

HORIZONTAL AND VERTICAL SURVEY NOTES

GSI AREA FESHERPOK STATE/COUNTY ALASKA BOOK NO. 3 PAGE 543 OF
 LINE/LOOP NO. 678 TYPE SURVEY CLIENT HUSKY OIL CO. DATE 13 BY 4 MO 79 YR
 SURVEYOR STONE INSTRUMENT DESC/SERIAL NO. CREW NO. 1182

LINE	<input type="checkbox"/> Δ <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										26.9		REFER L-7	1	PAGE 532	
2	Δ	SP-140+239-L-671	✓		89 42 23	5.0		-4.1	22.8				2		
3	Δ	SP-3-L-	1760		270 17 32	5.0							3		
4		SP2	880		90 05 18	4.0		-5.3		17.5			4		
5	⊖	SP1	0		90 00 00	5.0		-5.0		17.8			5		
6		T31	880		90 17 30	4.0		-8.5		14.3			6		
7		2	1760		90 10 14	4.0		-9.2		13.6			7		
8		3	2640		90 06 22	4.0		-8.8		14.0			8		
9		4	3520		90 02 00	4.0		-5.8		17.0			9		
10		5	4400		90 02 30	4.0		-6.8		16.0			10		
11	⊙	B-6	5280		90 03 00	4.0		-8.0		14.8			11		
12	⊙	✓	✓		269 57 00	✓							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

GSI AREA TESHEKPUK STATE/COUNTY ALASKA BOOK NO. 3 PAGE 544 OF
 LINE/LOOP NO. 628 TYPE SURVEY CLIENT Husky Oil Co. DATE 13 BY 4 MO 79 YR
 SURVEYOR STONE INSTRUMENT DESC/SERIAL NO. CREW NO. 1182

LINE	 	STATION	VERTICAL						ELEVATION		LR OR DI	HORIZONTAL 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										26.9		REF L-7 P-532	1	a-rod
2		SP140+239 L-671	✓		89 53 58	5.0		-3.3	23.6				2	
3		SP-3-L	4400		270 06 14	5.0		✓					3	
4		SP-4	3520		89 54 42	9.0		-3.2		20.4			4	
5		SP-5	2640		89 53 14	9.0		-3.7		19.9			5	
6		SP-6	1760		89 55 20	9.0		-6.6		17.0			6	
7		SP-7	880		89 48 17	9.0		-6.0		17.6			7	
8		SP-8	0		90 00 00	5.0		5.0		18.6			8	
9		SP-9	880		89 42 27	9.0		-4.5		19.1			9	
10		SP-10	1760		89 52 10	9.0		-4.4		18.7			10	
11		SP-11	2640		89 57 24	9.0		-6.9		10.7			11	
12		SP-12	3520		90 00 59	9.0		-9.8		13.8			12	
13		SP-13	4400		89 51 20	15.0		-3.5		20.1			13	
14		✓	✓		270 08 43	15.0		✓					14	
15													15	
16													16	
17													17	

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HORIZONTAL AND VERTICAL SURVEY NOTES

GSI AREA TESHEKUK STATE/COUNTY ALASKA BOOK NO. 3 PAGE 548 OF
 LINE/LOOP NO. 678 TYPE SURVEY CLIENT Husky Oil Co. DATE 15 BY 4 MO 79 YR
 SURVEYOR Stone INSTRUMENT DESC/SERIAL NO. CREW NO. 1182

LINE	<input type="checkbox"/> Δ <input type="checkbox"/> ∇ <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		RIGHT TURNED HORIZONTAL ANGLE	LINE	
				SLOPE 	HORIZ									INST
1										20.1		1		
2	Δ	SP13	4400			89 52 03	15.0	+4.4	24.5			2		
3	Δ					270 07 57	15.0	v				3		
4		SP14	3520			89 56 46	9.0	-5.4		19.1		4		
5		SP15	2640			89 57 50	9.0	-7.2		17.3		5		
6		SP16	1760			89 52 40	9.0	-5.2		19.3		6		
7		SP17	880			89 52 10	9.0	-6.9		17.6		7		
8	∇	SP18	0			90 00 00	5.0	-5.0		19.5		8		
9		SP19	880			89 49 50	9.0	-6.4		18.1		9		
10		SP20	1760			89 53 40	9.0	-5.7		18.8		10		
11		SP21	2640			89 53 40	9.0	-4.0		20.5		11		
12		SP22	3520			89 59 10	9.0	-7.9		16.6		12		
13	\odot	SP23	4400			89 52 38	15.0	-5.1		19.4		13		
14	\odot					270 07 25	15.0	v				14		
15												15		
16												16		
17												17		

