

# HORIZONTAL AND VERTICAL SURVEY NOTES

GSI AREA Harrison Bay STATE/COUNTY Alaska BOOK NO. 3 PAGE 114 OF       
 LINE/LOOP NO. A-81 TYPE SURVEY Vent CLIENT USGS DATE 4 BY 4 MO 81 YR  
 SURVEYOR M. O'LEARY INSTRUMENT DESC/SERIAL NO. T-2 wild CREW NO. 1186

LINE	<input type="checkbox"/> Δ <input type="checkbox"/> SS <input type="checkbox"/> ⊙	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 D/I		RIGHT TURNED HORIZONTAL ANGLE
				SLOPE					HORIZ	INST			
1	Δ	Well & SPI07	3080		89 57 40	1.0		-1.3				1	USU Husky NPR
2					270 02 19	1.0						2	East Tealekput
3		SP 106	2640		89 49 59	11						3	#1
4		105	2200		89 52 52	11						4	Sec 16 ASPC
5		104	1760		89 48 53	11						5	Elev 11.8
6		103	1320		89 44 43	11						6	Barr Mark
7		102	880		89 35 16	11						7	81526
8		101	440		89 19 23	11						8	
9	Δ	SP 100	-0-		90	5.4			10.5	5.1		9	
10		TS 99	440		89 15 49	11		-5.3		5.2		10	
11		" 98	880		89 43 41	11				5.7		11	
12		" 97	1320		89 52 27	11				2.4		12	
13		" 96	1760		89 53 17	11				3.0		13	
14		" 95	2200		89 57 01	11				5.3		14	
15		" 94	2640		89 56 02	11				7.3		15	
16		" 93	3080		89 40 34	11				17.1		16	
17												17	

WORKED BY \_\_\_\_\_ CHECKED BY 1ST \_\_\_\_\_ 2ND \_\_\_\_\_

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

## HORIZONTAL AND VERTICAL SURVEY NOTES

2

GSI AREA Harrison Bay STATE/COUNTY ALASKA BOOK NO. 3 PAGE 115 OF       
 LINE/LOOP NO. A-81 TYPE SURVEY Level CLIENT U.S.G.S. DATE 9 DY 9 MO 81 YR  
 SURVEYOR M. O'BRADY INSTRUMENT DESC/SERIAL NO. T-2 used CREW NO. 1186

LINE	<input type="checkbox"/> Δ <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		RIGHT TURNED HORIZONTAL ANGLE		LINE
				SLOPE					HORIZ	INST			
1	TS	SP 92	3520		89 42 21	11						1	
2	"	91	3960		89 49 46	11						2	
3	"	90	4400		89 53 02	11						3	
4	"	89	4840		89 56 15	11						4	
5	⊙	88	5280		89 50 05	20.5						5	
6												6	
7	Δ	well	10'		90	2.85						7	well
8												8	Elev 11.8
9	Δ	SP 107	-0-		90	5.4			14.6			9	
10	SS	LINE 75			90	7.8						10	
11		SP 105										11	
12												12	
13		108	440		89 23 51	11						13	
14		109	860		89 58 02	11						14	
15		108/110	1320		89 54 41	11						15	
16		109	1760		90 02 21	11						16	
17												17	

TI-23471B

WORKED BY \_\_\_\_\_ CHECKED BY 1ST \_\_\_\_\_ 2ND \_\_\_\_\_

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

### HORIZONTAL AND VERTICAL SURVEY NOTES

3

GSI AREA Teshetpuk STATE/COUNTY ALASKA BOOK NO. 3 PAGE 116 OF       
 LINE/LOOP NO. A-81 TYPE SURVEY Vert CLIENT USGS DATE 4 DY 4 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						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			RIGHT TURNED HORIZONTAL ANGLE
				SLOPE					HORIZ	INST		
1		112	2200		90 00 29	11					1	
2	⊙	113	2640		90 01 21	11	-11.01				2	
3					264 58 37	11		2.7			3	
4											4	
5	A	SP113	2200		89 55 21	11	+7.0				5	
6					270 04 42	11					6	
7		114	1760		89 53 54	11					7	
8		115	1320		89 52 05	11					8	
9		116	880		89 46 27	11					9	
10		117	440		89 30 56	11					10	
11	Δ	118	-0-		98	5.5		10.7			11	
12		119	440		89 23 17	11					12	
13		120	880		89 45 08	11					13	
14		121	1320		89 47 06	11					14	
15		122	1760		89 52 43	11					15	
16		123	2200		89 48 21	11					16	
17											17	

WORKED BY \_\_\_\_\_ CHECKED BY 1ST \_\_\_\_\_ 2ND \_\_\_\_\_

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

## HORIZONTAL AND VERTICAL SURVEY NOTES

GSI AREA Teshkepak STATE/COUNTY Alaska BOOK NO. 3 PAGE 177 OF 4  
 LINE/LOOP NO. A-81 TYPE SURVEY Vert CLIENT USGS DATE 4 DY 4 MO 8 YR  
 SURVEYOR M. D. Brady INSTRUMENT DESC/SERIAL NO. T-2 Wild CREW NO. 1186

LINE	<input type="checkbox"/> Δ <input type="checkbox"/> SS <input type="checkbox"/> ⊙	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 DJI		RIGHT TURNED HORIZONTAL ANGLE	LINE
				SLOPE					HORIZ	INST				
1	⊙	124	2690		89 52 09	11		-4.8				1		
2					270 07 50	11			5.8			2		
3												3		
4	Δ	SP12A	2250		90 06 40	11		+15.2				4		
5					269 53 29	11						5		
6		125	1760		90 06 55	11						6		
7		126	1320		90 08 00	11						7		
8		127	880		89 53 09	11						8		
9		128	490		89 24 56	11						9		
10	Δ	129	-0-		90	5.9			20.9			10		
11		130	990		89 16 42	11						11		
12		131	880		89 27 24	11						12		
13		132	1320		89 47 42	11						13		
14		133	1760		89 50 35	11						14		
15		134	2200		89 50 00	11						15		
16	⊙	135	2640		89 59 07	11		-10.2				16		
17					270 00 50	11			10.7			17		

WORKED BY \_\_\_\_\_ CHECKED BY 1ST \_\_\_\_\_ 2ND \_\_\_\_\_

SYMBOLS

Δ = BACKSIGHT

⊕ = INSTRUMENT SET-UP

SS = SIDESHOT

⊙ = FORESIGHT

# HORIZONTAL AND VERTICAL SURVEY NOTES

GSI AREA Teshokpak STATE/COUNTY ALASKA BOOK NO. 3 PAGE 113 OF 5  
 LINE/LOOP NO. A-81 TYPE SURVEY vert CLIENT USGS DATE 4 DY 4 MO 8 L<sup>YR</sup>  
 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							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 D/I		RIGHT TURNED HORIZONTAL ANGLE	LINE
				SLOPE					HORIZ	INST				
1	Δ	SP 135	3520		89 46 52	11		22.7				1		
2					270 13 14	11						2		
3		136	3080		90	2.7						3		
4		137	2640		90	2.7						4		
5		138	2200		90	2.7						5		
6		139	1760		90	2.7						6		
7		140	1320		90	2.7						7		
8		141	880		90	2.7						8		
9		142	400		90	2.7						9		
10	Δ	143	-0-		90	5.4			8.0			10		
11		opp 143		870	90	2.7						11		
12		144	446		90	2.7						12		
13		145	880		90	2.7						13		
14		146	1320		90	2.7						14		
15		147	1760		90	2.7						15		
16		148	2200		90	2.7						16		
17												17		

