 971	-0-		90	5.3		67.5			12			
13		972	440		89 49 25	11					13			
14		973	880		90 10 54	11					14			
15		974	1320		90 28 50	11					15			
16		975	1760		90 20 40	11					16			
17											17			

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SYMBOLS Δ = BACKSIGHT T = INSTRUMENT SET-UP SS = SIDESHOT ⊙ = FORESIGHT

HORIZONTAL AND VERTICAL SURVEY NOTES

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GSI AREA Teshetpak STATE/COUNTY ALASKA BOOK NO. 2 PAGE 116 OF
 LINE/LOOP NO. 16-81 TYPE SURVEY Vert CLIENT USGS DATE 23 DY 2 MO 81 YR
 SURVEYOR M. O'GRADY INSTRUMENT DESC/SERIAL NO. T-2 Wild CREW NO. 1186

LINE	<input type="checkbox"/> Δ <input type="checkbox"/> SS <input type="checkbox"/> ⊙	STATION	VERTICAL					ELEVATION		L/R OR D/I	HORIZONTAL		REMARKS	
			DISTANCE	<input checked="" type="checkbox"/> FEET <input type="checkbox"/> METERS	VERTICAL ANGLE OBS.	ROD RDG OR HI	ELEV DIFF	FINAL ELEVATION DIFF	INST		ROD	RIGHT TURNED HORIZONTAL ANGLE		LINE
			SLOPE	HORIZ										
1	⊙	976	2200		90 05 05	11		-14.2				1		
2					269 54 52	11				53.3		2		
3												3		
4	Δ	976	2200		89 55 54	11		+8.3				4		
5					270 01 06	11						5		
6		977	1760		90 02 12	11						6		
7		978	1320		90 23 08	11						7		
8		979	880		90 54 49	11						8		
9		980	440		92 12 43	11						9		
10	Δ	981	- 0 -		90	5.4				61.6		10		
11		982	440		89 50 42	11						11		
12		983	880		90 61 44	11						12		
13		984	1320		89 48 36	11						13		
14		985	1760		89 56 34	11						14		
15		986	2260		90 01 10	11						15		
16	⊙	987	2640		89 54 25	11		-6.6		55.0		16		
17					270 05 31	11						17		

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SYMBOLS Δ = BACKSIGHT Δ = INSTRUMENT SET-UP SS = SIDESHOT ⊙ = FORESIGHT

HORIZONTAL AND VERTICAL SURVEY NOTES

47

GSI AREA Teshkepuk STATE/COUNTY ALASKA BOOK NO. 2 PAGE 117 OF
 LINE/LOOP NO. 16-81 TYPE SURVEY Vert CLIENT USGS DATE 23 DY 2 MO 81 YR
 SURVEYOR M. O'GRADY INSTRUMENT DESC/SERIAL NO. T-2 Wild CREW NO. 1186

LINE	<input type="checkbox"/> Δ <input type="checkbox"/> ∟ <input type="checkbox"/> SS <input type="checkbox"/> ⊙	STATION	VERTICAL					ELEVATION		L/R OR D/I	RIGHT TURNED HORIZONTAL ANGLE	LINE	REMARKS	
			DISTANCE	<input checked="" type="checkbox"/> FEET <input type="checkbox"/> METERS	VERTICAL ANGLE OBS.	ROD RDG OR HI	ELEV DIFF	FINAL ELEVATION DIFF	INST					ROD
			SLOPE	HORIZ										
1	Δ	SP 987	3080		89 42 48			-4.6				1		
2					270 17 12							2		
3		SP 988	2640		89 47 21							3		
4		SP 989	2200		89 48 18							4		
5		SP 990	1760		89 45 45							5		
6		SP 991	1320		89 43 18					45.8		6		
7		TS 992	800		89 42 09					44.0		7		
8		TS 993	440		89 16 04					45.0		8		
9	∟	TS 994	-0-		90	5.3			50.4	45.1		9		
10		TS 995	440		90 12 54					37.8		10		
11		TS 996	800		90 31 20					31.4		11		
12		TS 997	1320		89 56 35					40.7		12		
13		TS 998	1760		89 42 07					48.6		13		
14		TS 999	2200		89 48 52					46.6		14		
15		TS 1000	2640		89 53 49					44.3		15		
16		TS 1001	3080		90 04 14					35.8		16		
17												17		

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SYMBOLS Δ = BACKSIGHT ∟ = INSTRUMENT SET-UP SS = SIDESHOT ⊙ = FORESIGHT

HORIZONTAL AND VERTICAL SURVEY NOTES

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GSI AREA Teshkeguk STATE/COUNTY Alaska BOOK NO. 2 PAGE 118 OF
 LINE/LOOP NO. 16-81 TYPE SURVEY Vert CLIENT USGS DATE 23 BY 2 MO 81 YR
 SURVEYOR M. O'GRADY INSTRUMENT DESC/SERIAL NO. T-2 Wild CREW NO. 1186

LINE	 SS	STATION	VERTICAL					ELEVATION		L/R OR D/I	RIGHT TURNED HORIZONTAL ANGLE	LINE	REMARKS	
			DISTANCE	<input checked="" type="checkbox"/> FEET <input type="checkbox"/> METERS	VERTICAL ANGLE OBS.	ROD RDG OR HI	ELEV DIFF	FINAL ELEVATION DIFF	INST					ROD
			SLOPE	HORIZ										
1		TS 1002	3520		90 01 40	11			37.9			1		
2		TS 1003	3960		90 02 42	11			36.6			2		
3												3		
4												4		
5	0	SP 987	3080		89 42 48	11	+4.6		55.0			5		
6					270 17 12	11						6		
7												7		
8	Δ	SP 987	2640		89 55 13	11	+7.2					8		
9					270 04 54	11						9		
10												10		
11	⊥	SP 981	0		90	5.4			62.2			11		
12												12		
13	SS	BARR MARK	9029.33		89 57 42	5.8						13	Elev 62.7	
14		81439			270 02 14	5.8	+1.8		64.0			14	62.7 - 64.0 = 1.37E	
15												15		
16	0	SP 975	2640		90 06 36	11	-15.9		46.2			16		
17					269 53 12	11						17		

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SYMBOLS Δ = BACKSIGHT ⊥ = INSTRUMENT SET-UP SS = SIDESHOT ⊙ = FORESIGHT

