

HORIZONTAL AND VERTICAL SURVEY NOTES

GSI AREA Utukok River STATE/COUNTY AK. BOOK NO. _____ PAGE 311 OF _____
 LINE/LOOP NO. 728 TYPE SURVEY _____ CLIENT Husky Oil DATE 14 DY 3 MO 86 YR
 SURVEYOR Perez 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			RIGHT TURNED HORIZONTAL ANGLE	
				SLOPE					HORIZ	INST			ROD
1													
2		80248	2401			90° 03' 00" ^{15"}	11.4 ^{86"}					2	T.B.M. @ SP 7 ON 725
3						269° 57' 03"	11.4					3	Elev. 181.60
4		9	641			87° 29' 00"	11.4					4	SP 9 ON 725
5		TS 94	8179			90° 05' 40"	11.4					5	
6		TS 95	7299			90° 06' 20"	11.4					6	
7		TS 96	6419			90° 06' 20"	11.4					7	
8		TS 97	5539			90° 01' 30"	11.4					8	
9		TS 98	4659			90° 00' 40"	11.4					9	
10		TS 99	3779			90° 06' 40"	11.4					10	
11		100	2899			90° 12' 40"	11.4					11	
12		101	2019			90° 19' 50"	11.4					12	
13		102	1139			90° 20' 20"	11.4					13	
14		103	259			88° 54' 40"	11.4					14	
15		103 + 259	0			90° 00' 00"	5.4					15	Int. 725 & 728
16		104	621			90° 37' 30"	11.4					16	
17												17	

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

HORIZONTAL AND VERTICAL SURVEY NOTES

2

GSI AREA Utukok River STATE/COUNTY AK BOOK NO. _____ PAGE 312 OF _____
 LINE/LOOP NO. 728 TYPE SURVEY _____ CLIENT Husky Oil DATE 14 DY 3 MO 80 YR
 SURVEYOR Perez 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/L	HORIZONTAL		REMARKS	
			DISTANCE	<input type="checkbox"/> FEET <input type="checkbox"/> METERS	VERTICAL ANGLE OBS.	ROD ROD OR HI	ELEV DIFF	FINAL ELEVATION DIFF	INST		ROD	RIGHT TURNED HORIZONTAL ANGLE		LINE
				SLOPE										
1												1		
2		105	1501		90°30'20"	11.4						2		
3		106	2381		90°12'40"	11.4						3		
4		107	3261		90°03'20"	11.4						4		
5		108	4141		89°50'40"	11.4						5		
6	⊙	109	5021		89°51'45"	11.4	50'					6		
7	⊙				270°08'05"	11.4						7		
8												8		
9												9		
10	Δ	109	4400		89°48'15"	11.4	18'					10		
11	Δ				270°11'30"	11.4						11		
12		110	3520		90°01'10"	11.4						12		
13		111	2640		90°06'00"	11.4						13		
14		112	1760		90°13'20"	11.4						14		
15		113	880		90°26'40"	11.4						15		
16	T	114	0		90°00'00"	5.4						16		
17												17		

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HORIZONTAL AND VERTICAL SURVEY NOTES

3

GSI AREA Wukok River STATE/COUNTY AK. BOOK NO. _____ PAGE 313 OF _____
 LINE/LOOP NO. 228 TYPE SURVEY _____ CLIENT Husky Oil DATE 14 DY 3 MO 80 YR
 SURVEYOR Perez 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				
1												1		
2		115	880			90°28'00"	11.4						2	
3		116	1760			90°18'50"	11.4						3	
4		117	2640			90°16'20"	11.4						4	
5		118	3520			90°10'30"	11.4						5	
6		119	4400			90°08'10"	11.4						6	
7		120	5280			90°06'10"	11.4						7	
8	⊙	120+605	5885			90°07'51"	11.4						8	
9	⊙					267°52'02"	11.4						9	
10													10	
11	△	120+605	6435			90°08'32"	11.4						11	
12	△					269°51'12"	11.4						12	
13		121	6160			90°10'10"	11.4						13	
14		122	5280			90°15'50"	11.4						14	
15		123	4400			90°19'10"	11.4						15	
16													16	
17													17	

6 p 105

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SYMBOLS
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HORIZONTAL AND VERTICAL SURVEY NOTES

4

GSI AREA Utukoe River STATE/COUNTY AK BOOK NO. _____ PAGE 314 OF _____
 LINE/LOOP NO. 728 TYPE SURVEY _____ CLIENT Husky Oil DATE 14 DY 3 MO 80 YR
 SURVEYOR Perez INSTRUMENT DESC/SERIAL NO. _____ CREW NO. 7182

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										
1												1		
2		124	3520			90°24'50"	11.4						2	
3		125	2640			90°23'40"	11.4						3	
4		126	1760			90°50'40"	11.4						4	
5		127	880			90°47'20"	11.4						5	
6	π	128	0			90°00'00"	5.3						6	
7		129	880			89°38'30"	11.4						7	
8		130	1760			89°54'00"	11.4						8	
9		131	2640			90°04'00"	11.4						9	
10	⊙	131 + 385	3025			90°09'40"	11.4						10	
11	⊙					269°50'08"	11.4						11	
12													12	
13	Δ	131 + 385	5775			89°46'42"	11.4						13	
14	Δ					270°13'02"	11.4						14	
15		132	5280			89°51'50"	11.4						15	
16													16	
17													17	

