

0487-2-JV-073

To Accompany:

ARSENO LAKE PROPERTY
1986/87 Assessment Report

by:

Darren C. Elsby, M.Sc.
Northern Dynasty Explorations Ltd.

March, 1988

DRILL LOGS AND SECTIONS
HOLES A-87-12 to A-87-25



010

63.5111

Diamond Drill Record

COLLAR:		HOLE SURVEY		
NORTH _____	FOOTAGE	AZIMUTH	DIP	
EAST _____				
ELEVATION _____				
LOGGED BY _____				
DATE LOGGED _____				
MAP REFERENCE NO. _____	METHOD: _____			

COMPANY NAME _____
 PROPERTY NAME _____
 DRILLING CONTRACTOR _____
 ASSAYER _____
 PURPOSE OF HOLE _____

HOLE NO. 87A-13
 CLAIM NAME _____
 COMMENCED _____
 FINISHED _____
 PROJECT NO. _____

FROM	TO	RECOVY	DESCRIPTION	SAMPLE				ASSAYS						
				FROM	TO	WIDTH	NO.	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Au ppb		
			<i>pyrrhotite are relatively minor disseminations and irregular wispy clots.</i>											
			<i>165.4-173.6 massive quartz iron? formation with only trace disseminated and fracture controlled sulphides and grunerite - predominant sulphide is pyrite.</i>											
			<i>173.6-174.4 massive quartz iron formation with 5% irregular wisps and disseminations of sphalerite and pyrrhotite.</i>	173.6	174.4	0.8	3041	43	99	98	1.1	4		
174.4	181.7		<i>Fragmental or conglomerate unit - silicified. Fragments or clasts vary from angular to well rounded. Matrix is locally composed of massive pyrite and sphalerite with lesser amounts of pyrrhotite and arsenopyrite and trace galena.</i>											
			<i>174.4-176.3 as described above with 10% disseminated sulphides in the matrix. Coarse grained sections in this interval tend to have angular clasts or fragments. Finer grained interbeds are up to 20 cm. thick.</i>	174.4	176.3	1.9	3042	116	16416	36224	99.3	69		
									1.61%	3.74%	3.20 ^{oz} / _{ton}	0.002 ^{oz} / _{ton}		
			<i>176.3-177.6 coarse fragmental unit with grey silicified angular clasts in a coarse grained massive sulphide matrix - pyrite is the most abundant sulphide species followed by sphalerite and pyrrhotite. Traces of galena were seen.</i>	176.3	177.6	1.3	3043	234	3255	56249	41.6	29		
									0.33%	6.45%	1.23 ^{oz} / _{ton}	0.001 ^{oz} / _{ton}		
			<i>177.6-180.0 coarse grained breccia or conglomerate - silicified - some clasts and fragments appear to be a trace of the matrix in.</i>	177.6	180.0	2.4	3044	98	815	475	10.3	26		

Diamond Drill Record

COLLAR:

NORTH _____
 EAST _____
 ELEVATION _____
 LOGGED BY _____
 DATE LOGGED _____
 MAP REFERENCE NO. _____

HOLE SURVEY

FOOTAGE	AZIMUTH	DIP	METHOD:

COMPANY NAME _____
 PROPERTY NAME _____
 DRILLING CONTRACTOR _____
 ASSAYER _____
 PURPOSE OF HOLE _____

HOLE NO. B7A-13
 CLAIM NAME _____
 COMMENCED _____
 FINISHED _____
 PROJECT NO. _____

FROM	TO	RECOVY	DESCRIPTION	SAMPLE				ASSAYS						
				FROM	TO	WIDTH	NO.	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Au ppb		
			formation. Some clasts have been strongly elongated and others have remained well rounded. This is possibly the result of strain on clasts of different composition.											
			180.0-180.7 greenish-grey quartz-eye sericite schist interbed. quartz-eyes tend to have a distinctive grey colour. -note presence of minor to trace pink garnets in chlorite bands.											
			180.7-181.7 Massive pyrrhotite section with minor coarse grained pyrite some breccia textures were noted so it was included in the fragmental unit. Another possibility is that the sulphide might included in the quartz-eye sericite schist.	180.7	181.7	1.0	3045	468	78	449	4.3	7		
181.7	192.2		Quartz-eye sericite schist with distinctive apple green colour - malposite or fuchsite are seen in the core and it is thought that this type of alteration is giving the distinctive colour to the core. Traces of chalcopyrite and sphalerite are seen in and on the margins of quartz. Pink garnets are present only locally in chloritic bands.	181.7	183.7	2.0	3046	97	36	58	2.7	9		

Diamond Drill Record

COLLAR:		HOLE SURVEY		
NORTH _____	FOOTAGE	AZIMUTH	DIP	
EAST _____				
ELEVATION _____				
LOGGED BY _____				
DATE LOGGED _____				
MAP REFERENCE NO. _____	METHOD: _____			

COMPANY NAME _____

PROPERTY NAME _____

DRILLING CONTRACTOR _____

ASSAYER _____

PURPOSE OF HOLE _____

HOLE NO. B7A-13

CLAIM NAME _____

COMMENCED _____

FINISHED _____

PROJECT NO. _____

FROM	TO	RECOVY	DESCRIPTION	SAMPLE				ASSAYS					
				FROM	TO	WIDTH	NO.						
192.2	194.8		<p><i>Distinctly banded quartz-chlorite schist with cuboidal pink and brown garnets common in discrete bands throughout the section. Garnets, although present seem to be much finer than those seen at the top of the hole.</i></p>										

David B. Kelly

Diamond Drill Record

COLLAR:		HOLE SURVEY		
NORTH _____	FOOTAGE	AZIMUTH	DIP	
EAST _____				
ELEVATION _____				
LOGGED BY _____				
DATE LOGGED _____				
MAP REFERENCE NO. _____	METHOD: _____			

COMPANY NAME _____
 PROPERTY NAME _____
 DRILLING CONTRACTOR _____
 ASSAYER _____
 PURPOSE OF HOLE _____

HOLE NO. A-87-14
 CLAIM NAME _____
 COMMENCED _____
 FINISHED _____
 PROJECT NO. _____

FROM	TO	RECOVY	DESCRIPTION	SAMPLE				ASSAYS					
				FROM	TO	WIDTH	NO.	Cu	Pb	Zn	Ag	Au	
			- associated with pyrrhotite are small anastomosing bands of sphalerite and minor pods/stringers of galena					ppm	ppm	ppm	ppm	ppb	
			23.5-24.0m: 1.4 cm band of nearly massive pyrrhotite characterized by a fragmental-breccia texture containing moderately to well rounded 1-10mm clasts of gtz iron formation ~ associated with pyrrhotite are more minor bands and stringers of sphalerite and minor blebs of galena										
24.0	26.2		Quartz-Gneiss-Pyrrhotite Iron Formation (note: "IRON FORMATION" may be referred to as "EXHALITE" due to extremely small % of iron present) - milky white to grey-green containing up to 8% gneiss ~ top 30 cm is characterized by milky-white gtz containing abundant stringers of pyrrhotite, sphalerite, and pyrite ~ this texture grades into a fragmental/brecciated zone characterized by lenses, clasts and discontinuous bands of grey quartz set in a matrix of gneiss and sulphide stringers of pyrrhotite and sphalerite - lower 0.5m of unit is a transitional zone grading into the	*24.0	26.2	2.2	3054	*143	3076	14684	138.4	69	
									%	%	oz/t	oz/t	
									0.34	1.50	3.83	0.003	

COLLAR:

COLLAR:		HOLE SURVEY		
NORTH	EAST	FOOTAGE	AZIMUTH	DIP
0+60 N	S8+10 E	0	192	-45
ELEVATION		64.2	-	-40
LOGGED BY	D.B. Kilby	128.7	-	-36
DATE LOGGED	11 Sept 1987			
MAP REFERENCE NO.		METHOD: Acid test		

Diamond Drill Record

PAGE 1 OF 5

COMPANY NAME Northern Dynasty Explorations
 PROPERTY NAME Arseno Lake - Lucy Lake Grid.
 DRILLING CONTRACTOR Langley Drilling.
 ASSAYER _____
 PURPOSE OF HOLE _____

HOLE NO. 87 A-16
 CLAIM NAME _____
 COMMENCED 6 Sept. 1987
 FINISHED 9 Sept. 1987
 PROJECT NO. _____

FROM	TO	RECOVY	DESCRIPTION	SAMPLE				ASSAYS					
				FROM	TO	WIDTH	NO.	Cu	Pb	Zn	Ag	Au	
0	1.2		Overburden - casing.					ppm	ppm	ppm	ppm	ppb	
1.2	18.2		Distinctly laminated chlorite - biotite - sericite schist - partings are somewhat rough with only poorly developed micas on some planes. Pink garnets are seen in discrete sections but are only a minor feature of the rock. Laminations are irregular and diffuse - some fragmental intervals were noted. Very minor quartz veining is present.										
18.2	19.0		Grey amorphous granitic iron formation with 5% disseminated and fracture controlled pyrite - Note bands of garnet bearing biotite and chlorite schist up to 2cm wide.	18.2	19.0	0.8	3058	72	58	47	0.6	8	
19.0	21.4		Chlorite-garnet schist with abundant fine flattened pink garnets in chloritic bands - Minor pyrite and pyrrhotite are seen in discrete and irregular blobs. Partings tend to be somewhat rough with only poorly developed micas.										
21.4	23.6		Nearly massive pyrrhotite interbanded with olive green chlorite schist and light grey to white siliceous sections. Fine pink garnets are locally abundant. More massive sections of sulphides show breccia textures and minor pyrite.	21.4	23.6	2.2	3059	329	39	53	2.7	6	
23.6	24.6		Massive pyrrhotite with 30% fragments of light grey to white siliceous material seen in the previous section. One fragment shows flattened garnets that have been rotated	23.6	24.6	1.0	3060	666	23	30	2.7	2	

Diamond Drill Record

COLLAR:		HOLE SURVEY		
NORTH _____	FOOTAGE	AZIMUTH	DIP	
EAST _____				
ELEVATION _____				
LOGGED BY _____				
DATE LOGGED _____				
MAP REFERENCE NO. _____	METHOD: _____			

COMPANY NAME _____
 PROPERTY NAME _____
 DRILLING CONTRACTOR _____
 ASSAYER _____
 PURPOSE OF HOLE _____

HOLE NO. 87 A-16
 CLAIM NAME _____
 COMMENCED _____
 FINISHED _____
 PROJECT NO. _____

FROM	TO	RECOVY	DESCRIPTION	SAMPLE				ASSAYS				
				FROM	TO	WIDTH	NO.	Cu	Pb	Zn	Ag	Au
								ppm	ppm	ppm	ppm	ppb
106.4	108.8		Laminated sericite and biotite with well developed micas on partings. Note interbanded quartz-grunerite iron formation containing trace sulphide lenses.	106.4	108.8	2.4	3068	131	11	82	0.6	86
108.8	112.7		Massive, olive-green only sparsely laminated chlorite schist - possibly was a lens of massive volcanics?									
112.7	117.6		Irregular, discontinuously laminated chlorite and sericite-schist laminations are discontinuous with wispy outlines - texture looks almost fragmental in places.									
117.6	134.1		Variably laminated olive-green, fine grained chlorite schist with minor coarser grained sections - coarser sections are characterized by chlorite porphyroblasts in a fine olive green matrix.									
134.1	136.9		As in 117.6 to 134.1 with much more common coarser sections. Some are characterized by large chlorites which appear to have rotated relative to the major cleavage. Other sections show biotite growing erratically in a fine chlorite matrix. Note some cross-cutting breccias with chloritic fragments in a carbonate matrix.									
			EDH									

David B. Kelly

COLLAR:

NORTH _____

EAST _____

ELEVATION _____

LOGGED BY _____

DATE LOGGED _____

MAP REFERENCE NO. _____

HOLE SURVEY

FOOTAGE _____

AZIMUTH _____

DIP _____

METHOD: _____

Diamond Drill Record

PAGE 2 OF 3

COMPANY NAME _____

PROPERTY NAME _____

DRILLING CONTRACTOR _____

ASSAYER _____

PURPOSE OF HOLE _____

HOLE NO. 87A-17

CLAIM NAME _____

COMMENCED _____

FINISHED _____

PROJECT NO. _____

FROM	TO	RECOVY	DESCRIPTION	SAMPLE				ASSAYS					
				FROM	TO	WIDTH	NO.	Cu	Pb	Zn	Ag	Au	
28.6	33.2		Interbanded garnet, chlorite schist and brecciated quartz iron formation with a massive pyrrhotite matrix - note some sulphide sections have a significant have a significant pyrite content. Interval has about 30% sulphides overall. Note that a fragment of chlorite garnet schist that has been surrounded by pyrrhotite has not been rotated.					ppm	ppm	ppm	ppm	ppb	
				28.6	30.2	1.6	3070	310	10	26	1.8	1	
				30.2	31.7	1.5	3071	395	17	42	2.4	1	
				31.7	35.2	1.5	3072	543	14	29	2.6	1	
33.2	38.8		Distinctly banded grey to brownish grey to grey biotite, chlorite schist with very fine pink and brown garnets - This section looks identical to the interval between sulphide bands in 87A-16. Note minor pyrite on cleavage planes.										
38.8	42.1		Brecciated grey silica (quartz iron formation?) in a bleached? chlorite - biotite matrix - fragments of the chlorite biotite are in turn, seen in a massive pyrrhotite matrix. Chlorite and biotite are not strongly aligned with foliation. It's difficult to tell but there may have been more than one stage of brecciation in this interval. Whole interval is 50% sulphides.										
				38.8	40.5	1.7	3073	567	14	29	2.0	1	
				40.5	42.1	1.6	3074	401	12	119	2.5	68	
42.1	45.4		Laminated or partially laminated and partially brecciated chlorite, biotite, garnet schist with bleached brecciated chloritic sections with pyrrhotite in the matrix. Note the presence of minor lenses of grey silica. Transposed bedding and partings are much more strongly developed than in the previous section.										
				42.1	44.9	1.8	3075	133	11	622	0.9	1	
				44.9	45.4	1.5	3076	182	10	441	1.5	2	

COLLAR:

NORTH _____

EAST _____

ELEVATION _____

LOGGED BY _____

DATE LOGGED _____

MAP REFERENCE NO. _____

HOLE SURVEY

FOOTAGE

AZIMUTH

DIP

METHOD: _____

Diamond Drill Record

PAGE 3 OF 3

COMPANY NAME _____

PROPERTY NAME _____

DRILLING CONTRACTOR _____

ASSAYER _____

PURPOSE OF HOLE _____

HOLE NO. 07A-17

CLAIM NAME _____

COMMENCED 9 Aug 1967FINISHED 10 Aug 1967

PROJECT NO. _____

FROM	TO	RECOVY	DESCRIPTION	SAMPLE				ASSAYS											
				FROM	TO	WIDTH	NO.	Cu	Pb	Zn	Ag	Au							
45.4	51.9		Irregularly banded grey amorphous silica-grunerite iron with wispy biotite stringers. The base of the interval has decreased silica until it is a biotite schist with sections of grey silica.																
51.9	57.3		Biotite garnet schist with minor grey silica sections and trace sulphides associated with the silica - Garnets are large and well rounded and the unit is well laminated.																
57.3	60.1		Biotite chlorite schist with sections of brecciated siliceous material with minor sulphides. Grey silica is seen as irregular masses with rounded outlines - textures look like it has almost grown in place																
60.1	63.0		Distinctly laminated biotite schist - biotite sections are fairly coarse grained.																
63.0	69.5		Interbanded biotite-sericite-chlorite schist with minor siliceous sections.																
69.5	71.7		As in 63.0-69.5 with minor bleached chloritic brecciated sections with pyrrhotite in the matrix 5% sulphides.	69.5	71.7	2.2	3077	345	9	65	0.9	5							
71.7	73.9		Interbanded biotite and chlorite schist with minor irregularly shaped siliceous sections. EOH.																

David B. Kelly

COLLAR:

HOLE SURVEY

Diamond Drill Record

PAGE 2 OF 3

NORTH _____

EAST _____

ELEVATION _____

LOGGED BY _____

DATE LOGGED _____

MAP REFERENCE NO. _____

METHOD: _____

COMPANY NAME _____

PROPERTY NAME _____

DRILLING CONTRACTOR _____

ASSAYER _____

PURPOSE OF HOLE _____

HOLE NO. 87A-1B

CLAIM NAME _____

COMMENCED _____

FINISHED _____

PROJECT NO. _____

FROM	TO	RECOVY	DESCRIPTION	SAMPLE				ASSAYS					
				FROM	TO	WIDTH	NO.	Cu	Pb	Zn	Ag	Au	
48.2	60.7		Massive olive-green chlorite schist with a garnetiferous biotite-rich section from 54.6 to 55.6. Only trace pyrite was seen on some cleavage planes. Note some irregular white to grey silica intervals with traces of pyrite near the base of the interval					ppm	ppm	ppm	ppm	ppb	
60.7	68.2		Garnet, biotite, sericite chlorite schist - abundant coarse, pink, euhedral garnets are concentrated in the chlorite and biotite rich sections. In some places it looks like the garnets have totally disrupted the alignment of the micas along the foliation planes.										
68.2	73.9		Sericite-biotite schist (predominantly sericite) with minor to trace mariposite or fuchsite. Trace elongated fine pink garnets in sericitic sections with coarser euhedral garnets in biotite-rich sections. Note light grey to white porphyroblasts at the base of the section - they are not silica, they show strain shadows and have micas wrapped around them. Note trace sulphides throughout the section										
73.9	82.0		Light-grey to white quartz pyrrhotite iron formation? Silica is very white and clean with pyrite and pyrrhotite filling in fractures and forming the matrix for brecciated sections 10% sulphides overall	73.9	76.0	2.1	3078	337	83	1820	10.9	9	
				76.0	78.0	2.0	3079	199	360	3579	12.4	48	
				78.0	80.0	2.0	3080	263	455	1614	16.9	68	
			Note trace chalcopyrite and minor sphalerite which surround or are a different fractures than the predominant pyrite and pyrrhotite. Possibly two stages of sulphide mineralization	80.0	82.0	2.0	3081	244	0.02%	0.93%	0.53 ^{ozt}	0.002 ^{ozt}	

COLLAR:

NORTH

EAST 27+00 E

ELEVATION

LOGGED BY D.B. Kilby

DATE LOGGED

MAP REFERENCE NO.

HOLE SURVEY

FOOTAGE

AZIMUTH

DIP

METHOD:

Diamond Drill Record

COMPANY NAME

PROPERTY NAME

DRILLING CONTRACTOR

ASSAYER

PURPOSE OF HOLE

PAGE 3 OF 4HOLE NO. 87A-18

CLAIM NAME

COMMENCED

FINISHED

PROJECT NO.

FROM	TO	RECOVY	DESCRIPTION	SAMPLE				ASSAYS							
				FROM	TO	WIDTH	NO.	Cu	Pb	Zn	Ag	Au			
82.0	85.4		Light grey to white sericite schist with trace elongated pyrite grains on foliation partings. Note presence of elongated light pink garnets - This interval looks identical to the sericitic sections between 68.2 and 79.3 Don't see any sphalerite or galena in this interval.												
85.4	90.8		Grey massive silica with 20% sulphide distributed in irregular wispy clots and stringers. Pyrite is the dominant sulphide species with lesser amounts of sphalerite and galena. Note minor sericite sections in this interval contain 10% sulphides and give the occasional sericitic parting.	85.4	87.4	2.0	3082	136	1.69	3.65	2.10	0.035			
				87.4	89.4	2.0	3083	254	0.60	0.70	1.71	0.013			
				89.4	90.8	1.4	3084	91	1.01	0.44	1.44	0.008			
									ppm	ppm	ppm	ppb			
90.8	91.7		Light to medium grey sericite schist with no pink garnets - 2% pyrite is seen in elongated blobs in discrete bands. It looks like pyrite was in beds that have been broken up during the shearing.	90.8	91.7	0.9	3085	31	363	646	2.9	7			
									%	%	oz/t	oz/t			
91.7	95.4		Massive grey quartz-grunerite-pyrite iron formation with intervals of sericite schist. Pyrite is again (20% sulphides) the main sulphide species with lesser amounts of sphalerite. Sulphides are coarse grained and occur as irregular clots and stringers. Sulphides are fairly evenly distributed between the sericite and silica sections. Note marcasite or fuchsinite in sericitic sections.	91.7	93.7	2.0	3086	81	0.87	0.89	2.59	0.022			
				93.7	95.4	1.7	3087	277	0.53	0.80	2.61	0.007			
95.4	96.4		Grey to brownish-grey biotite schist with abundant elongated	95.4	96.4	1.0	3088	42	59	625	1.1	8			

COLLAR:

NORTH 1430 N
 EAST 29+10 E
 ELEVATION _____
 LOGGED BY D.B. Kilby
 DATE LOGGED 18, 19 Sept. 1987
 MAP REFERENCE NO. _____

HOLE SURVEY		
FOOTAGE	AZIMUTH	DIP
0	180°	-45°
69.8	—	-39°
METHOD: <u>Acid Test</u>		

Diamond Drill Record

COMPANY NAME Northern Dynasty Explorations
 PROPERTY NAME Arseno Lake
 DRILLING CONTRACTOR Langley Drilling
 ASSAYER _____
 PURPOSE OF HOLE _____

HOLE NO. 87A-19
 CLAIM NAME _____
 COMMENCED 17 Sept. 1987
 FINISHED 19 Sept 1987
 PROJECT NO. _____

FROM	TO	RECOVY	DESCRIPTION	SAMPLE				ASSAYS					
				FROM	TO	WIDTH	NO.	Cu	Pb	Zn	Ag	Au	
0	7.5		Overburden - casing.					ppm	ppm	ppm	ppm	ppb	
7.5	15.8		Banded, predominantly olive-green chlorite-biotite schist. Note presence of minor round pink garnets. Some coarse grained chloritic bands have euhedral biotites that have grown oblique to the major foliation (subsequent to)										
15.8	23.2		Banded biotite-chlorite schist - similar to the unit above except that biotite schist sections predominate. Large elongated pink garnets are common but are not nearly as abundant as they are immediately above the quartz iron formation in holes further to the west.										
23.2	28.2		Quartz granerite - sulphide iron formation - approximately 5-10% sulphides overall. Pyrrhotite is the predominant sulphide species with lesser pyrite. Trace to minor sphalerite can be seen. All sulphides occur as irregular blobs and wisps and none appear to be aligned along the foliation. Pyrite and pyrrhotite are intergrown. Sphalerite occurs at the margin of the sulphide grains or as individual grains. Get increasing sulphide content towards the base of the section	23.2	25.2	2.0	3092	324	325	740	207	7	
				25.2	26.7	1.5	3093	510	79	723	10.8	12	
				26.7	28.2	1.5	3094	957	414	1211	15.4	21	
28.2	33.3		Quartz exhalite breccia with up to 70% matrix. Fragments are angular to subrounded and may be up to 0.4 m in diameter. Matrix is massive sulphide material	28.2	29.7	1.5	3095	1011	0.21	12.21	1.75	0.011	}
				29.7	31.3	1.6	3096	1209	0.29	9.16	1.87	0.004	
				31.3	33.3	2.0	3097	1544	0.30	7.04	1.81	0.002	