HORIZONTAL AND VERTICAL SURVEY NOTES

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GSI AREA Teshkepuuk STATE/COUNTY ALASKA BOOK NO. 2 PAGE 119 OF 119
 LINE/LOOP NO. 16-01 TYPE SURVEY Vert CLIENT USGS DATE 23 DY 2 MO 81 YR
 SURVEYOR M. O'GRADY INSTRUMENT DESC/SERIAL NO. T-2 wild CREW NO. 1186

LINE	<input type="checkbox"/> Δ <input type="checkbox"/> T <input type="checkbox"/> SS <input type="checkbox"/> ⊙	STATION	VERTICAL						ELEVATION		L/R OR DJI	RIGHT TURNED HORIZONTAL ANGLE	LINE	REMARKS
			DISTANCE	<input type="checkbox"/> FEET <input type="checkbox"/> METERS	VERTICAL ANGLE OBS.	ROD RDG OR HI	ELEV DIFF	FINAL ELEVATION DIFF	INST	ROD				
			SLOPE	HORIZ										
1	Δ	SP975	1760		90 2208	11		+22.3				1		
2					269 21							2		
3					269 31 56	11						3		
4												4		
5	T	SP971	-0-		90	5.3		68.4				5		
6												6	BARY MARK Elev	
7	⊙	BARY MARK 81439			90	5.3		63.1				7	62.7	
8												8		
9												9	62.7-63.1 =	
10												10		
11												11	0.4 tie	
12												12		
13												13		
14												14		
15												15		
16												16		
17												17		

WORKED BY MTO CHECKED BY 1ST _____ 2ND _____

SYMBOLS Δ = BACKSIGHT T = INSTRUMENT SET-UP SS = SIDESHOT ⊙ = FORESIGHT

HORIZONTAL AND VERTICAL SURVEY NOTES

50

GSI AREA HARRISON BAY STATE/COUNTY AK BOOK NO. 2 PAGE 207 OF
 LINE/LOOP NO. 16-81 TYPE SURVEY VERT. CLIENT U.S.G.S. DATE 12 DY 23 MO 81 YR
 SURVEYOR HOKANSON/Johns INSTRUMENT DESC/SERIAL NO. WILD T-2 CREW NO. 1186

LINE	 	STATION	VERTICAL					ELEVATION		LR OR DR	RIGHT TURNED HORIZONTAL ANGLE	LINE	REMARKS	
			DISTANCE	<input checked="" type="checkbox"/> FEET <input type="checkbox"/> METERS	VERTICAL ANGLE OBS.	ROD RDG OR HI	ELEV DIFF	FINAL ELEVATION DIFF	INST					ROD
			SLOPE 	HORIZ 										
1		81447	7,106.89				6.6					1	ELEV. =	
2												2		
3												3		
4												4		
5												5		
6		S.P. 500	7,106.89			90-04-30	6.0					6		
7						269-55-17	6.0					7		
8												8		
9		S.P. 500					6.35					9		
10												10		
11												11		
12												12		
13												13		
14		81447	7,106.89			89-56-30						14		
15						170-03-15	6.0					15		
16												16		
17												17		

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SYMBOLS = BACKSIGHT = INSTRUMENT SET-UP = SIDESHOT = FORESIGHT

HORIZONTAL AND VERTICAL SURVEY NOTES

51

GSI AREA _____ STATE/COUNTY AK BOOK NO. 2 PAGE 208 OF _____
 LINE/LOOP NO. 16-81 TYPE SURVEY VERT CLIENT USGS DATE 12 DY 3 MO 81 YR
 SURVEYOR HOKANSON/JOHNS INSTRUMENT DESC/SERIAL NO. WILD T-2 CREW NO. 1186

LINE	 	STATION	VERTICAL						HORIZONTAL			REMARKS		
			DISTANCE		VERTICAL ANGLE OBS.	ROD RDG OR HI	ELEV DIFF	ELEVATION		LR OR DR	RIGHT TURNED HORIZONTAL ANGLE		LINE	
			SLOPE	<input checked="" type="checkbox"/> FEET <input type="checkbox"/> METERS				INST	ROD					
1												1		
2		T.S. 512											2	
3		" 511											3	
4		" 510											4	
5		" 509											5	
6		" 508											6	
7		" 507											7	
8		" 506											8	
9		" 505											9	
10		" 504											10	
11		" 503											11	
12		" 502											12	
13		" 501											13	
14													14	
15													15	
16													16	
17													17	

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WORKED BY _____ CHECKED BY 1ST _____ 2ND _____

SYMBOLS

= BACKSIGHT

= INSTRUMENT SET-UP

= SIDESHOT

= FORESIGHT

HORIZONTAL AND VERTICAL SURVEY NOTES

52

GSI AREA _____ STATE/COUNTY AK BOOK NO. 2 PAGE 209 OF _____
 LINE/LOOP NO. 16-81 TYPE SURVEY VERT CLIENT U.S.G.S. DATE _____ DY _____ MO _____ YR _____
 SURVEYOR HOKANSON / Johns * INSTRUMENT DESC/SERIAL NO. WILD T-2 CREW NO. 1186

LINE	 	STATION	VERTICAL					ELEVATION		L/R OR D/I	RIGHT TURNED HORIZONTAL ANGLE	LINE	REMARKS	
			DISTANCE	<input checked="" type="checkbox"/> FEET <input type="checkbox"/> METERS	VERTICAL ANGLE OBS.	ROD RDG OR HI	ELEV DIFF	FINAL ELEVATION DIFF	INST					ROD
			SLOPE	HORIZ										
1		81447	7,106.89		89-56-34	6.0						1	BARR MKR	
2					270-03-10	6.0	1.9					2	ELEV. = 67.13	
3												3		
4		500	- 0 -		- 0 -	6.35		65.3				4		
5												5		
6												6		
7		81447	7,106.89		89-56-34	6.0						7		
8					270-03-07	6.0						8		
9												9		
10	S	501 499	440		89-32-46	11						10		
11	S	498	880		89-43-57	11						11		
12	S	497	1320		89-44-41	11						12		
13	S	496	1760		89-48-22	11						13		
14	S	495	2200		89-50-29	11						14		
15		494	2640		89-50-48	11						15		
16					270-08-59	11			61.4			16		
17												17		

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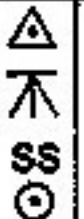
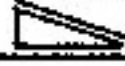
WORKED BY _____ CHECKED BY 1ST _____ 2ND _____