WORKED BY \_\_\_\_\_ CHECKED BY 1<sup>ST</sup> \_\_\_\_\_ 2<sup>ND</sup> \_\_\_\_\_

SYMBOLS

Δ = BACKSIGHT

⊕ = INSTRUMENT SET-UP

SS = SIDESHOT

⊙ = FORESIGHT

## HORIZONTAL AND VERTICAL SURVEY NOTES

GSI AREA Teshkekuk STATE/COUNTY Alaska BOOK NO. 3 PAGE 119 OF 6  
 LINE/LOOP NO. A-81 TYPE SURVEY \_\_\_\_\_ CLIENT USGS DATE 4 BY 4 MO 01 YR  
 SURVEYOR M. O'GRADY INSTRUMENT DESC/SERIAL NO. T2 Wild CREW NO. 1186

LINE	<input type="checkbox"/> Δ <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			L/R OR D/I	RIGHT TURNED HORIZONTAL ANGLE	LINE
				SLOPE					HORIZ	INST				
1		<del>149</del>	2600		90	2.7						1		
2		<del>150</del>	3000		90	2.7						2		
3		<del>151</del>	3520		90	2.7						3		
4	⊙	152	3960		89 54 55	11	-4.8					4		
5					270 05 05	11			3.2			5		
6												6		
7	Δ	SP 152	2200		90 04 34	11	+13.0					7		
8					269 55 35	11						8		
9		153	1760		89 56 55	11						9		
10		154	1320		89 47 41	11						10		
11		155	880		89 39 32	11						11		
12		156	490		89 15 42	11						12		
13	⊗	157	-50		90	5.4		16.9				13		
14		158	40		89 18 20	11						14		
15		159	880		89 36 48	11						15		
16		160	1320		89 43 22	11						16		
17												17		

WORKED BY \_\_\_\_\_ CHECKED BY 1ST \_\_\_\_\_ 2ND \_\_\_\_\_

SYMBOLS

Δ = BACKSIGHT

⊗ = INSTRUMENT SET-UP

SS = SIDESHOT

⊙ = FORESIGHT

## HORIZONTAL AND VERTICAL SURVEY NOTES

GSI AREA Teshukpu.k STATE/COUNTY Alaska BOOK NO. 3 PAGE 120 OF 7  
 LINE/LOOP NO. A-81 TYPE SURVEY Vert CLIENT USGS DATE 4 BY 4 MO 8 L YR  
 SURVEYOR M.O'GRADY INSTRUMENT DESC/SERIAL NO. F-2 Wild CREW NO. 1186

LINE	<input type="checkbox"/> Δ <input type="checkbox"/> SS <input type="checkbox"/> ⊙	STATION	VERTICAL						HORIZONTAL		REMARKS		
			DISTANCE		VERTICAL ANGLE OBS.	ROD RDG OR HI	ELEV DIFF	FINAL ELEVATION DIFF	ELEVATION			RIGHT TURNED HORIZONTAL ANGLE	LINE
			SLOPE	HORIZ					INST	ROD			
1		161	1760		89 42 19	11					1		
2		162	2200		89 45 22	11					2		
3	⊙	163	2640		89 52 18	11					3		
4					270 07 50	11	-4.9	12.0			4		
5											5		
6	Δ	SP163	2200		89 59 34	11	40.6				6		
7					270 00 34	11					7		
8		164	1760		90 06 34	11					8		
9		165	1320		90 12 38	11					9		
10		166	880		90 17 23	11					10		
11		167	440		89 47 40	11					11		
12	Δ	168	-0-		90	5.4		22.6			12		
13		169	440		89 10 41	11					13		
14		170	880		89 37 37	11					14		
15		171	1320		89 49 29	11					15		
16		172	1760		89 52 29	11					16		
17											17		

WORKED BY \_\_\_\_\_ CHECKED BY 1ST \_\_\_\_\_ 2ND \_\_\_\_\_

SYMBOLS

Δ = BACKSIGHT

⊕ = INSTRUMENT SET-UP

SS = SIDESHOT

⊙ = FORESIGHT

# HORIZONTAL AND VERTICAL SURVEY NOTES

8

GSI AREA TeshekpuK STATE/COUNTY Alaska BOOK NO. 3 PAGE 121 OF       
 LINE/LOOP NO. A-81 TYPE SURVEY Vert CLIENT USGS DATE      DY      MO      YR       
 SURVEYOR M. O'GRADY INSTRUMENT DESC/SERIAL NO. T-2 CREW NO. 1186

LINE	<input type="checkbox"/> Δ <input type="checkbox"/> SS <input type="checkbox"/> ⊙	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 D/I		RIGHT TURNED HORIZONTAL ANGLE	LINE
				SLOPE					HORIZ	INST				
1	⊙	173	2200		89 54 04	11		-1.1				1		
2					270 05 48	11			15.5			2		
3												3		
4	Δ	SP173	3080		89 47 20	11		-1.5				4		
5					270 12 47	11						5		
6		174	2640		89 54 47	11						6		
7		175	2200		89 53 30	11						7		
8		176	1760		89 52 06	11						8		
9		177	1320		89 46 40	11						9		
10		178	880		89 35 33	11						10		
11		179	440		89 19 01	11						11		
12	Δ	180	-0-		90	5.5			14.9			12		
13		181	440		89 17 08	11		-				13		
14		182	880		89 38 40	11						14		
15		183	1320		89 43 53	11						15		
16		184	1760		89 46 33	11						16		
17												17		

WORKED BY \_\_\_\_\_ CHECKED BY 1ST \_\_\_\_\_ 2ND \_\_\_\_\_

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



## HORIZONTAL AND VERTICAL SURVEY NOTES

GSI AREA Teshkepak STATE/COUNTY Alaska BOOK NO. 3 PAGE 122 OF 9  
 LINE/LOOP NO. A-81 TYPE SURVEY vert CLIENT USGS DATE 4 BY 4 MO 81 YR  
 SURVEYOR M. O'GRADY INSTRUMENT DESC/SERIAL NO. T-2 CREW NO. 1186