4 pins









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HORIZONTAL AND VERTICAL SURVEY NOTES

5

GSI AREA Utukok River STATE/COUNTY AK. BOOK NO. _____ PAGE 315 OF _____
 LINE/LOOP NO. 728 TYPE SURVEY _____ CLIENT Husky Oil DATE 14 BY 3 MO 80 YR
 SURVEYOR Perce 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			RIGHT TURNED HORIZONTAL ANGLE	LINE
				SLOPE 					HORIZ 	INST			
1											1		
2		133	4400		89°56'30"	11.4						2	
3		134	3520		90°05'00"	11.4						3	
4		135	2640		90°03'30"	11.4						4	
5		136	1760		90°06'00"	11.4						5	
6		137	880		89°47'50"	11.4						6	
7		138	0		90°00'00"	5.2						7	
8		139	880		89°53'30"	11.4						8	
9		140	1760		89°45'30"	11.4						9	
10		141	2640		89°50'40"	11.4						10	
11		142	3520		89°51'30"	11.4						11	
12		143	4400		89°45'50"	11.4						12	
13		144	5280		89°43'56"	11.4	59"					13	
14					270°15'57"	11.4						14	
15												15	
16												16	
17												17	

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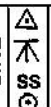









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HORIZONTAL AND VERTICAL SURVEY NOTES

6

GSI AREA Utukok River STATE/COUNTY AK. BOOK NO. _____ PAGE 316 OF _____
 LINE/LOOP NO. 228 TYPE SURVEY _____ CLIENT Husky Oil DATE 16 DY 3 MO 80 YR
 SURVEYOR Perez INSTRUMENT DESC/SERIAL NO. _____ CREW NO. 1182

LINE		STATION	VERTICAL						ELEVATION		L/R OR D/L	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		144	2450			89°57'52"	11.4	53'62"						2	
3						270°01'48"	11.4							3	
4		145	1570			89°58'50"	11.4							4	
5		146	690			89°42'20"	11.4							5	
6		80263	973			89°36'35"	11.1	42"						6	TBM B10U. 177.24
7						270°23'11"	11.1							7	
8		373	163			88°04'40"	11.4							8	SP ON 22 727 L100
9		146 + 690	0			90°00'00"	5.2							9	
10		147	190			88°46'30"	11.4							10	
11		148	1070			90°23'10"	11.4							11	
12		149	1950			90°35'40"	11.4	29"						12	
13						269°24'23"	11.4							13	
14														14	
15		149	2640			89°49'14"	11.4	04"						15	
16						270°10'56"	11.4							16	
17														17	

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HORIZONTAL AND VERTICAL SURVEY NOTES

7

GSI AREA Utukok River STATE/COUNTY AK. BOOK NO. _____ PAGE 317 OF _____
 LINE/LOOP NO. 228 TYPE SURVEY _____ CLIENT Husky Oil DATE 16 BY S MO 80 YR
 SURVEYOR Pa122 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	
				SLOPE					HORIZ	INST				ROD
1												1		
2		150	1760	89°52'00"	89°52'00"	11.4							2	
3		151	880		89°41'40"	11.4							3	
4		152	0		90°00'00"	5.0							4	
5		153	880		89°37'10"	11.4							5	
6		154	1760		89°47'50"	11.4							6	
7					276°12'10"	11.4							7	
8													8	
9		154	5280		90°02'33"	11.4							9	
10					267°57'28"	11.4							10	
11		155	4400		90°02'40"	11.4							11	
12		156	3520		90°03'00"	11.4							12	
13		157	2640		90°02'30"	11.4							13	
14		158	1760		89°54'10"	11.4							14	
15		159	880		89°35'00"	11.4							15	
16		160	0		91°00'00"	5.0							16	
17													17	

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HORIZONTAL AND VERTICAL SURVEY NOTES

8

GSI AREA Utukok River STATE/COUNTY AK BOOK NO. _____ PAGE 318 OF _____
 LINE/LOOP NO. 728 TYPE SURVEY _____ CLIENT Husky Oil DATE 16 BY S MO 80 YR
 SURVEYOR Perez 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 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													1	
2		161	880		89°42'40"	11.4							2	
3		162	1760		89°47'40"	11.4							3	
4	⊙	163	2640		89°53'39"	11.4	46"						4	
5	⊙				278°06'14"	11.4							5	
6													6	
7	Δ	163	5280		90°14'46"	11.4							7	
8	Δ				269°45'13"	11.4							8	
9		164	4400		90°12'30"	11.4							9	
10		165	3520		90°14'20"	11.4							10	
11		166	2640		90°05'20"	22.0							11	
12		169	1760		98°01'00"	11.4							12	
13		168	880		89°44'20"	11.4							13	
14	⊗	169	0		90°00'00"	5.2							14	
15		170	880		89°37'50"	11.4							15	
16													16	
17													17	