SYMBOLS = BACKSIGHT = INSTRUMENT SET-UP = SIDESHOT = FORESIGHT

HORIZONTAL AND VERTICAL SURVEY NOTES

53

GSI AREA _____ STATE/COUNTY AK BOOK NO. 2 PAGE 210 OF _____
 LINE/LOOP NO. 16-81 TYPE SURVEY VERT. CLIENT U.S.G.S. DATE 12 DY 3 MO 81 YR
 SURVEYOR HOKANSON / Johns INSTRUMENT DESC/SERIAL NO. WILD T-2 CREW NO. 1186

LINE	 △ SS ○	STATION	VERTICAL					ELEVATION		L/R OR DJI	HORIZONTAL		REMARKS	
			DISTANCE	<input checked="" type="checkbox"/> FEET <input type="checkbox"/> METERS	VERTICAL ANGLE OBS.	ROD RDG OR HI	ELEV DIFF	FINAL ELEVATION DIFF	INST		ROD	RIGHT TURNED HORIZONTAL ANGLE		LINE
				SLOPE 										
1	△	494	2640		89-54-55	11						1		
2		"	"		270-05-07	11	6.9					2		
3	S	493	2200		89-54-42	11						3		
4	S	492	1760		89-50-40	11						4		
5	S	491	1320		89-46-09	11						5		
6	S	490	880		89-39-08	11						6		
7	S	489	440		89-18-39	11						7		
8	⊗	488	-0-		-0-	5.6		68.3				8		
9	S	487	440		89-24-11	11						9		
10	S	486	880		89-43-45	11						10		
11	S	485	1320		89-45-51	11						11		
12	S	484	1760		89-49-05	11						12		
13	S	483	2200		89-51-04	11						13		
14	⊙	482	2640		89-50-53	11						14		
15		"	"		270-09-07	11	-3.9	64.5				15		
16												16		
17												17		

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SYMBOLS △ = BACKSIGHT ⊗ = INSTRUMENT SET-UP SS = SIDESHOT ⊙ = FORESIGHT

HORIZONTAL AND VERTICAL SURVEY NOTES

54

GSI AREA _____ STATE/COUNTY AK BOOK NO. 2 PAGE 211 OF _____
 LINE/LOOP NO. 16-81 TYPE SURVEY VERT. CLIENT U.S.G.S. DATE 12 DY 3 MO 81 YR
 SURVEYOR HOKANSON/JOHNS INSTRUMENT DESC/SERIAL NO. WILD T-2 CREW NO. 1186

LINE	 	STATION	VERTICAL					ELEVATION		LR OR DR	RIGHT TURNED HORIZONTAL ANGLE	LINE	REMARKS	
			DISTANCE	<input checked="" type="checkbox"/> FEET <input type="checkbox"/> METERS	VERTICAL ANGLE OBS.	ROD RDG OR HI	ELEV DIFF	FINAL ELEVATION DIFF	INST					ROD
			SLOPE	HORIZ										
1		482	2640		90-21-30	//						1		
2		"	"		269-28-30	//	27.9					2		
3	S	481	2200		90-20-14	//						3		
4	S	480	1760		90-18-59	//						4		
5	S	479	1320		90-07-39	//						5		
6	S	478	880		89-52-48	//						6		
7	S	477	440		89-36-53	//						7		
8		476	-0-		-0-	5.5		91.9				8		
9	S	475	440		89-50-12	//						9		
10	S	474	880		89-32-20	//						10		
11	S	473	1320		89-42-56	//						11		
12	S	472	1760		89-48-09	//						12		
13	S	471	2200		89-52-48	//						13		
14		470	2640		89-53-36	//						14		
15					270-06-25	//		-5.9	85.9			15		
16												16		
17												17		

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


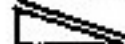














WORKED BY _____ CHECKED BY 1ST _____ 2ND _____

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HORIZONTAL AND VERTICAL SURVEY NOTES

55

GSI AREA _____ STATE/COUNTY AK BOOK NO. 2 PAGE 212 OF _____
 LINE/LOOP NO. 16-81 TYPE SURVEY VERT. CLIENT U.S.G.S. DATE 12 DY 3 MO 81 YR
 SURVEYOR HOKANSON/JOHNS INSTRUMENT DESC/SERIAL NO. WILD T-2 CREW NO. 1186

LINE	   	STATION	VERTICAL						HORIZONTAL		LINE	REMARKS		
			DISTANCE	<input checked="" type="checkbox"/> FEET <input type="checkbox"/> METERS	VERTICAL ANGLE OBS.	ROD RDG OR HI	ELEV DIFF	FINAL ELEVATION DIFF	ELEVATION				L/R OR D/I	RIGHT TURNED HORIZONTAL ANGLE
				SLOPE 					HORIZ 	INST				
1		470	2640		90 03-47	11						1		
2		"	"		269-56-10	11	13.9					2		
3		469	2200		90-09-28	11						3		
4		468	1760		90-04-47	11						4		
5		467	1320		89-57-35	11						5		
6		466	880		89-49-53	11						6		
7		465	440		89-21-10	11						7		
8		464	-0-		-0-	5.6		99.7				8		
9		463	440		89-23-25	11						9		
10		462	880		89-52-36	11						10		
11		461	1320		90-04-16	11						11		
12		460	1760		90-06-10	11						12		
13		459	2200		90-05-12	11						13		
14		458	2640		90-12-40	11						14		
15					267-47-22	11	-20.6	79.1				15		
16												16		
17												17		

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
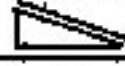



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SYMBOLS  = BACKSIGHT  = INSTRUMENT SET-UP  = SIDESHOT  = FORESIGHT

HORIZONTAL AND VERTICAL SURVEY NOTES

56

GSI AREA _____ STATE/COUNTY AK BOOK NO. 2 PAGE 213 OF _____
 LINE/LOOP NO. 16-81 TYPE SURVEY VERT. CLIENT U.S.G.S. DATE 12 DY 3 MO 8 YR
 SURVEYOR HOKANSON / Johns INSTRUMENT DESC/SERIAL NO. WILD 7-2 CREW NO. 1186