LINE	<input type="checkbox"/> Δ <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			L/R OR DJI	RIGHT TURNED HORIZONTAL ANGLE	LINE
				SLOPE					HORIZ	INST				
1		185	2200		89 47 00	11						1		
2	⊙	186	2690		89 45 42	11	0.1					2		
3					270 14 08	11			15.0			3		
4												4		
5	Δ	SP 186	2640		89 42 16	11	-2.8					5		
6					270 17 45	11						6		
7		187	2240		89 41 55	11						7		
8		188	1760		89 37 10	11						8		
9		189	1320		89 32 20	11						9		
10		190	880		89 37 30	11						10		
11		191	440		89 16 32	11						11		
12	Δ	192	-0-		90	5.5			12.2			12		
13		193	440		89 11 53	11						13		
14		194	880		89 35 08	11						14		
15		195	1320		89 41 20	11						15		
16		196	1760		89 48 04	11						16		
17												17		

WORKED BY \_\_\_\_\_ CHECKED BY 1ST \_\_\_\_\_ 2ND \_\_\_\_\_

SYMBOLS

Δ = BACKSIGHT/

⊕ = INSTRUMENT SET-UP

SS = SIDESHOT

⊙ = FORESIGHT

# HORIZONTAL AND VERTICAL SURVEY NOTES

GSI AREA Teshkepuuk STATE/COUNTY Alaska BOOK NO. 3 PAGE 123 OF 10  
 LINE/LOOP NO. A-81 TYPE SURVEY Vert CLIENT USGS DATE 4 BY A 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"/> SS <input type="checkbox"/> ⊙	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 D/I	RIGHT TURNED HORIZONTAL ANGLE
				SLOPE	HORIZ					INST	ROD			
1		197	2200		89 49 55	11						1		
2	⊙	198	2640		89 51 09	11	-4.1					2		
3					270 08 50	11			8.1			3		
4												4		
5	Δ	SP 198	1760		90 09 40	11	+13.3					5		
6					269 55 12	11						6		
7		199	1320		90 07 51	11						7		
8		200	820		89 59 27	11						8		
9		201	440		89 22 09	11						9		
10	⊙	SP 202	-0-		90	55		21.5				10		
11		203	440		89 36 33	11						11		
12		204	820		89 54 14	11						12		
13		205	1320		89 54 44	11						13		
14		206	1760		89 57 31	11						14		
15		207	2200		89 57 15	11						15		
16	⊙	208	2640		89 58 17	11	-01.5					16		
17					270 01 33	11			11.9			17		

WORKED BY \_\_\_\_\_ CHECKED BY 1ST \_\_\_\_\_ 2ND \_\_\_\_\_

SYMBOLS

Δ = BACKSIGHT

⊕ = INSTRUMENT SET-UP

SS = SIDESHOT

⊙ = FORESIGHT

# HORIZONTAL AND VERTICAL SURVEY NOTES

GSI AREA Teshukpuk STATE/COUNTY ALASKA BOOK NO. 3 PAGE 124 OF 11  
 LINE/LOOP NO. A-31 TYPE SURVEY Vert CLIENT USGS DATE 4 DAY 4 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							HORIZONTAL		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	LINE
				SLOPE					HORIZ	INST				
1	Δ	SP 208	3080		89 58 09 //		+9.1					1		
2					270 01 47 //							2		
3		209	2640		89 57 50 //							3		
4		210	2200		89 59 23 //							4		
5		211	1760		89 57 26 //							5		
6		212	1320		89 56 12 //							6		
7		213	880		89 52 08 //							7		
8		214	440		89 24 34 //							8		
9	Δ	215	-0-		90° 5.1			21.0				9		
10		216	440		88 43 04 //							10		
11		217	880		89 42 01 //							11		
12		218	1320		89 47 02 //							12		
13		219	1760		89 42 03 //							13		
14		220	2200		89 47 13 //							14		
15	⊙	221	2640		89 47 11 //		-1.0					15		
16					270 12 43 //							16		
17									20.0			17		

WORKED BY \_\_\_\_\_ CHECKED BY 1ST \_\_\_\_\_ 2ND \_\_\_\_\_

SYMBOLS

Δ = BACKSIGHT

⊕ = INSTRUMENT SET-UP

SS = SIDESHOT

⊙ = FORESIGHT

# HORIZONTAL AND VERTICAL SURVEY NOTES

12

GSI AREA TeshkepuK STATE/COUNTY ALASKA BOOK NO. 3 PAGE 125 OF       
 LINE/LOOP NO. A-81 TYPE SURVEY Vert CLIENT USGS DATE 5 DY 4 MO 81 YR  
 SURVEYOR M. OBRADY INSTRUMENT DESC/SERIAL NO. T-2 Wild CREW NO. 1186

LINE	<input type="checkbox"/> Δ <input type="checkbox"/> SS <input type="checkbox"/> ⊙	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 D/I		RIGHT TURNED HORIZONTAL ANGLE	LINE
				SLOPE					HORIZ	INST				
1	Δ	SP 221	2640		89 58 16	11		+9.5					1	
2					270 01 36	11							2	
3		222	2200		89 56 39	11							3	
4		223	1760		89 55 31	11							4	
5		224	1320		89 52 22	11							5	
6		225	880		89 46 28	11							6	
7		226	440		89 33 33	11							7	
8	Δ	227	-0-		90	5.5			29.16				8	
9		228	440		89 20 54	11							9	
10		229	880		89 39 16	11							10	
11		230	1320		89 47 53	11							11	
12		231	1760		89 47 10	11							12	
13		232	2200		89 51 46	11							13	
14	⊙	233	2640		89 53 12	11		-5.10					14	
15					270 06 54	11				24.10			15	
16													16	
17													17	

TI-23471B

WORKED BY \_\_\_\_\_ CHECKED BY 1ST \_\_\_\_\_ 2ND \_\_\_\_\_

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

# HORIZONTAL AND VERTICAL SURVEY NOTES

13

GSI AREA Teshkepunk STATE/COUNTY Alaska BOOK NO. 3 PAGE 126 OF       
 LINE/LOOP NO. A-81 TYPE SURVEY Vert CLIENT USGS DATE 5 BY 4 MO 81 YR  
 SURVEYOR M.O'GRADY INSTRUMENT DESC/SERIAL NO. T-2 Wild CREW NO. 1186

LINE	  	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 DR	RIGHT TURNED HORIZONTAL ANGLE	LINE
				SLOPE					HORIZ	INST				
1		SP 233	2640		90 01 39	11		+12.1				1		
2					269 58 09	11						2		
3		234	2200		90 04 11	11						3		
4		235	1760		90 02 46	11						4		
5		236	1320		89 47 50	11						5		
6		237	880		89 41 57	11						6		
7		238	440		89 21 08	11						7		
8		239	-0-		90	5.5			36.2			8		
9		240	440		89 17 53	11						9		
10		241	880		89 35 22	11						10		
11		242	1320		89 41 43	11						11		
12		243	1760		89 43 46	11						12		
13		244	2200		89 46 45	11						13		
14		245	2640		89 49 42	11		-2.9				14		
15					270 16 25	11			33.3			15		
16												16		
17												17		