Diamond Drill Record

COLLAR:		HOLE SURVEY		
NORTH _____	FOOTAGE _____	AZIMUTH _____	DIP _____	
EAST _____	_____	_____	_____	
ELEVATION _____	_____	_____	_____	
LOGGED BY _____	_____	_____	_____	
DATE LOGGED _____	_____	_____	_____	
MAP REFERENCE NO. _____	METHOD: _____			

COMPANY NAME _____
 PROPERTY NAME _____
 DRILLING CONTRACTOR _____
 ASSAYER _____
 PURPOSE OF HOLE _____

HOLE NO. 87A-19
 CLAIM NAME _____
 COMMENCED _____
 FINISHED _____
 PROJECT NO. _____

FROM	TO	RECOVY	DESCRIPTION	SAMPLE				ASSAYS							
				FROM	TO	WIDTH	NO.	Cu	Pb	Zn	Ag	Au			
			Main sulphide species is pyrrhotite (~60%) intergrown with red-brown sphalerite (30% approx.) with minor pyrite and traces of chalcopyrite and galena. (Looks like this section will run a very good grade in zinc.)												
33.3	39.6		Massive gray to medium gray quartz exhalite with brecciated sections that show a sulphide matrix similar in composition to that seen in the previous interval except that chalcopyrite seems to be slightly more common than above. Approximately 10% sulphides in breccia sections and irregular wisps and clots.	33.3	34.8	1.5	3098	1015	0.12	1.92	0.61	0.001			
				34.8	36.3	1.5	3099	1848	0.60	4.38	1.33	0.003			
				36.3	37.8	1.5	3100	1351	0.05	1.91	0.27	0.004			
				37.8	39.6	1.8	3101	1021	0.05	1.83	0.39	0.001			
39.6	40.0		Brecciated quartz exhalite with 60-70% matrix. Matrix is massive sulphides (predominantly pyrrhotite (60%) & sphalerite (20-30%) with minor pyrite and trace galena.	39.6	40.0	0.4	3102	1431	0.22	6.42	1.78	0.010			
40.0	42.9		Sericite, biotite pink garnet schist with minor sulphides approx. 5%. Garnet content increases towards the base of the section. This material looks like the garnet rich material encountered on the north side of the iron formation further to the west.	40.0	41.5	1.5	3103	210	1136	864	9.0	54			
				41.5	42.9	1.4	3104	425	1409	826	10.0	7			
42.9	46.6		Brecciated quartz exhalite with a massive sulphide matrix (20% sulphides) Main sulphide species is pyrrhotite with lesser amounts of sphalerite and minor pyrite - sphalerite content of the sulphides appears to be less than higher in the hole.	42.9	44.7	1.8	3105	437	0.28	3.42	0.70	0.003			
				44.7	46.6	1.9	3106	733	0.02	5.73	0.21	0.001			

COLLAR:		HOLE SURVEY		
NORTH	1+30 N	FOOTAGE	AZIMUTH	DIP
EAST	29+10 E	0	180	-65
ELEVATION		69.8	-	-59
LOGGED BY	D.B. Kilby	105.8	-	-57.5
DATE LOGGED	20, 21, 22 Sept. 87			
MAP REFERENCE NO.		METHOD:		

Diamond Drill Record

PAGE 1 OF 5

COMPANY NAME Northern Dynasty Explorations
 PROPERTY NAME Arseno Lake
 DRILLING CONTRACTOR Langley Drilling
 ASSAYER _____
 PURPOSE OF HOLE _____

HOLE NO. 87 A-20
 CLAIM NAME _____
 COMMENCED 19 Sept 1987
 FINISHED 22 Sept 1987
 PROJECT NO. _____

FROM	TO	RECOVY	DESCRIPTION	SAMPLE				ASSAYS						
				FROM	TO	WIDTH	NO.	Cu	Pb	Zn	Ag	Au		
								ppm	ppm	ppm	ppm	ppb.		
0	5.4		Overburden - casing.											
5.4	17.3		Nearly massive (only weakly banded) olive-green chlorite schist. Note minor sections with euhedral coarse biotite crystals.											
17.3	33.7		Coarsely interbanded olive green chlorite schist and brownish grey biotite schist. Biotitic sections host some elongated large pink garnets. Large chloritic and biotitic sections are themselves distinctly banded.											
			19.45-19.5: grey silica lense with pyrite and pyrrhotite mineralization and minor coarse galena grains.											
			27.0-27.05 coarse grained sulphide lense with pyrite, pyrrhotite and red-brown sphalerite. Note that garnet content increases towards the base of the section although garnets are not as abundant as they have been on some of the more western sections.											
33.7	43.6		Massive light grey quartz-grunerite iron formation with less than 5% finely disseminated magnetite, pyrrhotite, pyrite and sphalerite. Note minor pyrrhotite in irregular elongated blobs that are oblique to the foliation. <u>Fairly low sulphide content overall for this section.</u>	33.7	35.2	1.5	3114	165	163	2259	3.8	24		
				35.2	36.7	1.5	3115	425	87	463	3.4	24		
				36.7	38.2	1.5	3116	73	70	207	1.2	1		
				38.2	39.7	1.5	3117	115	55	148	1.5	1		
				39.7	41.2	1.5	3118	140	77	660	1.4	1		
				41.2	42.7	1.5	3119	586	256	1453	6.8	47		
				42.7	43.6	0.9	3120	1667	430	2100	14.0	14		

Diamond Drill Record

COLLAR:		HOLE SURVEY		
NORTH _____	FOOTAGE	AZIMUTH	DIP	
EAST _____				
ELEVATION _____				
LOGGED BY _____				
DATE LOGGED _____				
MAP REFERENCE NO. _____	METHOD: _____			

COMPANY NAME _____
 PROPERTY NAME _____
 DRILLING CONTRACTOR _____
 ASSAYER _____
 PURPOSE OF HOLE _____

HOLE NO. 87A-20
 CLAIM NAME _____
 COMMENCED _____
 FINISHED _____
 PROJECT NO. _____

FROM	TO	RECOVY	DESCRIPTION	SAMPLE				Cu	Pb	Zn	Ag	Au
				FROM	TO	WIDTH	NO.	ppm	%	do	oz/t	oz/t
43.6	44.1		Massive pyrrhotite with minor sphalerite and large euhedral pyrite grains up to 2 cm long. Note approximately 20% of this interval is angular silica fragments. Sphalerite and pyrite appear to have grown as large late grains in the euhedral pyrrhotite	43.6	44.1	0.5	3121	860	0.20	3.42	1.77	0.004
44.1	54.9		Brecciated silica exhalite with a matrix of massive sulphides (20-30% matrix overall.) Predominant sulphide species is pyrrhotite with minor sphalerite intergrown and on grain boundaries. Chalcopyrite is found in late crosscutting veins and lenses and grain boundaries. Pyrite forms large subhedral grains in the pyrrhotite matrix	44.1	45.6	1.5	3122	1920	0.08	0.56	0.85	0.004
				45.6	47.1	1.5	3123	1916	0.10	1.99	1.11	0.012
				47.1	48.6	1.5	3124	705	0.12	1.01	1.29	0.009
				48.6	50.1	1.5	3125	1032	0.03	0.06	0.32	0.006
				50.1	51.6	1.5	3126	1461	0.05	4.55	0.63	0.004
				51.6	53.1	1.5	3127	1163	0.11	9.24	1.07	0.002
54.9	55.5		Massive sulphides with 20% angular fragments of silica. Sulphides are 60-70% euhedral sphalerite with pyrrhotite matrix. Pyrite is again coarse grains in a sulphide matrix	53.1	54.9	1.8	3128	2045	0.11	0.87	0.68	0.001
				54.9	55.5	0.6	3129	924	1.37	29.20	4.34	0.009
55.5	61.2		Brecciated silica exhalite similar to that seen in 44.1-55.9 except that sulphide matrix content is slightly less (approximately 20% overall. Predominant sulphide species is pyrrhotite with coarse pyrite and only trace to minor sphalerite in this interval. Trace late stage chalcopyrite was noted.	55.5	57.0	1.5	3130	1107	426	9543	12.1	42
				57.0	58.5	1.5	3131	1089	245	3308	10.2	50
				58.5	60.0	1.5	3132	1294	318	7485	17.0	57
				60.0	61.2	1.2	3133	1522	0.12	6.22	0.42	0.004

Diamond Drill Record

COLLAR:		HOLE SURVEY		
NORTH _____	FOOTAGE	AZIMUTH	DIP	
EAST _____				
ELEVATION _____				
LOGGED BY _____				
DATE LOGGED _____				
MAP REFERENCE NO. _____	METHOD: _____			

COMPANY NAME _____
 PROPERTY NAME _____
 DRILLING CONTRACTOR _____
 ASSAYER _____
 PURPOSE OF HOLE _____

HOLE NO. 87A-20
 CLAIM NAME _____
 COMMENCED _____
 FINISHED _____
 PROJECT NO. _____

FROM	TO	RECOVY	DESCRIPTION	SAMPLE				ASSAYS					
				FROM	TO	WIDTH	NO.	Cu	Pb	Zn	Ag	Au	
									ppm	ppm	ppm	ppm	ppb
61.2	63.8		Banded biotite-quartz-garnet schist with minor sulphide disseminations and discontinuous bands. Pyrite and chalcopyrite are the two main sulphide species. Quartz is seen as grains and irregular blobs at various places in the interval.	61.2	63.8	2.6	3134	180	399	771	4.6	26	
									‰	‰	oz/t	oz/t	
63.8	64.8		Brecciated silica exhalite with massive sulphide matrix. (30-40% matrix) Main sulphide species is pyrrhotite with fine intergrowths of red-brown sphalerite. Pyrite is again seen as large anhedral composite grains in the sulphide matrix.	63.8	64.8	1.0	3135	506	0.79	4.03	2.57	0.002	
64.8	66.3		Massive grey translucent silica with 10% irregular wisps and open space fillings of sulphides. Main sulphide species are pyrrhotite and sphalerite with lesser pyrite. Pyrrhotite and sphalerite are closely related and the pyrite tends to occur in separate cavities.	64.8	66.3	1.5	3136	265	0.02	1.87	0.09	0.001	
66.3	70.3		Brecciated grey silica exhalite with a massive sulphide matrix (20% overall sulphides) Again the main sulphide species is pyrrhotite with lesser sphalerite and pyrite in large anhedral grains. Very similar to some of the previous sections.	66.3	68.3	2.0	3137	620	0.06	5.91	0.37	0.002	
				68.3	70.3	2.0	3138	469	0.12	6.22	0.42	0.004	

COLLAR:

NORTH _____

EAST _____

ELEVATION _____

LOGGED BY _____

DATE LOGGED _____

MAP REFERENCE NO. _____

HOLE SURVEY

FOOTAGE

AZIMUTH

DIP

METHOD:

Diamond Drill Record

COMPANY NAME _____

PROPERTY NAME _____

DRILLING CONTRACTOR _____

ASSAYER _____

PURPOSE OF HOLE _____

PAGE 2 OF 4

HOLE NO. 87A-21

CLAIM NAME _____

COMMENCED _____

FINISHED _____

PROJECT NO. _____

FROM	TO	RECOVY	DESCRIPTION	SAMPLE				Cu ppm	Pb ppm	Zn ppm	Ag ppm	Au ppb
				FROM	TO	WIDTH	NO.					
44.7	47.6		Massive light grey to grey silica exhalite with approximately 5% pyrrhotite in irregular clots, wisps and brecciated sections. Note minor pyrite forming large grains in the pyrrhotite matrix	44.7	46.2	1.5	3159	189	171	691	3.1	20
				46.2	47.6	1.4	3160	132	13	180	2.5	24
47.6	48.7		Massive, non-laminated olive-green chlorite schist with trace sulphides and minor discontinuous silica sections.									
48.7	55.8		Grey to medium grey talc schist (ultra basic) with only trace sulphides. to no sulphides at all.									
55.8	59.0		Distinctly finely banded biotite, silica, chlorite schist with minor elongated pink garnets in discrete bands. Grey silica is seen in discontinuous or brecciated bands throughout the section									
59.0	61.4		Massive gray to light gray silica exhalite with 5% or less pyrrhotite in discontinuous irregular lenses and wisps. Lesser pyrite was seen with traces of mariposite.	59.0	60.2	1.2	3150	134	449	903	6.8	39
				60.2	61.4	1.2	3151	160	726	2647	8.4	28
61.4	64.6		Sericite, biotite garnet schist (20 cm bands) schist unit with euhedral pink garnets concentrated in the biotite-rich sections.									
64.6	66.5		Grey to medium grey silica exhalite 10-15% sulphides on thin fractures and as irregular open space fillings. Fine grained pyrrhotite is the major sulphide species with coarse grained	64.6	65.5	0.9	3152	540	741	670	21.8	66
				65.5	66.5	1.0	3153	197	670	7958	5.8	116

COLLAR:

NORTH _____

EAST _____

ELEVATION _____

LOGGED BY _____

DATE LOGGED _____

MAP REFERENCE NO. _____

HOLE SURVEY

FOOTAGE

AZIMUTH

DIP

METHOD: _____

Diamond Drill Record

PAGE 4 OF 4

COMPANY NAME _____

PROPERTY NAME _____

DRILLING CONTRACTOR _____

ASSAYER _____

PURPOSE OF HOLE _____

HOLE NO. 87 A-21

CLAIM NAME _____

COMMENCED _____

FINISHED _____

PROJECT NO. _____

FROM	TO	RECOVY	DESCRIPTION	SAMPLE			ASSAYS						
				FROM	TO	WIDTH	NO.						
83.2	89.7		Massive grey irregularly banded biotite schist with coarse euhedral biotites in discrete bands.										
89.7	92.5		Light grey to white sericite-silica schist. Silica is seen in bands and blobs with diffuse boundaries. Possibly the result of some sort silicification. Note minor light pink garnets.										
92.5	103.3		Massive irregularly banded biotite schist with occasional sericite schist sections similar to those described in 89.7-92.5. Occasional chlorite silica sections contain traces of sulphides.										
103.3	105.3		Light grey to white sericite-silica schist as in 89.7-92.5										
105.3	115.0		Finely banded sericite, chlorite biotite silica schist. Minor small pink garnets in biotite-rich bands.										
115.0	118.6		Grey to medium grey biotite schist with minor silica and bands of euhedral biotites										
			EOH										

David B. Kelly

COLLAR:

NORTH 1+20N
 EAST 35+03E
 ELEVATION _____
 LOGGED BY D.B. Kilby
 DATE LOGGED 26 27 Sept 1987
 MAP REFERENCE NO. _____

HOLE SURVEY

FOOTAGE	AZIMUTH	DIP
0	180	-45°
60.7	-	-39°
124.7	-	-34°

METHOD: Acid Test

Diamond Drill Record

PAGE 1 OF 5

COMPANY NAME Northern Dynasty Explorations
 PROPERTY NAME Arseno Lake
 DRILLING CONTRACTOR Langley Drilling - Brampton, Ontario
 ASSAYER Acme Analytical Laboratories
 PURPOSE OF HOLE _____

HOLE NO. 87A-22
 CLAIM NAME _____
 COMMENCED 25 Sept 1987
 FINISHED 27 Sept 1987
 PROJECT NO. _____

FROM	TO	RECOVY	DESCRIPTION	SAMPLE				ASSAYS					
				FROM	TO	WIDTH	NO.	Cu	Pb	Zn	Ag	Au	
0	2.4		Casing - overburden.					ppm	ppm	ppm	ppm	ppb	
2.4	4.7		Finely and distinctly banded chlorite-biotite schist with 10% elongated pink garnets.										
4.7	7.6		Grey to medium grey sericite-biotite schist with minor blue cordierite grains and 5% pyrite in discontinuous bands and as fine disseminations. Biotite is seen in thin bands and irregular wisps. Core has a blotchy grey appearance possibly due to alteration.	4.7	6.2	1.5	3161	29	62	48	0.5	1	
				6.2	7.6	1.4	3162	23	49	60	0.7	7	
7.6	9.6		Biotite-garnet schist (abundant, elongated pink garnets) with minor sericite schist interbands, and minor round blue cordierite grains.										
			8.5-8.9 as above with 1 to 2 cm beds of massive sulphides including pyrrhotite, sphalerite, pyrite and galena.										
9.6	13.1		Sericite-biotite-garnet schist with minor blue cordierite grains. Biotite content increases towards the base of the section until it might be called a biotite schist. Note minor chloritic sections from 11.6 to 12.0 metres.										
13.1	14.6		Silica-chlorite-garnet schist with minor pyrrhotite-pyrite sphalerite, and galena filling fractures and open spaces in the quartz. Silica is seen and massive grey sections up to 15 cm thick and as thin discontinuous bands that are associated	13.1	14.6	1.5	3163	689	6885	6015	112.0	275	

Diamond Drill Record

COLLAR:		HOLE SURVEY		
NORTH _____	FOOTAGE	AZIMUTH	DIP	
EAST _____				
ELEVATION _____				
LOGGED BY _____				
DATE LOGGED _____				
MAP REFERENCE NO. _____	METHOD: _____			

COMPANY NAME _____
 PROPERTY NAME _____
 DRILLING CONTRACTOR _____
 ASSAYER _____
 PURPOSE OF HOLE _____

HOLE NO. 07A-22
 CLAIM NAME _____
 COMMENCED _____
 FINISHED _____
 PROJECT NO. _____

FROM	TO	RECOVY	DESCRIPTION	SAMPLE				ASSAYS										
				FROM	TO	WIDTH	NO.	Cu	Pb	Zn	Ag	Au						
			with sulphides.															
14.6	21.9		Light to medium gray sericite-cordierite-garnet schist with biotite occurring in irregular wisps and discontinuous bands. Blue cordierite grains have remained fairly well rounded while the pink garnets have been elongated. Note traces of individual discontinuous sulphide-rich bands.															
21.9	32.2		Massive, olive-green chlorite schist with minor scattered pink garnets and increasing biotite content towards the base of the section. Coarse euhedral biotites are also seen in discrete bands in the chlorite schist.															
32.2	38.6		Banded biotite-chlorite-garnet schist. Pink garnets are abundant in a number of sections throughout the interval.															
38.6	40.2		Massive sulphides 50% pyrrhotite 50% sphalerite with approximately 30% fragments (angular) of light gray silica exhalite. Looks like very good zinc grade and textures similar to those seen in previous holes. Note that 40.0-40.2 is nearly massive pyrite with only minor sphalerite.	38.6	40.2	1.6	3164	1330	5936	53,808	64.5	880						
40.2	43.8		Interbanded sulphides (30%) and light gray silica exhalite with some brecciated sections. Predominant sulphide species is pyrrhotite with pyrite and arsenopyrite forming coarse grained intergrowths. Sphalerite is present as a minor constituent.	40.2	42.0	1.8	3165	672	89	3627	11.1	71						
				42.0	43.8	1.8	3166	789	1655	5696	23.4	128						

Diamond Drill Record

COLLAR:		HOLE SURVEY		
NORTH _____		FOOTAGE	AZIMUTH	DIP
EAST _____				
ELEVATION _____				
LOGGED BY _____				
DATE LOGGED _____				
MAP REFERENCE NO. _____		METHOD: _____		

COMPANY NAME _____
 PROPERTY NAME _____
 DRILLING CONTRACTOR _____
 ASSAYER _____
 PURPOSE OF HOLE _____

HOLE NO. BT A-22
 CLAIM NAME _____
 COMMENCED _____
 FINISHED _____
 PROJECT NO. _____

FROM	TO	RECOVY	DESCRIPTION	SAMPLE				ASSAYS						
				FROM	TO	WIDTH	NO.	Cu	Pb	Zn	Ag	Au		
59.3	60.5		Sericite - biotite garnet schist. Minor silica is seen and pink garnets are common but no cordierite grains were seen.					ppm	ppm	ppm	ppm	ppb		
60.5	62.7		Finely banded chlorite - biotite sericite schist with no visible garnets or cordierite. Note minor quartz in discontinuous lenses.											
62.7	81.2		Sericite - biotite - cordierite schist with trace sulphides. Cordierite occurs as round blue grains with apparent strain shadows. Biotite occurs in discontinuous wispy bands. No garnets are present except in one short interval.											
81.2	85.1		Interbanded chlorite - garnet schist and sericite - cordierite - biotite schist. Pink garnets are very large (up to 3 cm in diameter) and are well elongated. Note minor irregular blobs or sections of grey silica with no associated sulphides.											
85.1	86.3		Sericite - cordierite - biotite schist. Biotite occurs as irregular wisps and as strain shadows around the cordierite grains.											
86.3	88.9		Garnet - chlorite schist with minor grey silica bands. Abundant pink garnets.											
88.9	95.7		Quartz - sericite - biotite schist with approximately 5% pyrite in wisps and discontinuous bands. Minor to trace mariposite or fuchsite is seen throughout the section. Biotite is seen in fine wispy clots.	88.9	90.4	1.5	3171	136	104	365	16.3	62		
				90.4	91.6	1.5	3172	147	77	393	1.9	12		
				91.6	93.1	1.5	3173	201	26	47	1.6	51		
				93.1	94.8	1.5	3174	180	22	50	1.4	46		

Diamond Drill Record

COLLAR:		HOLE SURVEY		
NORTH _____	FOOTAGE	AZIMUTH	DIP	
EAST _____				
ELEVATION _____				
LOGGED BY _____				
DATE LOGGED _____				
MAP REFERENCE NO. _____	METHOD: _____			

COMPANY NAME _____
 PROPERTY NAME _____
 DRILLING CONTRACTOR _____
 ASSAYER _____
 PURPOSE OF HOLE _____

HOLE NO. <u>87 A-23</u>
CLAIM NAME _____
COMMENCED _____
FINISHED _____
PROJECT NO. _____

FROM	TO	RECOVY	DESCRIPTION	SAMPLE				ASSAYS				
				FROM	TO	WIDTH	NO.	Cu	Pb	Zn	Ag	Au
								ppm	ppm	ppm	ppm	ppb
52.9	54.4		Silica-sericite-biotite schist with approximately 5% sulphides overall. Minor chlorite is seen in distinct bands. Sulphides are almost completely composed of pyrrhotite with minor pyrite. Sulphides form the matrix of brecciated silica sections.	52.9	54.4	1.5	3184	223	12	133	2.2	7
54.4	65.4		Gray to medium grey biotite schist with minor brecciated silica sections with pyrrhotite and pyrite in the matrix. Trace sulphides are seen on cleavage faces in the biotitic sections of the interval. Some granitoid was noted in 0.2 metre silica band at 59.1 metres. Note some cordierite-rich sections.									
65.4	66.2		Light grey to white sericite schist with light pink garnets and traces of what appears to be reddish sphalerite. Note minor grey silica intervals.	65.4	66.2	0.8	3185	3	9	48	0.1	2
66.2	81.4		Distinctly banded biotite-chlorite schist with minor intervals of grey silica - trace to no sulphides overall. Sulphides are only seen as a matrix in silica breccia zones.									
81.4	85.1		Biotite-cordierite? schist with 1-2% discontinuous fine pyrite bands. Mineral tentatively called cordierite occurs as fine white to bluish white round to partially elongated grains throughout the interval. (20-30% of is section is probably cordierite.)	81.4	82.9	1.5	3186	106	13	66	0.3	8
				82.9	84.4	1.5	3187	134	11	67	0.7	7
				84.4	85.1	0.7	3188	104	14	90	0.2	1