LINE	   	STATION	VERTICAL					ELEVATION		L/R OR DJI	RIGHT TURNED HORIZONTAL ANGLE	LINE	REMARKS	
			DISTANCE	<input checked="" type="checkbox"/> FEET <input type="checkbox"/> METERS	VERTICAL ANGLE OBS.	ROD RDG OR HI	ELEV DIFF	FINAL ELEVATION DIFF	INST					ROD
				SLOPE 										
1		458	2640		89-39-20	//					1			
2		"	"		270-20-40	//	5.0				2			
3	S	457	*2200		89-43-52	//					3			
4	S	456	1760		89-40-11	//					4			
5	S	455	1320		89-35-42	//					5			
6	S	454	880		89-37-07	//					6			
7	S	453	940		89-20-34	//					7			
8		452	-0-		-0-	5.6		74.2			8			
9	S	451	440		89-17-03	//					9			
10	S	450	880		89-39-11	//					10			
11	S	449	1320		89-49-13	//					11			
12	S	448	1760		89-54-49	//					12			
13	S	447	2200		89-50-30	//					13			
14		446	2640		89-58-48	//					14			
15		4	"		270-01-11	//	-9.9	64.2			15			
16											16			
17											17			

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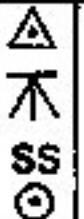

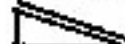


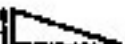
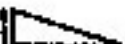



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SYMBOLS  = BACKSIGHT  = INSTRUMENT SET-UP  = SIDESHOT  = FORESIGHT

HORIZONTAL AND VERTICAL SURVEY NOTES

57

GSI AREA _____ STATE/COUNTY AK BOOK NO. 2 PAGE 214 OF _____
 LINE/LOOP NO. 16-81 TYPE SURVEY VERT CLIENT U.S.G.S. DATE 12 DY 3 MO 8 YR
 SURVEYOR HOKANSON / JOHNS INSTRUMENT DESC/SERIAL NO. WILD T-2 CREW NO. 1786

LINE	 SS 	STATION	VERTICAL					ELEVATION		LR OR DR	RIGHT TURNED HORIZONTAL ANGLE	LINE	REMARKS	
			DISTANCE	<input checked="" type="checkbox"/> FEET <input type="checkbox"/> METERS	VERTICAL ANGLE OBS.	ROD RDG OR HI	ELEV DIFF	FINAL ELEVATION DIFF	INST					ROD
			SLOPE 	HORIZ 										
1		446	2640		270-11-12	11						1		
2		"	"		89-48-44	11	2.2					2		
3	S	445	2200		89-51-38	11						3		
4	S	444	1760		89-47-23	11						4		
5	S	443	1320		90-09-12	11						5		
6	S	442	880		89-37-03	11						6		
7	S	441	440		89-03-25	11						7		
8		440	-0-		-0-	5.6		66.4				8		
9	S	439	440		90-33-10	11						9		
10	S	438	880		89-56-15	11						10		
11	S	437	1320		90-01-06	11						11		
12	S	436	1760		89-58-43	11						12		
13	S	435	2200		89-59-15	11						13		
14		434	2640		89-55-45	11						14		
15					270-04-12	11	-7.6	58.8				15		
16												16		
17												17		

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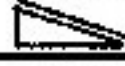



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SYMBOLS  = BACKSIGHT  = INSTRUMENT SET-UP  = SIDESHOT  = FORESIGHT

HORIZONTAL AND VERTICAL SURVEY NOTES

58

GSI AREA _____ STATE/COUNTY AK BOOK NO. 2 PAGE 215 OF _____
 LINE/LOOP NO. 16-81 TYPE SURVEY VERT. CLIENT USGS DATE 12 DY 3 MO 81 YR
 SURVEYOR HOKANSON / JOHNS INSTRUMENT DESC/SERIAL NO. WILD T-2 CREW NO. 1186

LINE	   	STATION	VERTICAL					ELEVATION		L/R OR D/I	RIGHT TURNED HORIZONTAL ANGLE	LINE	REMARKS	
			DISTANCE	<input checked="" type="checkbox"/> FEET <input type="checkbox"/> METERS	VERTICAL ANGLE OBS.	ROD RDG OR HI	ELEV DIFF	FINAL ELEVATION DIFF	INST					ROD
				SLOPE 										
1		434	3080		90-11-54	11						1		
2					269-48-02	11	21.5					2		
3	S	433	2640		90-16-15	11						3		
4	S	432	2200		90-15-20	11						4	INT 04 LINE #1 @ 461 + 265	
5	S	431	1760		90-10-30	11						5		
6	S	430	1320		90-07-54	11						6		
7	S	429	880		90-11-07	11						7		
8	S	428	440		89-56-55	11						8		
9		427	-0-		---	5.6		80.3				9		
10	S	426	440		89-39-25	11						10		
11	S	425	880		89-47-05	11						11		
12	S	424	1320		89-55-20	11						12		
13	S	423	1760		89-56-55	11						13		
14	S	422	2200		89-58-56	11						14		
15		421	2640		89-59-13	11						15		
16					270-00-43	11	-10.3	70.0				16		
17												17		

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SYMBOLS  = BACKSIGHT  = INSTRUMENT SET-UP  = SIDESHOT  = FORESIGHT

HORIZONTAL AND VERTICAL SURVEY NOTES

59

GSI AREA _____ STATE/COUNTY AK BOOK NO. 2 PAGE 216 OF _____
 LINE/LOOP NO. 16-81 TYPE SURVEY VERT CLIENT USGS DATE 12 DY 3 MO 81 YR
 SURVEYOR HOKANSON / JOHNS INSTRUMENT DESC/SERIAL NO. WILD T-2 CREW NO. 1186

LINE	 	STATION	VERTICAL					ELEVATION		L/R OR DI	RIGHT TURNED HORIZONTAL ANGLE	LINE	REMARKS	
			DISTANCE	<input checked="" type="checkbox"/> FEET <input type="checkbox"/> METERS	VERTICAL ANGLE OBS.	ROD RDG OR HI	ELEV DIFF	FINAL ELEVATION DIFF	INST					ROD
			SLOPE 	HORIZ 										
1		421	2640		89-56-26	11						1		
2					270-03-41	11	8.1					2		
3	S	420	2200		89-52-40	11						3		
4	S	419	1760		89-42-14	11						4		
5	S	418	1320		89-35-22	11						5		
6	S	417	880		89-30-20	11						6		
7	S	416	440		89-19-00	11						7		
8		415	-0-		-00-	5.6		78.1				8		
9		414	440		89-19-01	11						9		
10		413	880		89-22-40	11						10		
11		412	1320		89-23-11	11						11		
12		411	1760		89-25-43	11						12		
13		410	2200		89-29-09	11						13		
14		409	2640		89-31-56	11						14		
15					270-28-00	11	10.7	88.8				15		
16												16		
17												17		

