





















HORIZONTAL AND VERTICAL SURVEY NOTES

GSI AREA Wainwright STATE/COUNTY Alaska BOOK NO. _____ PAGE 1 OF _____
 LINE/LOOP NO. D.I.I.E TYPE SURVEY _____ CLIENT Husky DATE 7 DY 1 MO 80 YR
 SURVEYOR A. Pendleton INSTRUMENT DESC/SERIAL NO. _____ CREW NO. 1182

LINE	   	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																
2		80328	1724			99 09 30	11.4		-14.00	79.4						SP 18 + 404
3		80328	✓			270 50 48	11.4									Please Note: Station
4		SP 18	1320			89 02 50	11.4		10.6	87.85.0						SP 18 + 404
5		14	0			90 —	5.0		-5.0	69.4						Went to SP 1
6		16	1320			90 55 20	11.4		-32.7	41.7						
7		18	2640			90 45 40	11.4		-46.3	28.1						
8		14	3960			90 45 20	11.4		-63.00	11.4						
9		14	✓			269 15 07	11.4									
10																
11		14	825			91 31 34	11.4		+33.3	44.6						
12		14	✓			268 28 45	11.4									
13		14 + 825	0			90 —	5.0		-5.0	39.6						
14		13	495			89 14 31	11.4		-4.8	39.8						
15		13	✓			270 45 50	11.4									
16																
17																

WORKED BY _____ CHECKED BY 1ST _____ 2ND _____

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

HORIZONTAL AND VERTICAL SURVEY NOTES

2

GSI AREA Wainwright STATE/COUNTY Alaska BOOK NO. _____ PAGE 2 OF _____
 LINE/LOOP NO. DIXE TYPE SURVEY _____ CLIENT Hushy DATE 8 BY 1 MO 80 YR
 SURVEYOR A. Pendleton INSTRUMENT DESC/SERIAL NO. _____ CREW NO. 1182

LINE	△ ↑ SS ○	STATION	VERTICAL						ELEVATION		LR OR DR	RIGHT TURNED HORIZONTAL ANGLE	LINE	REMARKS	
			DISTANCE	□ FEET □ METERS		VERTICAL ANGLE OBS.	ROD RDG OR HI	ELEV DIFF	FINAL ELEVATION DIFF	INST					ROD
				▲ SLOPE	▲ HORIZ										
1	△	SP 13	3960			90 09 36	11.4			-21.9				1	
2	△	13	✓			269 50 45	11.4							2	
3		12	2640			90 16 20	11.4			-23.8		37.9		3	
4		11	1320			90 11 20	11.4			-15.6		46.1		4	
5	π	10	0			90 —	5.0			-5.0		56.7		5	
6		9	1320			89 11 30	11.4			7.3		69.0		6	
7		8	2640			89 23 10	11.4			17.00		78.7		7	
8	○	7	3960			89 29 40	11.4			24.3		86.0		8	
9	○	7	✓			270 31 10	11.4							9	
10														10	
11	△	7	3960			89 48 00	11.4			-2.9	83.2			11	
12	△	7	✓			270 10 10	11.4							12	
13		6	2640			89 39 50	11.4			4.2		87.4		13	
14		5	1320			89 24 00	11.4			2.5		85.7		14	
15	π	4	0			90 —	5.0			-5.0		78.2		15	
16		3	1320			90 31 24	11.4			23.4		10.4 59.8		16	
17														17	

TI-23471B

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SYMBOLS △ = BACKSIGHT π = INSTRUMENT SET-UP SS = SIDESHOT ○ = FORESIGHT

HORIZONTAL AND VERTICAL SURVEY NOTES

3

GSI AREA Wainwright STATE/COUNTY Alaska BOOK NO. _____ PAGE 3 OF _____
 LINE/LOOP NO. DIXE TYPE SURVEY _____ CLIENT _____ DATE 8 DY 1 MO 80 YR
 SURVEYOR A. Pendleton INSTRUMENT DESC/SERIAL NO. _____ CREW NO. 1182

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		LR OR DI		RIGHT TURNED HORIZONTAL ANGLE	
			SLOPE	HORIZ					INST	ROD				
1												1		
2	⊙	SP 2 + 500	2140		90 39 27	11.4		-35.8		83.2			2	SP 2 + 500 = 80329
3	⊙	SP 2 + 500	✓		269 20 40	11.4							3	
4													4	
5													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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WORKED BY _____ CHECKED BY 1ST _____ 2ND _____

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

HORIZONTAL AND VERTICAL SURVEY NOTES

4

GSI AREA Wainwright STATE/COUNTY Alaska BOOK NO. _____ PAGE 4 OF _____
 LINE/LOOP NO. DIXE TYPE SURVEY _____ CLIENT Husky Oil DATE 8 BY 1 MO 80 YR
 SURVEYOR A. Pendleton INSTRUMENT DESC/SERIAL NO. _____ CREW NO. 1182