COLLAR:

NORTH _____

EAST _____

ELEVATION _____

LOGGED BY _____

DATE LOGGED _____

MAP REFERENCE NO. _____

HOLE SURVEY

FOOTAGE

AZIMUTH

DIP

METHOD:

Diamond Drill Record

COMPANY NAME _____

PROPERTY NAME _____

DRILLING CONTRACTOR _____

ASSAYER _____

PURPOSE OF HOLE _____

PAGE 3 OF 4

HOLE NO. 87A-23

CLAIM NAME _____

COMMENCED _____

FINISHED _____

PROJECT NO. _____

FROM	TO	RECOVY	DESCRIPTION	SAMPLE										
				FROM	TO	WIDTH	NO.							
85.1	89.0	↓	<i>Silica - biotite schist with minor sericitic bands. Silica is gray finely granular material that has been partially brecciated and cemented by pyrrhotite. Interval is probably 40% silica and approximately 5% sulphide. This section looks like a distal facies of the more massive silica exhalite</i>	85.1	86.6	1.5	3189	198	15	87	0.5	12		
				86.6	88.1	1.5	3190	183	6	81	0.4	9		
				88.1	89.0	0.9	3191	197	10	116	0.4	18		
89.0	89.5	↓	<i>Light grey to white sericite schist with light pink garnets and minor medium to dark gray biotite wisps.</i>	89.0	89.5	0.5	3192	13	14	95	0.2	1		
89.5	92.0	↓	<i>Grey to medium grey distinctly banded biotite silica schist with trace sulphides. Sulphides are again concentrated around and within silica bands. Note the presence of trace pink garnets in this interval.</i>	89.5	91.0	1.5	3193	168	7	113	0.2	14		
				91.0	92.0	1.0	3194	141	15	114	0.7	1		
92.0	93.7	↓	<i>Silica - sericite schist with minor pyrite in discontinuous bands. Note the presence of a coarse grained recrystallized diorite? dike (0.2 metres thick)</i>	92.0	93.7	1.7	3195	162	10	93	0.8	35		
93.7	103.3	↓	<i>Distinctly banded chlorite - silica schist with minor to trace pink garnets in distinct bands. No sulphides were seen in this interval.</i>											
103.3	105.6	↓	<i>Grey to light grey sugary textured indistinctly banded silica with minor granerite. Some chloritic sections contain light pink garnets. Only trace sulphides.</i>	103.3	105.6	2.3	3196	38	3	10	0.8	3		

Diamond Drill Record

COLLAR:		HOLE SURVEY		
NORTH _____	FOOTAGE	AZIMUTH	DIP	
EAST _____				
ELEVATION _____				
LOGGED BY _____				
DATE LOGGED _____				
MAP REFERENCE NO. _____	METHOD: _____			

COMPANY NAME _____
 PROPERTY NAME _____
 DRILLING CONTRACTOR _____
 ASSAYER _____
 PURPOSE OF HOLE _____

HOLE NO. 87A-23
 CLAIM NAME _____
 COMMENCED _____
 FINISHED 7 October, 1987
 PROJECT NO. _____

FROM	TO	RECOVY	DESCRIPTION	SAMPLE				ASSAYS					
				FROM	TO	WIDTH	NO.						
105.6	120.1		<i>Finely banded chlorite-silica schist (approximately 30 percent silica. No garnets or sulphides. Minor euhedral biotites are seen as selvages surrounding some quartz bands.</i>										
120.1	136.9	⁴²⁹	<i>Irregularly banded chlorite-silica schist with minor euhedral biotites in a chlorite matrix. This unit was probably a conglomerate. All fragments have been very strongly elongated. No sulphides were seen.</i>										
			<i>EOH</i>										

David B. Kelly

Diamond Drill Record

COLLAR:		HOLE SURVEY		
NORTH _____	FOOTAGE	AZIMUTH	DIP	
EAST _____				
ELEVATION _____				
LOGGED BY _____				
DATE LOGGED _____				
MAP REFERENCE NO. _____	METHOD: _____			

COMPANY NAME _____
 PROPERTY NAME _____
 DRILLING CONTRACTOR _____
 ASSAYER _____
 PURPOSE OF HOLE _____

HOLE NO. B7A-24
 CLAIM NAME _____
 COMMENCED _____
 FINISHED _____
 PROJECT NO. _____

FROM	TO	RECOVY	DESCRIPTION	SAMPLE				ASSAYS								
				FROM	TO	WIDTH	NO.	Cu	Pb	Zn	Ag	Au				
			Trace pyrite is seen in and adjacent to the occasional silica band.													
24.6	25.1		Chlorite-grunerite-garnet schist. Coarse pink garnets surrounded by what appears to be grunerite in an olive-green chlorite schist interval.													
25.1	36.0		Finely banded biotite schist fine brown garnets and sections of pink garnet-rich chlorite schist. Some broken silica bands are seen in the chlorite-rich sections.													
36.0	47.7		Nearly massive grey to brownish-grey biotite with minor pyrrhotite-bearing gray silica sections. Sulphides are open space fillings within the silica. Some open spaces have been filled by black euhedral biotite - (secondary biotite?) Silica content increases towards the base of the interval.	45.6	47.7	2.1	3197	200	11	122	0.4	19				
47.7	55.1		Indistinctly banded to massive grey silica-sericite schist. Silica has a granular to fine breccia texture with a greenish sericite matrix. Probably 5% pyrrhotite overall. Sulphides occur as the matrix in some breccia sections and as thin discontinuous wisps and bands throughout the interval. Sulphide wisps are aligned along the pervasive cleavage. Trace malaposite was noted. The upper contact of the unit is a 2 cm thick coarse silica breccia cemented by pyrrhotite. Note trace chalcopyrite.	47.7	49.2	1.5	3198	149	19	97	1.2	5				
				49.2	50.7	1.5	3199	81	35	40	0.9	1				
				50.7	52.2	1.5	3200	67	21	42	0.7	13				
				52.2	53.7	1.5	3201	50	15	28	0.4	1				
				53.7	55.1	1.4	3202	56	8	31	0.8	1				

Diamond Drill Record

COLLAR:		HOLE SURVEY		
NORTH _____	FOOTAGE	AZIMUTH	DIP	
EAST _____				
ELEVATION _____				
LOGGED BY _____				
DATE LOGGED _____				
MAP REFERENCE NO. _____	METHOD: _____			

COMPANY NAME _____
 PROPERTY NAME _____
 DRILLING CONTRACTOR _____
 ASSAYER _____
 PURPOSE OF HOLE _____

HOLE NO. 87A-24
 CLAIM NAME _____
 COMMENCED _____
 FINISHED _____
 PROJECT NO. _____

FROM	TO	RECOVY	DESCRIPTION	SAMPLE				ASSAYS					
				FROM	TO	WIDTH	NO.	Cu	Pb	Zn	Ag	Au	
80.6	98.9		Interbanded <u>biotite, silica-chlorite and silica sericite schist.</u> Biotite schist predominates. Silica-chlorite sections show breccia textures with no sulphides. Silica-sericite schist is a relatively thick (4 to 6 cm) discrete interval.					ppm	ppm	ppm	ppm	ppb	
98.9	100.8		<u>Sericite-silica-chlorite schist with massive pyrrhotite in a brecciated section near the top of the interval and minor round pink garnets. Note presence of fine brown garnets towards the base of the section.</u>	98.9	100.8	1.9	3207	140	10	70	0.7	5	
100.8	106.5		Massive, olive-green chlorite schist with minor coarse chlorite grains.										
106.5	112.5		Interbanded light olive green chlorite schist with light grey to white sericite schist. Sericitic section contain fine irregular wisps of biotite.										
112.5	122.0		Indistinctly banded sericite and biotite schist with large elongated pink garnets and minor cordierite. Trace pyrrhotite.										
122.0	130.8		Irregularly banded chlorite-biotite schist with minor discontinuous sericite bands and trace pyrrhotite. Looks like a conglomerate unit. Note trace sphalerite in a quartz sweat.										
			EOH.										

David B. Kelly

Diamond Drill Record

COLLAR:		HOLE SURVEY		
NORTH _____	FOOTAGE	AZIMUTH	DIP	
EAST _____				
ELEVATION _____				
LOGGED BY _____				
DATE LOGGED _____				
MAP REFERENCE NO. _____	METHOD: _____			

COMPANY NAME _____
 PROPERTY NAME _____
 DRILLING CONTRACTOR _____
 ASSAYER _____
 PURPOSE OF HOLE _____

HOLE NO. A-87-25
 CLAIM NAME _____
 COMMENCED _____
 FINISHED _____
 PROJECT NO. _____

FROM (m)	TO (m)	RECOVY	DESCRIPTION	SAMPLE				ASSAYS						
				FROM	TO	WIDTH	NO.	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Au ppb		
			MINERALIZATION: 33.1-33.2 / 34.3-35.1 / 37.4-37.6; 30% RAGGED AND AND 1% CHLORITE LENSES BRECCIATED TOURMALINE MASSES IN WHITE QUARTZ VEINS APPROX. PARALLEL TO FOLIATION; 7% PYRRHOTITE AND 1% PYRITE MAINLY FILLING FRACTURES IN TOURMALINE AND CHLORITE;											
			40.2-40.8: PYRRHOTITE (5%) + PYRITE (1%) - DISSEMINATED AND ASSOCIATED WITH QZ-TOURMALINE VEIN;	40.2	40.8	0.6	3209	336	26	76	3.7	18		
41.0	48.3		SERECITE SCHIST: LIGHT GREY TO LIGHT GREEN; MATRIX IS PREDOMINANTLY FELDSPAR? / CORDIERITE?; FOLIATION AT 50 TO C.A.; BASAL CONTACT GRADATIONAL OVER 5cm - FOLIATION AT CONTACT IS 15° TO C.A.;											
			44.7-47.8: 20% WISPY INTERBANDS (≤ 2cm WIDE) OF BIOTITE SCHIST WITH ≤ 5% PINK GARNETS;											
			MINERALIZATION: 42.0-44.4: LARGE WHITE QUARTZ VEIN WITH 30% BRECCIATED MASSES OF TOURMALINE; PYRRHOTITE (6%) + PYRITE (1%) MAINLY DISS. AND FRACTURE-FILL IN TOURMALINE; CONTACTS OF VEIN APPROX. PARALLEL FOLIATION;	42.0	44.4	2.4	3210	471	4	4	5.2	34		

Diamond Drill Record

COLLAR:		HOLE SURVEY		
NORTH _____	FOOTAGE _____	AZIMUTH _____	DIP _____	
EAST _____				
ELEVATION _____				
LOGGED BY _____				
DATE LOGGED _____				
MAP REFERENCE NO. _____	METHOD: _____			

COMPANY NAME _____
 PROPERTY NAME _____
 DRILLING CONTRACTOR _____
 ASSAYER _____
 PURPOSE OF HOLE _____

HOLE NO. A-87-25
 CLAIM NAME _____
 COMMENCED _____
 FINISHED _____
 PROJECT NO. _____

FROM	TO	RECOVY	DESCRIPTION	SAMPLE				Cu ppm	Pb ppm	Zn ppm	Ag ppm	Au ppb
				FROM	TO	WIDTH	NO.					
			44.7-45.6: PYRRHOTITE (5%) + PYRITE (1%) + SPHALERITE (1%) + GALENA (1%); AS CLOTS (≈2cm DIA) ASSOCIATED WITH BIOTITIC AND GARNETIFEROUS SECTIONS;	44.4	45.6	1.2	3211	388	2008	3492	21.5	240
48.3	49.0		MUSCOVITE - Cr Mica SCHIST - LIGHT GREEN TO APPLE GREEN; PREDOMINANTLY MUSCOVITE WITH 30% (?) Cr Mica; MAIN FOLIATION AT 30° TO C.A. - EARLIER FOLIATION AT 290/10 D.L.A. TO MAIN FOLIATION; BASAL CONTACT GRADATIONAL OVER 4cm; NO MINERALIZATION NOTED;	48.3	49.0	0.7	3212	150	30	38	4.4	27
49.0	49.7		GRONERITE - PYRRHOTITE IRON FORMATION; 20% LIGHT GREEN RAGGED GRONERITE BANDS (≈2cm WIDE) IN LIGHT TO MED. GREY QUARTZ MATRIX; 5% QUARTZ-TOURMALINE VEINS (≈5cm) PARALLEL TO FOLIATION; FOLIATION AND BANDING AT 35° TO C.A.; BASAL CONTACT MARKED BY 5cm QZ-TOURMALINE VEIN; MINERALIZATION: PYRRHOTITE 6% - DISS AND RAGGED BANDS USUALLY IN GRONERITE; PYRITE: 1% - INTERGROWN WITH PYRRHOTITE CHALCOPYRITE: 1% - INTERGROWN WITH PYRRHOTITE	49.0	49.7	0.7	3213	275	38	185	12.2	350

Diamond Drill Record

COLLAR:		HOLE SURVEY		
		FOOTAGE	AZIMUTH	DIP
NORTH _____				
EAST _____				
ELEVATION _____				
LOGGED BY _____				
DATE LOGGED _____				
MAP REFERENCE NO. _____		METHOD: _____		

COMPANY NAME _____

PROPERTY NAME _____

DRILLING CONTRACTOR _____

ASSAYER _____

PURPOSE OF HOLE _____

HOLE NO. A-87-25

CLAIM NAME _____

COMMENCED _____

FINISHED _____

PROJECT NO. _____

FROM m	TO m	RECOVY	DESCRIPTION	SAMPLE				ASSAYS				
				FROM m	TO m	WIDTH m	NO.	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Au ppb
49.7	52.3		<p>SERECITE-BIOTITE-GARNET SCHIST: 30% DARK BROWN WISPY BAND OF BIOTITE (±1cm WIDE) IN LIGHT GREY SERECITIC MATRIX; 5% PINK GARNETS (±2mm DIA) MAINLY DISS IN BIOTITE BANDS - GARNETS BOTH OVERTGROW AND ARE ELONGATED ALONG FOLIATION; RARE RAGGED GRUNERITE BANDS (±0.5cm WIDE); FOLIATION AT 40° TO C.A.; BASAL CONTACT GRADATIONAL OVER 2cm;</p> <p>MINERALIZATION: 50.5-51.0% PYRRHOTITE (1%) - PYRITE (±1%) - GALENA (?) DISS AND FRACTURE-FILL</p>									
52.3	53.0		<p>GRUNERITE IRON FORMATION: 40% RAGGED GRUNERITE BANDS (±4cm WIDE) AND 10% SERECITE SCHIST BANDS WITH LOCAL C₂ MICA, IN LIGHT TO MED. GREY QUARTZ MATRIX; BANDING IS HIGHLY DISRUPTED BY FOLDING AND LOCAL BRECCIATION; FOLIATION AT 45° TO C.A.; BASAL CONTACT GRADATIONAL OVER 30cm;</p> <p>MINERALIZATION: PYRRHOTITE (2%), PYRITE (1%) - DISS AND CLOTS</p>	52.3	53.0	0.7	3214	95	1043	98	43.4	161

Diamond Drill Record

COLLAR:		HOLE SURVEY		
NORTH _____	FOOTAGE	AZIMUTH	DIP	
EAST _____				
ELEVATION _____				
LOGGED BY _____				
DATE LOGGED _____				
MAP REFERENCE NO. _____	METHOD: _____			

COMPANY NAME _____
 PROPERTY NAME _____
 DRILLING CONTRACTOR _____
 ASSAYER _____
 PURPOSE OF HOLE _____

HOLE NO. A-87-25
 CLAIM NAME _____
 COMMENCED _____
 FINISHED _____
 PROJECT NO. _____

FROM	TO	RECOVY	DESCRIPTION	SAMPLE				ASSAYS						
				FROM	TO	WIDTH	NO.	Cu	Pb	Zn	Ag	Au		
									ppm	ppm	ppm	ppm	ppb	
53.0	59.1		SERECITE-BIOTITE-GARNET SCHIST; 20% DISS AND LOCALLY BANDED BIOTITE IN LIGHT GREY SERECITE + FELDSPAR/CORDIERITE? MATRIX; TYPICALLY 5% DISS PINK GARNETS (≤ 3mm DIP) - GARNETS BOTH OVERRUN AND ARE ELONGATED ALONG FOLIATION; IRON FORMATION: POORLY DEVELOPED, SILICEOUS ZONES WITH PYRRHOTITE + PYRITE OR GRUNERITE AT 55.3-55.4, 56.4-56.9, 58.1-58.4; MINERALIZATION: 56.4-56.6; PYRRHOTITE (4%) + PYRITE (1%) - DISS AND CLOTS											
59.1	60.0		PYRRHOTITE-GRUNERITE IRON FORMATION; 10-20% TRAGGED (≤ 3cm width) GRUNERITE BANDS, INCREASING DOWNHOLE, IN LIGHT TO MED. GREY QUARTZ MATRIX; FOLIATION AT 50° TO C.A.; BASAL CONTACT GRADATIONAL OVER 40cm 59.4-59.5; SERECITE-BIOTITE-GARNET SCHIST INTERCALATION MINERALIZATION: PYRRHOTITE; 5% - CLOTS AND DISS CHALCOPYRITE; 1% CLOTS ASSOCIATED WITH PYRRHOTITE;	59.1	60.0	0.9	3215	456	665	1177	28.3	112		

Diamond Drill Record

COLLAR:		HOLE SURVEY		
NORTH _____	FOOTAGE _____	AZIMUTH _____	DIP _____	
EAST _____				
ELEVATION _____				
LOGGED BY _____				
DATE LOGGED _____				
MAP REFERENCE NO. _____	METHOD: _____			

COMPANY NAME _____
 PROPERTY NAME _____
 DRILLING CONTRACTOR _____
 ASSAYER _____
 PURPOSE OF HOLE _____

HOLE NO. A-87-25
 CLAIM NAME _____
 COMMENCED _____
 FINISHED _____
 PROJECT NO. _____

FROM	TO	RECOVY	DESCRIPTION	SAMPLE				Cu ppm	Pb ppm	Zn ppm	Ag ppm	Au ppb
				FROM	TO	WIDTH	NO.					
103.5	107.7		BLUE CORDIERITE-EYE SCHIST; (ELSEWHERE MAPPED AS BLUE QUARTZ-EYE SCHIST); 10% LIGHT BLUE, ROUNDED CORDIERITE PORPHYROCLASTS (2-10mm DIA) IN A SERECITE + CORDIERITE ± CHLORITE ± BIOTITE MATRIX; RELATIVELY HOMOGENEOUS; ≤ 10% DISS. PINK GARNETS (≤ 3mm DIA.) AT 103.5-104.5m; 15% Cr MICA AT 106.0-106.1m AND MINOR PROPORTIONS ELSEWHERE; FOLIATION AT 40° TO C.A.; BASAL CONTACT GRADATIONAL OVER 5 cm; MINERALIZATION: PYRRHOTITE + PYRITE: 4% - DISS, CLOTS;	103.5	105.6	2.1	3220	102	65	428	6.4	7
				105.6	107.7	2.1	3221	61	43	241	3.9	4
107.7	109.5		SERECITE-BIOTITE-GARNET SCHIST: 50% DARK BROWN BIOTITIC BANDS (≤ 3cm WIDE) IN LIGHT GREY-GREEN SERECITIC MATRIX; 7% PINK GARNETS (≤ 4mm DIA) DISS. THROUGHOUT; FOLIATION AT TO C.A.; BASAL CONTACT SHARP AT 35° TO C.A.; BASAL 30cm PREDOMINANTLY SERECITE SCHIST; NO SIGNIFICANT SULPHIDES;	107.7	109.5		3222	134	80	474	6.3	29

Diamond Drill Record

COLLAR:		HOLE SURVEY		
NORTH _____	FOOTAGE _____	AZIMUTH _____	DIP _____	
EAST _____				
ELEVATION _____				
LOGGED BY _____				
DATE LOGGED _____				
MAP REFERENCE NO. _____	METHOD: _____			

COMPANY NAME _____
 PROPERTY NAME _____
 DRILLING CONTRACTOR _____
 ASSAYER _____
 PURPOSE OF HOLE _____

HOLE NO. <u>A-87-25</u>
CLAIM NAME _____
COMMENCED _____
FINISHED _____
PROJECT NO. _____

FROM	TO	RECOVY	DESCRIPTION	SAMPLE				ASSAYS					
				FROM	TO	WIDTH	NO.	Cu	Pb	Zn	Ag	Au	
109.5	109.7		SULPHIDE-CHLORITE SCHIST BRECCIA: 70% CHLORITE SCHIST AND 10% SERICITE SCHIST FRAGMENTS (≤ 2cm DIA) IN PYRRHOTITE MATRIX; HOMOGENEOUS, NO FOLIATION IN BRECCIA; BASAL CONTACT SHARP AT 55° TO C.A.; MINERALIZATION: PYRRHOTITE-20% - CLOTTY BRECCIA MATRIX CHALCOPYRITE-Tx - IN PYRRHOTITE					ppm	ppm	ppm	ppm	ppb	
109.7	111.1		QUARTZITE IRON FORMATION: WHITE TO LIGHT GREY, MASSIVE TO FAIRLY FOLIATED QUARTZ LOCALLY WITH ≤ 5% SERICITE OR CHLORITE; FOLIATION AT 40° TO C.A.; 109.9-110.2: BLUE CORDIERITE-EYE SCHIST AS ABOVE 110.7-110.9: SERICITE-GARNET SCHIST; 5% PINK GARNETS (≤ 1mm DIA) IN SERICITE MATRIX; CONTACTS WITH I.F. ARE SHARP; BASAL CONTACT IN BROKEN CORE MINERALIZATION: PYRRHOTITE (<1%) + PYRITE (<<1%) - FRACTURE-FILLING IN QUARTZ;	109.5	111.1	1.6	3219	118	286	694	9.2	14	

Diamond Drill Record

COLLAR:		HOLE SURVEY		
NORTH _____	FOOTAGE _____	AZIMUTH _____	DIP _____	
EAST _____				
ELEVATION _____				
LOGGED BY _____				
DATE LOGGED _____				
MAP REFERENCE NO. _____	METHOD: _____			