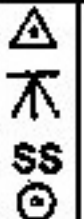

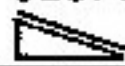


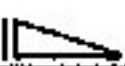
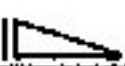





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HORIZONTAL AND VERTICAL SURVEY NOTES

60

GSI AREA _____ STATE/COUNTY AK BOOK NO. 2 PAGE 217 OF _____
 LINE/LOOP NO. 16-81 TYPE SURVEY VERT CLIENT USGS DATE 12 DY 3 MO 81 YR
 SURVEYOR HOKANSON / JOHNS INSTRUMENT DESC/SERIAL NO. WILD T2 CREW NO. 1182

LINE	 SS 	STATION	VERTICAL						ELEVATION		L/R OR DI	RIGHT TURNED HORIZONTAL ANGLE	LINE	REMARKS
			DISTANCE	<input checked="" type="checkbox"/> FEET <input type="checkbox"/> METERS	VERTICAL ANGLE OBS.	ROD RDG OR HI	ELEV DIFF	FINAL ELEVATION DIFF	INST	ROD				
			SLOPE 	HORIZ 										
1		409	2640		90-08-00	11						1		
2					269-51-53	11		17.0				2		
3	S	408	2200		90-07-32	11						3		
4	S	407	1760		90-04-33	11						4		
5	S	406	1320		89-56-45	11						5		
6	S	405	880		89-46-55	11						6		
7	S	404	440		89-32-28	11						7		
8		403	-0-			5.6			105.8			8		
9		TP-2	1700		89-57-57	15						9	BARR MK 81449	
10					270-02-00	15		-13.9		91.9		10	ELE = 93.05	
11		81449										11	-91.90	
12		TP-2	1700		89-57-57	15						12	TIE = 1.15	
13					270-02-00	15		13.9				13		
14		403	-0-			5.6			107.0			14		
15	S	402	440		89-19-11	11						15		
16	S	401	880		89-48-09	11						16		
17	S	400	1320		89-51-22	11						17		

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SYMBOLS  = BACKSIGHT  = INSTRUMENT SET-UP  = SIDESHOT  = FORESIGHT

HORIZONTAL AND VERTICAL SURVEY NOTES

61

GSI AREA _____ STATE/COUNTY AK BOOK NO. 2 PAGE 218 OF _____
 LINE/LOOP NO. 16-81 TYPE SURVEY VERT CLIENT USGS DATE 12 DY 3 MO 81 YR
 SURVEYOR K HOKANSON / JOHNS INSTRUMENT DESC/SERIAL NO. WILD T-2 CREW NO. 1186

LINE	SYMBOL	STATION	VERTICAL					ELEVATION		LR OR DR	RIGHT TURNED HORIZONTAL ANGLE	LINE	REMARKS	
			DISTANCE	<input checked="" type="checkbox"/> FEET <input type="checkbox"/> METERS	VERTICAL ANGLE OBS.	ROD RDG OR HI	ELEV DIFF	FINAL ELEVATION DIFF	INST					ROD
			SLOPE	HORIZ										
1	S	399	1760		89-55-30	11					1			
2	S	398	2200	90°	89-00-45"	11					2			
3	⊙	397	2640		90-00-45	11					3			
4					269-59-18	11	-11.4	95.6			4			
5											5			
6	△	397	2640		90-03-46	11					6			
7					269-56-18	11	13.7				7			
8	S	396	2200		90-03-47	11					8			
9	S	395	1760		90-00-38	11					9			
10	S	394	1320		89-55-20	11					10			
11	S	393	880		89-41-40	11					11			
12	S	392	440		89-29-00	11					12			
13	⊗	391	—0—			5.6		109.3			13			
14	S	390	440		89-16-00	11					14			
15	S	389	880		89-38-22	11					15			
16	S	388	1320		89-41-43	11					16			
17	S	387	1760		89-48-00	11					17			

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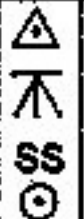
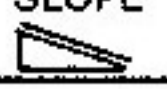
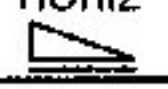


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SYMBOLS △ = BACKSIGHT ⊗ = INSTRUMENT SET-UP SS = SIDESHOT ⊙ = FORESIGHT

HORIZONTAL AND VERTICAL SURVEY NOTES

62

GSI AREA _____ STATE/COUNTY AK BOOK NO. 2 PAGE 219 OF _____
 LINE/LOOP NO. 16-81 TYPE SURVEY VERT. CLIENT USGS DATE 12 DY 3 MO 81 YR
 SURVEYOR HOKANSON / JOHNS INSTRUMENT DESC/SERIAL NO. WILD T-2 CREW NO. 1186

LINE		STATION	VERTICAL						ELEVATION		LR OR DR	RIGHT TURNED HORIZONTAL ANGLE	LINE	REMARKS
			DISTANCE	<input type="checkbox"/> FEET <input type="checkbox"/> METERS	VERTICAL ANGLE OBS.	ROD RDG OR HI	ELEV DIFF	FINAL ELEVATION DIFF	INST	ROD				
			SLOPE 	HORIZ 										
1	S	386	2200		89 53 23	11						1		
2	⊙	385	2640		89-53-10	11						2		
3					270-06-50	11	5.6		103.7			3		
4												4		
5	Δ	385										5		
6												6		
7												7		
8												8		
9												9		
10												10		
11												11		
12												12		
13												13		
14												14		
15												15		
16												16		
17												17		

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SYMBOLS Δ = BACKSIGHT  = INSTRUMENT SET-UP SS = SIDESHOT ⊙ = FORESIGHT

HORIZONTAL AND VERTICAL SURVEY NOTES

63

GSI AREA _____ STATE/COUNTY AK BOOK NO. 2 PAGE 220 OF _____
 LINE/LOOP NO. 16-81 TYPE SURVEY VERT CLIENT USGS DATE 13 DY 3 MO 81 YR
 SURVEYOR HOKANSON/JOHNS INSTRUMENT DESC/SERIAL NO. WILD T-2 CREW NO. 1186