WORKED BY \_\_\_\_\_ CHECKED BY 1ST \_\_\_\_\_ 2ND \_\_\_\_\_

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

# HORIZONTAL AND VERTICAL SURVEY NOTES

14

GSI AREA Teshkeguk STATE/COUNTY Alaska BOOK NO. 3 PAGE 127 OF       
 LINE/LOOP NO. 4-81 TYPE SURVEY Vert CLIENT USGS DATE 5 DY 4 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						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					ROD
1	Δ	SP 245	3080		90 06 08	11		+16.3					1		
2					269 53 45	11							2		
3		246	2690		90 08 50	11							3		
4		247	2200		90 16 05	11							4		
5		248	1760		90 10 13	11							5		
6		249	1320		90 18 50	11							6		
7		250	880		90 14 39	11							7		
8		251	440		89 33 38	11							8		
9	K	252	-0-		90	55			49.6				9		
10		253	490		89 08 51	11							10		
11		254	880		89 25 05	11							11		
12		255	1320		89 33 11	11							12		
13		256	1760		89 39 16	11							13		
14		257	2200		89 45 25	11							14		
15	⊙	258	2690		89 49 09	11							15		
16					270 10 42	11		-2.5	47.0				16		
17													17		

TI-23471B

WORKED BY \_\_\_\_\_ CHECKED BY 1ST \_\_\_\_\_ 2ND \_\_\_\_\_

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

# HORIZONTAL AND VERTICAL SURVEY NOTES

15

GSI AREA Teshkeguk STATE/COUNTY ALASKA BOOK NO. 3 PAGE 128 OF       
 LINE/LOOP NO. A-31 TYPE SURVEY Vert CLIENT USGS DATE 5 DY 4 MO 81 YR  
 SURVEYOR M. O'GRADY INSTRUMENT DESC/SERIAL NO. T-2 Wild CREW NO. 186

LINE	<input type="checkbox"/> Δ <input type="checkbox"/> SS <input type="checkbox"/> ⊙	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	Δ	SP 258	3520		90 07 04	11		+18.0				1		
2					269 52 56	11						2		
3		259	3080		90 12 41	11						3		
4		260	2690		90 18 45	11						4		
5		261	2202		90 15 05	11						5		
6		262	1760		90 15 41	11						6		
7		263	1320		90 12 56	11						7		
8		264	880		90 08 54	11						8		
9		265	440		90 20 35	11						9		
10	⋈	266	-0-		90	5.4			65.0			10		
11		LINE 16-31				4.3						11	BARR MARK	
12	⊙	BARR MARK	0		90°	4.2			60.8			12	62.7 - 60.85	
13		8143A										13	1.9 ± 1E	
14												14		
15	Δ	BARR MARK			90°	4.2						15		
16												16		
17	⋈	SP 266	-0-		90	5.4			66.9			17		

TI-23471B

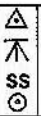
WORKED BY \_\_\_\_\_ CHECKED BY 1ST \_\_\_\_\_ 2ND \_\_\_\_\_

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

# HORIZONTAL AND VERTICAL SURVEY NOTES

16

GSI AREA Teshkepuk STATE/COUNTY ALASKA BOOK NO. 3 PAGE 129 OF       
 LINE/LOOP NO. A-81 TYPE SURVEY Vert CLIENT USGS DATE 5 BY 4 MO 31 YR  
 SURVEYOR M. O'GRADY INSTRUMENT DESC/SERIAL NO. T-2 wild CREW NO. 1186

LINE		STATION	VERTICAL					HORIZONTAL			REMARKS			
			DISTANCE	<input checked="" type="checkbox"/> FEET <input type="checkbox"/> METERS		VERTICAL ANGLE OBS.	ROD RDG OR HI	ELEV DIFF	ELEVATION			L/R OR DI	RIGHT TURNED HORIZONTAL ANGLE	LINE
				SLOPE	HORIZ				INST	ROD				
1		SP 267	440		89 57 03 //							1		
2		268	880		89 45 50 //							2		
3		269	1320		90 00 04 //							3		
4		270	1760		89 59 47 //							4		
5		271	2200		90 00 00 //							5		
6		272	2640		90 00 24 //							6		
7	⊙	273	3080		89 50 07 //		-1.9					7		
8					270 09 48 //				64.9			8		
9												9		
10	Δ	273	3520		89 52 35 //		+3.2					10		
11					270 07 29 //							11		
12		274	3080		89 47 57 //							12		
13		275	2640		89 44 33 //							13		
14		276	2200		89 52 00 //							14		
15		277	1760		90 18 33 //							15		
16		278	1320		90 30 00 //							16		
17												17		

TI-23471B

WORKED BY \_\_\_\_\_ CHECKED BY 1ST \_\_\_\_\_ 2ND \_\_\_\_\_

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



## HORIZONTAL AND VERTICAL SURVEY NOTES

17

GSI AREA Teshkepak STATE/COUNTY Alaska BOOK NO. 3 PAGE 130 OF       
 LINE/LOOP NO. A-81 TYPE SURVEY Vert CLIENT USGS DATE 5 BY 4 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"/> SS <input type="checkbox"/> ⊙	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 D/I	RIGHT TURNED HORIZONTAL ANGLE	LINE	
			SLOPE	HORIZ						INST					ROD
1		279	880		90 52 26	11							1		
2		280	470		91 06 50	11							2		
3	<input checked="" type="checkbox"/>	281	0		90	5.4			68.0				3		
4		282	440		89 19 33	11							4		
5		283	880		89 17 42	11							5		
6		284	1320		89 15 16	11							6		
7		285	1760		89 21 56	11							7		
8		286	2200		89 27 26	11							8		
9		287	2690		89 21 00	11							9		
10	<input checked="" type="checkbox"/>	288	3080		89 28 26	11	+17.5						10		
11					270 31 42	11			85.5				11		
12													12		
13													13		
14													14		
15													15		
16													16		
17													17		

TI-23471B

WORKED BY \_\_\_\_\_ CHECKED BY 1ST \_\_\_\_\_ 2ND \_\_\_\_\_

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

### HORIZONTAL AND VERTICAL SURVEY NOTES

GSI AREA Teshkevak STATE/COUNTY Alaska BOOK NO. 3 PAGE 131 OF 18  
 LINE/LOOP NO. A-81 TYPE SURVEY Vert CLIENT USGS DATE 5 DY 4 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						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			LR OR DI	RIGHT TURNED HORIZONTAL ANGLE
				SLOPE					HORIZ	INST			
1	Δ	288	3080		90 06 38	11		+17.0				1	
2					269 53 13	11						2	
3		289	2690		90 16 11	11						3	
4		290	2200		90 11 20	11						4	
5		291	1760		90 17 28	11						5	
6		292	1320		90 24 00	11						6	
7		293	880		90 28 30	11						7	
8		294	440		90 40 37	11						8	
9	K	295	-0-		90	5.5			102.5			9	
10		296	440		89 30 07	11						10	
11		297	880		89 39 17	11						11	
12		298	1320		89 17 35	11						12	
13		299	1760		89 16 53	11						13	
14	⊙	300	2200		89 20 53	11		14.1				14	
15					270 39 10	11			116.2			15	
16												16	
17												17	