COMPANY NAME _____
 PROPERTY NAME _____
 DRILLING CONTRACTOR _____
 ASSAYER _____
 PURPOSE OF HOLE _____

HOLE NO. A-87-25
 CLAIM NAME _____
 COMMENCED _____
 FINISHED _____
 PROJECT NO. _____

FROM	TO	RECOVY	DESCRIPTION	SAMPLE				ASSAYS						
				FROM	TO	WIDTH	NO.	Cu	Pb	Zn	Ag	Au		
111.1	114.1		SERECITE-BIOTITE SCHIST: 15% BANDS (≤1cm wide) AND DISS OF BIOTITE IN LIGHT GREY SERECITE-DOMINANT MATRIX; ≤5% DISS. PINK GARNETS (≤2mm DIA); LOCALLY UNIT IS MORE SILICEOUS AND GRADES TO SHORT (≤10cm) SECTIONS OF QUARTZ IRON FORMATION; FOLIATION AT 35° TO C.A.; BASAL CONTACT SHARP AT 40° TO C.A.;											
			MINERALIZATION: PYRITE (2%) - PYRRHOTITE (1%) + SPHALERITE (4%); DISS. AND CRUDE BANDS AT 111.1-112.2m; PYRITE (1%) + PYRRHOTITE (≈1%); DISS AND ALONG FOLIATION AT 112.2-114.1	111.1	112.2	1.1	3223	178	2062	7892	35.0	49		
				112.2	114.1	1.9	3224	54	276	615	4.1	26		
114.1	117.3	3 ^v	PYRITE IRON FORMATION: WHITE TO MED. GREY, MASSIVE TO POORLY FOLIATED QUARTZ WITH 7% DISS AND CRUDELY BANDED SULPHIDES; FOLIATION AT 30° TO C.A.; BASAL CONTACT SHARP AT 60° TO C.A.											
			MINERALIZATION: PYRITE: 6% - DISS AND CRUDE BANDS ≤1cm wide SPHALERITE: ≤1% - INTERBROWN WITH PYRITE GALENA: <<1% - FINE FRACTURE FILLS;	114.1	115.8	1.7	3225	299	8492	21061	61.4	795		
				115.8	117.3	1.5	3226	46	1343	3107	12.7	88		

Diamond Drill Record

COLLAR:		HOLE SURVEY		
NORTH _____	FOOTAGE	AZIMUTH	DIP	
EAST _____				
ELEVATION _____				
LOGGED BY _____				
DATE LOGGED _____				
MAP REFERENCE NO. _____	METHOD: _____			

COMPANY NAME _____
 PROPERTY NAME _____
 DRILLING CONTRACTOR _____
 ASSAYER _____
 PURPOSE OF HOLE _____

HOLE NO. A-87-25
 CLAIM NAME _____
 COMMENCED _____
 FINISHED _____
 PROJECT NO. _____

FROM	TO	RECOVY	DESCRIPTION	SAMPLE				ASSAYS					
				FROM	TO	WIDTH	NO.	Cu	Pb	Zn	Ag	Au	
								ppm	ppm	ppm	ppm	ppb	
120.6	121.9		PYRITE-PYRRHOTITE IRON FORMATIONS; LIGHT TO DARK GREY QUARTZ; COMMON DISS SERICITE(?) IMPARTS MOD. FOLIATION AT 45° TO C.A.; INCREASING PROPORTION OF SERICITE + FELDSPAR TOWARD BASE OF SECTION; BASAL CONTACT SHARP AT 50° TO C.A.; MINERALIZATION: PYRITE; DISS AND CRUDE CLOTTY BANDS ≤1cm WIDE - 10% @ 120.6-121.4m - 4% @ 121.4-121.9m PYRRHOTITE-DISS AND CLOTTY BANDS ≤1cm WIDE - 5% @ 120.6-121.4m - 8% @ 121.4-121.9m SPHALERITE-5% - DISS ASSOCIATED WITH PYRRHOTITE ARSENOPIRITE-4% - DISS GALENA-T - DISS										
				120.6	121.9	1.3	3230	256	3225	5037	13.2	282	
121.9	122.3		SERICITE-CHROMIUM MICA SCHIST; LIGHT GREY TO APPLE GREEN; SERICITE + FELDSPAR(?) + CORDIERITE(?) + C+ MICA (≤10%); ≤20% PINK GARNETS (≤2mm DIA); FOLIATION AT 50° TO C.A.; BASAL CONTACT SHARP AT 50° TO C.A.; MINERALIZATION: PYRITE (1%) + PYRRHOTITE (5%) - DISS + CRUDE BANDS										
				121.9	122.3	0.4	3231	119	586	1179	4.7	45	

Diamond Drill Record

COLLAR:		HOLE SURVEY		
NORTH _____	FOOTAGE	AZIMUTH	DIP	
EAST _____				
ELEVATION _____				
LOGGED BY _____				
DATE LOGGED _____				
MAP REFERENCE NO. _____	METHOD: _____			

COMPANY NAME _____
 PROPERTY NAME _____
 DRILLING CONTRACTOR _____
 ASSAYER _____
 PURPOSE OF HOLE _____

HOLE NO. A-87-25
 CLAIM NAME _____
 COMMENCED _____
 FINISHED _____
 PROJECT NO. _____

FROM	TO	RECOVY	DESCRIPTION	SAMPLE				ASSAYS					
				FROM	TO	WIDTH	NO.	Cu	Pb	Zn	Ag	Au	
								ppm	ppm	ppm	ppm	ppb	
			LOCAL FOLIATION AT 45° TO C.A.; BASAL CONTACT GRADATIONAL OVER 4cm;										
			MINERALIZATION: PYRROTHITE: 20% - NET-TEXTURED BRECCIA MATRIX PYRITE: 1% - ASSOCIATED WITH PYRROTHITE SPHALERITE: TRACE - ASSOCIATED WITH PYRROTHITE	127.4	128.1	0.7	3235	303	205	1734	7.1	26	
128.1	130.2		CHERTY BIOTITE - GRUNERITE - GARNET SCHIST: MOTTLED DARK BROWN - LIGHT GREEN; FINE BIOTITE (40%) + GRUNERITE (20%) + ≤1mm DIA PINK GARNETS (10%) IN CHERTY MATRIX; HARDNESS Moh = 7; GARNETS EMBEDDED IN GRUNERITE SPLOTCHES; FOLIATION AT 45° TO C.A.; BASAL CONTACT SHARP ACROSS 2cm Cr Mica BAND AT 45° TO C.A.;										
			MINERALIZATION: GENERALLY PYRROTHITE (1%) + PYRITE (<1%) + SPHALERITE (Tr) + ARSENOPYRITE (Tr) -128.8-128.9: SPHALERITE - 8% - DISS PYRROTHITE - 5% - DISS GALENA - 1% - DISS	128.1	130.2	2.1	3236	61	534	2155	8.5	84	

Diamond Drill Record

COLLAR:		HOLE SURVEY		
NORTH _____		FOOTAGE	AZIMUTH	DIP
EAST _____				
ELEVATION _____				
LOGGED BY _____				
DATE LOGGED _____				
MAP REFERENCE NO. _____		METHOD: _____		

COMPANY NAME _____
 PROPERTY NAME _____
 DRILLING CONTRACTOR _____
 ASSAYER _____
 PURPOSE OF HOLE _____

HOLE NO. A-87-25
 CLAIM NAME _____
 COMMENCED _____
 FINISHED _____
 PROJECT NO. _____

FROM	TO	RECOVY	DESCRIPTION	SAMPLE				ASSAYS				
				FROM	TO	WIDTH	NO.	Cu	Pb	Zn	Ag	Au
								ppm	ppm	ppm	ppm	ppb
130.2	130.7		PYRRHOTITE IRON FORMATIONS; MED. TO DARK GREY QUARTZ WITH FRAGGED BANDS AND CLOTS OF SULPHIDE AND C. MICA (5%); FOLIATION AT 45° TO C.A.; BASAL CONTACT SHARP AT 55° TO C.A.; MINERALIZATION: PYRRHOTITE: 15% - CLOTS, CRUDE BANDS, DISS SPHALERITE: 3% - CLOTS, DISS; ASSOCIATED WITH PYRRHOTITE GALENA: 1% - CLOTS, DISS; ASSOCIATED WITH PYRRHOTITE PYRITE: <1% - DISS ARSENOPYRITE: <1% - DISS IN PYRRHOTITE;	130.2	130.7	0.5	3237	305	3691	16686	93.2	480
130.7	132.6		CHROMIUM MICA SCHIST; APPLE GREEN; 30% C. MICA IN FINE SILICATE MATRIX; HOMOGENOUS; FOLIATION AT 55° TO C.A.; BASAL CONTACT SHARP AT 55° TO C.A.; MINERALIZATION: ALL SULPHIDES ARE VERY FINE GRAINED; SPHALERITE: 2% - DISS PYRITE: 1% - DISS GALENA: <1% - DISS ARSENOPYRITE: <1% - DISS PYRRHOTITE: <<1% - DISS	130.7	132.6	1.9	3238	186	4494	7492	39.0	124

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COLLAR:		HOLE SURVEY		
NORTH _____		FOOTAGE	AZIMUTH	DIP
EAST _____				
ELEVATION _____				
LOGGED BY _____				
DATE LOGGED _____				
MAP REFERENCE NO. _____		METHOD: _____		

COMPANY NAME _____
 PROPERTY NAME _____
 DRILLING CONTRACTOR _____
 ASSAYER _____
 PURPOSE OF HOLE _____

HOLE NO. A-87-25
 CLAIM NAME _____
 COMMENCED _____
 FINISHED _____
 PROJECT NO. _____

FROM	TO	RECOVY	DESCRIPTION	SAMPLE			ASSAYS					
				FROM	TO	WIDTH	NO.	Cu	Pb	Zn	Ag	Au
132.6	133.2		GROUNDITE-PYRROHITITE IRON FORMATION: 20% BAGGED GROUNDITE BANDS IN LIGHT TO DARK GRAY QUARTZ; 1% G. MICA BANDS; FOLIATION AT 50° TO C.A.; BASAL CONTACT AT 55° TO C.A.; MINERALIZATION: PYRROHITITE: 4% - DISS ARSENOPYRITE: TRACE - DISS	132.6	133.2		3239	120	1015	1352	16.9	75
133.2	136.8		CHROMIUM NICKEL - SERICITE SCHIST: SIMILAR TO 130.7-132.6m; FOLIATION AT 50° TO C.A.; BASAL CONTACT GRADATIONAL OVER 20cm; 133.2-135.3: 10% SMALL (≤ 10cm) BANDS OF QUARTZ ± PYRITE IRON FORMATION; MINERALIZATION: PYRITE: 1% AVERAGE - DISS; CLOTS IN I.F. PYRROHITITE: < 1% - DISS, CLOTS SPHALERITE: < 1% - CLOTS IN I.F.	133.2	135.3	2.1	3240	162	1564	4276	15.8	70
				135.3	136.8	1.5	3241	146	174	420	3.3	61

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COLLAR:		HOLE SURVEY		
		FOOTAGE	AZIMUTH	DIP
NORTH _____				
EAST _____				
ELEVATION _____				
LOGGED BY _____				
DATE LOGGED _____				
MAP REFERENCE NO. _____		METHOD: _____		

COMPANY NAME _____
 PROPERTY NAME _____
 DRILLING CONTRACTOR _____
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 PURPOSE OF HOLE _____

HOLE NO. A-87-25
 CLAIM NAME _____
 COMMENCED _____
 FINISHED _____
 PROJECT NO. _____

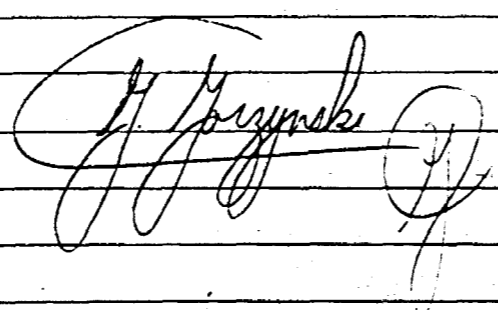
FROM	TO	RECOVY	DESCRIPTION	SAMPLE				ASSAYS					
				FROM	TO	WIDTH	NO.	Cu	Pb	Zn	Ag	Au	
136.8	160.6		<p>PLIOTITE SCHIST: DARK BROWNISH GREY; COMMON WISPY LIGHT GREY SILICATE BANDS (≤5mm WIDE); RELATIVELY HOMOGENEOUS UNIT; FOLIATION AT APPROXIMATELY 50° TO C.A. THROUGHOUT; BASAL CONTACT SHARP AT 55° TO C.A.;</p> <p>MINERALIZATION: LOCAL QUARTZ VEINS 5-30 cm WIDE LOCAL SILICIFIED SECTIONS WITH ≤40% PYRRHOTITE (≤4cm WIDE);</p>										
160.6	162.5		<p>SERECITE - CHROMIUM MICA SCHIST: LIGHT GREEN; SERECITE (20%) + C-MICA (10%) ENVELOP 0.5-2mm DIA. ROUNDED QUARTZ + SILICATE GRAINS - POSSIBLY A MICROBRECCIA; RELATIVELY HOMOGENOUS; FOLIATION AT 55° TO C.A.; BASAL CONTACT GRADATIONAL ACROSS 20cm;</p> <p>MINERALIZATION: PYRITE - <1% - DISS PYRRHOTITE - <1% - IN QUARTZ CLASTS</p>	160.6	162.5	1.9	3242	164	23	207	0.5	28	

Diamond Drill Record

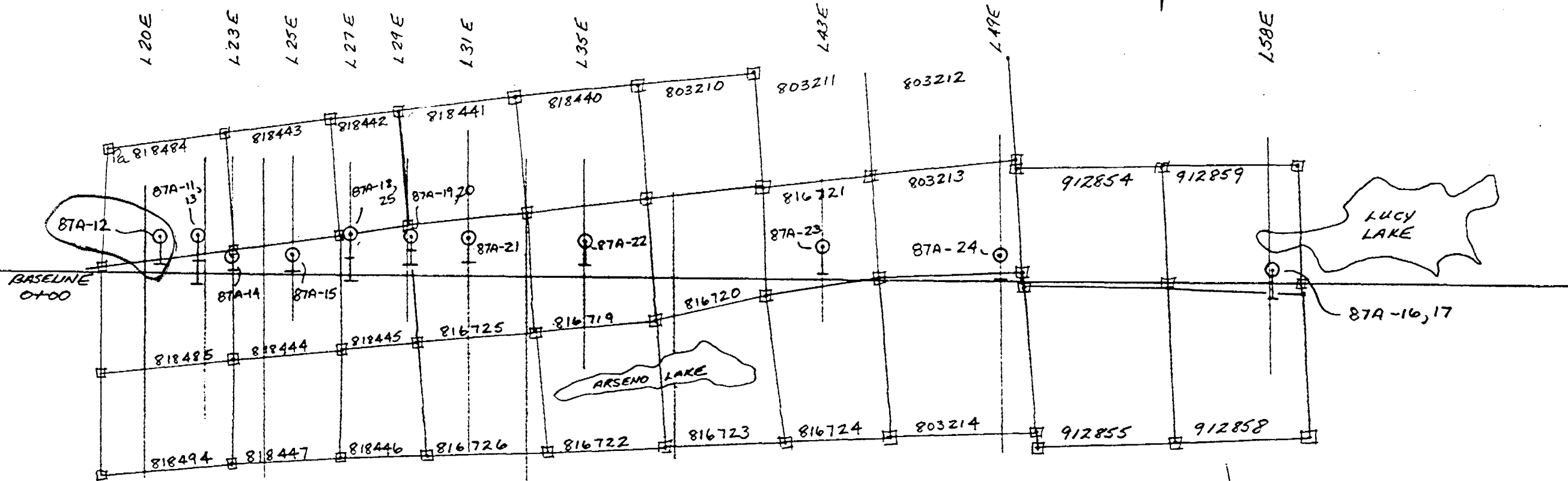
COLLAR:				HOLE SURVEY		
NORTH _____	FOOTAGE	AZIMUTH	DIP			
EAST _____						
ELEVATION _____						
LOGGED BY _____						
DATE LOGGED _____						
MAP REFERENCE NO. _____	METHOD:					

COMPANY NAME _____
 PROPERTY NAME _____
 DRILLING CONTRACTOR _____
 ASSAYER _____
 PURPOSE OF HOLE _____

HOLE NO. A-87-25
 CLAIM NAME _____
 COMMENCED _____
 FINISHED _____
 PROJECT NO. _____

FROM <small>m</small>	TO <small>m</small>	RECOVY	DESCRIPTION	SAMPLE				ASSAYS						
				FROM	TO	WIDTH	NO.							
179.0	199.3		BIOTITE-CHLORITE SCHIST; INTERCALATED DARK BROWN WISPY BIOTITE-RICH BANDS (≤1cm WIDE) AND GREEN CHLORITE-RICH BANDS (≤1cm WIDE); FOLIATION AT APPROXIMATELY 50° TO C.A. THROUGHOUT; NO SIGNIFICANT SULPHIDE MINERALIZATION NOR ALTERATION NOTED;											
199.3			END OF HOLE											
														

NORTHERN DYNASTY EXPLORATIONS LTD.

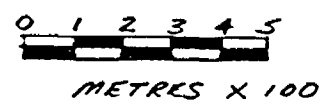


ARSEND LAKE PROPERTY

1987 DIAMOND DRILL HOLE

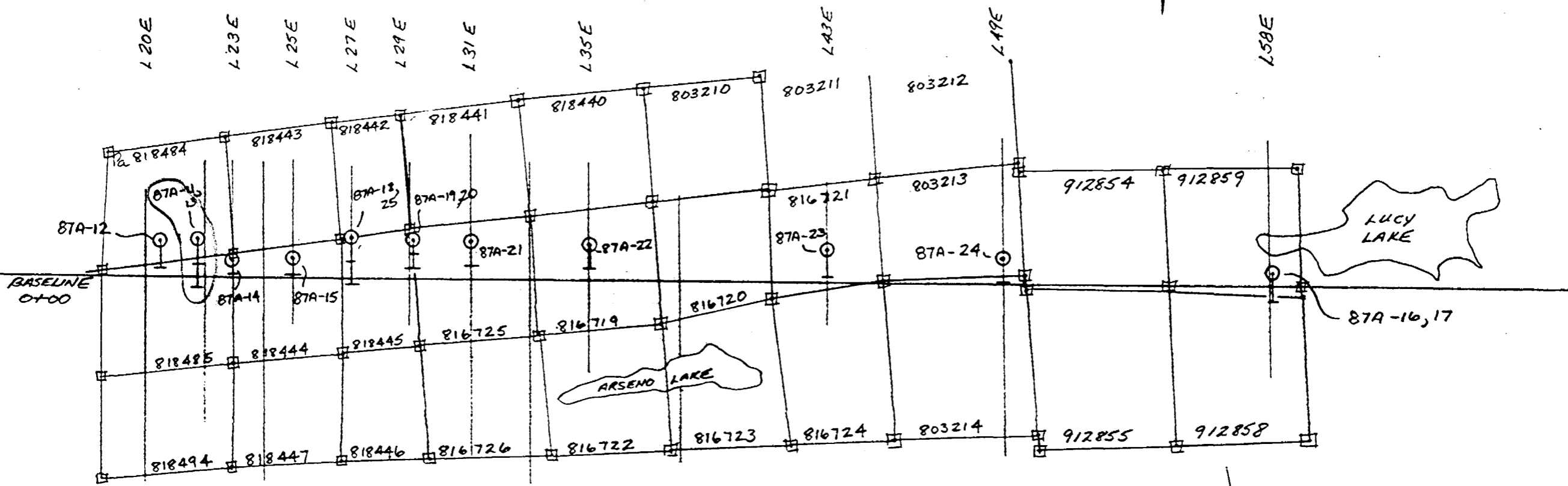
LOCATION MAP

CLAIM MAPS: KEELYASK LAKE/G-2085
 SEESKEP LAKE/G-2204
 NTS: 53B 14/15



- CLAIM POST.
- DRILL COLLAR & HOLE NUMBER.
- SURFACE PROJECTION OF DRILLHOLE

NORTHERN DYNASTY EXPLORATIONS LTD.

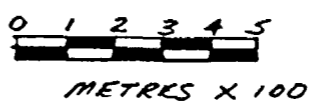





ARSEND LAKE PROPERTY

1987 DIAMOND DRILL HOLE

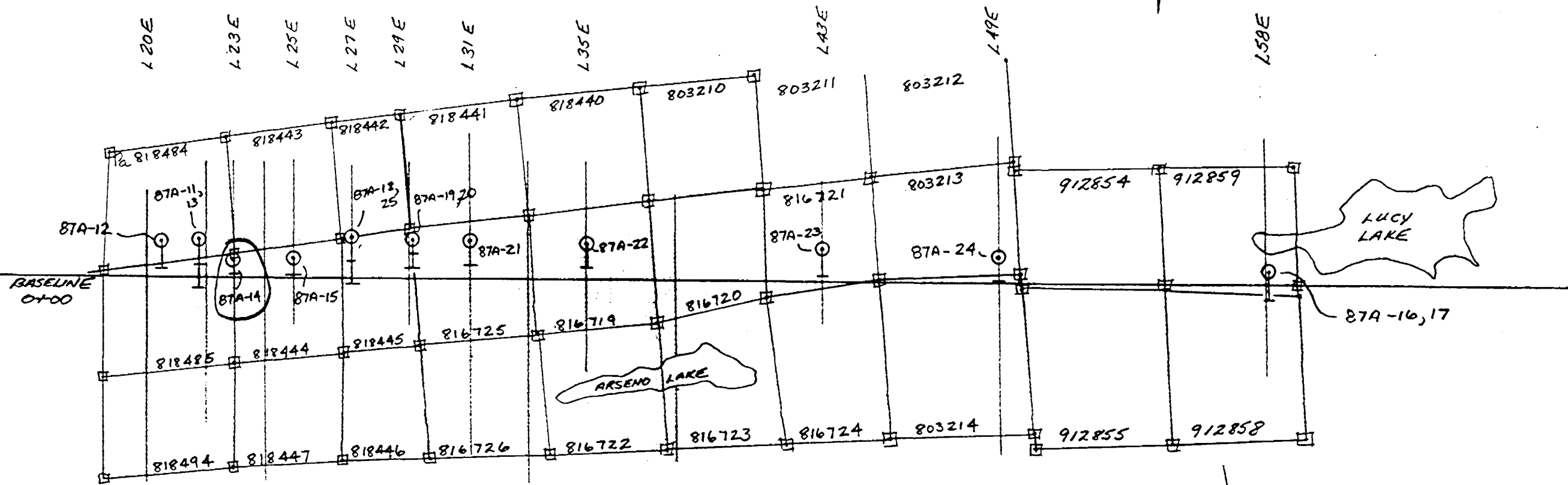
LOCATION MAP

CLAIM MAPS: KEELYASK LAKE / G-2085
 SEESKEP LAKE / G-2204
 NTS: 538 14/15



-  CLAIM POST.
-  87A-13 ← DRILL COLLAR & HOLE NUMBER.
-  ← SURFACE PROJECTION OF DRILLHOLE

NORTHERN DYNASTY EXPLORATIONS LTD.