LINE	<input type="checkbox"/> Δ <input type="checkbox"/> T <input type="checkbox"/> SS <input type="checkbox"/> ⊙	STATION	VERTICAL					ELEVATION		L/R OR D/I	HORIZONTAL		REMARKS	
			DISTANCE	<input type="checkbox"/> FEET <input type="checkbox"/> METERS	VERTICAL ANGLE OBS.	ROD RDG OR HI	ELEV DIFF	FINAL ELEVATION DIFF	INST		ROD	RIGHT TURNED HORIZONTAL ANGLE		LINE
			SLOPE	HORIZ										
1	Δ	385	2640		89-57-46	11						1	ELEV. = 103.7	
2			220		270-02-06	11	9.2					2		
3	S	384	2200		89-54-50	11						3		
4	S	383	1760		89-55-15	11						4		
5	S	382	1320		89-57-30	11						5		
6	S	381	880		89-43-35	11						6		
7	S	380	440		89-21-02	11						7		
8	T	379	-0-			5.6		112.9				8		
9	S	378	440		89-22-07	11						9		
10	S	377	880		89-33-35	11						10		
11	S	376	1320		89-32-00	11						11		
12	S	375	1760		89-42-20	11						12		
13	S	374	2200		89-45-58	11						13		
14	⊙	373	2640		89-45-33	11	0.2					14		
15					270-14-23	11		113.1				15		
16												16		
17												17		

TI-25471B

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SYMBOLS Δ = BACKSIGHT T = INSTRUMENT SET-UP SS = SIDESHOT ⊙ = FORESIGHT

HORIZONTAL AND VERTICAL SURVEY NOTES

64

GSI AREA _____ STATE/COUNTY AK BOOK NO. 2 PAGE 221 OF _____

LINE/LOOP NO. 16-81 TYPE SURVEY VERT CLIENT USGS DATE 13 DY 3 MO 81 YR

SURVEYOR HOKANSON / JOHNS INSTRUMENT DESC/SERIAL NO. WILD T-2 CREW NO. 1186

LINE	 	STATION	VERTICAL					ELEVATION		LR OR DI	HORIZONTAL		REMARKS	
			DISTANCE	<input type="checkbox"/> FEET <input type="checkbox"/> METERS	VERTICAL ANGLE OBS.	ROD RDG OR HI	ELEV DIFF	FINAL ELEVATION DIFF	INST		ROD	RIGHT TURNED HORIZONTAL ANGLE		LINE
				SLOPE										
1		373	2640		89-45-07	11						1		
2					270-14-50	11	0.6					2		
3		372	2200		89-42-00	11						3		
4		371	1760		89-38-24	11						4		
5		370	1320		89-29-26	11						5		
6		369	880		89-13-20	11						6		
7		368	440		88-44-05	11						7		
8		363 367	-0-		89-23-23	5.6		112.5				8		
9		366	440		89-23-23	11						9		
10		365	880		89-33-20	11						10		
11		364	1320		89-39-54	11						11		
12		363	1760		89-47-20	11						12		
13		362	2200		89-27-15	11						13		
14		361	2640		89-48-15	11						14		
15					270-11-37	11	-1.9	110.7				15		
16												16		
17												17		

TI-29471B

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SYMBOLS = BACKSIGHT = INSTRUMENT SET-UP = SIDESHOT = FORESIGHT

HORIZONTAL AND VERTICAL SURVEY NOTES

65

GSI AREA _____ STATE/COUNTY AK BOOK NO. 2 PAGE 222 OF _____

LINE/LOOP NO. 16-81 TYPE SURVEY VERT CLIENT USGS DATE 13 DY 3 MO 81 YR

SURVEYOR HOKANSON / JOHNS INSTRUMENT DESC/SERIAL NO. WILD T-2 CREW NO. 1186

LINE	<input type="checkbox"/> Δ <input type="checkbox"/> ⚓ <input type="checkbox"/> SS <input type="checkbox"/> ⊙	STATION	VERTICAL						HORIZONTAL		LINE	REMARKS	
			DISTANCE	<input type="checkbox"/> FEET <input type="checkbox"/> METERS	VERTICAL ANGLE OBS.	ROD RDG OR HI	ELEV DIFF	FINAL ELEVATION DIFF	ELEVATION				RIGHT TURNED HORIZONTAL ANGLE
				SLOPE					HORIZ	INST			
1	Δ	361	2640		89-58-19	11					1		
2					270-01-51	11	9.5				2		
3	S	360	2200		90-03-33	11					3		
4	S	359	1760		90-04-00	11					4		
5	S	358	1320		90-08-25	11					5		
6	S	357	880		90-13-08	11					6		
7	S	356	440		89-15-48	11					7		
8		355 + 212'	212		88-22-38	11	-5.0		115.2		8	INT L1681 SP149+55' L 31-81	
9	⚓	355	-0-		0-	5.6		120.2			9		
10	⊙	Bm 81450	1609		89-56-54	15					10	ELEV. 81450 = 106.15	
11					270-03-00	15	-13.5		106.6		11	106.6	
12											12	106.1	
13	Δ	Bm 81450	1609		89-56-54	15					13	TIE = 0.5	
14					270-03-00	15	13.5				14		
15	⚓	355	-0-		0-	5.6		119.6			15		
16	S	354	440		89-33-41	11					16		
17	S	353	880		89-51-33	11					17		

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HORIZONTAL AND VERTICAL SURVEY NOTES

66

GSI AREA _____ STATE/COUNTY AK BOOK NO. 2 PAGE 223 OF _____

LINE/LOOP NO. 16-81 TYPE SURVEY VERT CLIENT USGS DATE 13 DY 3 MO 81 YR

SURVEYOR HOKANSON / JOHNS INSTRUMENT DESC/SERIAL NO. WILD T-2 CREW NO. 1186

LINE	<input type="checkbox"/> Δ <input type="checkbox"/> ⚓ <input type="checkbox"/> SS <input type="checkbox"/> ⊙	STATION	VERTICAL						HORIZONTAL		LINE	REMARKS		
			DISTANCE	<input type="checkbox"/> FEET <input type="checkbox"/> METERS	VERTICAL ANGLE OBS.	ROD RDG OR HI	ELEV DIFF	FINAL ELEVATION DIFF	ELEVATION				L/R OR D/I	RIGHT TURNED HORIZONTAL ANGLE
				SLOPE					HORIZ	INST				
1	S	352	1320		89-57-52	11						1		
2	S	351	1760		89-58-40	11						2		
3	S	350	2200		90-03-35	11						3		
4	⊙	349	2640		90-04-56	11						4		
5					269-55-00	11		-14.7	109.9			5		
6												6		
7	Δ	349	2640		89-17-36	11						7		
8					270-42-32	11		21.8				8		
9	S	348	2200		89-10-34	11						9		
10	S	347	1760		89-03-02	11						10		
11	S	346	1320		89-03-05	11						11		
12	S	345	880		88-50-52	11						12		
13	S	344	440		88-10-24	11						13		
14	⚓	343	-0-		92-05-30	5.6			83.2			14		
15	S	342	440		92-05-38	11						15		
16	S	341	880		89-24-35	11						16		
17	⊙	340	1320		90-01-44	11		-11.6	71.6			17		