WORKED BY \_\_\_\_\_ CHECKED BY 1ST \_\_\_\_\_ 2ND \_\_\_\_\_

SYMBOLS

Δ = BACKSIGHT

⊕ = INSTRUMENT SET-UP

SS = SIDESHOT

⊙ = FORESIGHT

# HORIZONTAL AND VERTICAL SURVEY NOTES

GSI AREA Teshokpuk STATE/COUNTY Alaska BOOK NO. 3 PAGE 132 OF 19  
 LINE/LOOP NO. 4-81 TYPE SURVEY Vert CLIENT USGS DATE 5 BY 4 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						HORIZONTAL		REMARKS	
			DISTANCE		VERTICAL ANGLE OBS.	ROD RDG OR HI	ELEV DIFF	FINAL ELEVATION DIFF	ELEVATION			RIGHT TURNED HORIZONTAL ANGLE
			SLOPE	<input checked="" type="checkbox"/> FEET <input type="checkbox"/> METERS					HORIZ	INST		
1	Δ	SP 300	2695		90 04 19	11		+19.2			1	
2					269 55 52	11					2	
3		301	2255		90 26 16	11					3	
4		302	1815		90 36 08	11					4	
5		303	1375		91 04 39	11					5	
6		304	935		92 11 42	11					6	
7		305	495		92 49 23	11					7	
8		306	55		-90	7.5					8	
9		TP	-0.		90	5.5		130.8			9	
10		307	385		90 59 22	4.0					10	
11	⊙	308	825		90 10 00	11		-13.4			11	
12					269 49 53	11			117.4		12	
13											13	
14											14	
15											15	
16											16	
17											17	

TI-23471B

WORKED BY \_\_\_\_\_ CHECKED BY 1ST \_\_\_\_\_ 2ND \_\_\_\_\_

SYMBOLS

Δ = BACKSIGHT

⊕ = INSTRUMENT SET-UP

SS = SIDESHOT

⊙ = FORESIGHT

# HORIZONTAL AND VERTICAL SURVEY NOTES

20

GSI AREA Teshkepuuk STATE/COUNTY Alaska BOOK NO. 3 PAGE 133 OF       
 LINE/LOOP NO. A-81 TYPE SURVEY Vert CLIENT USGS DATE 6 BY 4 MO 81 YR  
 SURVEYOR M.O'ERAN INSTRUMENT DESC/SERIAL NO. T-2 Wild CREW NO. 1186

LINE	  	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		308	3080		89 21 26	11		23.7					1		
2					89 39 36	11							2		
3		309	26A0		89 37 15	11							3		
4		310	2200		89 41 07	11							4		
5		311	1760		89 41 37	11							5		
6		312	1320		89 35 20	11	89 41 07						6		
7		313	880		89 35 20	11							7		
8		314	440		89 17 08	11							8		
9		315	-0-		90	5.4			93.6				9		
10		316	440		89 41 37	11							10		
11		317	880		89 53 40	11							11		
12		318	1320		89 56 28	11							12		
13		319	1760		89 57 09	11							13		
14		320	2200		89 57 08	11							14		
15		321	26A0		89 43 01	11		2.2		95.8			15		
16					89 16 56	11							16		
17													17		

TI-23471B

WORKED BY \_\_\_\_\_ CHECKED BY 1ST \_\_\_\_\_ 2ND \_\_\_\_\_

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

## HORIZONTAL AND VERTICAL SURVEY NOTES

GSI AREA Teshokpunk STATE/COUNTY ALASKA BOOK NO. 3 PAGE 13A OF 21  
 LINE/LOOP NO. A-81 TYPE SURVEY Vert CLIENT USGS DATE 5 BY 4 MO 81 YR  
 SURVEYOR M. O'GRADY INSTRUMENT DESC/SERIAL NO. T2 Wild CREW NO. 1186

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			LR OR DI	RIGHT TURNED HORIZONTAL ANGLE	LINE
				SLOPE					HORIZ	INST				
1		SP 321	2640		90 30 05			+34.0				1		
2					269 30 00							2		
3		322	2200		90 31 46							3		
4		323	1760		90 18 37							4		
5		324	1320		90 24 35							5		
6		325	880		90 16 16							6		
7		326	440		89 53 12							7		
8		327	-0-		90	S.4			129.7			8		
9		328	440		88 24 08							9		
10		329	880		88 05 37							10		
11		330	1320		88 39 35			20.7				11		
12		<del>331</del>	<del>1760</del>		271 22 30				150.4			12		
13												13		
14		SP 330	1760		89 40 59			+1.2				14		
15					270 19 11							15		
16		331	1320		89 30 38							16		
17												17		

TI-23471B

WORKED BY \_\_\_\_\_ CHECKED BY 1ST \_\_\_\_\_ 2ND \_\_\_\_\_

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

# HORIZONTAL AND VERTICAL SURVEY NOTES

22

GSI AREA Teshokpuk STATE/COUNTY ALASKA BOOK NO. 3 PAGE 135 OF       
 LINE/LOOP NO. A-81 TYPE SURVEY Vert CLIENT USGS DATE 6 BY 4 MO 81 YR  
 SURVEYOR M. O'GRADY INSTRUMENT DESC/SERIAL NO. T-2 Wild CREW NO. 1186

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		332	880		89 25 48							1		
2		333	440		89 14 20							2		
3		33A	-0-		90	5.4		151.6				3		
4		335	440		90 10 18							4		
5		336	880		90 37 16							5		
6		337	1320		90 34 00							6		
7		338	1760		90 33 14							7		
8		339	2200		90 28 50							8		
9		340	2640		90 27 02		-31.6					9		
10					269 33 12			120.0				10		
11												11		
12		SP 340	2805		89 46 24		-1.3					12		
13					270 13 48							13		
14		341	2365		90 13 38							14		
15		342	1925		90 45 27							15		
16		343	1480		91 02 01							16		
17												17		

TI-234718

WORKED BY \_\_\_\_\_ CHECKED BY 1ST \_\_\_\_\_ 2ND \_\_\_\_\_

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

# HORIZONTAL AND VERTICAL SURVEY NOTES

23

GSI AREA Teshokuk STATE/COUNTY Alaska BOOK NO. 3 PAGE 136 OF       
 LINE/LOOP NO. A-81 TYPE SURVEY Vert CLIENT USGS DATE 06 BY 4 MO 81 YR  
 SURVEYOR M.O'GRADY INSTRUMENT DESC/SERIAL NO. T-2 Wild CREW NO. 1/86

LINE	<input type="checkbox"/> Δ <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				
1		SP 344	1045		91 57 39	11						1		
2		345	605		92 43 27	11						2		
3		346	1165		92 35 46	11						3		
4	<input checked="" type="checkbox"/>	TP						119.7				4		
5		347	215		88 46 20	11						5		
6		348	715		89 34 12	11						6		
7		349	1155		89 14 00	11						7		
8		350	1595		89 09 54	11						8		
9	<input checked="" type="checkbox"/>	351	1635		89 11 59	11	+17.6					9		
10					270 48 12	11		137.3				10		
11												11		
12	<input checked="" type="checkbox"/>	SP 351	2140		90 16 08	11	+73.2					12		
13					269 43 53	11						13		
14		352	2205		90 17 03	11						14		
15		353	1760		90 19 03	11						15		
16		354	1370		90 09 25	11						16		
17												17		

