

NEWMONT EXPLORATION OF CANADA LIMITED  
VANCOUVER, B.C.  
MEMORANDUM

DATE: January 30, 1985

TO: T. N. Macauley  
FROM: G. D. Delane  
SUBJECT: Shasta Reserve Estimate

We recently calculated a reserve of the precious metal content of the mineralization in the Creek Zone of the Shasta property using cut-off grades of .02, .05 and .10 ounces per ton (opt) gold equivalent. The calculated drill-indicated geological reserves for the Creek Zone are summarized as follows:

Based on A Cut-Off Grade in OPT Au Equivalent	Tonnes	Grade in OPT Au Equivalent
(I) ...02	2,374,000	.079
(II) ...05	703,000	.145
(III) .10	517,000	.172

For the purpose of these reserve estimates, assays from 15 diamond drill holes and a surface trench were considered in the identification of the reserve blocks. The reserve blocks were based on three cut-off grades, .02, .05 and .10 opt gold equivalent, and were plotted on sections and plans. The blocks form a reasonably continuous body indicated by the red line on the plans. They were given simple geometric shapes, shown in black on the plans and sections, for the purpose of tonnage calculations.

To simplify the computations of the precious metal content of the reserve blocks, the silver values were converted to gold equivalent values by multiplying them by the factor .0213, which was derived from the ratio of the U.S. price per ounce of Ag on Nov. 8 1984 to the U.S. price per ounce of Au on Nov. 8 1984.

i.e.  $\frac{\$ 7.46}{\$349.70} = .0213$

A tonnage factor of 2.70 tonnes per cubic metre of rock was used, based on the approximate specific gravity of a granite. No dilution factor was taken into consideration in this estimate.

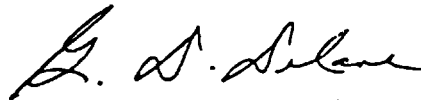
The rectangular or polygonal methods of a reserve calculation were employed and it was assumed that, in most cases, the grade of the mineralization in a drill hole would extend halfway to any adjacent drill hole.

The most important is the Creek Zone, now joined with the former Jock Zone. A preliminary estimate of drill-indicated geologic reserves, calculated manually on sections to a cutoff of 0.02 oz/ton Au equivalent, is 2,374,000 tonnes at a grade of 0.079 oz Au eg. Inspection of assays suggest 35 to 55% of the value to be in silver; the remainder in gold. With the exception of one isolated block of 171,000 tonnes, this reserve lies in a single deposit 380 m long, 25 to 80 m wide, extending from surface to depths of 60 to 125 m. Within the deposit, measured blocks have a minimum thickness of 8 m (26') and maximum of 35.7 (117'). (refer to Drill Hole Plans and Sections). No tonnage was assigned to a number of 1 to 6 m intercepts of less than 0.10 grade. Most drill hole information suggests a westerly dip of 70° to the blocks. All drill holes are inclined across the zone; their spacing ranges from 30 to 85 m and averages 50 m. Area of influence around drill holes laterally and vertically is generally less than 30 m from the drill hole, except near the north end where one section has not been drilled.

For a grade cut-off of .05 opt gold equivalent, 703,000 tonnes averaging .145 opt Au equivalent is indicated from 21 reserve blocks. With the drilling completed to date, the all-over length of the mineralized zone is indicated to be about 350 m and the width a maximum of about 50 m. The zone has been tested to a depth of about 90 m below surface at specific locations and its maximum thickness is indicated to be about 29 m (refer to Drill Hole Plans & Sections). This reserve also includes a block containing 38,000 tonnes (refer DDH 84-8) which may represent a parallel zone or a splay located immediately east of the main portion of the Creek Zone.

Approximately 517,000 tonnes grading .172 opt Au equivalent at a cut-off of .10 opt Au equivalent is indicated in 20 reserve blocks. This mineralized zone is indicated to be fairly continuous for a length of 220 m but its continuity could be extended to about 320 m by fill-in drilling between widely-spaced (89 m) sections through drill holes 84-18 and 84-1 (see drill hole plan). At present, the mineralization in this reserve is believed to extend to a depth of about 90 m below surface. For this reserve calculation, the area of influence surrounding a drill hole varied from 15 m to 15.0 m horizontally and to a maximum of 25.0 m in vertical plane. However, for this grade cut-off, the areas of influence of some of the drill hole intercepts used in this reserve estimate were intentionally reduced when it became apparent that the continuity of grade of some intercepts were diffuse and would not permit an extrapolation halfway to adjacent holes with a high degree of confidence (refer to Drill Hole Sections and Plans). Maximum thickness of the mineralized zone at this cut-off is indicated to be about 22 m. One reserve block, 500-3 which was estimated to contain 102,600 tonnes, is included in this estimate and may represent a parallel zone or a splay from the Creek Zone.

To obtain a more reliable and precise reserve estimate of the Creek Zone it will be necessary to do more drilling and trench sampling in order to confirm the continuity of grade along the extensions (particularly to the north) and also down dip.