269-58-23 11'

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HORIZONTAL AND VERTICAL SURVEY NOTES

67

GSI AREA _____ STATE/COUNTY AK BOOK NO. 2 PAGE 224 OF _____
 LINE/LOOP NO. 16-81 TYPE SURVEY VERT CLIENT USGS DATE 13 DY 3 MO 81 YR
 SURVEYOR HOKANSON / JOHNS INSTRUMENT DESC/SERIAL NO. WILD T-2 CREW NO. 1186

LINE	<input type="checkbox"/> Δ <input type="checkbox"/> T <input type="checkbox"/> SS <input type="checkbox"/> ○	STATION	VERTICAL						HORIZONTAL		LINE	REMARKS		
			DISTANCE	<input type="checkbox"/> FEET <input type="checkbox"/> METERS	VERTICAL ANGLE OBS.	ROD RDG OR HI	ELEV DIFF	FINAL ELEVATION DIFF	ELEVATION				L/R OR D/I	RIGHT TURNED HORIZONTAL ANGLE
			SLOPE	HORIZ					INST	ROD				
1	Δ	340	2640		88-46-26	11						1		
2					271-13-35	11	45.6					2		
3	S	339	2200		89-51-20	11						3		
4	S	338	1760		89-48-33	11						4		
5	S	337	1320		89-46-00	11						5		
6	S	336	880		89-36-08	11						6		
7	S	335	440		89-16-53	11						7		
8	T	334	-0-		0—	5.6		25.9				8		
9	S	333	440	89°	88 -16-05	11						9		
10	S	332	880		89-33-35	11						10		
11	S	331	1320		89-35-14	11						11		
12	S	330	1760		89-43-05	11						12		
13	S	329	2200		89-45-40	11						13		
14	○	328	2640		89-47-53	11						14		
15					270-12-07	11	-1.6					15		
16												16		
17												17		

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SYMBOLS Δ = BACKSIGHT T = INSTRUMENT SET-UP SS = SIDESHOT ○ = FORESIGHT

HORIZONTAL AND VERTICAL SURVEY NOTES

68

GSI AREA _____ STATE/COUNTY AK BOOK NO. 2 PAGE 226 OF _____
 LINE/LOOP NO. 16-81 TYPE SURVEY VERT CLIENT USGS DATE 13 DY 3 MO 21 YR
 SURVEYOR HOKANSON / JOHNS INSTRUMENT DESC/SERIAL NO. WILD T-2 CREW NO. 1186

LINE	<input type="checkbox"/> Δ <input type="checkbox"/> ↗ <input type="checkbox"/> SS <input type="checkbox"/> ⊙	STATION	VERTICAL						ELEVATION		L/R OR DI	RIGHT TURNED HORIZONTAL ANGLE	LINE	REMARKS
			DISTANCE	<input type="checkbox"/> FEET <input type="checkbox"/> METERS	VERTICAL ANGLE OBS.	ROD RDG OR HI	ELEV DIFF	FINAL ELEVATION DIFF	INST	ROD				
			SLOPE 	HORIZ 										
1	Δ	316	1320		89-33-01	11						1		
2					270-26-54	11	0.6					2		
3	S	315	880		89-31-17	11						3		
4	S	314	440		89-09-39	11						4		
5	↗	313	- 0 -		- 0 -	5.7						5		
6	S	312	440		95-38-15	11		80.3				6		
7	S	311 311	880		93-18-37	11						7		
8	S	310	1320		91-49-19	11						8		
9	S	309	1760		91-39-40	11						9		
10	S	308	2200		91-32-02	11						10		
11	⊙	307	2690		91-06-54	11						11		
12					268-53-03	11	-62.2		18.0			12		
13												13		
14												14		
15												15		
16												16		
17												17		

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SYMBOLS Δ = BACKSIGHT ↗ = INSTRUMENT SET-UP SS = SIDESHOT ⊙ = FORESIGHT

HORIZONTAL AND VERTICAL SURVEY NOTES

69

GSI AREA _____ STATE/COUNTY AK BOOK NO. 2 PAGE 225 OF _____
 LINE/LOOP NO. 16-81 TYPE SURVEY VERT CLIENT U.S.G.S. DATE 13 DY 3 MO 81 YR
 SURVEYOR HOKANSON/JOHNS INSTRUMENT DESC/SERIAL NO. WILD T-2 CREW NO. 1186

LINE	<input type="checkbox"/> Δ <input type="checkbox"/> ⚓ <input type="checkbox"/> SS <input type="checkbox"/> ⊙	STATION	VERTICAL						ELEVATION		L/R OR D/I	RIGHT TURNED HORIZONTAL ANGLE	LINE	REMARKS
			DISTANCE	<input type="checkbox"/> FEET <input type="checkbox"/> METERS	VERTICAL ANGLE OBS.	ROD RDG OR HI	ELEV DIFF	FINAL ELEVATION DIFF	INST	ROD				
			SLOPE	HORIZ										
1	Δ	328	2640		90-53-20	11						1		
2					269-06-50	11	51.7					2		
3	S	327	2200		91-04-34	11						3		
4	S	326	1760		91-18-52	11						4		
5	S	325	1320		91-43-04	11						5		
6	S	324	880		91-52-20	22						6		
7	S	323	440		91-58-05	4						7		
8	⚓	322	-0-		0-	5.6		76.1				8		
9	S	321	440		89-17-25	11						9		
10	S	320	880		89-31-21	11						10		
11	S	319	1320		89-38-20	11						11		
12	S	318	1760		89-34-10	11						12		
13	S	317	2200		89-36-09	11						13		
14	⊙	316	2640		89-41-17	11						14		
15					270-18-40	11	3.5	79.6				15		
16												16		
17												17		

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SYMBOLS Δ = BACKSIGHT ⚓ = INSTRUMENT SET-UP SS = SIDESHOT ⊙ = FORESIGHT