TI-234718

WORKED BY \_\_\_\_\_ CHECKED BY 1ST \_\_\_\_\_ 2ND \_\_\_\_\_

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

# HORIZONTAL AND VERTICAL SURVEY NOTES

24

GSI AREA Teshkepunk STATE/COUNTY ALASKA BOOK NO. 3 PAGE 137 OF       
 LINE/LOOP NO. A-81 TYPE SURVEY Vert CLIENT USGS DATE 6 BY 4 MO 81 YR  
 SURVEYOR M. O'GRADY INSTRUMENT DESC/SERIAL NO. T-2 Wild CREW NO. 1186

LINE	  	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				LR OR DI	RIGHT TURNED HORIZONTAL ANGLE
									SLOPE	HORIZ				
1		SP 355	880		89 43 17	H						1		
2		356	440		89 21 51							2		
3		357	0-		90	5.4			160.5			3		
4		358	440		89 32 19							4		
5		359	880		90 19 15							5		
6		360	1320		89 51 20							6		
7		361	1760		90 04 53							7		
8		362	2200		90 13 40		-19.6					8		
9					269 46 15				140.8			9		
10												10		
11		362	2200		89 16 25		-17.0					11		
12					210 43 36							12		
13		363	1716		89 08 00							13		
14		364	1320		89 31 17							14		
15		365	880		89 40 22							15		
16		366	440		89 18 50							16		
17												17		

WORKED BY \_\_\_\_\_ CHECKED BY 1ST \_\_\_\_\_ 2ND \_\_\_\_\_

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



# HORIZONTAL AND VERTICAL SURVEY NOTES

GSI AREA Teshetpuk STATE/COUNTY Alaska BOOK NO. 3 PAGE 130 OF       
 LINE/LOOP NO. A-81 TYPE SURVEY Vert CLIENT USGS DATE 6 BY 4 MO 81 YR  
 SURVEYOR M. O'GRADY INSTRUMENT DESC/SERIAL NO.      CREW NO. 1126

LINE	<input type="checkbox"/> $\Delta$ <input type="checkbox"/> SS <input type="checkbox"/> $\odot$	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		L/R OR DI	RIGHT TURNED HORIZONTAL ANGLE	LINE	
				SLOPE	HORIZ					INST					ROD
1	$\wedge$	367	-0-		90	5.5			123.9				1		
2		368	440		89 25 35	11							2		
3		369	880		89 41 16	11							3		
4		370	1320		89 42 48	11							4		
5		371	1760		89 13 51	11							5		
6		372	2200		89 12 30	11							6		
7	$\odot$	373	2640		89 18 30	11	+21.0						7		
8					270 41 28	11			144.9				8		
9													9		
10	$\wedge$	SP 373	2640		89 44 31	11	-1.0						10		
11					270 15 30	11							11		
12		374	2200		89 43 33	11							12		
13		375	1760		89 40 00	11							13		
14		376	1320		89 36 25	11							14		
15		377	880		89 47 40	11							15		
16		378	440		89 59 34	11							16		
17													17		

WORKED BY \_\_\_\_\_ CHECKED BY 1ST \_\_\_\_\_ 2ND \_\_\_\_\_

SYMBOLS

$\Delta$  = BACKSIGHT

$\wedge$  = INSTRUMENT SET-UP

SS = SIDESHOT

$\odot$  = FORESIGHT

# HORIZONTAL AND VERTICAL SURVEY NOTES

26

GSI AREA Teshkepak STATE/COUNTY ALASKA BOOK NO. 3 PAGE 139 OF       
 LINE/LOOP NO. A-31 TYPE SURVEY Vert CLIENT USGS DATE 6 BY 4 MO 81 YR  
 SURVEYOR M. O'GRADY INSTRUMENT DESC/SERIAL NO. T-2 wild CREW NO. 1186

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			LR OR DI	RIGHT TURNED HORIZONTAL ANGLE	LINE
									SLOPE	HORIZ				
1		SP 379	-0-		90	55			143.8			1		
2		380	440		89 30 48	11						2		
3		380	880		89 24 10	11						3		
4		382	1320		89 18 02	11						4		
5		383	1760		89 09 11	11						5		
6		384	2200		89 16 32	11						6		
7		385	2640		89 15 56	11						7		
8					89 15 42	11	+23.2					8		
9					270 44 21	11			167.0			9		
10												10		
11		SP 385	2640		89 15 44	11	-23.1					11		
12					270 44 20	11						12		
13		386	2200		89 09 25	11						13		
14		387	1760		89 06 38	11						14		
15		388	1320		89 07 08	11						15		
16		389	880		89 07 06	11						16		
17												17		

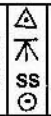



WORKED BY \_\_\_\_\_ CHECKED BY 1ST \_\_\_\_\_ 2ND \_\_\_\_\_

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

## HORIZONTAL AND VERTICAL SURVEY NOTES




27

GSI AREA Teshkepunk STATE/COUNTY ALASKA BOOK NO. 3 PAGE 140 OF       
 LINE/LOOP NO. A-21 TYPE SURVEY Vert CLIENT USGS DATE 6 BY 4 MO 31 YR       
 SURVEYOR M. O'GRADY INSTRUMENT DESC/SERIAL NO. T-2 Wild CREW NO. 1186

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				
1		SP 390	440		88 52 17	11						1		
2		391	-0-		90	54			143.8			2		
3		392	440		89 39 23	11						3		
4		393	880		89 46 35	11						4		
5		394	1320		89 42 58	11						5		
6		395	1760		89 29 09	11						6		
7		396	2200		89 38 20	11						7		
8		397	2640		89 38 41	11						8		
9		398	3080		89 40 04	11		+7.1				9		
10					210 19 57	11			150.9			10		
11												11		
12		SP 398	2640		89 31 36	11		-11.0				12		
13					270 28 25	11						13		
14		399	2200		89 34 03	11						14		
15		400	1760		89 52 04	11						15		
16		401	1320		90 13 25	11						16		
17												17		

TI-23471B

WORKED BY \_\_\_\_\_ CHECKED BY 1ST \_\_\_\_\_ 2ND \_\_\_\_\_

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

# HORIZONTAL AND VERTICAL SURVEY NOTES

28

GSI AREA Teshkepunk STATE/COUNTY ALASKA BOOK NO. 3 PAGE 141 OF       
 LINE/LOOP NO. A-81 TYPE SURVEY Vert. CLIENT USGS DATE 6 BY 4 MO 81 YR  
 SURVEYOR M. O'GRADY INSTRUMENT DESC/SERIAL NO. T-2 40:1d CREW NO. 1186