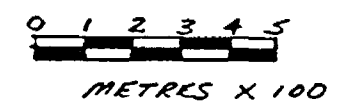


ARSEND LAKE PROPERTY

1987 DIAMOND DRILL HOLE

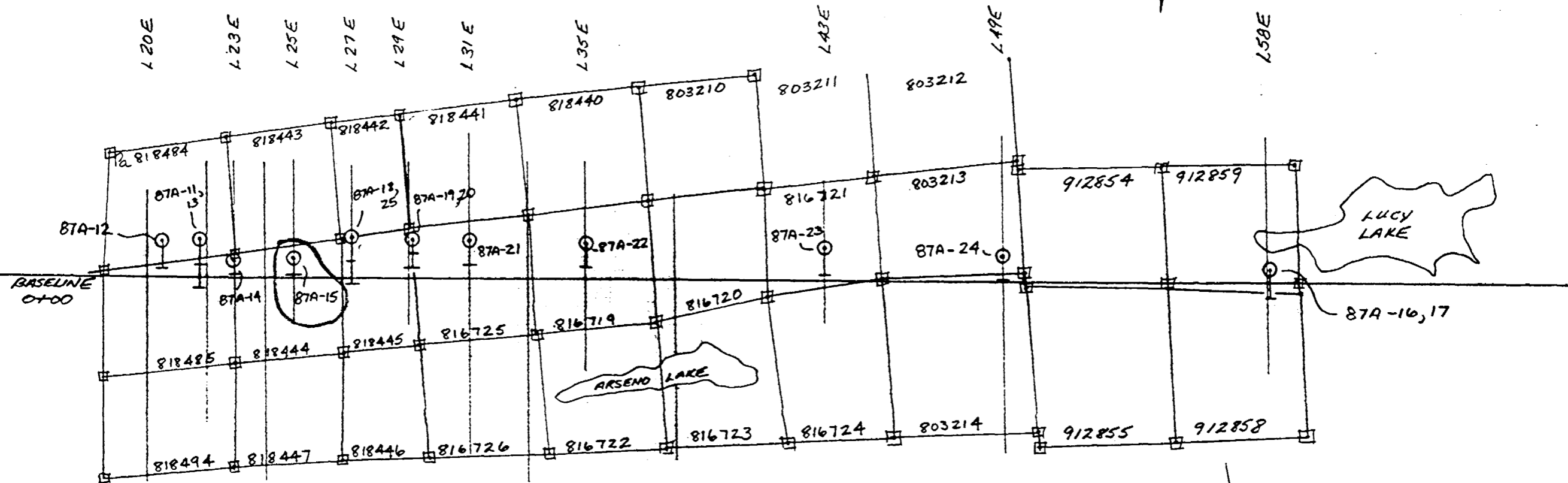
LOCATION MAP

CLAIM MAPS: KEELYASK LAKE/G-2085
 SEESREP LAKE/G-2204
 NTS: 53B 14/15



- CLAIM POST.
- DRILL COLLAR & HOLE NUMBER.
- SURFACE PROJECTION OF DRILLHOLE

NORTHERN DYNASTY EXPLORATIONS LTD.

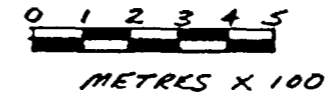


ARSEND LAKE PROPERTY

1987 DIAMOND DRILL HOLE

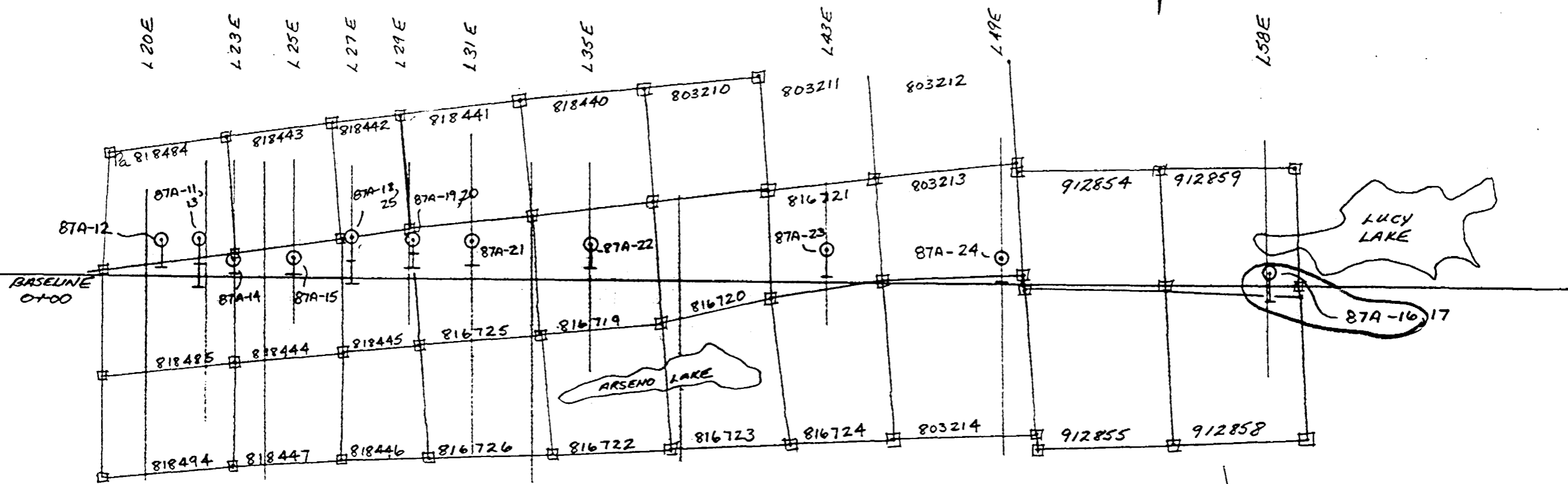
LOCATION MAP

CLAIM MAPS: KEENASK LAKE/G-2085
 SEESKEP LAKE/G-2204
 NTS: 53B 14/15

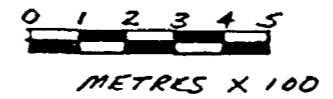


- CLAIM POST.
- DRILL COLLAR & HOLE NUMBER.
- SURFACE PROJECTION OF DRILLHOLE

NORTHERN DYNASTY EXPLORATIONS LTD.



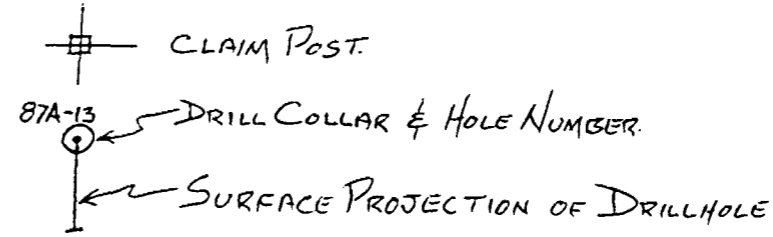
ARSEND LAKE PROPERTY
1987 DIAMOND DRILL HOLE



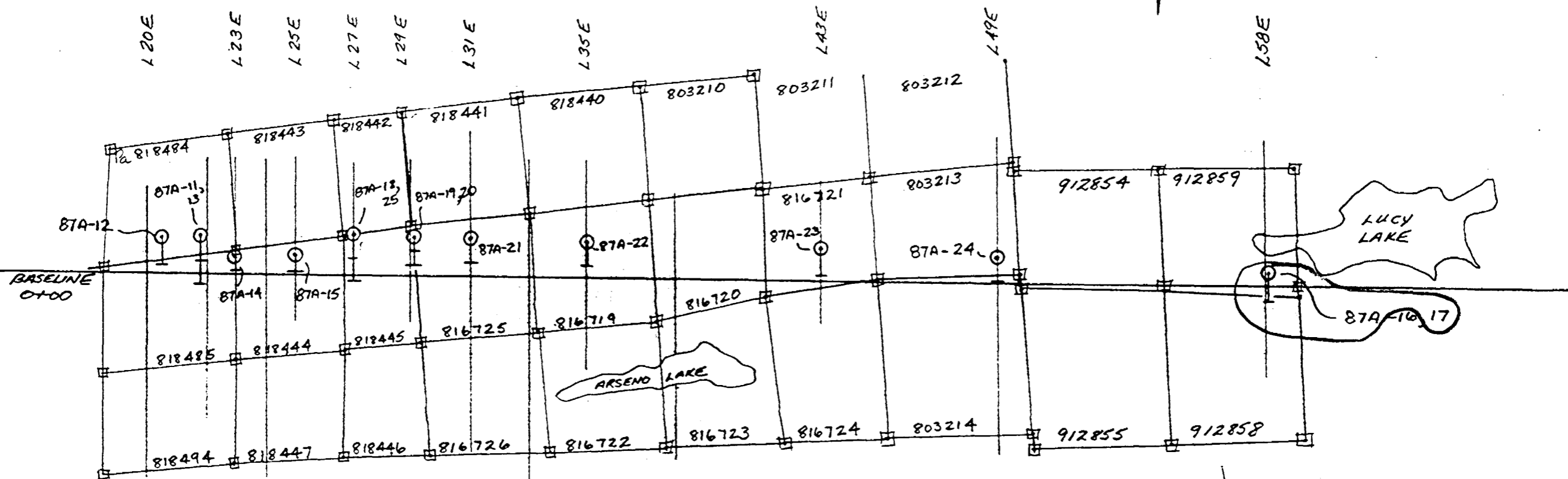
To EYAPAMIKAMA LAKE

LOCATION MAP

CLAIM MAPS: KEEYASK LAKE/G-2085
SEESKEP LAKE/G-2204
NTS: 53B 14/15



NORTHERN DYNASTY EXPLORATIONS LTD.

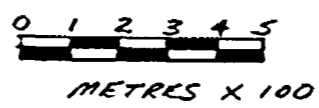


ARSEND LAKE PROPERTY

1987 DIAMOND DRILL HOLE

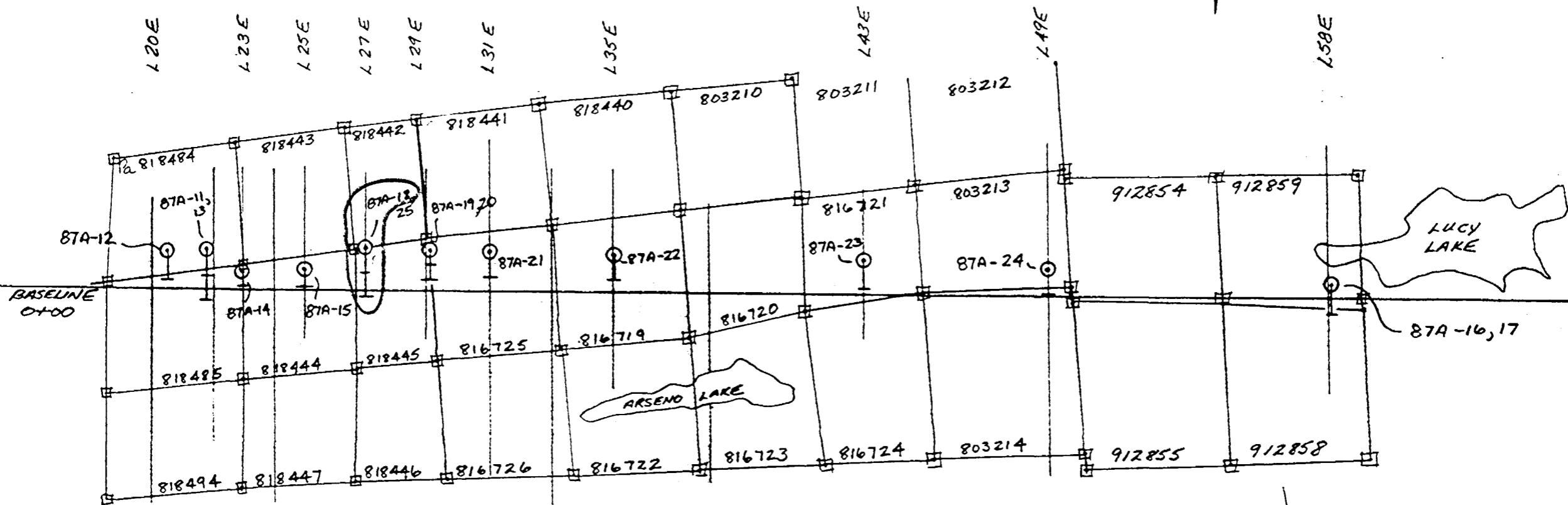
LOCATION MAP

CLAIM MARS: KEELYASK LAKE/G-2085
 SEESKEP LAKE/G-2204
 NTS: 538 14/15



- CLAIM POST.
- 87A-13 ← DRILL COLLAR & HOLE NUMBER.
- ← SURFACE PROJECTION OF DRILLHOLE

NORTHERN DYNASTY EXPLORATIONS LTD.



ARSENO LAKE PROPERTY

1987 DIAMOND DRILL HOLE

LOCATION MAP

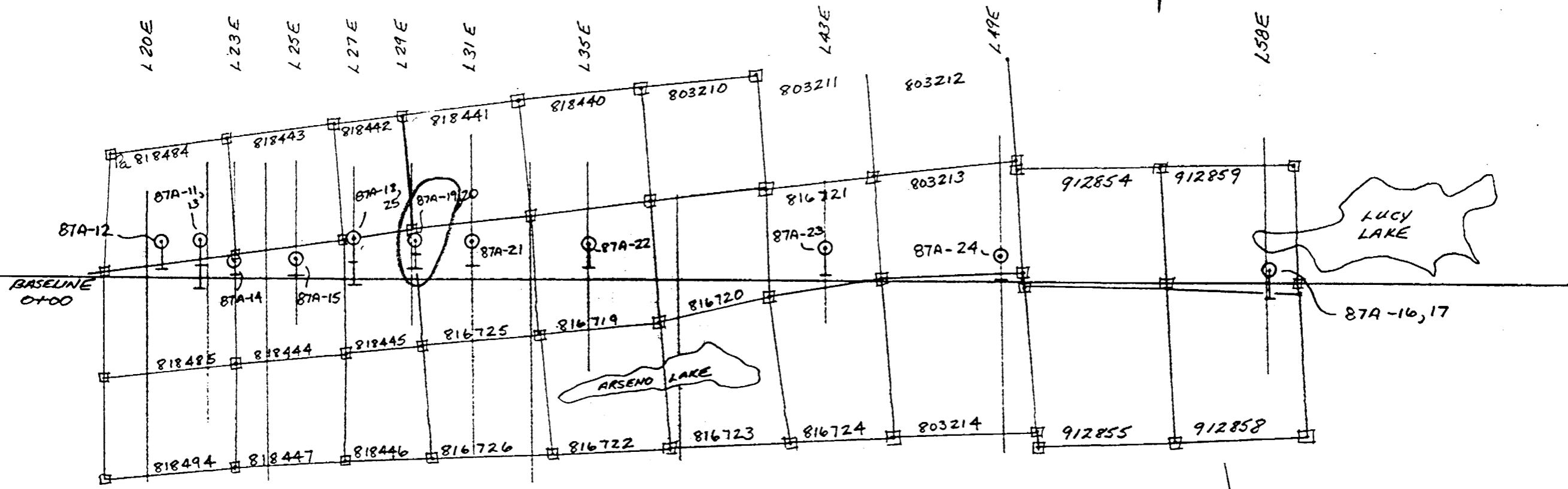
CLAIM MAPS: KEELYASK LAKE/G-2085
 SEESREP LAKE/G-2204
 NTS: 53B 14/15



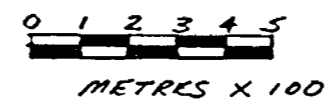
↓ To EYAPAMIKAMA LAKE

- CLAIM POST.
- 87A-13 ← DRILL COLLAR & HOLE NUMBER.
- ← SURFACE PROJECTION OF DRILLHOLE

NORTHERN DYNASTY EXPLORATIONS LTD.



ARSEND LAKE PROPERTY
1987 DIAMOND DRILL HOLE



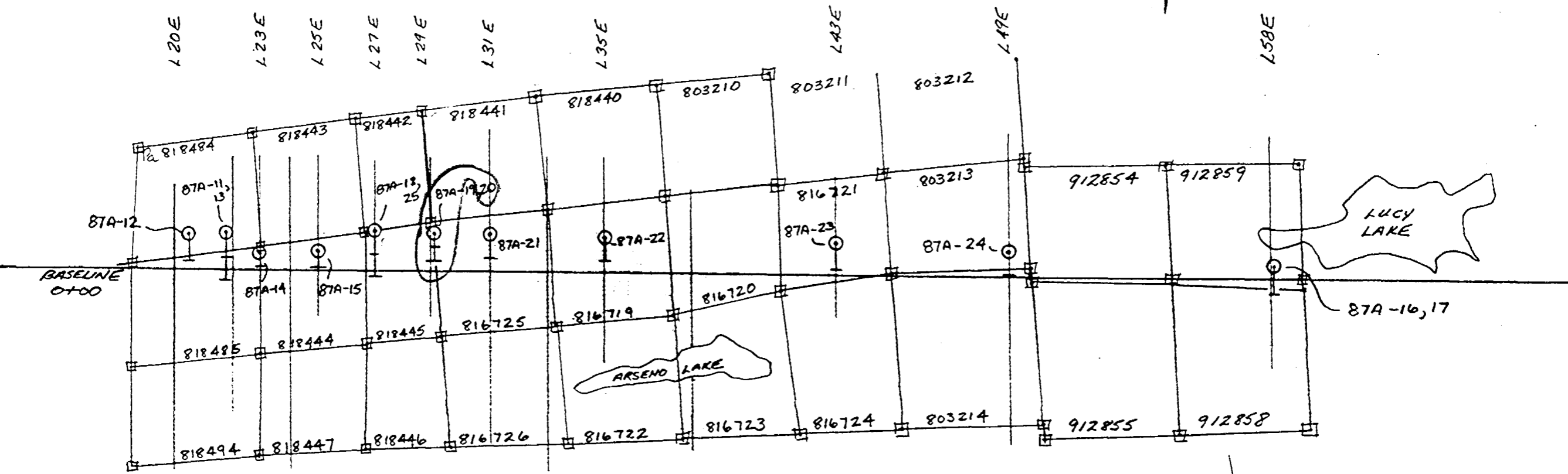
To EYAPAMIKAMA LAKE

LOCATION MAP

CLAIM MAPS: KEEYASK LAKE/G-2085
SEESKEP LAKE/G-2204
NTS: 53B 14/15



NORTHERN DYNASTY EXPLORATIONS LTD.

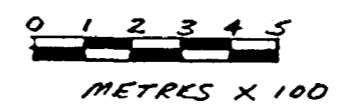


ARSENO LAKE PROPERTY

1987 DIAMOND DRILL HOLE

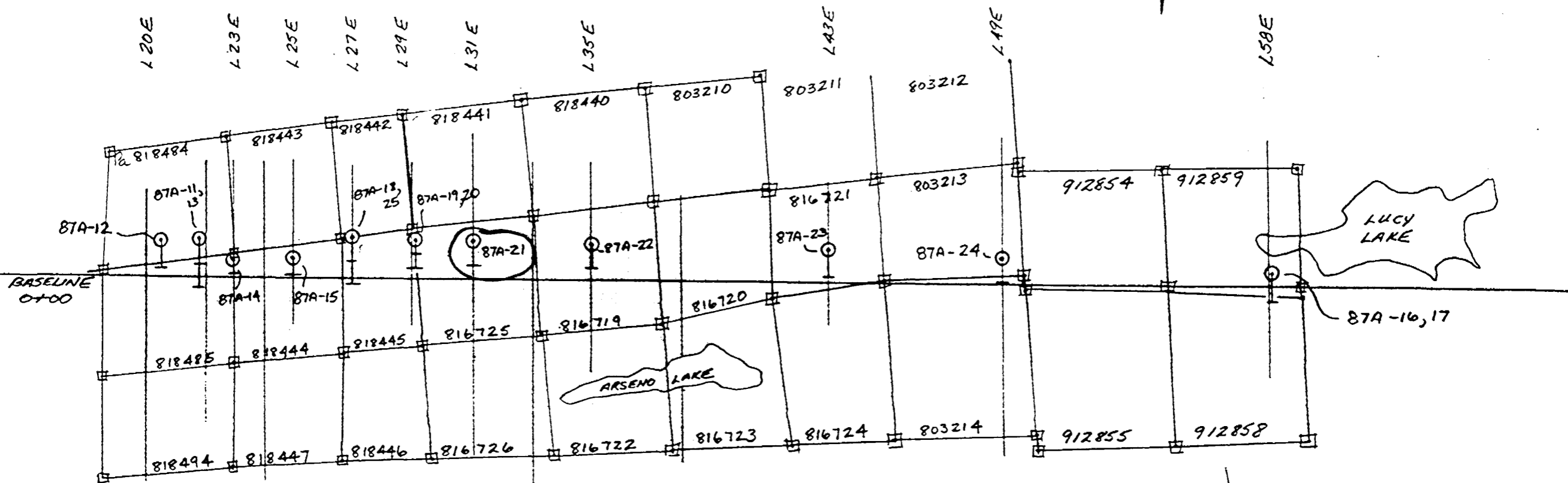
LOCATION MAP

CLAIM MAPS : KEELYASK LAKE / G-2085
 SEESREP LAKE / G-2204
 NTS : 53B 14/15



- CLAIM POST.
- DRILL COLLAR & HOLE NUMBER.
- SURFACE PROJECTION OF DRILLHOLE

NORTHERN DYNASTY EXPLORATIONS LTD.