HORIZONTAL AND VERTICAL SURVEY NOTES

70

GSI AREA _____ STATE/COUNTY AK BOOK NO. 2 PAGE 227 OF _____
 LINE/LOOP NO. 16-81 TYPE SURVEY VERT CLIENT USGS DATE 13 DY 3 MO 81 YR
 SURVEYOR HOKANSON | JOHNS INSTRUMENT DESC/SERIAL NO. WILD T-2 CREW NO. 1186

LINE	<input type="checkbox"/> Δ <input type="checkbox"/> ⚓ <input type="checkbox"/> SS <input type="checkbox"/> ⊙	STATION	VERTICAL						HORIZONTAL		REMARKS			
			DISTANCE	<input type="checkbox"/> FEET <input type="checkbox"/> METERS	VERTICAL ANGLE OBS.	ROD RDG OR HI	ELEV DIFF	FINAL ELEVATION DIFF	ELEVATION			LR OR DI	RIGHT TURNED HORIZONTAL ANGLE	LINE
			SLOPE	HORIZ					INST	ROD				
1	Δ	307	2640		90-02-46	11						1		
2		"	"		269-57-21	11	12.9					2		
3	S	306	2200		89-54-37	11						3		
4	S	305	1760		89-47-28	11						4		
5	S	304	1320		89-45-00	11						5		
6	S	303	880		89-46-11	11						6		
7	S	302	440		89-15-13	11						7		
8	⚓	301	-0-		-0-	5.6		31.0				8		
9	S	300	440		89-30-37	11						9		
10	S	299	880		89-45-05	11						10		
11	S	298	1320		89-49-10	11						11		
12	S	297	1760		89-51-27	11						12		
13	S	296	2200		89-53-51	11						13		
14	⊙	295	2640		89-54-50	11						14		
15		"	"		270-05-10	11	-6.9	24.1				15		
16												16		
17												17		

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SYMBOLS: Δ = BACKSIGHT ⚓ = INSTRUMENT SET-UP SS = SIDESHOT ⊙ = FORESIGHT

HORIZONTAL AND VERTICAL SURVEY NO. _____

71

GSI AREA _____ STATE/COUNTY AK BOOK NO. 2 PAGE 228 OF _____
 LINE/LOOP NO. 16-81 TYPE SURVEY VERT. CLIENT U.S.G.S. DATE 13 DY 3 MO 81 YR
 SURVEYOR HOKANSON / JOHNS* INSTRUMENT DESC/SERIAL NO. WILD 7-2 CREW NO. 1186

LINE	<input type="checkbox"/> Δ <input type="checkbox"/> SS <input type="checkbox"/> ⊙	STATION	VERTICAL						HORIZONTAL		LINE	REMARKS		
			DISTANCE	<input type="checkbox"/> FEET <input type="checkbox"/> METERS	VERTICAL ANGLE OBS.	ROD RDG OR HI	ELEV DIFF	FINAL ELEVATION DIFF	ELEVATION				L/R OR DI	RIGHT TURNED HORIZONTAL ANGLE
			SLOPE	HORIZ				INST	ROD					
1	Δ	295	2640		89-54-21	11						1		
2		"	"		270-05-32	11	6.6					2		
3	S	294	2200		89-53-08	11						3		
4	S	293	1760		89-52-24	11						4		
5	S	292	1320		89-50-00	11						5		
6	S	291	880		89-43-23	11						6		
7	S	290	440		89-20-09	11						7		
8	⊗	289	-0-		-0-	5.6		30.6				8		
9	S	288	440		89-21-54	11						9		
10	S	287	880		89-41-41	11						10		
11	S	286	1320		89-46-18	11						11		
12	S	285	1760		89-49-05	11						12		
13	S	284	2200		89-52-06	11						13		
14	S	283	2640		89-53-37	11						14		
15	S	282	3080		89-52-26	11						15	E.O.L	
16	⊙	S 81453 81452	2205		89-41-38	15						16	BARR MKR	
17					270-18-11	15	2.3		32.9			17	ELEV. = 32.75	

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SYMBOLS Δ = BACKSIGHT ⊗ = INSTRUMENT SET-UP SS = SIDESHOT ⊙ = FORESIGHT

32.9
 32.75
 PIE = 0.15
 TI-23471B

HORIZONTAL AND VERTICAL SURVEY NOTES

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GSI AREA _____ STATE/COUNTY AK BOOK NO. 2 PAGE 229 OF _____
 LINE/LOOP NO. 16-81 TYPE SURVEY VERT CLIENT U.S.G.S. DATE 13 DY 3 MO 81 YR
 SURVEYOR HOKANSON/JOHNS INSTRUMENT DESC/SERIAL NO. WILD T-2 CREW NO. 1186

LINE	<input type="checkbox"/> Δ <input type="checkbox"/> ⚓ <input type="checkbox"/> SS <input type="checkbox"/> ⊙	STATION	VERTICAL						HORIZONTAL		LINE	REMARKS		
			DISTANCE	<input type="checkbox"/> FEET <input type="checkbox"/> METERS	VERTICAL ANGLE OBS.	ROD RDG OR HI	ELEV DIFF	FINAL ELEVATION DIFF	ELEVATION				L/R OR D/I	RIGHT TURNED HORIZONTAL ANGLE
				SLOPE					HORIZ	INST				
1	⊙	81453	567		89-06-33	15						1	BARR MKR	
2		"	"		270-53-30	15		-6.2		24.5		2	ELEV. = 24.98	
3												3	24.50	
4	Δ	81453	2602		90-01-54	15		16.3				4	TIE = 0.48	
5					269-58-08	15						5		
6												6		
7	⚓	281+351	-0-		-0-	5.6			41.3			7		
8	S	T.S. 281	89		91-34-55	11				27.8		8		
9		" 280	529		90-24-32	11				26.5		9		
10		279	969		91-08-29	11				11.0		10		
11		278	1409		90-45-23	11				11.7		11		
12		277	1849		90-42-30	11				7.5		12		
13		276	2289		90-40-29	11				3.4		13		
14		275	2729		90-35-05	11				2.6		14		
15		274	3169		90-23-43	11				8.6		15		
16	⊙	81453	2602		90-01-54	15						16		
17		"	"		269-58-08	15		-16.3		25.0		17		

WORKED BY _____ CHECKED BY 1ST _____ 2ND _____

SYMBOLS Δ = BACKSIGHT ⚓ = INSTRUMENT SET-UP SS = SIDESHOT ⊙ = FORESIGHT