---

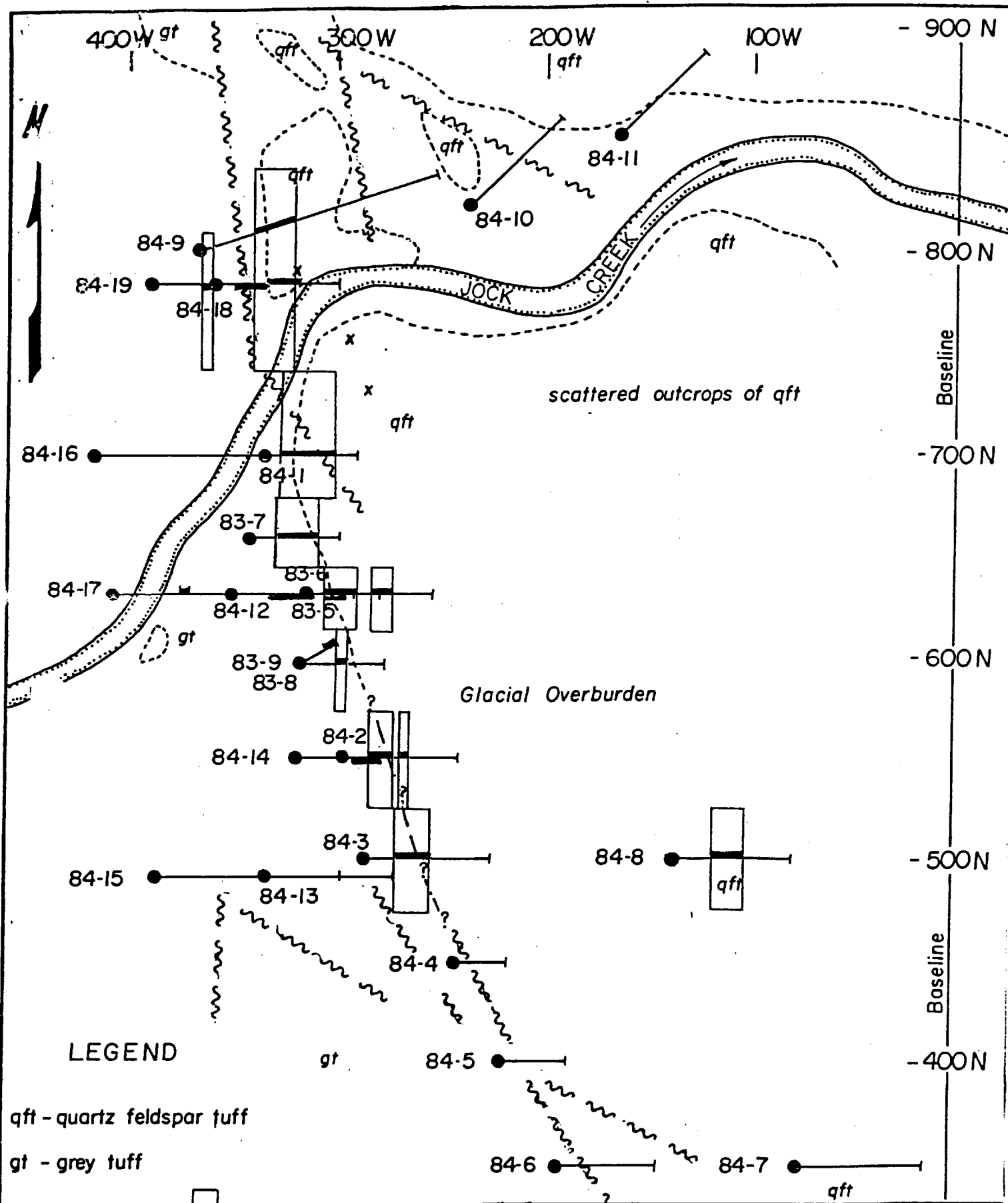
G. D. Delane

GDD:ljm

SHASTA PRELIMINARY RESERVE ESTIMATE TO .020 Au EQUIVALENT CUTOFF

<u>Section</u>	<u>Block</u>	<u>DDH No.</u>	<u>Intercept m</u>	<u>Height m</u>	<u>Length m</u>	<u>Vol m<sup>3</sup></u>	<u>Tonnes</u>	<u>Grade oz Au equiv.</u>	<u>Grade X Tonnes</u>
500 N	500-1	84-3	26.2	45	50	58,950	159,165	.128	20,373.1
	500-2	84-8	25.3	50	50	63,250	170,775	.072	12,295.8
550 N	550-1	84-2	20.7	35	48	34,776	93,895	.060	5,633.7
	-2	84-2	7.8	20	48	7,488	20,217	.054	1,091.8
	-3	84-14	22.8	43	48	47,059	127,060	.168	21,346.1
600 N	600-1	83-8	7.9	35	41	11,336	30,609	.047	1,438.6
	-2	83-9	12.9	25	41	13,222	35,701	.168	5,997.8
640 N	640-1	83-5	22.9	30	32	21,984	59,357	.206	12,227.5
	-2	83-5	15.5	40	30	18,600	50,220	.028	1,406.2
	-3	83-6	20.7	20	30	12,420	33,534	.185	6,203.8
	-4	84-12	29.3	60	50	87,900	237,330	.064	15,189.1
	-5	84-12	8.0	30	50	12,000	32,400	.052	1,684.8
	-6	84-12	20.1	50	50	50,250	135,675	.026	3,527.6
	-7	84-17	9.0	60	50	27,000	72,900	.055	4,009.5
666 N	666-1	83-7	25.7	55	34	48,059	129,759	.080	10,380.7
700 N	700-1	84-1	35.7	55	62	121,737	328,690	.063	20,707.5
800 N	800-1	84-19	9.0	30	67	18,090	48,843	.234	11,429.3
	-2	84-9,18,19	25.0	90	100	225,000	607,500	.052	31,590.0
TOTAL							2,373,630	.079	186,532.9