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HORIZONTAL AND VERTICAL SURVEY NOTES

GSI AREA Utukok River STATE/COUNTY AK BOOK NO. _____ PAGE 319 OF _____
 LINE/LOOP NO. 728 TYPE SURVEY _____ CLIENT Husky D-1 DATE 17 BY 3 MO 80 YR
 SURVEYOR Perce INSTRUMENT DESC/SERIAL NO. _____ CREW NO. 1182

9

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			L/R OR D/I	RIGHT TURNED HORIZONTAL ANGLE	LINE
				SLOPE					HORIZ	INST				
1												1		
2		171	1760			89° 52' 20"	11.4						2	
3	\odot	172	2640			90° 01' 26"	11.4						3	
4	\odot					269° 58' 28"	11.4						4	
5													5	
6	Δ	172	6160			89° 46' 56"	11.4						6	
7	Δ					270° 12' 59"	11.4						7	
8	SS	80267	5198			89° 46' 53"	11.4		174.81				8	
9	SS					270° 13' 03"	11.4						9	
10		173	5280			89° 55' 20"	11.4						10	
11		174	4400			90° 02' 20"	11.4						11	
12		175	3520			90° 00' 20"	11.4						12	
13		176	2640			90° 00' 20"	11.4						13	
14		177	1760			90° 06' 40"	11.4						14	
15		178	880			89° 55' 30"	11.4						15	
16	Δ	179	0			90° 00' 20"	5.0						16	
17													17	

11-28471B

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HORIZONTAL AND VERTICAL SURVEY NOTES

10

GSI AREA Utukok River STATE/COUNTY AK BOOK NO. _____ PAGE 320 OF _____
 LINE/LOOP NO. 728 TYPE SURVEY _____ CLIENT Husky Oil DATE 17 BY 3 MO 80 YR
 SURVEYOR Perce 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			RIGHT TURNED HORIZONTAL ANGLE	
				SLOPE					HORIZ	INST			ROD
1											1		
2		180	880			89°33'00"	11.4					2	
3		181	1760			89°42'50"	11.4					3	
4		182	2640			89°47'25"	11.4	29"				4	
5						270°12'27"	11.4					5	
6												6	
7		182	3520			89°53'07"	11.4	09"				7	
8						270°06'49"	11.4					8	
9		183	2640			89°51'50"	11.4					9	
10		184	1760			89°46'10"	11.4					10	
11		185	880			89°34'40"	11.4					11	
12		186	0			90°00'00"	5.2					12	
13		187	880			89°34'30"	11.4					13	
14		80268	910			89°37'11"	11.4	21"		162.48		14	
15						270°22'30"	11.4					15	
16												16	
17												17	

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HORIZONTAL AND VERTICAL SURVEY NOTES

11

GSI AREA Hukok River STATE/COUNTY AK BOOK NO. _____ PAGE 321 OF _____
 LINE/LOOP NO. 728 TYPE SURVEY _____ CLIENT Husky Oil DATE 17 DY 3 MO 80 YR
 SURVEYOR Perez INSTRUMENT DESC/SERIAL NO. _____ CREW NO. 1182

LINE		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										
1												1		
2		188	1760		89°47'30"	11.4			163.2			2		
3		189	2640		89°51'01"	11.4	05		163.7			3		
4					270°08'31"	11.4						4		
5												5		
6		189	2640		90°24'30"	11.4	38					6		
7					269°35'15"	11.4						7		
8		190	1760		90°34'30"	11.4			164.9			8		
9		191	880		90°04'50"	11.4			181.2			9		
10		192	0		90°00'00"	11.4	5.2		188.7			10		
11		193	880		89°25'10"	11.4			191.4			11	END OF LINE	
12		194	89 1760		89°37'10"	11.4			194.2			12		
13		195	2640		89°59'00"	11.4			198.7			13		
14		196	3530		89°41'10"	11.4			202.0			14		
15		197	4400		89°41'30"	11.4			206.7			15		
16												16		
17												17		

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HORIZONTAL AND VERTICAL SURVEY NOTES

12

GSI AREA Utuokot River STATE/COUNTY AK. BOOK NO. _____ PAGE 322 OF _____
 LINE/LOOP NO. 738 TYPE SURVEY _____ CLIENT Husky Oil DATE 17 DY 3 MO 80 YR
 SURVEYOR Perez 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 DIA	RIGHT TURNED HORIZONTAL ANGLE
				SLOPE					HORIZ	INST			
1												1	
2		<u>T5 198</u>	<u>5280</u>		<u>89°49'40"</u>	<u>11.4</u>			<u>198.9</u>			2	
3		<u>T5 199</u>	<u>6160</u>		<u>89°49'50"</u>	<u>11.4</u>			<u>201.5</u>			3	
4		<u>80268</u>	<u>4320</u>		<u>90°15'37"</u>	<u>11.4</u>	<u>14"</u>		<u>162.48</u>			4	
5					<u>269°44'12"</u>	<u>11.4</u>						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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