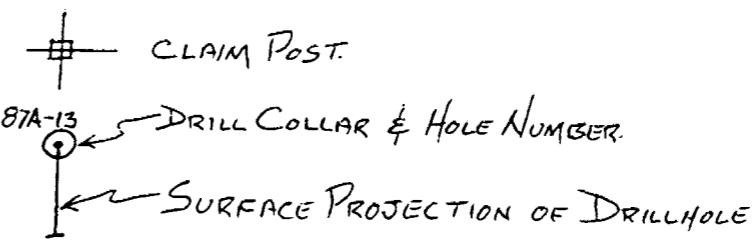


ARSEND LAKE PROPERTY

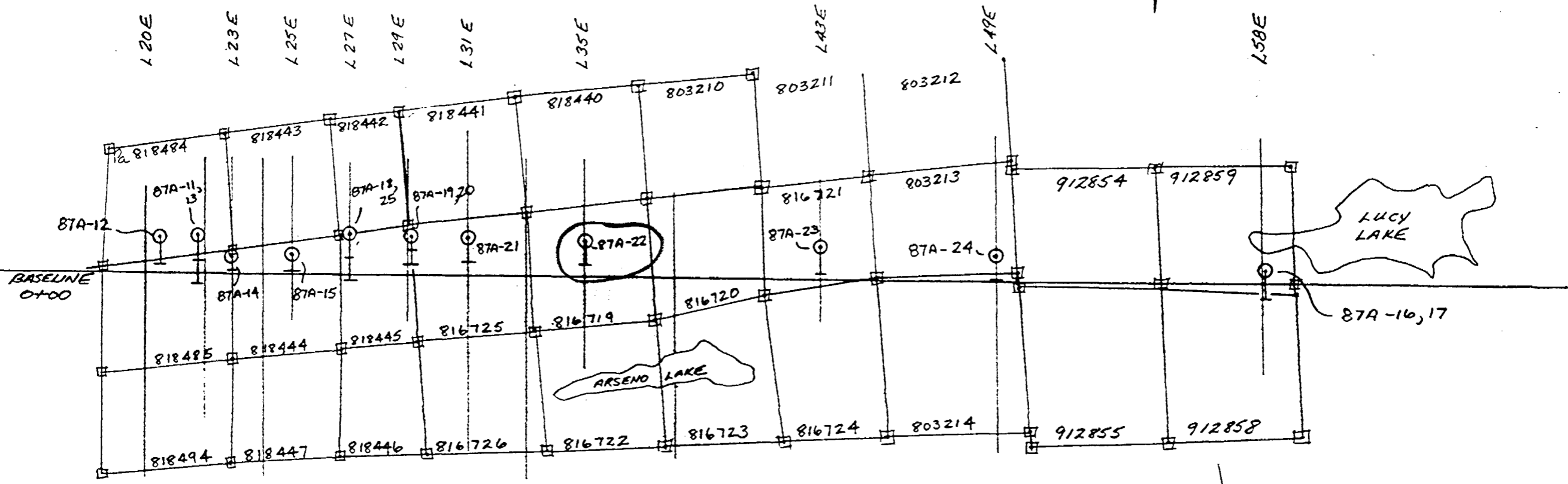
1987 DIAMOND DRILL HOLE

LOCATION MAP

CLAIM MAPS : KEENASK LAKE / G-2085
 SEESREP LAKE / G-2204
 NTS : 53B 14/15



NORTHERN DYNASTY EXPLORATIONS LTD.

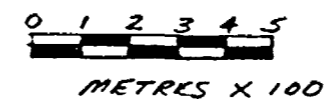


ARSEND LAKE PROPERTY

1987 DIAMOND DRILL HOLE

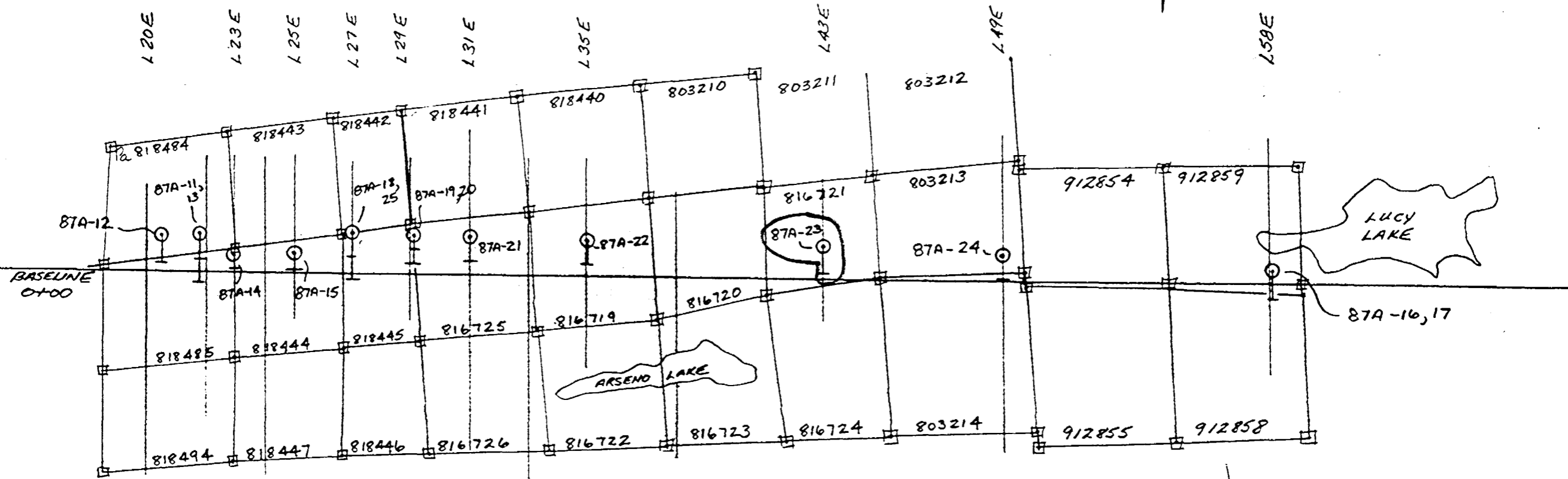
LOCATION MAP

CLAIM MARKS: KEEYASK LAKE / G-2085
 SEESREP LAKE / G-2204
 NTS: 53B 14/15



- CLAIM POST.
- DRILL COLLAR & HOLE NUMBER.
- SURFACE PROJECTION OF DRILLHOLE

NORTHERN DYNASTY EXPLORATIONS LTD.

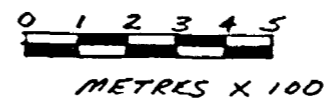


ARSEND LAKE PROPERTY

1987 DIAMOND DRILL HOLE

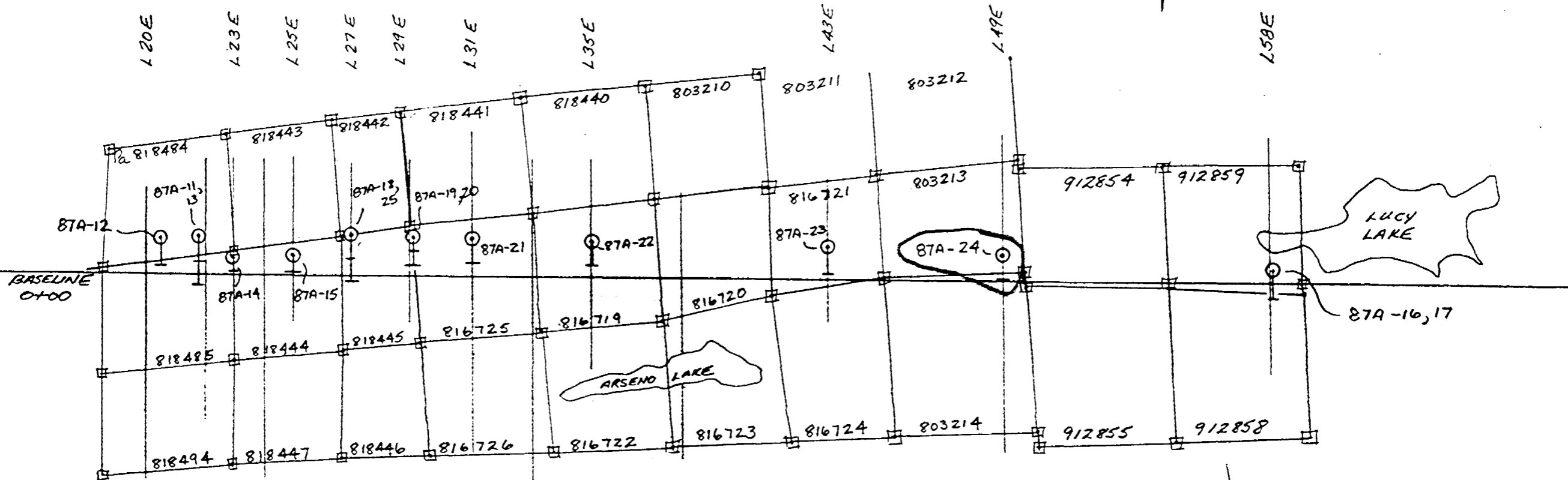
LOCATION MAP

CLAIM MAPS: KEELYASK LAKE/G-2085
 SEESREP LAKE/G-2204
 NTS: 53B 14/15

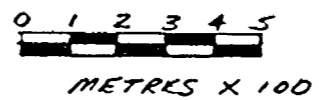


- CLAIM POST.
- DRILL COLLAR & HOLE NUMBER.
- SURFACE PROJECTION OF DRILLHOLE

NORTHERN DYNASTY EXPLORATIONS LTD.



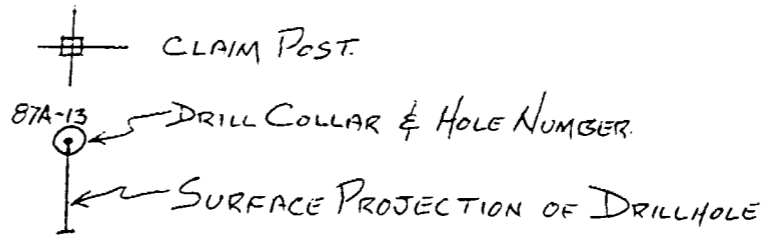
ARSEND LAKE PROPERTY
1987 DIAMOND DRILL HOLE



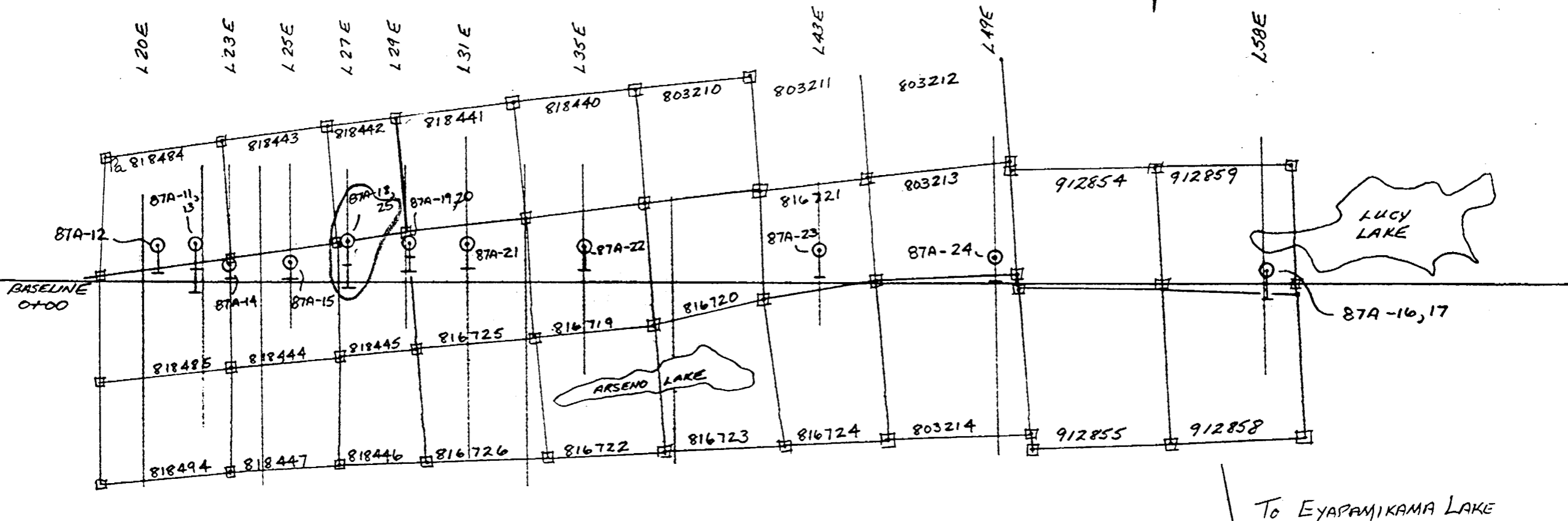
TO EYAPAMIKAMA LAKE

LOCATION MAP

CLAIM MAPS: KEEYASK LAKE/G-2085
SEESREP LAKE/G-2204
NTS: 53B 14/15



NORTHERN DYNASTY EXPLORATIONS LTD.



ARSEND LAKE PROPERTY

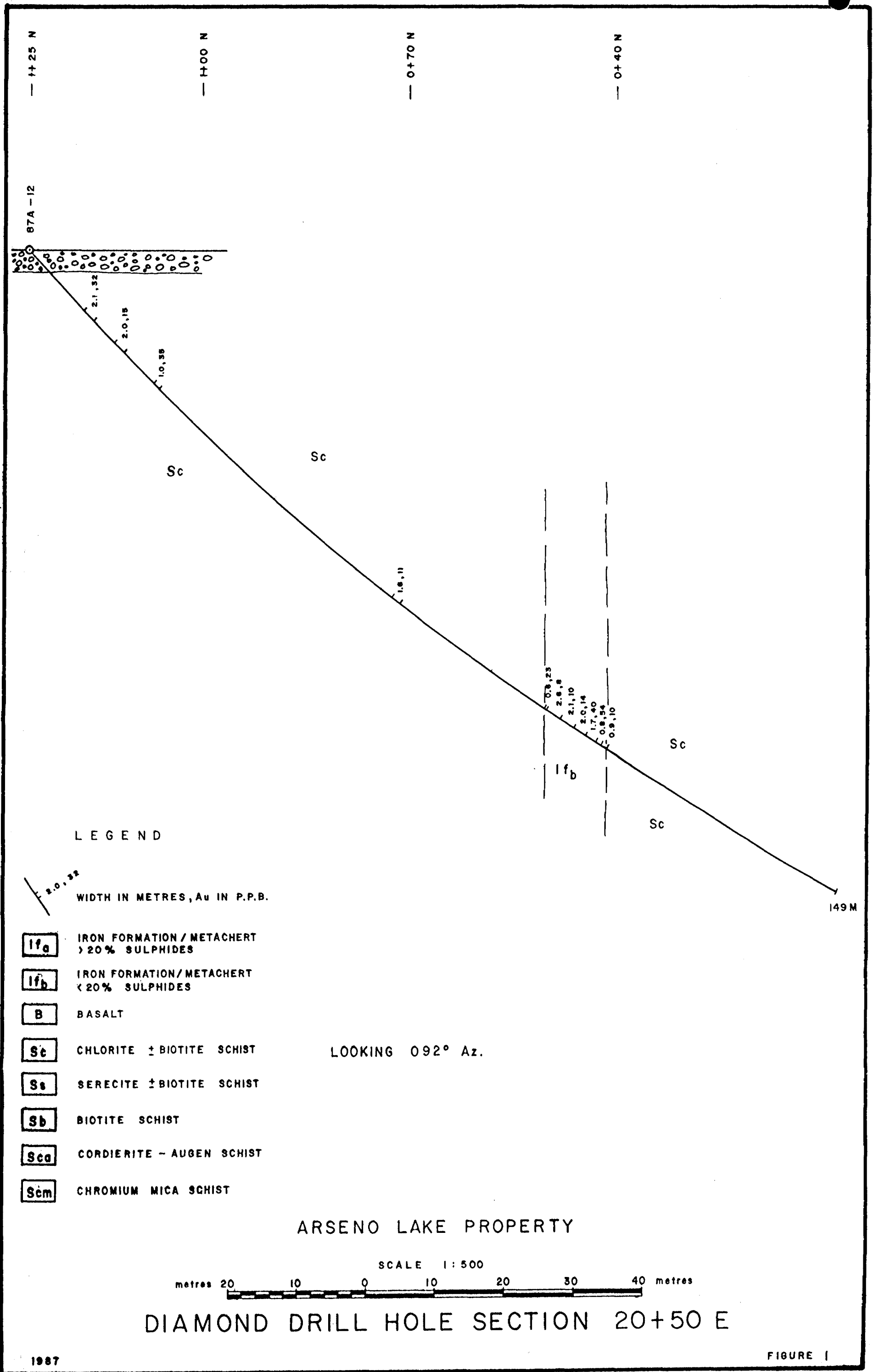
1987 DIAMOND DRILL HOLE

LOCATION MAP

CLAIM MAPS: KEELYASK LAKE/G-2085
 SEESKEP LAKE/G-2204
 NTS: 53B 14/15



- CLAIM POST.
- DRILL COLLAR & HOLE NUMBER.
- SURFACE PROJECTION OF DRILLHOLE



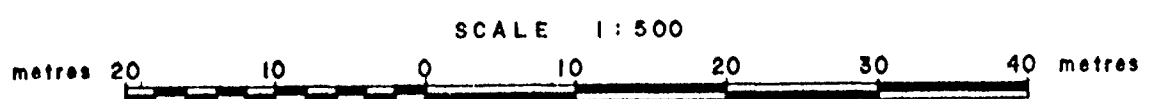
LEGEND

WIDTH IN METRES, Au IN P.P.B.

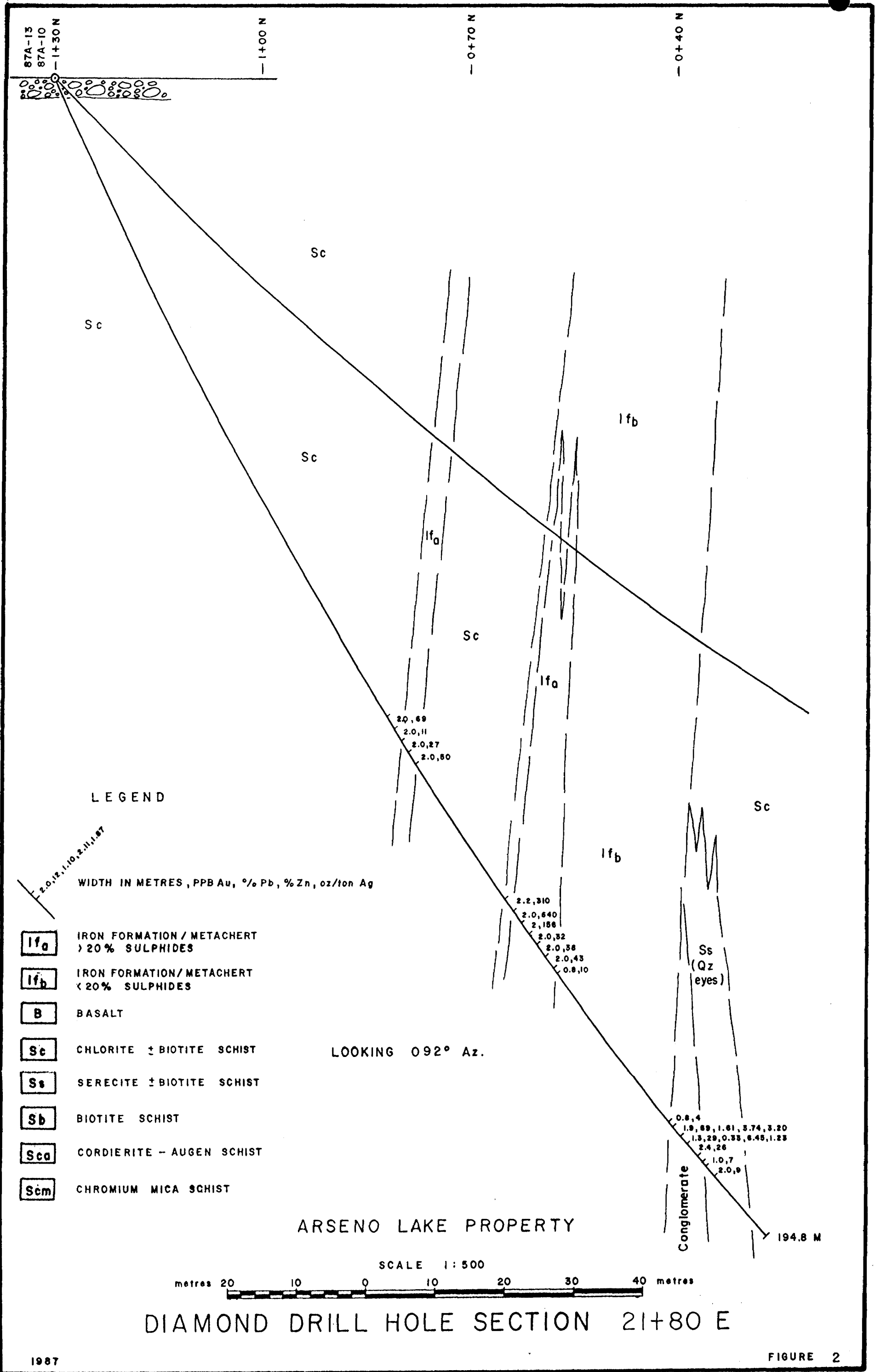
- Ifa IRON FORMATION / METACHERT
> 20% SULPHIDES
- Ifb IRON FORMATION / METACHERT
< 20% SULPHIDES
- B BASALT
- Sc CHLORITE ± BIOTITE SCHIST
- Ss SERICITE ± BIOTITE SCHIST
- Sb BIOTITE SCHIST
- Sca CORDIERITE - AUGEN SCHIST
- Scm CHROMIUM MICA SCHIST

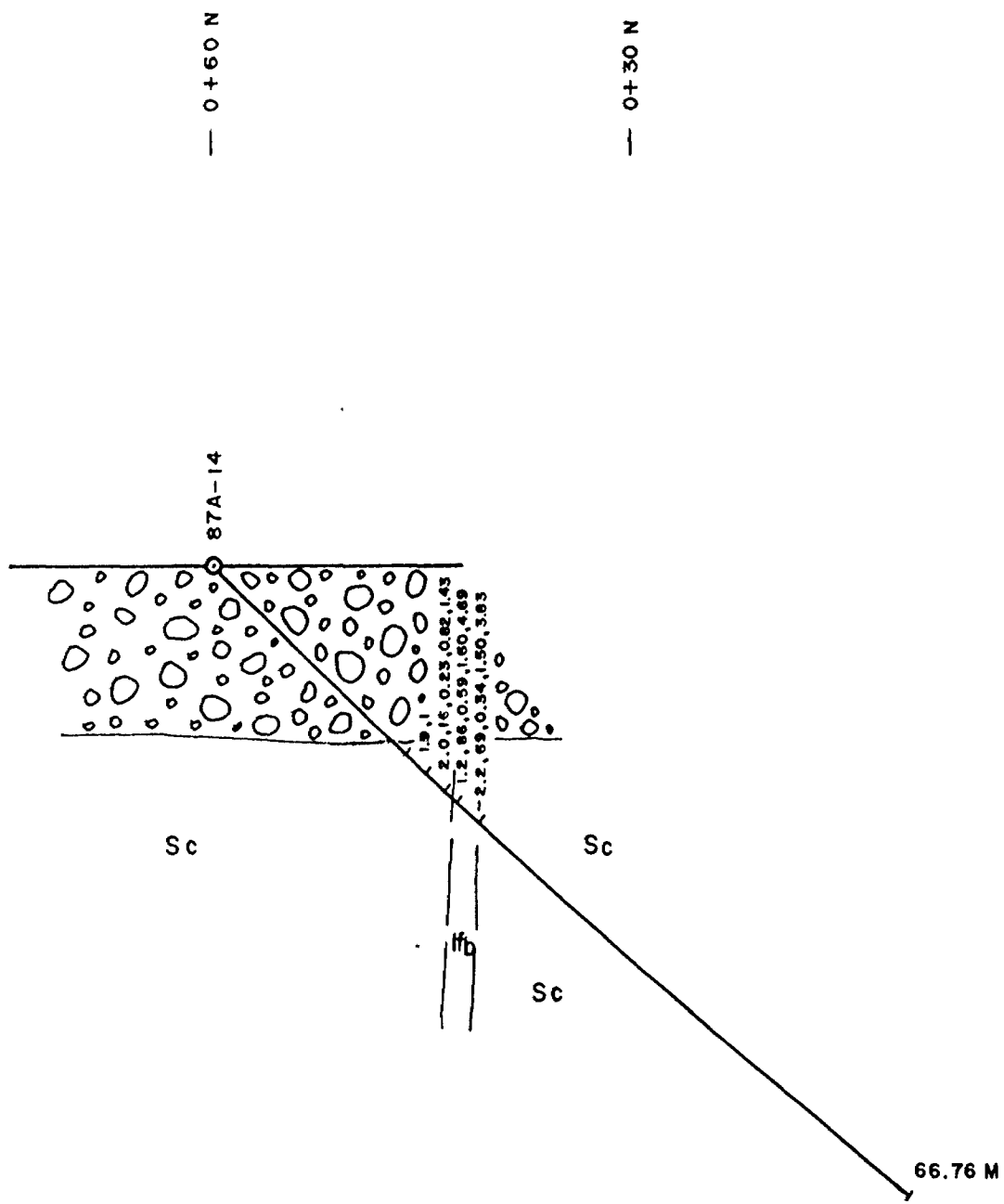
LOOKING 092° Az.