TNM Nov. 17/84



**LEGEND**

qft - quartz feldspar tuff

gt - grey tuff

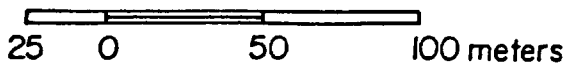
wavy fault



cut-off 0.020 oz/t Au equivalent

x new zones, 1984

**SCALE**

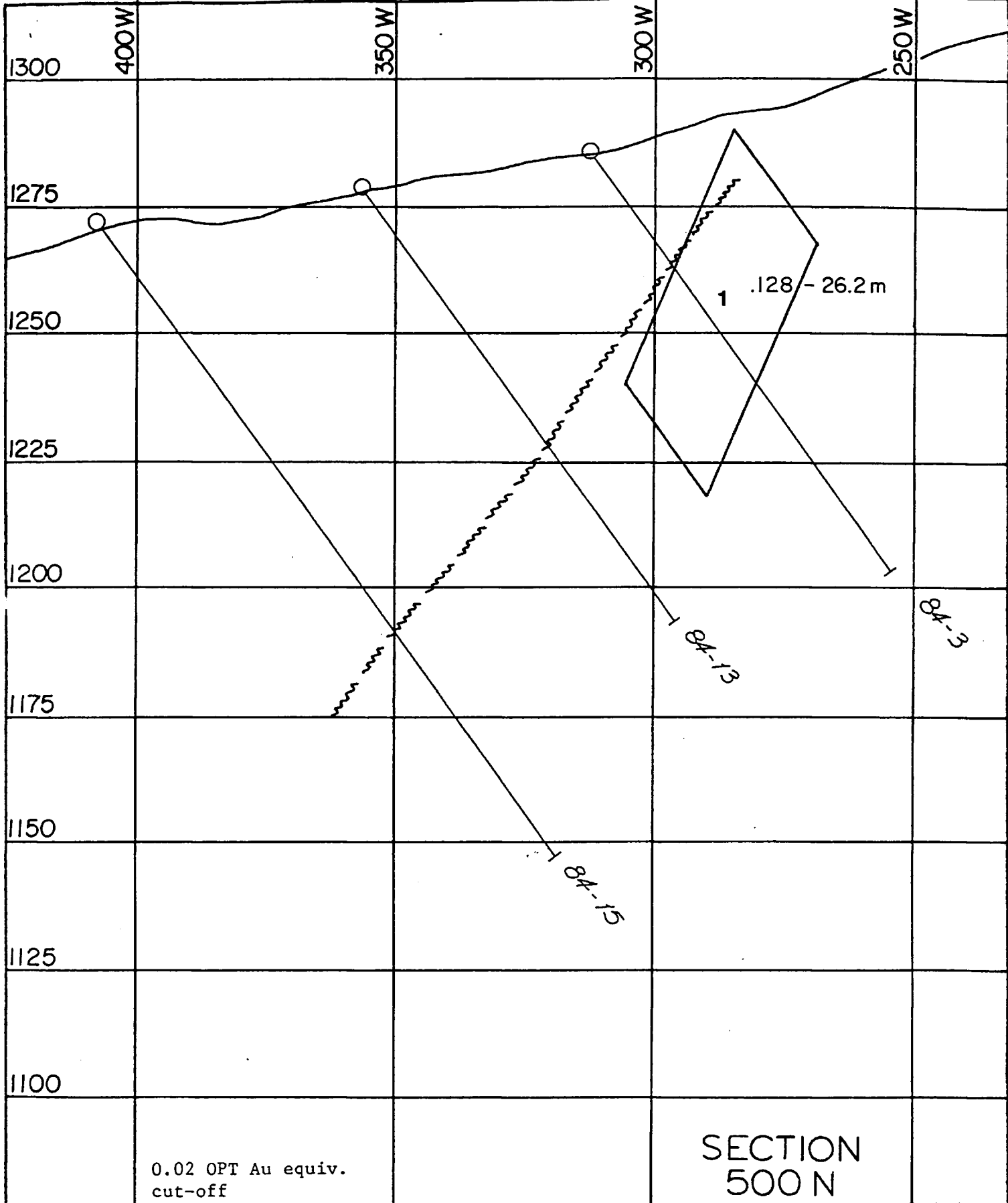


**NEWMONT EXPLORATION OF CANADA LTD.**

**SHASTA PROJECT**

**Plan map - Drill holes 1984**

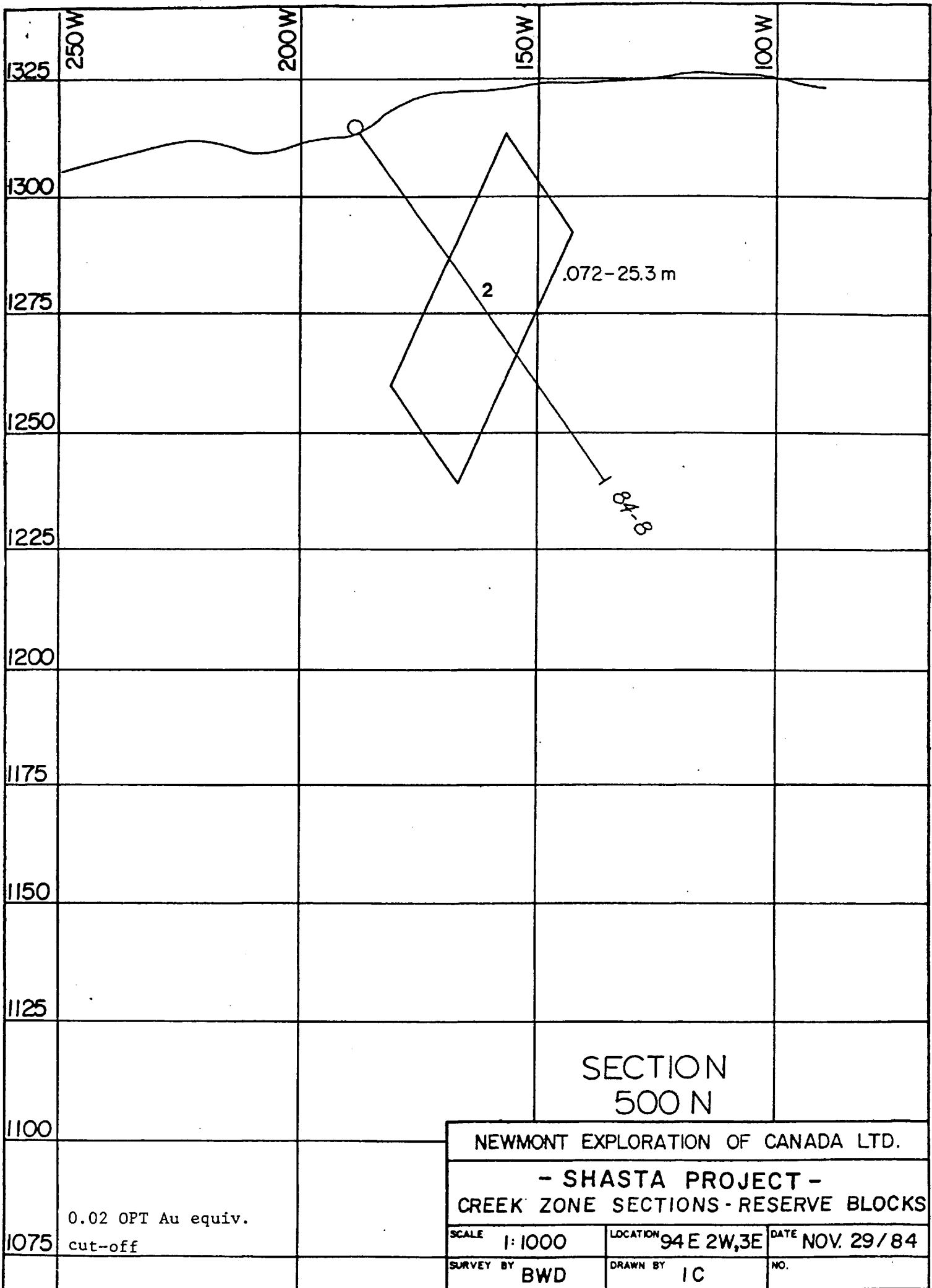
SCALE 1:2500	LOCATION NTS 94 E	DATE NOV. 26, 1984
SURVEY BY BWD	DRAWN BY I C	NO. 2



0.02 OPT Au equiv.  
cut-off

SECTION  
500 N

NEWMONT EXPLORATION OF CANADA LTD.		
- SHASTA PROJECT - CREEK ZONE SECTIONS-RESERVE BLOCKS		
SCALE	1:1000	LOCATION 94E 2W,3E
		DATE NOV. 29/84
SURVEY BY	BWD	DRAWN BY IC
		NO.