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HORIZONTAL AND VERTICAL SURVEY NOTES

GSI AREA TESHUKPUK STATE/COUNTY ALASKA BOOK NO. 3 PAGE 546 OF
 LINE/LOOP NO. 678 TYPE SURVEY CLIENT Husky Oil Co. DATE 15 BY 4 MO 79 YR
 SURVEYOR Stank INSTRUMENT DESC/SERIAL NO. CREW NO. 1182

LINE	<input type="checkbox"/> Δ <input type="checkbox"/> SS <input type="checkbox"/> ⊙	STATION	VERTICAL						ELEVATION		L/R OR DI	HORIZONTAL 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												19.4		1	
2	Δ	SP23	4400		89 54 00	15.0	+6.9	26.3						2	
3	Δ				270 06 01	15.0								3	
4		SP24	3520		89 57 35	9.0	-6.3			20.0				4	
5		SP25	2640		89 58 03	9.0	-7.4			18.9				5	
6		SP26	1760		89 55 38	9.0	-6.7			19.6				6	
7		SP27	880		89 53 50	9.0	-7.4			18.9				7	
8	⊖	SP28	0		90 00 00	5.0	-5.0			21.3				8	
9		SP29	880		89 56 40	9.0	-8.1			18.2				9	
10		SP30	1760		89 50 20	9.0	-4.0			22.3				10	
11		SP31	2640		89 55 05	9.0	-5.1			21.2				11	
12	⊙	SP32	3520		89 44 06	15.0	+1.6			27.9				12	
13	⊙				270 16 06	15.0								13	
14														14	
15														15	
16														16	
17														17	

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SYMBOLS

Δ = BACKSIGHT

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HORIZONTAL AND VERTICAL SURVEY NOTES

GSI AREA TESHKEPUK STATE/COUNTY ALASKA BOOK NO. 3 PAGE 547 OF
 LINE/LOOP NO. L78 TYPE SURVEY CLIENT HUSKY OIL CO. DATE 15 BY 4 MO 77 YR
 SURVEYOR STONE INSTRUMENT DESC/SERIAL NO. CREW NO. 1182

LINE	 	STATION	VERTICAL						ELEVATION		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	L/R OR DI		RIGHT TURNED HORIZONTAL ANGLE
				SLOPE	HORIZ									
1									27.9				1	
2		SP.32	✓		89 47 05	15.0	+1.5	29.4					2	
3		✓	3520		210 13 00	15.0	✓						3	
4		SP.33	2640		89 57 50	9.0	-7.2		22.2				4	
5		SP.34	1760		89 51 43	9.0	-4.7		24.7				5	
6		SP.35	880		89 49 46	9.0	-6.4		23.0				6	
7		SP.36	0		90 00 00	5.0	-5.0		24.4				7	
8		SP.37	880		90 17 06	9.0	-13.4		16.0				8	
9		SP.38	1760		89 23 48	15.0	+3.6		33.0				9	
10		✓	✓		210 36 20	15.0	✓						10	
11													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 TESHKEPUK STATE/COUNTY ALASKA BOOK NO. 3 PAGE 548 OF
 LINE/LOOP NO. 678 TYPE SURVEY CLIENT HUSKY OIL CO. DATE 13 BY 4 MO 79 YR
 SURVEYOR STONE INSTRUMENT DESC/SERIAL NO. CREW NO. 1182

LINE	<input type="checkbox"/> Δ <input type="checkbox"/> ∇ <input type="checkbox"/> SS <input type="checkbox"/> \odot	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 	HORIZ 										
1										33.0			1		
2	Δ	SP-38			(89 46 36)	15.0		-2.6	30.4				2		
3	Δ		4400		(270 13 32)	15.0		-					3		
4		SP-39	3520		89 54 00	9.0		-2.6		27.8			4		
5		SP-40	2640		89 57 23	9.0		-6.9		23.5			5		
6		SP-41	1760		89 53 43	9.0		-5.7		24.7			6		
7		SP-42	880		89 40 36	9.0		-4.0		26.4			7		
8	∇	SP-43	0		90 00 00	5.0		-5.0		28.4			8		
9		SP-44	880		89 45 33	9.0		-5.3		28.1			9		
10		SP-45	1760		89 52 50	9.0		-5.3		28.1			10		
11		SP-46	2640		89 53 50	9.0		-4.1		26.3			11		
12		SP-47	3520		89 57 22	9.0		-6.1		24.3			12		
13	\odot	SP-48	4400		(89 55 00)	15.0		-8.2		22.2			13		
14	\odot				(270 05 00)	15.0		-					14		
15													15		
16													16		
17													17		