ARSENO LAKE PROPERTY

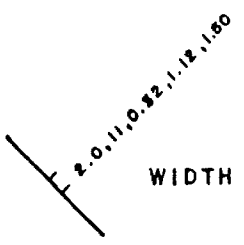


DIAMOND DRILL HOLE SECTION 20+50 E





L E G E N D

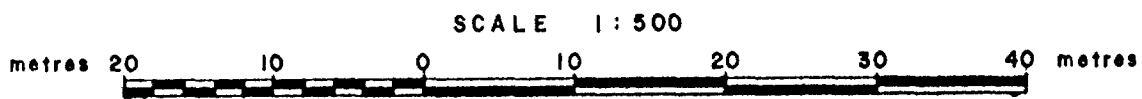


WIDTH IN METRES, PPB Au, % Pb, % Zn, oz/ton Ag

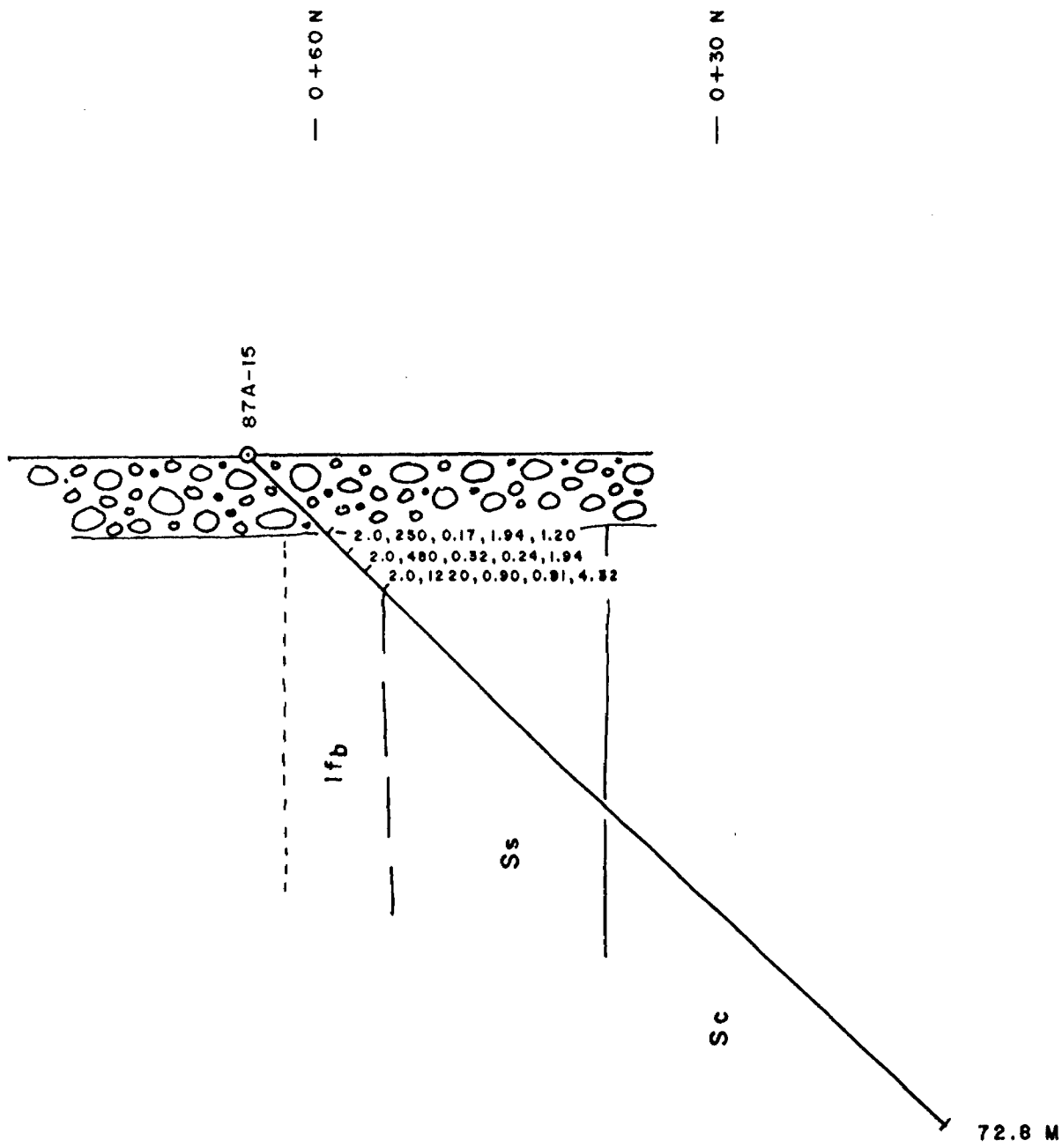
- If_a** IRON FORMATION / METACHERT > 20% SULPHIDES
- If_b** IRON FORMATION / METACHERT < 20% SULPHIDES
- B** BASALT
- Sc** CHLORITE ± BIOTITE SCHIST
- Ss** SERECITE ± BIOTITE SCHIST
- Sb** BIOTITE SCHIST
- Sc_a** CORDIERITE - AUGEN SCHIST
- Sc_m** CHROMIUM MICA SCHIST

LOOKING 092° Az.

ARSENO LAKE PROPERTY



DIAMOND DRILL HOLE SECTION 23+00 E



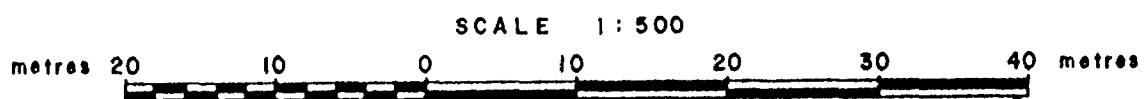
LEGEND

2.0, 11, 0.32, 1.12, 1.20
 WIDTH IN METRES, PPB Au, % Pb, % Zn, oz/ton Ag

- lfa** IRON FORMATION / METACHERT > 20% SULPHIDES
- lfb** IRON FORMATION / METACHERT < 20% SULPHIDES
- B** BASALT
- Sc** CHLORITE ± BIOTITE SCHIST
- Ss** SERICITE ± BIOTITE SCHIST
- Sb** BIOTITE SCHIST
- Sco** CORDIERITE - AUGEN SCHIST
- Scm** CHROMIUM MICA SCHIST

LOOKING 092° Az.

ARSENO LAKE PROPERTY

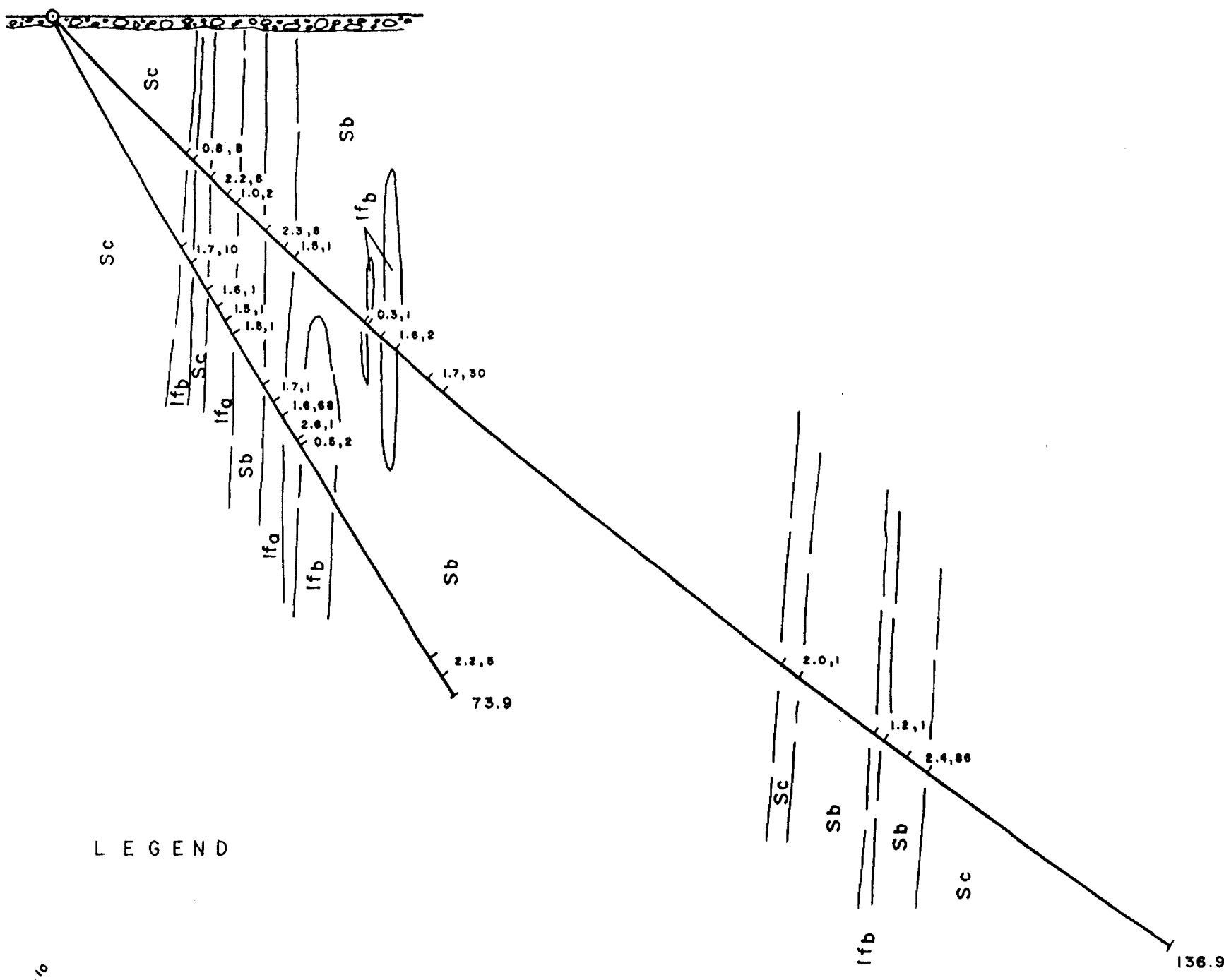


DIAMOND DRILL HOLE SECTION 25+00 E

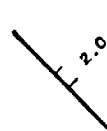








87A-17
87A-16
— 0+50 N

— 0+00

— 0+50S

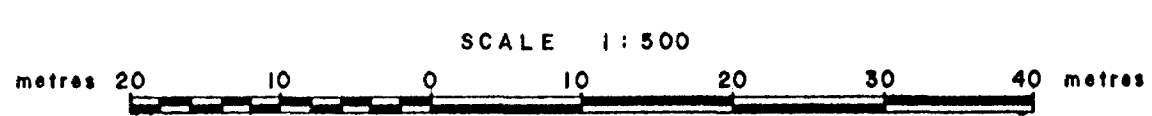


LEGEND

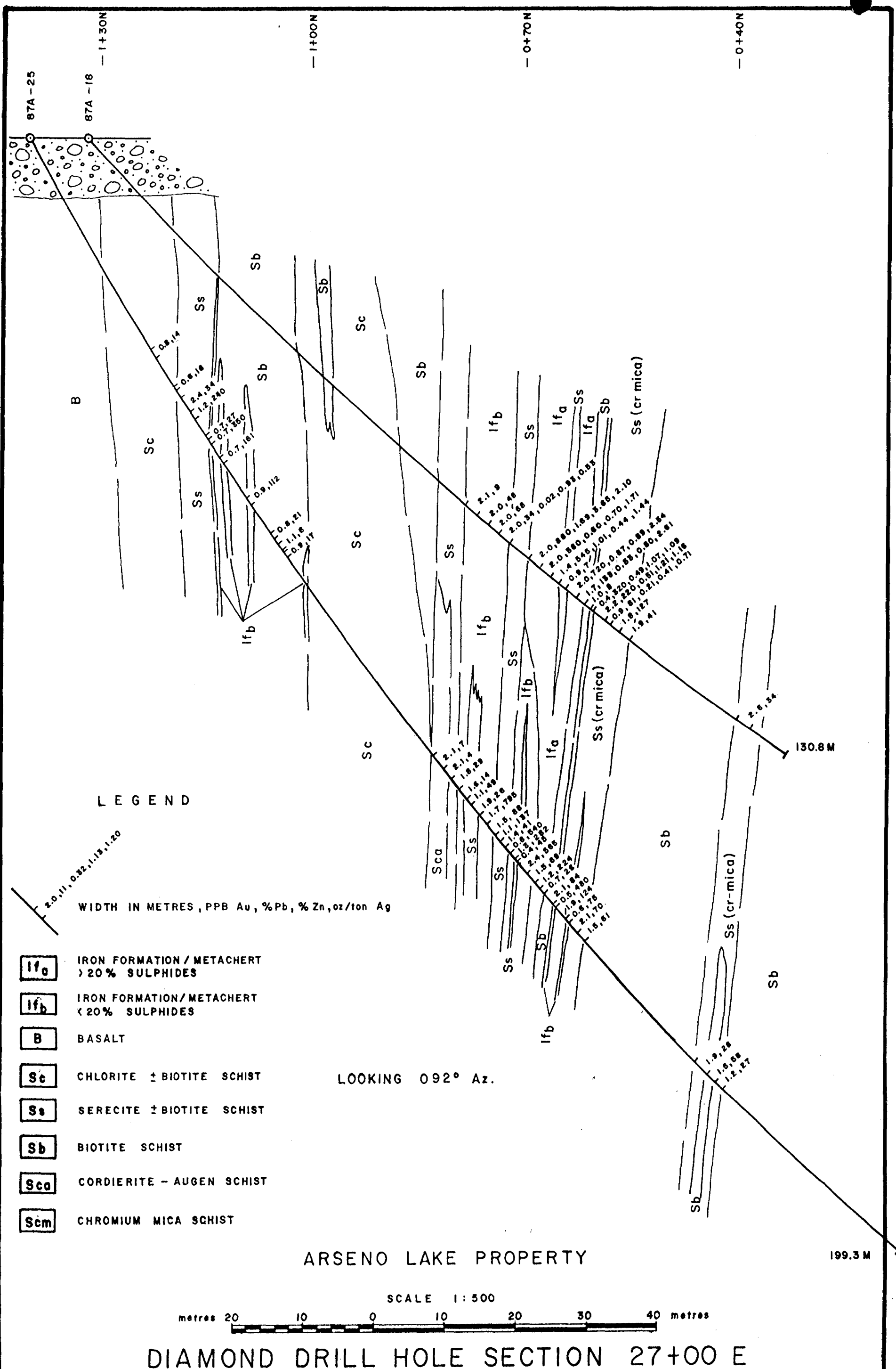
-  WIDTH IN METRES, PPB Au
-  IRON FORMATION / METACHERT > 20% SULPHIDES
-  IRON FORMATION / METACHERT < 20% SULPHIDES
-  BASALT
-  CHLORITE ± BIOTITE SCHIST
-  SERECITE ± BIOTITE SCHIST
-  BIOTITE SCHIST
-  CORDIERITE - AUGEN SCHIST
-  CHROMIUM MICA SCHIST

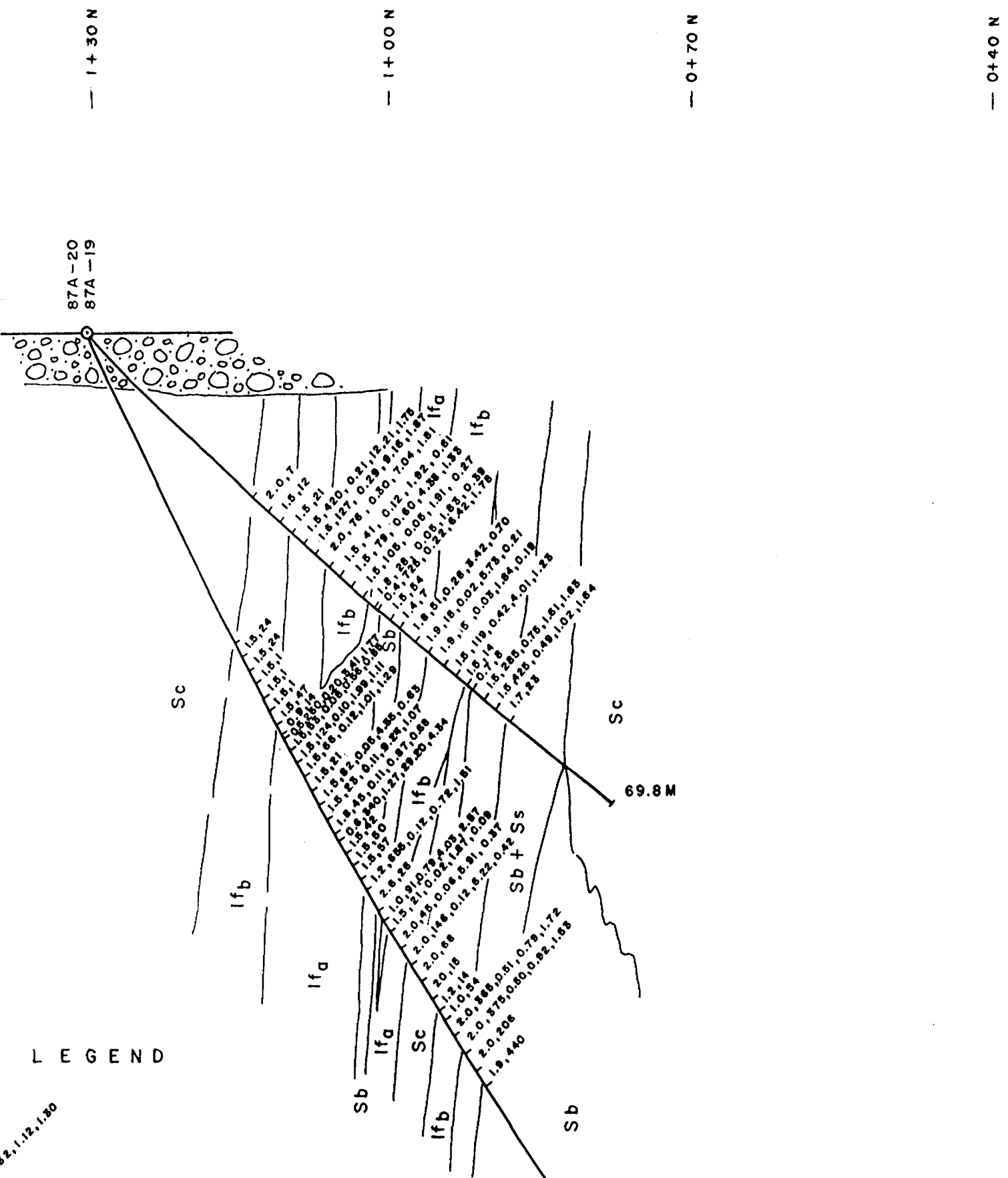
LOOKING 092° Az.

ARSENO LAKE PROPERTY



DIAMOND DRILL HOLE SECTION 58+10 E





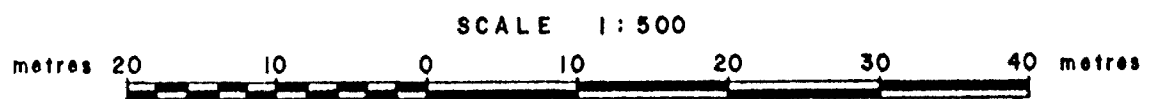
LEGEND

- Ifa IRON FORMATION / METACHERT > 20% SULPHIDES
- Ifb IRON FORMATION / METACHERT < 20% SULPHIDES
- B BASALT
- Sc CHLORITE ± BIOTITE SCHIST
- Ss SERECITE ± BIOTITE SCHIST
- Sb BIOTITE SCHIST
- Sca CORDIERITE - AUGEN SCHIST
- Scm CHROMIUM MICA SCHIST

WIDTH IN METRES, PPB Au, % Pb, % Zn, oz/ton Ag

LOOKING 092° Az.