LINE	 SS 	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			LR OR DI	RIGHT TURNED HORIZONTAL ANGLE
				SLOPE					HORIZ	INST			
1		402	880		90 27 42							1	
2		403	440		89 13 50							2	
3		404	0		90	5.4		139.9				3	
4		405	440		89 32 55							4	
5		406	880		89 29 51							5	
6		407	1320		89 37 13							6	
7		408	1760		89 43 08							7	
8		409	2200		89 45 27							8	
9		410	2640		89 48 02		-1.7					9	
10					210 12 00			138.3				10	
11												11	
12		SP410	2640		89 58 57		+10.1					12	
13					210 01 06							13	
14		411	2200		89 59 18							14	
15		412	1760		89 59 33							15	
16		413	1320		89 54 20							16	
17												17	

TI-23471B

WORKED BY \_\_\_\_\_ CHECKED BY 1ST \_\_\_\_\_ 2ND \_\_\_\_\_

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

# HORIZONTAL AND VERTICAL SURVEY NOTES

29

GSI AREA Teshokpuk STATE/COUNTY ALASKA BOOK NO. 3 PAGE 142 OF       
 LINE/LOOP NO. A-81 TYPE SURVEY Vert CLIENT USGS DATE 6 BY 4 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						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 D/I	RIGHT TURNED HORIZONTAL ANGLE
									SLOPE	HORIZ			
1		414	880		89 44 37	11						1	
2		415	440		89 29 31	11						2	
3	Δ	SP 416	-0-		90	5.6			48.3			3	
4		417	440		89 03 33	11						4	
5		418	880		89 28 50	11						5	
6		419	1320		89 39 15	11						6	
7		420	1760		89 45 07	11						7	
8		421	2200		89 56 23	11						8	
9	◎	422	2640		89 56 46	11		-8A		10.0		9	
10					210 03 16	11						10	
11												11	
12												12	
13												13	
14												14	
15												15	
16												16	
17												17	

TI-23471B

WORKED BY \_\_\_\_\_ CHECKED BY 1ST \_\_\_\_\_ 2ND \_\_\_\_\_

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

# HORIZONTAL AND VERTICAL SURVEY NOTES

GSI AREA Teshkepunk STATE/COUNTY Alaska BOOK NO. 3 PAGE 143 OF 30  
 LINE/LOOP NO. A-81 TYPE SURVEY Vert CLIENT USGS DATE 7 DY 4 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						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			LR OR DR	RIGHT TURNED HORIZONTAL ANGLE	LINE
				SLOPE					HORIZ	INST				
1	Δ	SP 422	2640		89 46 34	11						1	ELE 140	
2					270 13 14	11	+ .6					2		
3		423	2700		89 52 00	11						3		
4		424	1760		90 04 00	11						4		
5		425	1320		90 12 35	11						5		
6		426	880		90 26 19	11						6		
7		427	440		90 43 07	11						7		
8	⊗	SP 428	-0-		90	5.5		140.6				8		
9		429	440		90 19 15	11						9		
10		430	880		90 56 43	11						10		
11		431	1320		90 30 56	11						11		
12		432	1760		90 31 33	11						12		
13		433	2200		90 27 15	11						13		
14	⊙	434	2640		90 25 21	11						14		
15					289 34 32	11	30.9	110.2				15		
16												16		
17												17		

WORKED BY \_\_\_\_\_ CHECKED BY 1ST F. John 2ND \_\_\_\_\_

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

## HORIZONTAL AND VERTICAL SURVEY NOTES

GSI AREA Teshkepuk STATE/COUNTY Alaska BOOK NO. 3 PAGE 144 OF 144 31  
 LINE/LOOP NO. 4-81 TYPE SURVEY Vert CLIENT USGS DATE 7 BY 4 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"/> SS <input type="checkbox"/> ⊙	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 D/I	RIGHT TURNED HORIZONTAL ANGLE	LINE
				SLOPE					HORIZ	INST				
1	Δ	SP 434	2200		90 06 40	11						1		
2					269 53 20	11	+15.2					2		
3		435	1760		90 04 10	11						3		
4		436	1320		89 56 14	11						4		
5		437	880		89 38 15	11						5		
6		438	440		89 17 40	11						6		
7	Δ	439	-		90	5.5		125.4				7		
8		440	440		89 02 48	11						8		
9		441	880		88 17 04	11						9		
10		442	1320		88 41 07	11						10		
11		443	1760		88 45 38	11						11		
12		444	2200		88 35 40	11						12		
13	⊙	445	2640		88 48 55	11						13		
14					271 11 07	11	43.7	169.2				14		
15												15		
16												16		
17												17		

WORKED BY \_\_\_\_\_ CHECKED BY 1ST F. John 2ND \_\_\_\_\_

SYMBOLS

Δ = BACKSIGHT

⊕ = INSTRUMENT SET-UP

SS = SIDESHOT

⊙ = FORESIGHT

# HORIZONTAL AND VERTICAL SURVEY NOTES

GSI AREA Teshokpuk STATE/COUNTY ALASKA BOOK NO. 3 PAGE 145 OF 32  
 LINE/LOOP NO. A-201 TYPE SURVEY Vert CLIENT USGS DATE 7 DY 4 MO 81 YR  
 SURVEYOR M. O'GRADY INSTRUMENT DESC/SERIAL NO. T-2 wild CREW NO. 1186

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			LR OR DR	RIGHT TURNED HORIZONTAL ANGLE	LINE
									SLOPE	HORIZ				
1		SP 445	2200		89 28 20	11						1		
2					270 31 37	11	-9.3					2		
3	S	446	1760		89 27 49	11						3		
4	S	447	1320		89 26 32	11						4		
5	S	448	880		89 18 05	11						5		
6	S	449	440		89 00 16	11						6		
7		450	- 0 -		90	5.5		159.8				7		
8	S	451	440		90 19 22	11						8		
9	S	452	880		90 38 50	11						9		
10	S	453	1320		90 27 12	11						10		
11	S	454	1760		90 20 4	11						11		
12	S	455	2200		90 15 13	11						12		
13		456	2640		90 13 16	11						13		
14					269 46 38	11	-21.1	138.7				14		
15												15		
16												16		
17												17		

WORKED BY \_\_\_\_\_ CHECKED BY 1ST Y. Johns 2ND \_\_\_\_\_

SYMBOLS

= BACKSIGHT

= INSTRUMENT SET-UP

= SIDESHOT

= FORESIGHT



# HORIZONTAL AND VERTICAL SURVEY NOTES

33

GSI AREA Teshetjuk STATE/COUNTY Alaska BOOK NO. 3 PAGE 146 OF       
 LINE/LOOP NO. A-81 TYPE SURVEY Vert CLIENT USGS DATE 7 DY 4 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						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			LR OR DR	RIGHT TURNED HORIZONTAL ANGLE	LINE
				SLOPE					HORIZ	INST				
1	Δ	SP456	2640		90 22 30	11						1		
2					269 37 34	11	128.1					2		
3	S	457	2200		90 27 14	11						3		
4	S	458	1760		90 34 09	11						4		
5	S	459	1320		90 45 30	11						5		
6	S	460	880		91 05 40	11						6		
7	S	461	440		91 03 04	11						7		
8	Δ	SP462	- 0 -		90	5.3		166.8				8		
9	S	463	440		90 14 20	11						9		
10	S	464	880		90 22 08	11						10		
11	S	465	1320		90 17 43	11						11		
12	S	466	1760		96 22 28	11						12		
13	S	467	2200		96 20 03	11						13		
14	S	468	2640		90 17 51	11						14		
15	⊙	469	3080		90 17 08	11						15		
16					269 42 52	11	-26.2	140.7				16		
17												17		