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HORIZONTAL AND VERTICAL SURVEY NOTES

GSI AREA TESHEKPOK STATE/COUNTY ALASKA BOOK NO. 3 PAGE 549 OF
 LINE/LOOP NO. 678 TYPE SURVEY CLIENT Husky Oil Co. DATE 15 DY 9 MO 79 YR
 SURVEYOR STONE INSTRUMENT DESC/SERIAL NO. CREW NO. 1182

LINE	△ ⊕ SS ⊙	STATION	VERTICAL						ELEVATION		L/R OR DI	HORIZONTAL		REMARKS	
			DISTANCE	□ FEET □ METERS		VERTICAL ANGLE OBS.	ROD RDG OR HI	ELEV DIFF	FINAL ELEVATION DIFF	INST		ROD	RIGHT TURNED HORIZONTAL ANGLE		LINE
				▲ SLOPE	▲ HORIZ										
1										22.2			1		
2	△	SP-48	v			90 18 54	15.0	+29.3	51.5				2		
3	△	v	2640			269 41 17	15.0	v					3		
4		SP-49	1760			90 27 02	9.0	-22.8		28.7			4		
5		SP-50	880			90 30 10	9.0	-16.7		34.8			5		
6	⊕	SP-51	0			90 00 00	5.0	-5.0		46.5			6		
7		SP-52	880			89 28 15	9.0	-0.9		50.6			7		
8	⊙	SP-53	1760			89 28 05	15.0	+1.9		52.9			8		
9	⊙	v	v			270 32 03	15.0	v					9		
10													10		
11	△	SP-53	-			89 15 13	15.0	-19.6	33.3				11		
12	△	v	2640			270 45 55	15.0	v					12		
13		SP-54	1760			89 19 15	9.0	-11.9	✓	21.4			13		
14		SP-55	880			88 53 15	9.0	-8.1		25.2			14		
15	⊕	SP-56	0			90 00 00	5.0	-5.0		28.3			15		
16		SP-57	880			90 21 30	9.0	-14.5		18.8			16		
17		SP-58	1760			90 11 03	9.0	-14.6		18.7			17		

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HORIZONTAL AND VERTICAL SURVEY NOTES

8

GSI AREA TESHUKPUK STATE/COUNTY ALASKA BOOK NO. 3 PAGE 550 OF
 LINE/LOOP NO. 678 TYPE SURVEY CLIENT Husky Oil Co. DATE 15 BY 4 MO 79 YR
 SURVEYOR STONE INSTRUMENT DESC/SERIAL NO. CREW NO. 1182

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		L/R OR D/I	RIGHT TURNED HORIZONTAL ANGLE	LINE	
				SLOPE 	HORIZ 					INST					ROD
1										33.3			1		
2		SP-59	2640			89 48 00	9.0		-0.4			32.9		2	
3	⊙	SP-60	3520			89 33 15	15.0		+12.7			46.0		3	
4	⊙		✓			270 26 55	15.0		✓					4	
5														5	
6	Δ	SP-60	3520			89 55 40	15.0		+10.3		56.3			6	
7	Δ	✓	✓			270 04 27	15.0		✓					7	
8		SP-61	2640			90 25 17	9.0		-28.3		28.0			8	
9		T3-1	1760			90 57 00	4.0		-33.1		23.2			9	
10		T3-2	880			91 36 40	4.0		-28.7		27.6			10	
11	⊥	T3-3	0			90 00 00	5.0		-5.0		51.3			11	
12		T3-4	880			91 23 10	4.0		-25.3		31.0			12	
13		T3-5	1760			90 43 40	4.0		-26.3		30.0			13	
14	⊙	T3-6	2640			90 14 07	15.0		-25.6		30.7			14	
15	⊙		✓			269 46 10	15.0		✓					15	
16														16	
17														17	

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HORIZONTAL AND VERTICAL SURVEY NOTES

9

GSI AREA _____ STATE/COUNTY _____ BOOK NO. 3 PAGE 551 OF _____
 LINE/LOOP NO. 678-RTLINE TYPE SURVEY _____ CLIENT Husky oil co. DATE 13 BY 4 MO 79 YR
 SURVEYOR stone INSTRUMENT DESC/SERIAL NO. _____ CREW NO. 1182