ARSENO LAKE PROPERTY



DIAMOND DRILL HOLE SECTION 29+00 E

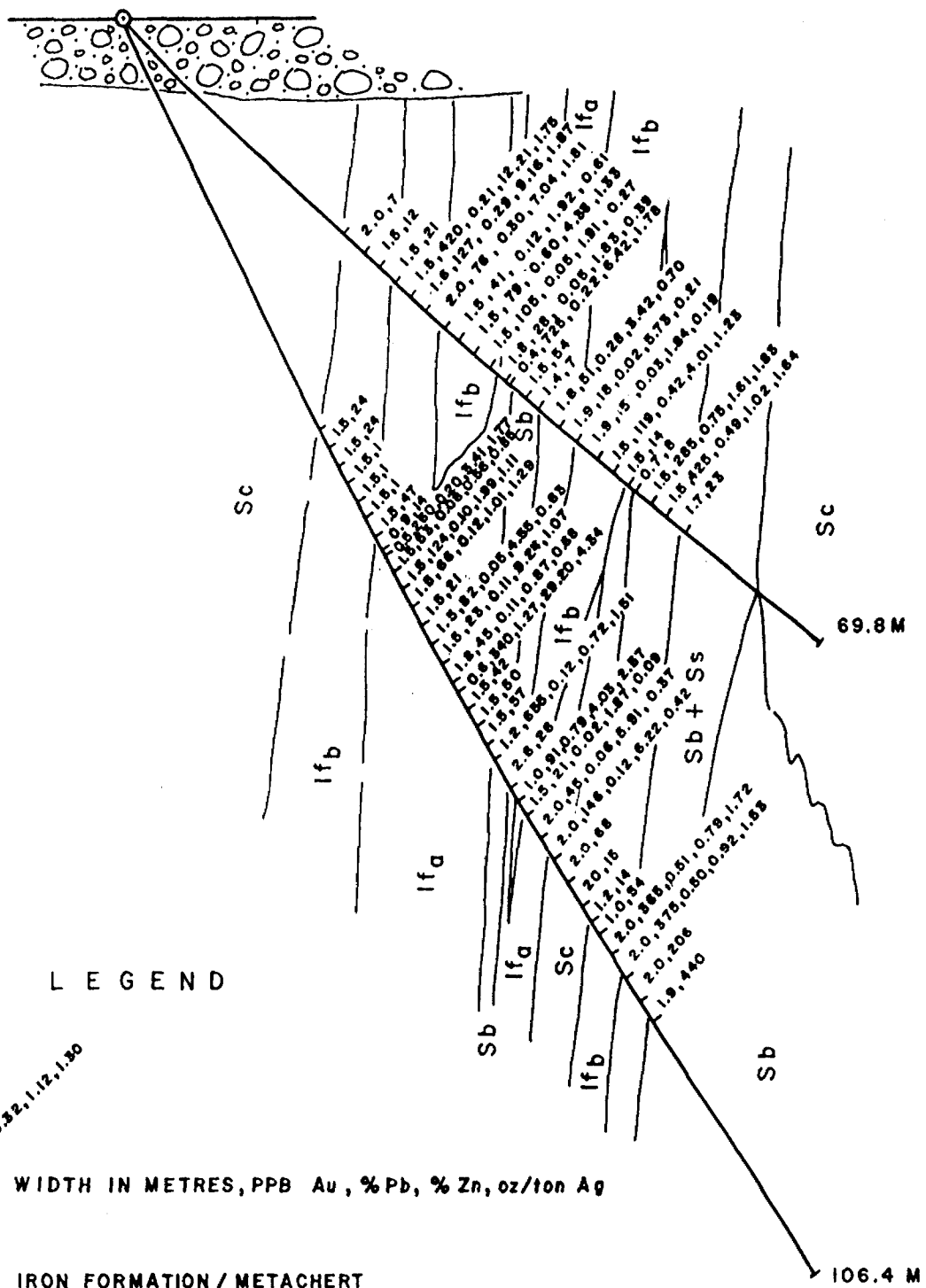
1+30 N

1+00 N

0+70 N

0+40 N

87A-20
87A-19

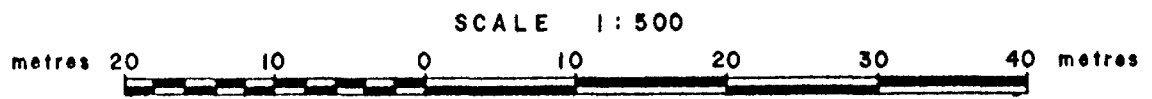


LEGEND

- 2.0, 11, 0.92, 1.12, 1.30
- WIDTH IN METRES, PPB Au, % Pb, % Zn, oz/ton Ag
- lfa** IRON FORMATION / METACHERT > 20% SULPHIDES
- lfb** IRON FORMATION / METACHERT < 20% SULPHIDES
- B** BASALT
- Sc** CHLORITE ± BIOTITE SCHIST
- Ss** SERICITE ± BIOTITE SCHIST
- Sb** BIOTITE SCHIST
- Scs** CORDIERITE - AUGEN SCHIST
- Scm** CHROMIUM MICA SCHIST

LOOKING 092° Az.

ARSENO LAKE PROPERTY



DIAMOND DRILL HOLE SECTION 29+00 E

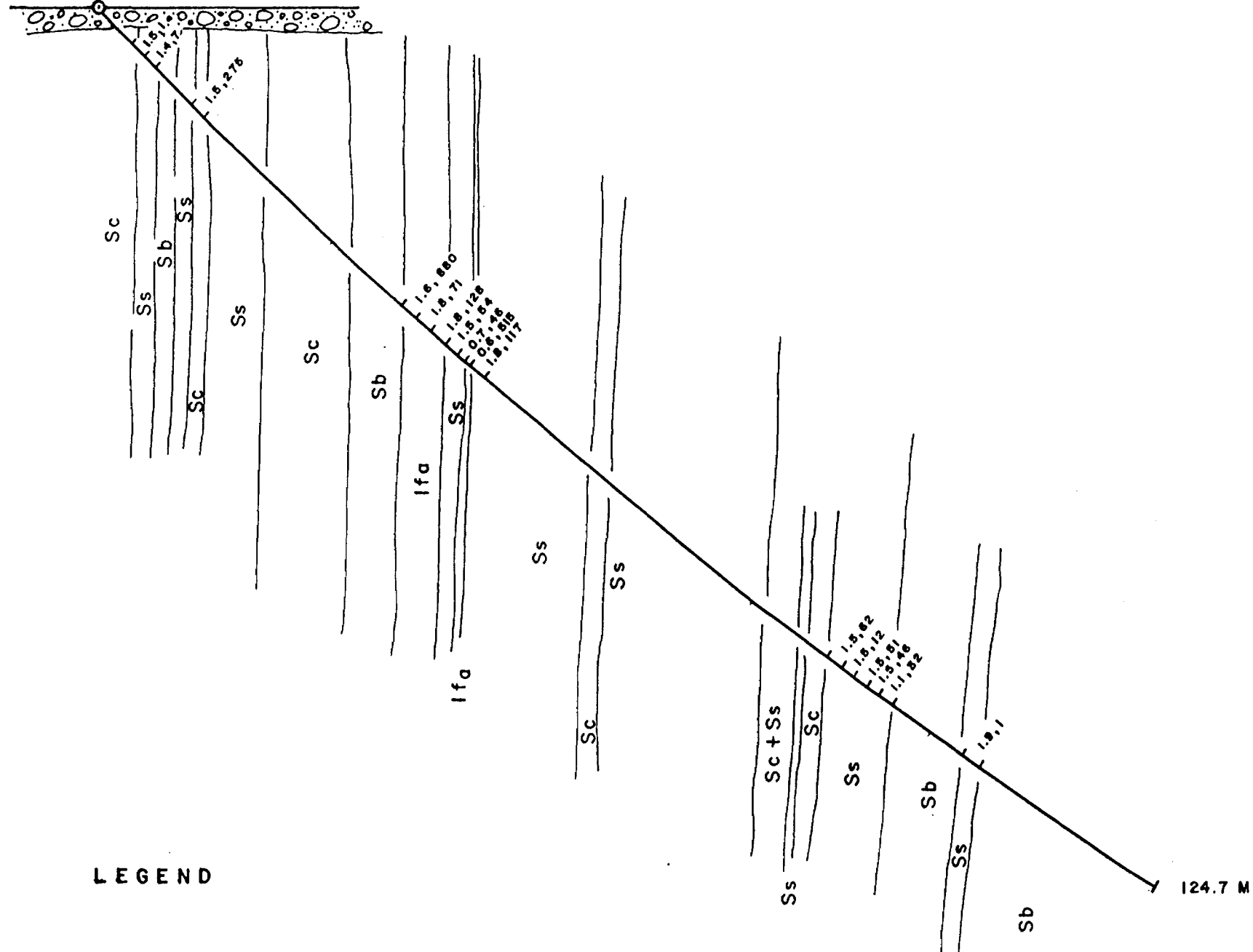
1+30 N

1+00 N




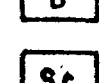
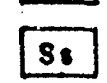

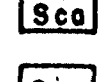


0+70 N

0+40 N

87A-22

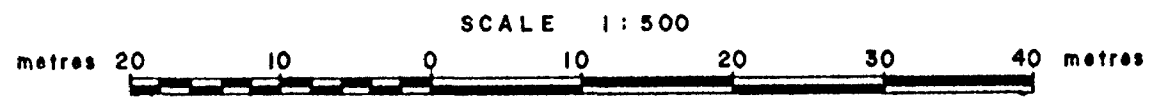


LEGEND

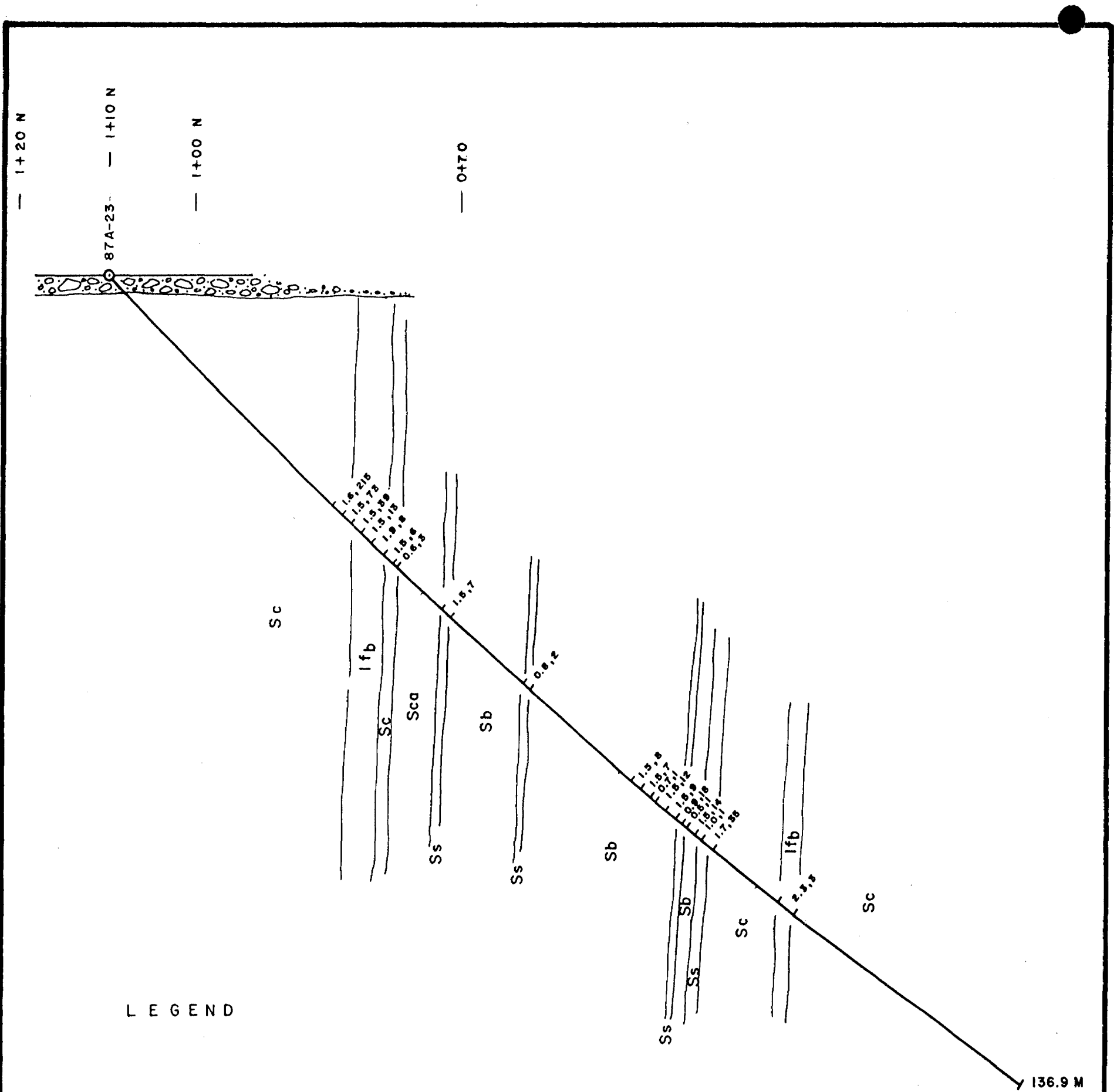
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-  IRON FORMATION / METACHERT > 20% SULPHIDES
-  IRON FORMATION / METACHERT < 20% SULPHIDES
-  BASALT
-  CHLORITE ± BIOTITE SCHIST
-  SERECITE ± BIOTITE SCHIST
-  BIOTITE SCHIST
-  CORDIERITE - AUGEN SCHIST
-  CHROMIUM MICA SCHIST

LOOKING 092° Az.










ARSENO LAKE PROPERTY



DIAMOND DRILL HOLE SECTION 35+03 E

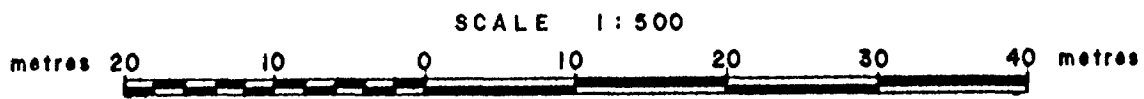


LEGEND

-  WIDTH IN METRES, PPB Au
-  IRON FORMATION / METACHERT > 20% SULPHIDES
-  IRON FORMATION / METACHERT < 20% SULPHIDES
-  BASALT
-  CHLORITE ± BIOTITE SCHIST
-  SERECITE ± BIOTITE SCHIST
-  BIOTITE SCHIST
-  CORDIERITE - AUGEN SCHIST
-  CHROMIUM MICA SCHIST

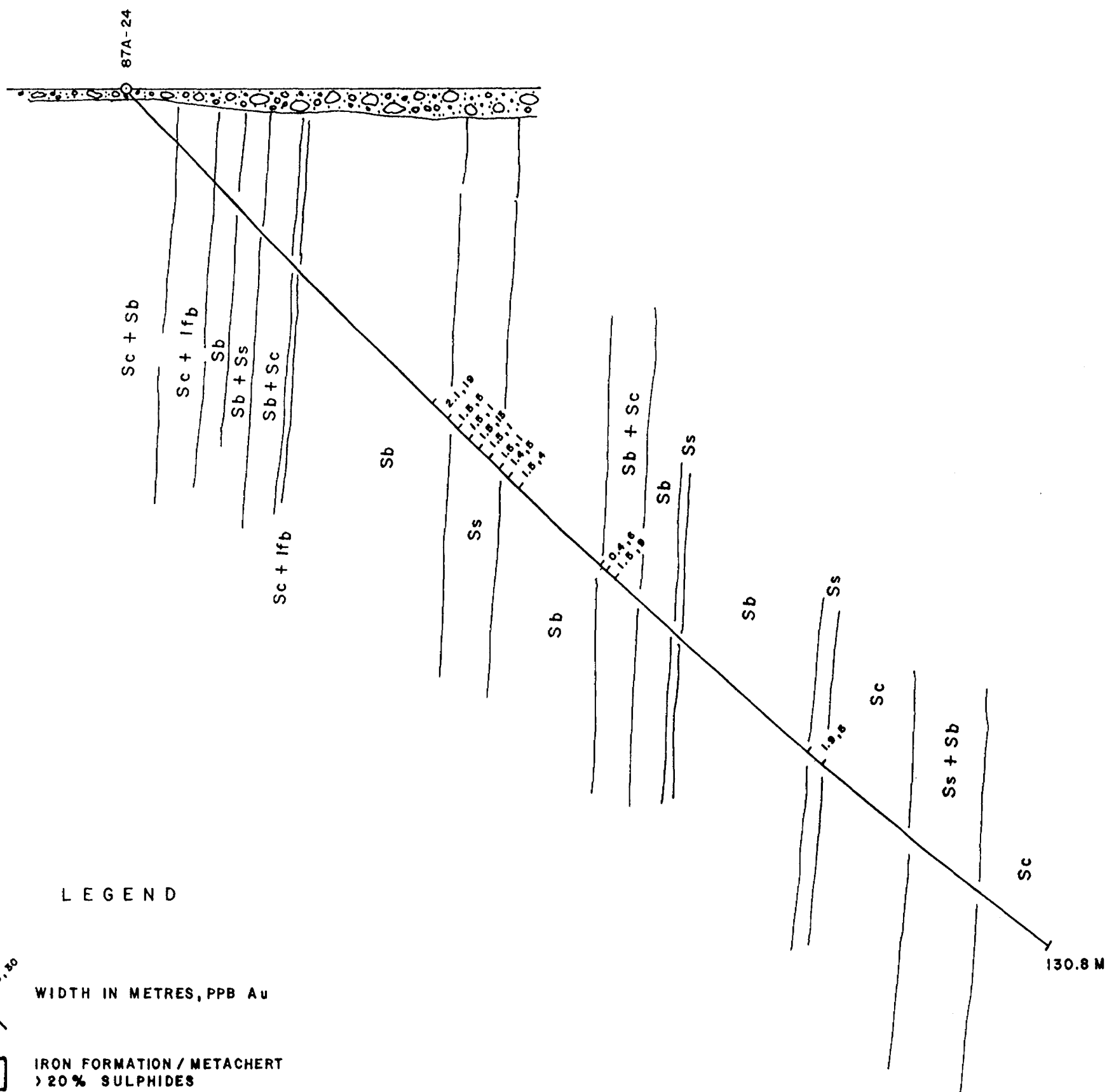
LOOKING 092° Az.

ARSENO LAKE PROPERTY



DIAMOND DRILL HOLE SECTION 43+50 E

— 1+00 N
 — 0+90 N
 — 0+80 N
 — 0+50 N

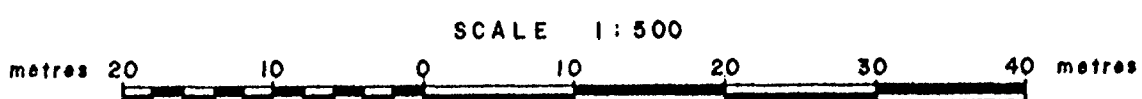


LEGEND

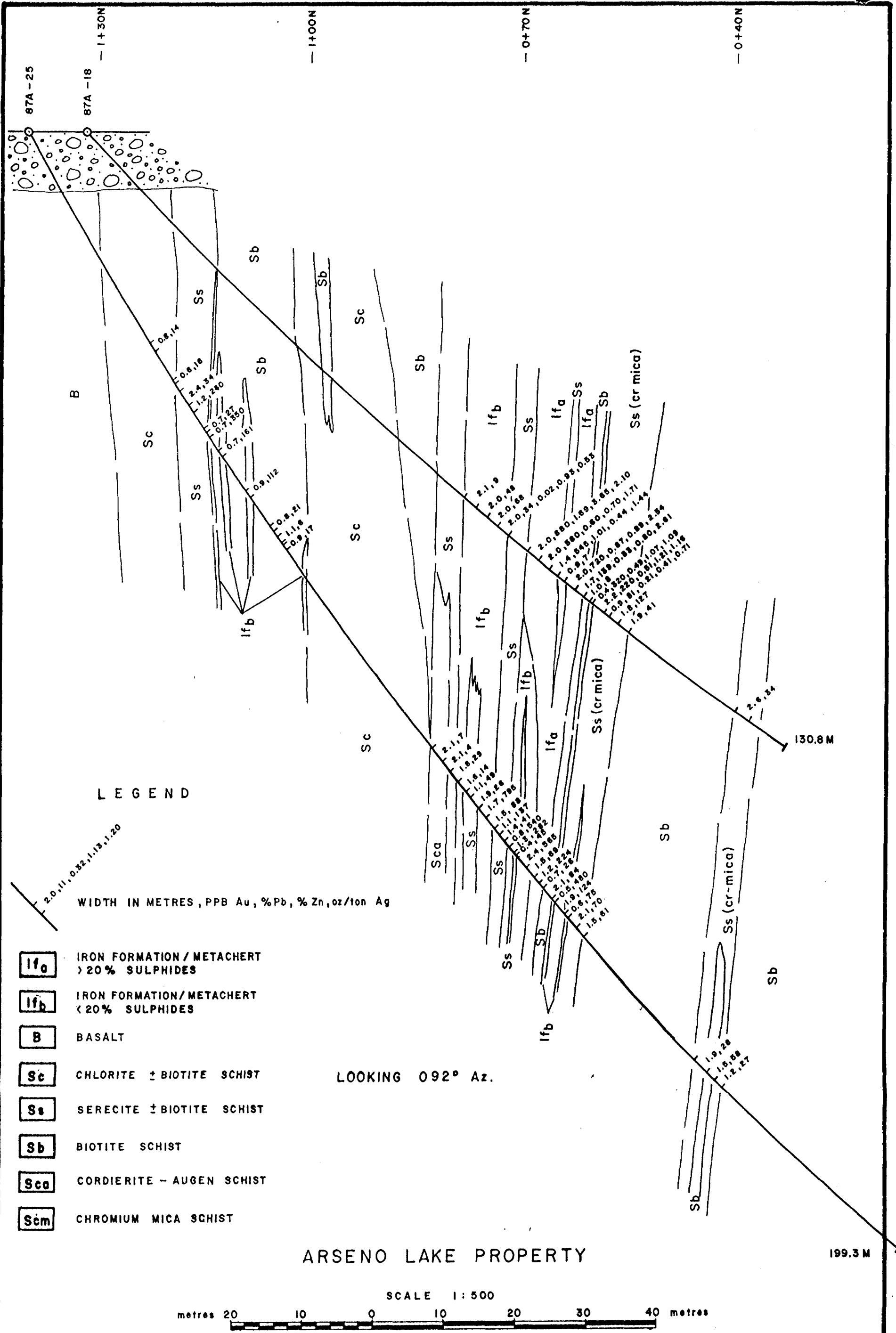
- WIDTH IN METRES, PPB Au
- IRON FORMATION / METACHERT > 20% SULPHIDES
- IRON FORMATION / METACHERT < 20% SULPHIDES
- BASALT
- CHLORITE ± BIOTITE SCHIST
- SERICITE ± BIOTITE SCHIST
- BIOTITE SCHIST
- CORDIERITE - AUGEN SCHIST
- CHROMIUM MICA SCHIST

LOOKING 092° Az.

ARSENO LAKE PROPERTY



DIAMOND DRILL HOLE SECTION 49+00 E





#63.5111

OM 87-2-JV-073

THIS SUBMITTAL CONSISTED OF VARIOUS REPORTS, SOME OF WHICH HAVE BEEN CULLED FROM THIS FILE. THE CULLED MATERIAL HAD BEEN PREVIOUSLY SUBMITTED UNDER THE FOLLOWING RECORD SERIES (THE DOCUMENTS CAN BE VIEWED IN THESE SERIES):

(1) Castor Lk. Property, 1987 → see Toronto file
Assessment Report # 2.10629
by: D.C. Elsby R.O.W # W8803.027
B.A. Youngman
G. Gorzynski

(2) Arseno Lk. Property → see Toronto file
1986-1987 Assessment # 2.11041
Report R.O.W # W8603.105
by: D. Elsby Mar/88 # W8803.106

63. 5111

OM 87-2 - JV-073

Please Note:

Similar diamond drilling logs to the ones contained in this report can be found in the following series:

hole # A-87-12 see Toronto file # 14 diamond
drilling for Keeyask Lake
R.O.W # 87-186

holes # A-87-13 see Toronto file # 17 diamond
 to
 A-87-25 drilling for Keeyask Lake
R.O.W # W 8803.086

These logs were not culled out to preserve continuity in the file.