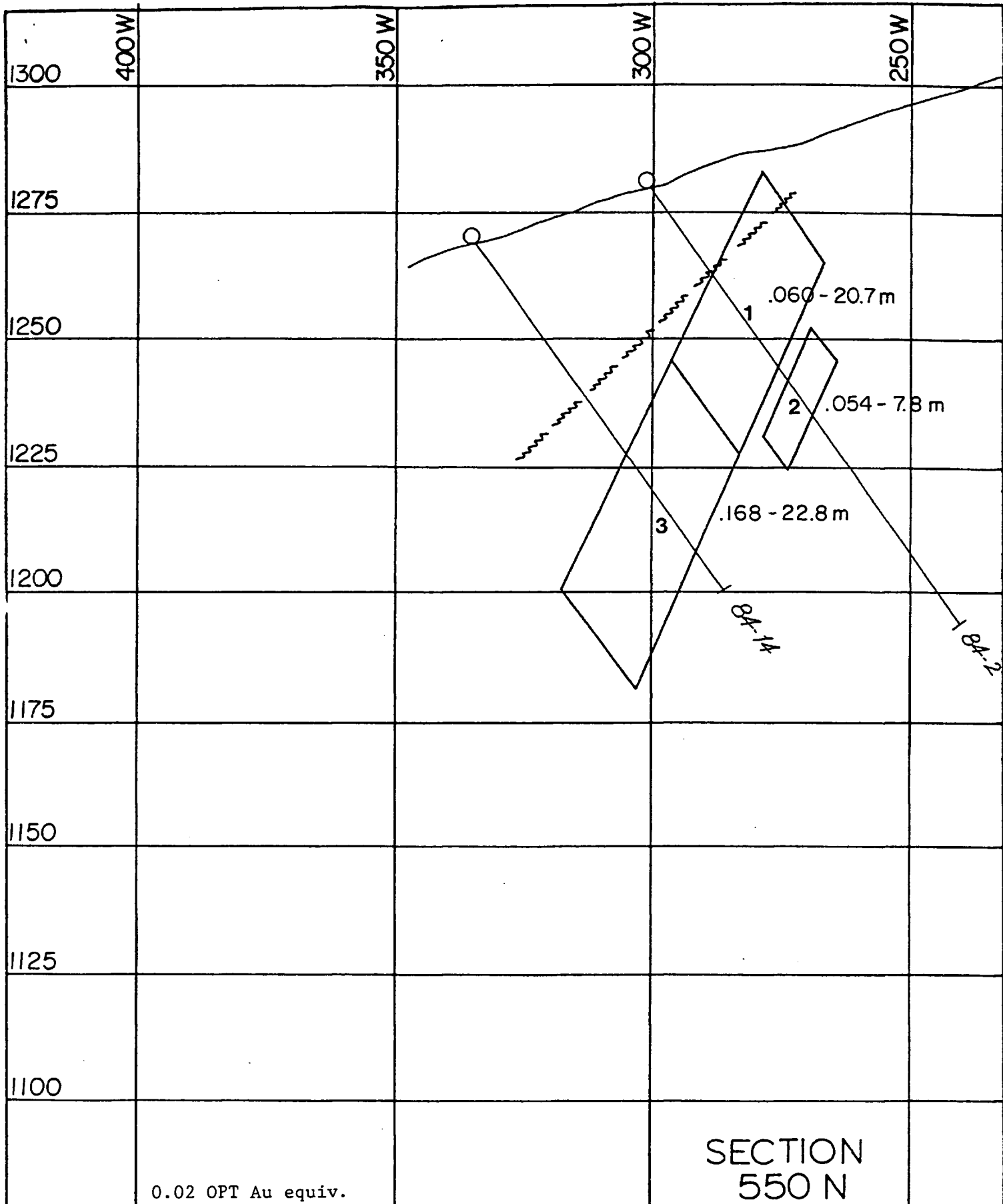
0.02 OPT Au equiv.  
cut-off

SECTION  
500 N

NEWMONT EXPLORATION OF CANADA LTD.

- SHASTA PROJECT -  
CREEK ZONE SECTIONS - RESERVE BLOCKS

SCALE	1:1000	LOCATION	94 E 2W,3E	DATE	NOV. 29/84
SURVEY BY	BWD	DRAWN BY	IC	NO.	