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
				SLOPE					HORIZ	INST		
1									47.3	47.3		1 = 80329
2	Δ	SP 2+500	3140		89 28 50	11.4	-21.1		26.2			2 SP 2+500 = 80329
3	Δ	SP 2+500	✓		270 35 33	11.4						3
4		2	2640		89 31 30	11.4	+6.8			33.0		4
5		1	1320		89 34 50	11.4	+6.3			31.5		5
6	⊗	TS 1	0		90 —	5.0	-5.0			21.2		6
7		2	1320		88 53 30	11.4	+14.2			40.4		7
8		3	2640		89 01 00	11.4	+34.1			60.3		8
9	⊙	4	3960		89 03 30	11.4	+54.2			80.4		9
10	⊙	4	✓		270 56 50	11.4						10
11												11
12	Δ	4	1320		89 27 21	11.4	-1.2		79.2			12
13	Δ	4	✓		270 35 00	11.4						13
14	⊗	5	0		90 —	5.0	+5.0			74.2		14
15		6	1320		89 50 10	11.4	-7.6			71.6		15
16	⊙	80568	1884		89 54 10	11.4	-8.0			71.23		16
17	⊙	80568	✓		270 06 16	11.4				71.10		17 = 80568

WORKED BY _____ CHECKED BY 1ST _____ 2ND _____ ± .1 = Mistie

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

HORIZONTAL AND VERTICAL SURVEY NOTES

GSI AREA Wainwright STATE/COUNTY Alaska BOOK NO. _____ PAGE 45 OF _____
 LINE/LOOP NO. DIAE TYPE SURVEY _____ CLIENT Husby DATE 9 DY 1 MO 80 YR
 SURVEYOR A. Pendleton INSTRUMENT DESC/SERIAL NO. _____ CREW NO. 1182

LINE	<input type="checkbox"/> Δ <input type="checkbox"/> SS <input type="checkbox"/> ⊙	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										
1									88.5		= 80328	1		
2	Δ	SP 18+ 404	3556		89 54 05	11.4	+4.7		92.4 (93.2)			2	SP 18+ 404= 80328	
3	Δ	SP 18+ 404	✓		89 27 06	27	11.4					3		
4		19	2640		89 54 20	11.4	-6.9		85.5	86.3		4		
5		20	1320		89 44 30	11.4	-5.4		87.0	87.8		5		
6	⊗	21	0		90	5.0	-5.0		87.4	88.2		6		
7		22	1320		89 29 10	11.4	+5		91.9	93.7		7		
8		23	2640		89 43 40	11.4	+6.3		91.1	94.5		8		
9	⊙	24	3960		89 49 25	11.4	+1.6		94.0	(94.9)		9		
10	⊙	24	✓		89 11 27	11.4						10		
11												11		
12	Δ	24	3960		89 48 56	11.4	-10.1		82.9	(84.8)		12		
13	Δ	24	✓		89 18 40	11.4						13		
14		25	2640		89 40 00	11.4	+4.1		87.0	88.9		14		
15		26	1320		89 47 30	11.4	-6.6		76.3	78.2		15		
16	⊗	27	0		90	5.0	-5.0		77.9	79.8		16		
17		28	1320		89 40 00	11.4	-3.7		79.2	81.1		17		

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

HORIZONTAL AND VERTICAL SURVEY NOTES

6

GSI AREA Unalutka STATE/COUNTY Alaska BOOK NO. _____ PAGE 6 OF _____
 LINE/LOOP NO. DIXE TYPE SURVEY _____ CLIENT Husky DATE 9 DY 1 MO 80 YR
 SURVEYOR A. Pendleton INSTRUMENT DESC/SERIAL NO. _____ CREW NO. 1182

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									82.9			1			
2		SP 29	2640		89 43 10	11.4		1.7		84.6	86.8	2			
3		30	3960		89 41 50	11.4		9.7		93.4	95.3	3			
4		30	✓		270 19 15	11.4		10.5				4			
5												5			
6		30	1320		89 45 52	11.4		+5.9		98.8	(101.1)	6			
7		30	✓		270 19 35	11.4						7			
8		31	0		90 —	5.0		-5.0		93.8		8			
9		32	1320		89 09 50	11.4		+7.9		106.7		9			
10		32 + 739	2659		89 18 56	11.4		13.5		114.6		10			
11		32 + 739	✓		270 41 43	11.4				112.3	= 80327	11			
12										± 2.3	= Mistie	12			
13												13			
14												14			
15												15			
16												16			
17												17			