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										30.5			1		
2													2		
3													3		
4													4		
5													5		
6										30.7		REFER L-14	6	P.550	
7	Δ	T5-6-L-678	2640		90 20 40	10.0		+25.7	58.4				7		
8	Δ		✓		269 39 32	10.0							8		
9	T	T5-3	0		90 00 00	5.0		-5.0					9		
10	⊙	SP60	3520		90 00 40	10.0		-10.3	48.1				10		
11	⊙		✓		269 57 34	10.0		✓					11		
12	Δ	SP60	3520		89 38 05	10.0		-12.7	38.4				12		
13	Δ		✓		270 22 00	10.0		✓					13		
14	T	SP56	0		90 00 00	5.0		-5.0					14		
15	⊙	SP53	2640		89 21 46	10.0		+19.5	52.9				15		
16	⊙	✓	✓		270 38 10	10.0		✓					16		
17													17		

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

HORIZONTAL AND VERTICAL SURVEY NOTES

10

GSI AREA _____ STATE/COUNTY ALASKA BOOK NO. 3 PAGE 11A OF _____
 LINE/LOOP NO. 678-FLY LINE TYPE SURVEY _____ CLIENT Husky Oil Co. DATE 13 BY 4 MO 79 YR
 SURVEYOR STONE INSTRUMENT DESC/SERIAL NO. _____ CREW NO. 1182

LINE	SYMBOL	STATION	VERTICAL						ELEVATION		L/R OR DI	HORIZONTAL		REMARKS	
			DISTANCE	FEET METERS		VERTICAL ANGLE OBS.	ROD RDG OR HI	ELEV DIFF	FINAL ELEVATION DIFF	INST		ROD	RIGHT TURNED HORIZONTAL ANGLE		LINE
				SLOPE	HORIZ										
1										52.9		REFEL L-15	1	1-50	
2													2		
3	Δ	SP-53	1260		89 37 46	10.0	-1.5	54.5					3		
4	Δ	"	"		270 22 14	10.0	"						4		
5	∩	SP-51	0		90 00 00	5.0							5		
6	○	SP-48	2640	0	90 25 26	10.0	-29.3		26.0				6		
7	○	"	"		269 39 41	100	"						7		
8	Δ	SP-48	4400		89 59 07	10.0	+8.4	30.4					8		
9	∩	"	"		270 00 57	10.0	"						9		
10	∩	SP-43	0		90 00 00	5.0	-5.0						10		
11	○	SP-38	4400		89 50 22	10.0	+2.7		23.8				11		
12	○	"	"		270 09 40	10.0	"						12		
13	Δ	SP-38	1760		89 33 48	10.0	-3.5	29.6					13		
14	∩	"	"		270 26 20	10.0	"						14		
15	∩	SP-36	0		90 00 00	5.0	-5.0						15		
16	○	SP-32	3520		89 52 00	10.0	-1.5		20.8				16		
17	○	"	"		270 08 05	100	"						17		

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HORIZONTAL AND VERTICAL SURVEY NOTES

11

GSI AREA _____ STATE/COUNTY ALASKA BOOK NO. 3 PAGE 59 B OF _____
 LINE/LOOP NO. G78-FLY LINE TYPE SURVEY _____ CLIENT Husky oil co. DATE 13 BY 4 MO 77 YR
 SURVEYOR STONE 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			L/R OR D/I	RIGHT TURNED HORIZONTAL ANGLE	LINE
				SLOPE 	HORIZ 					INST	ROD				
1	Δ	SP-32	✓		89 48 54	10.0		-1.7	26.4				1		
2	Δ		3520		270 11 16	10.0	✓						2		
3	⊗	SP-20	✓		90 00 00	5.0		-5.0					3		
4	⊙	SP-23	4400		89 58 08	10.0		-7.1		19.3			4		
5	⊙		✓		270 02 04	10.0	✓						5		
6	Δ	SP-23	4400		89 56 33	10.0		+5.1	24.4				6		
7	Δ		✓		270 03 33	10.0	✓						7		
8	⊗	SP-18	0		90 00 00	5.0		-5.0					8		
9	⊙	SP-23	4400		89 56 07	10.0		-4.5		20.0			9		
10	⊙		✓		270 04 07	10.0	✓						10		
11	⊗	SP-18			90 00 00	5.0		-5.0					11		
12	Δ	SP-13	4400		89 55 20	10.0		+3.5	23.8				12		
13	Δ		✓		270 04 52	10.0	✓						13		
14	⊗	SP-8	0		90 00 00	5.0		-5.0					14		
15	⊙	SP140+239-L-671	4400		89 44 28	15.0		+3.1		26.5			15		
16	⊙	=SP-3	✓		270 46 05	15.0				26.9			16		
17					13 46								17		

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