SECTION  
550 N

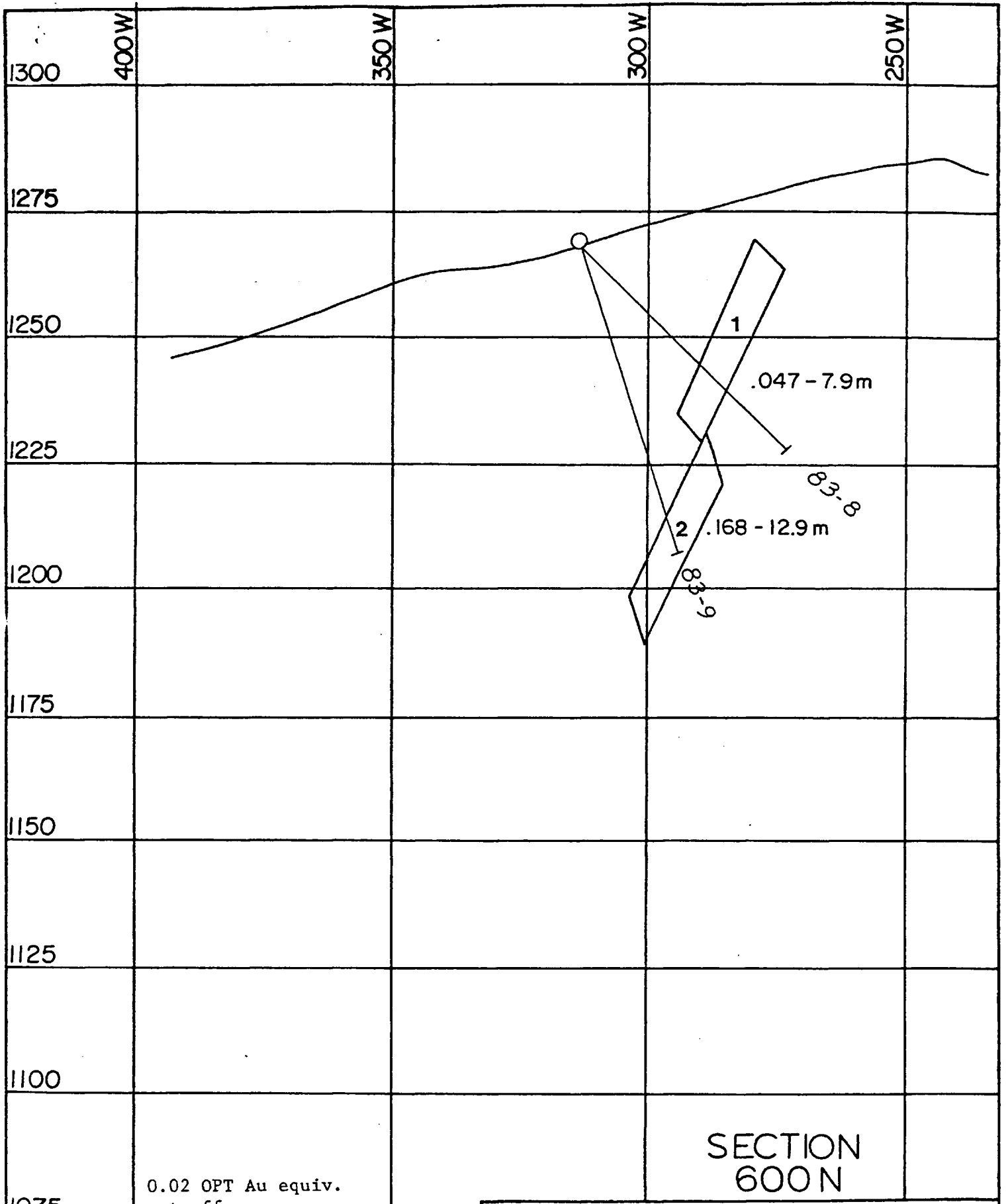
0.02 OPT Au equiv.  
cut-off

NEWMONT EXPLORATION OF CANADA LTD.		
- SHASTA PROJECT -		
CREEK ZONE SECTIONS-RESERVE BLOCKS		
SCALE	1:1000	LOCATION 94E 2W,3E
		DATE NOV. 29/84
SURVEY BY	BWD	DRAWN BY IC
		NO.