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

HORIZONTAL AND VERTICAL SURVEY NOTES

7

GSI AREA Wainwright STATE/COUNTY Alaska BOOK NO. _____ PAGE 7 OF _____
 LINE/LOOP NO. DIXE TYPE SURVEY _____ CLIENT Husky DATE 9 DY 1 MO 80 YR
 SURVEYOR A. Pendleton INSTRUMENT DESC/SERIAL NO. _____ CREW NO. 1182

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
				SLOPE					HORIZ	INST		
1										"	80327	1
2	Δ	SP 32+739	746		89 39 20	11.4	+6.9	112.3	119.5			2
3	Δ	32+839	✓		270 30 22	11.4						3
4		33	165		87 54 50	11.4	-5.2		118.3			4
5	Δ	33+165	0		90 —	5.0	-5.0		114.5			5
6	Δ	34	1155		90 18 30	11.4	-17.6		101.9			6
7	Δ	34	✓		269 41 55	11.4						7
8												8
9	Δ	34	4125		89 54 30	11.4	+4.1	106.7				9
10	Δ	34	✓		270 26 04	11.4						10
11		35	2805		89 55 20	11.4	-7.4		99.3			11
12		36	1485		89 58 00	11.4	-10.5		96.2			12
13		37	165		89 47 40	11.4	-7.9		98.8			13
14	Δ	37+165	0		90 —	5.0	-5.0		101.7			14
15		38	1320-1155		89 55 50	11.4	-10.0		96.7			15
16		39	2640-2485		90 03 20	11.4	-13.7		93.0			16
17												17

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SYMBOLS

Δ = BACKSIGHT

⊕ = INSTRUMENT SET-UP

SS = SIDESHOT

⊙ = FORESIGHT

HORIZONTAL AND VERTICAL SURVEY NOTES

8

GSI AREA Waiverwright STATE/COUNTY Alaska BOOK NO. _____ PAGE 8 OF _____
 LINE/LOOP NO. DIXE TYPE SURVEY _____ CLIENT Husky DATE 9 DY 1 MO 29 YR
 SURVEYOR _____ INSTRUMENT DESC/SERIAL NO. _____ CREW NO. 1182

LINE	<input type="checkbox"/> Δ <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		LR OR DJ		RIGHT TURNED HORIZONTAL ANGLE	
				SLOPE					HORIZ	INST				ROD
1												1		
2	\odot	SP 40	3795		89 54 44	11.4		-5.0		101.7			2	
3	\odot	SP 40	✓		270 05 58	11.4							3	
4													4	
5	Δ	40	2640		89 40 10	11.4		-4.1		92.9			5	
6	Δ	40	✓		270 20 10	11.4							6	
7		41	1320		89 28 10	11.4		+ .9		98.8			7	
8	Δ	42	0		90 00 00	5.0		-5.0		92.9			8	
9	Δ	43	-1320		89 53 10	11.4		-8.7		89.2			9	
10	\odot	43 43 + 416	-1736		89 55 16	11.4		-8.8		87.9	=		10	
11	\odot	43 + 416	✓		270 05 20	11.4				87.1	=	80326	11	
12										± 1.2	=	Mistie	12	
13													13	
14													14	
15													15	
16													16	
17													17	

WORKED BY _____ CHECKED BY 1ST _____ 2ND _____

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

HORIZONTAL AND VERTICAL SURVEY NOTES

9

GSI AREA Wainwright STATE/COUNTY Alaska BOOK NO. _____ PAGE 9 OF _____
 LINE/LOOP NO. DIXE TYPE SURVEY _____ CLIENT Husky DATE 9 DY 1 MO 80 YR
 SURVEYOR A. Pendleton INSTRUMENT DESC/SERIAL NO. _____ CREW NO. 1182

LINE	<input type="checkbox"/> Δ <input type="checkbox"/> SS <input type="checkbox"/> ⊙	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															
2	Δ	SP 43 + 416	4864			89 38 30	11.4		-19.9	89.1	← -69.2		80326	1	
3	Δ	SP 43 + 416	✓			270 22 00	11.4							3	
4		44	3960			88 36 40	11.4		84.9				174.0	54.14	
5		75 1	2640			89 37 30	11.4		6.0				95.1	75.26	
6		2	1320			89 42 20	11.4		4.6				84.5	64.66	
7	⊕	3	0			90 —	5.0		-5.0				84.1	64.24	
8		4	1320			90 04 20	11.4		-13.0				76.1	56.1	
9		5	2640			89 57 20	11.4		-9.2				99.9	59.9	
10	⊙	6	3960			90 01 00	11.4		-11.9				57.3		
11	⊙	6	✓			269 59 30	11.4								
12															
13															
14															
15															
16															
17															

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WORKED BY _____ CHECKED BY 1ST _____ 2ND _____

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