WORKED BY \_\_\_\_\_ CHECKED BY 1ST J. Jones 2ND \_\_\_\_\_

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

# HORIZONTAL AND VERTICAL SURVEY NOTES

34

GSI AREA Teshkepuk STATE/COUNTY ALASKA BOOK NO. 3 PAGE 147 OF       
 LINE/LOOP NO. A-81 TYPE SURVEY Vert CLIENT USGS DATE 7 DY 4 MO 81 YR  
 SURVEYOR M. OGRADY INSTRUMENT DESC/SERIAL NO. T-2-Wild CREW NO. 1186

LINE	<input type="checkbox"/> Δ <input type="checkbox"/> SS <input type="checkbox"/> ⊙	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			LR OR DI	RIGHT TURNED HORIZONTAL ANGLE	LINE
									SLOPE	HORIZ				
1	Δ	469	3080		90 01 17	11						1		
2					269 58 43	11	+12.0					2		
3	S	470	2640		90 01 40	11						3		
4	→	471	2200		90 13 05	11						4		
5	S	472	1760		90 25 05	11						5		
6	S	473	1320		90 31 30	11						6		
7	S	474	880		90 41 29	11						7		
8	S	475	440		89 29 40	11						8		
9	Δ	476	0-		90	5.5		152.6				9		
10	S	477	440		89 26 45	11						10		
11	S	478	880		89 50 50	11						11		
12	S	479	1320		90 11 10	11						12		
13	S	480	1760		90 35 18	11						13		
14	S	481	2200		90 33 02	11						14		
15	S	482	2640		90 27 10	11						15		
16	⊙	483	3080		90 23 34	11	-31.9	122.7				16		
17					269 36 23	11						17		

WORKED BY \_\_\_\_\_ CHECKED BY 1ST [Signature] 2ND \_\_\_\_\_

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

# HORIZONTAL AND VERTICAL SURVEY NOTES

35

GSI AREA Toshokpak STATE/COUNTY Alaska BOOK NO. 3 PAGE 148 OF       
 LINE/LOOP NO. A-81 TYPE SURVEY Vert CLIENT USGS DATE 7 DY 4 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						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				LR OR DI	RIGHT TURNED HORIZONTAL ANGLE
				SLOPE					HORIZ	INST				
1	Δ	SP 483	1760		89 50 35	11						1		
2					270 09 25	11	+6.1					2		
3		484	1320		89 51 32	11						3		
4		485	880		89 49 12	11						4		
5		486	440		89 22 13	11						5		
6	Δ	487	-0-		90	5.4		126.8				6		
7		488	440		89 24 52	11						7		
8		489	880		89 46 53	11						8		
9		490	1320		89 48 06	11						9		
10		491	1760		89 51 52	11						10		
11		492	2200		89 06 30	11						11		
12		493	2640		89 01 16	11						12	162.50	
13	S	INTERSECTION	2550	<del>2540</del>	89 05 18	5.0	35.7	162.5				13	-159.12	
14		LINE 28-B			270 54 40	5.0						14	<b>TIE = 338</b>	
15		SP 697										15		
16												16		
17												17		

WORKED BY \_\_\_\_\_ CHECKED BY 1ST [Signature] 2ND \_\_\_\_\_

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

## HORIZONTAL AND VERTICAL SURVEY NOTES

36

GSI AREA Teshkevak STATE/COUNTY Alaska BOOK NO. 3 PAGE 149 OF       
 LINE/LOOP NO. A-81 TYPE SURVEY Vert CLIENT USGS DATE 7 DY 4 MO 81 YR  
 SURVEYOR M. O'GRADY INSTRUMENT DESC/SERIAL NO. T-2 Wild CREW NO. 1186

LINE	 SS 	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			LR OR DI	RIGHT TURNED HORIZONTAL ANGLE
									SLOPE	HORIZ			
1		SP494	3080		89 07 54	11						1	
2					270 52 16	11	36.1		162.9			2	
3												3	
4		SP494	3520		89 53 04	11						4	
5					270 06 49	11	+3.7					5	
6		SP 495	3080		90 03 26	11						6	
7		SP 496	2640		90 09 16	11						7	
8		SP 497	2200		90 16 10	11						8	
9		SP 498	1760		90 27 56	11						9	
10		SP 499	1320		90 21 01	11	-1.9		147.6			10	
11		SP 500	880		89 47 32	11	-7.8		158.8			11	
12		TS 501	440		89 13 30	11	-5		161.6			12	
13		TS 502	0		90	5.5		166.6	161.1			13	
14		TS 503	440		89 38 53	11			8.3			14	
15		504	880		90 30 16	11			158.3			15	
16		505	1320		91 07 57	11	-37.1		129.6			16	
17												17	

WORKED BY \_\_\_\_\_ CHECKED BY 1ST [Signature] 2ND \_\_\_\_\_

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

# HORIZONTAL AND VERTICAL SURVEY NOTES

37

GSI AREA Tashckpak STATE/COUNTY ALASKA BOOK NO. 3 PAGE 150 OF       
 LINE/LOOP NO. A-81 TYPE SURVEY Vert CLIENT USGS DATE 7 DY 4 MO 81 YR  
 SURVEYOR M. O'GRADY INSTRUMENT DESC/SERIAL NO. T-2 Wild CREW NO. 1186

LINE	<input type="checkbox"/> $\Delta$ <input type="checkbox"/> SS <input type="checkbox"/> $\odot$	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	
				SLOPE					HORIZ	INST				ROD
1		TS 506	1760		90 56 36	11		-39.9		126.7			1	
2		TS 507	2200		90 45 00	11		-39.7		126.9			2	
3		TS 508	2640		90 37 41	11		-39.8		126.8			3	
4		TS 509	3080		90 32 42	11		-40.1		126.5			4	
5		TS 510	3520		90 28 20	11		-39.8		126.9			5	
6		TS 611	3960		90 24 55	11		-39.4		127.2			6	EOL
7		<del>TS 512</del>	<del>4400</del>										7	
8													8	
9													9	
10													10	
11													11	
12													12	
13													13	
14													14	
15													15	
16													16	
17													17	

WORKED BY \_\_\_\_\_ CHECKED BY 1ST [Signature] 2ND \_\_\_\_\_

SYMBOLS     $\Delta$  = BACKSIGHT     $\nabla$  = INSTRUMENT SET-UP    SS = SIDESHOT     $\odot$  = FORESIGHT