1075

1050

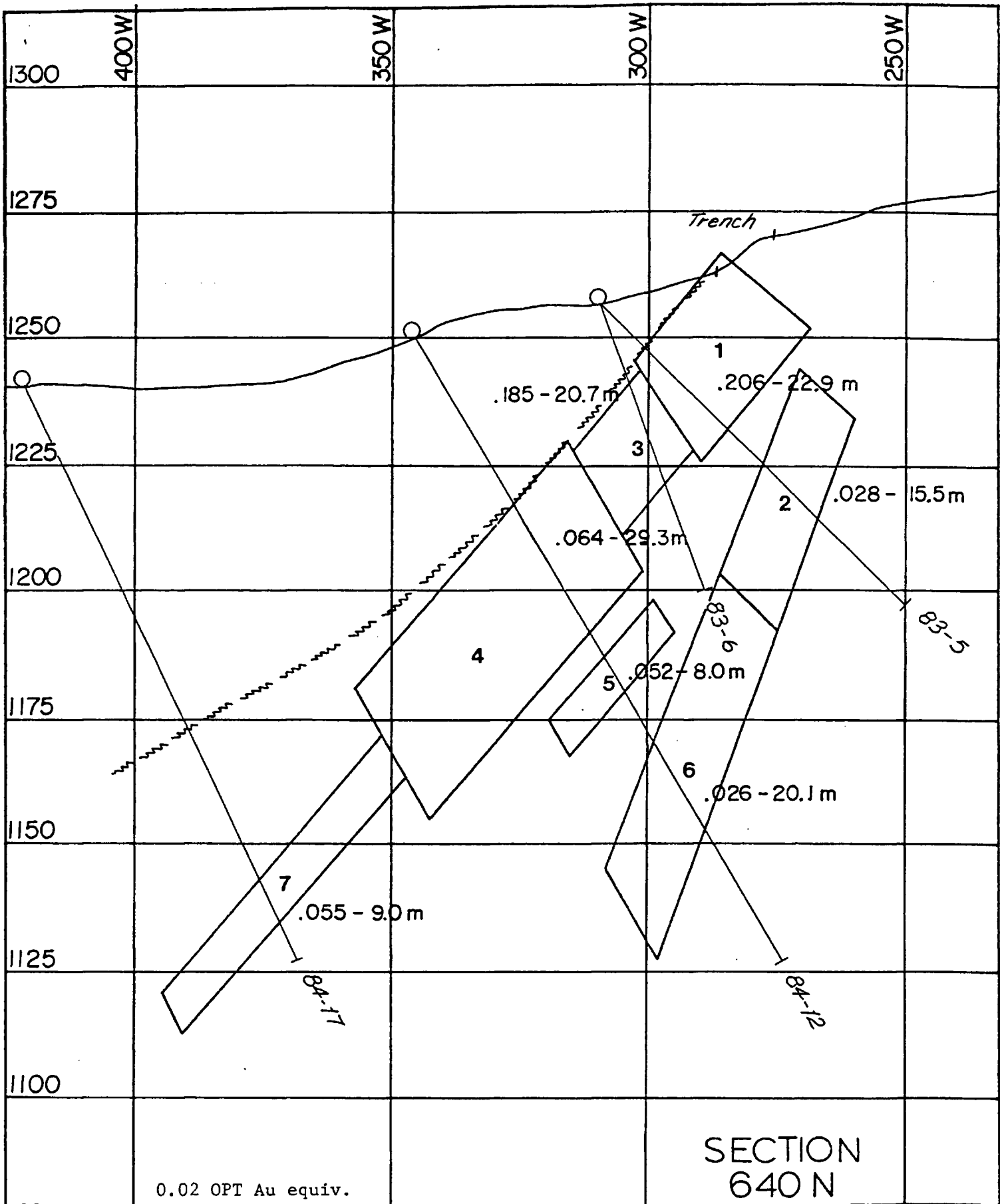




SECTION  
600 N

0.02 OPT Au equiv.  
cut-off

NEWMONT EXPLORATION OF CANADA LTD.		
- SHASTA PROJECT - CREEK ZONE SECTIONS-RESERVE BLOCKS		
SCALE	1:1000	LOCATION 94E 2W,3E
		DATE NOV. 29/84
SURVEY BY	BWD	DRAWN BY IC
		NO.



SECTION  
640 N

0.02 OPT Au equiv.  
cut-off

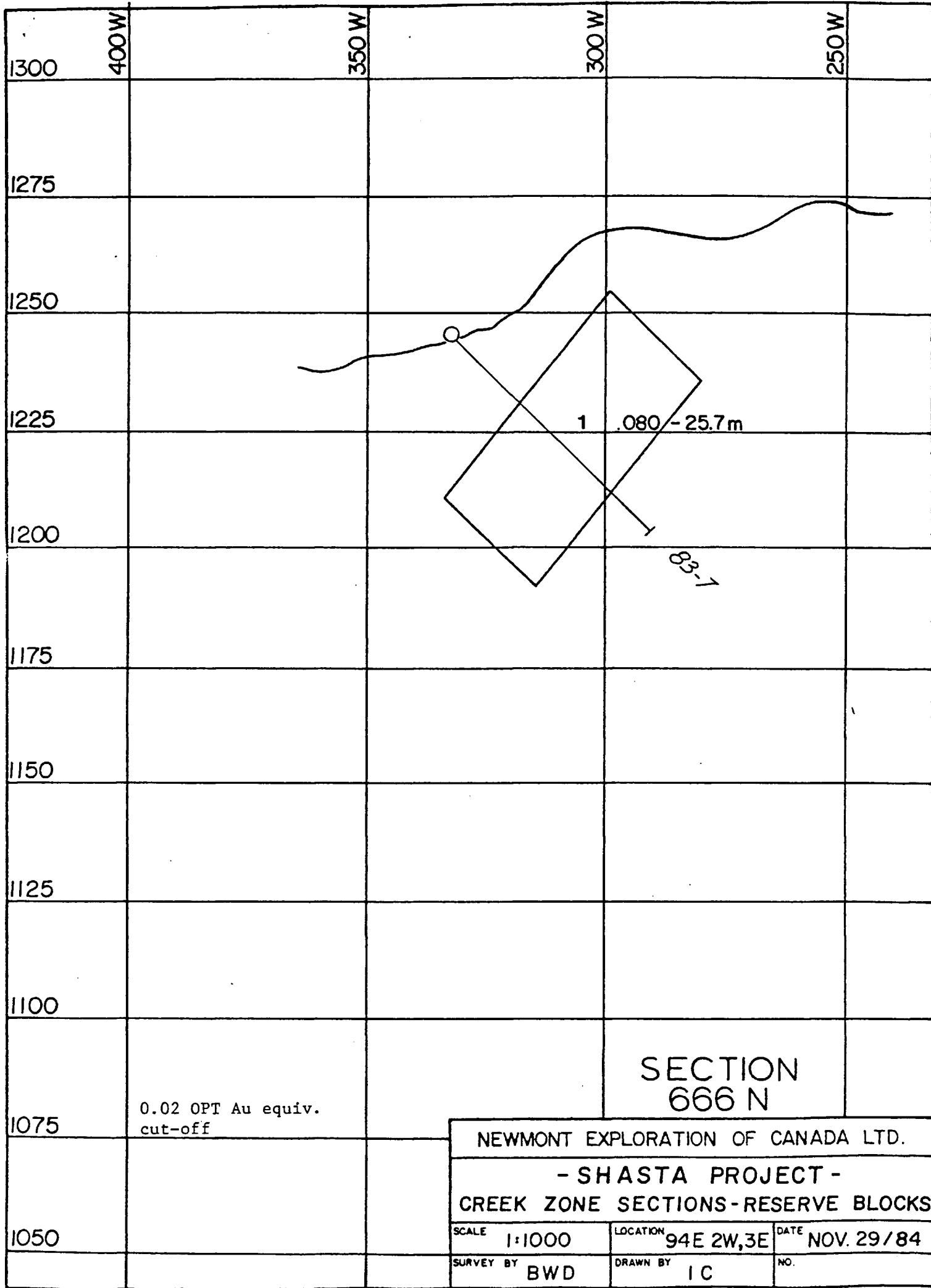
NEWMONT EXPLORATION OF CANADA LTD.

- SHASTA PROJECT -  
CREEK ZONE SECTIONS-RESERVE BLOCKS

SCALE	1:1000	LOCATION	94E 2W,3E	DATE	NOV. 29/84
SURVEY BY	BWD	DRAWN BY	IC	NO.	

1075

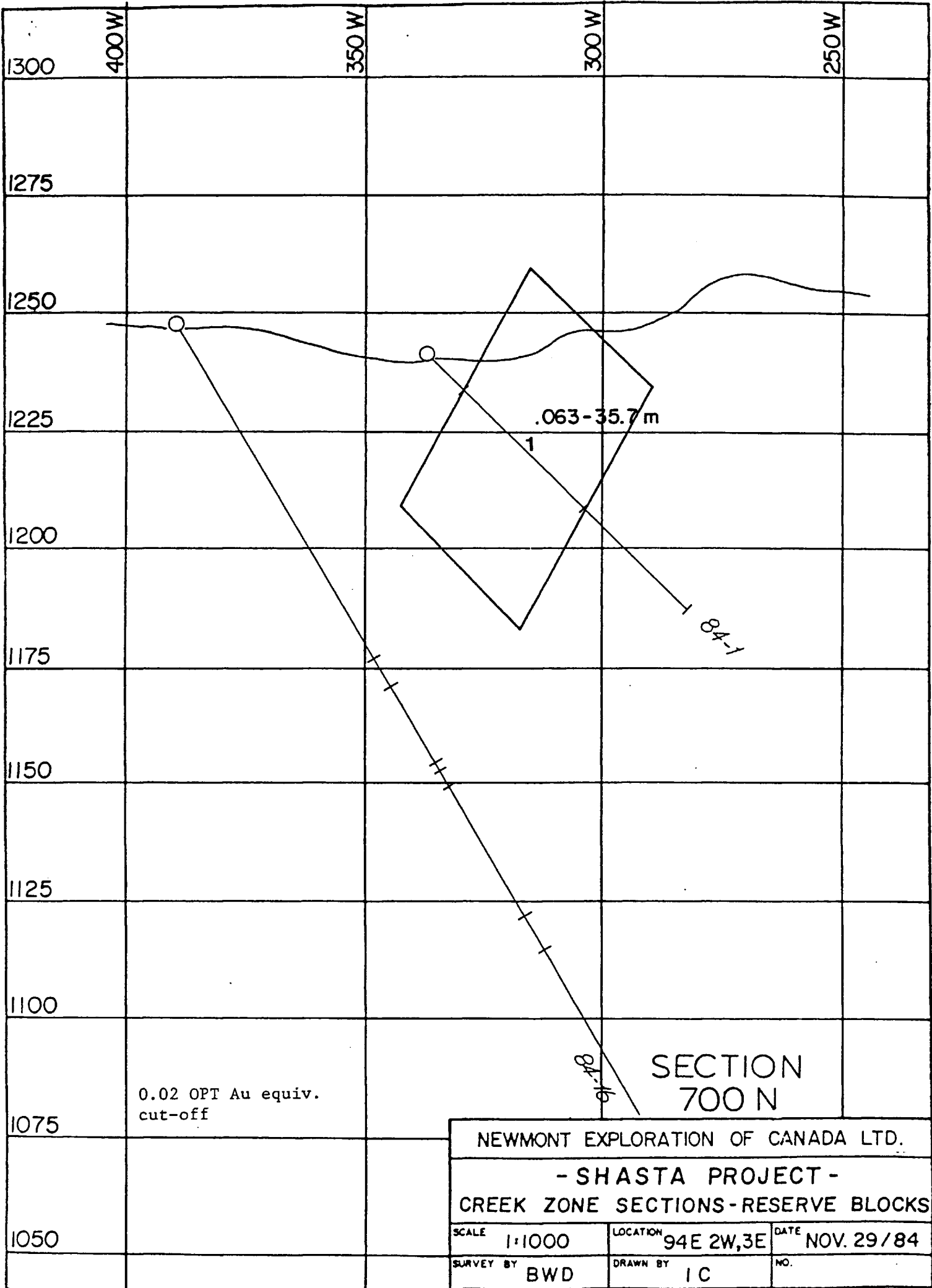
1050



0.02 OPT Au equiv.  
cut-off

SECTION  
666 N

NEWMONT EXPLORATION OF CANADA LTD.		
- SHASTA PROJECT -		
CREEK ZONE SECTIONS-RESERVE BLOCKS		
SCALE	1:1000	LOCATION 94E 2W,3E
		DATE NOV. 29/84
SURVEY BY	BWD	DRAWN BY IC
		NO.



1300  
1275  
1250  
1225  
1200  
1175  
1150  
1125  
1100  
1075  
1050

400W

350W

300W

250W

0.02 OPT Au equiv.  
cut-off

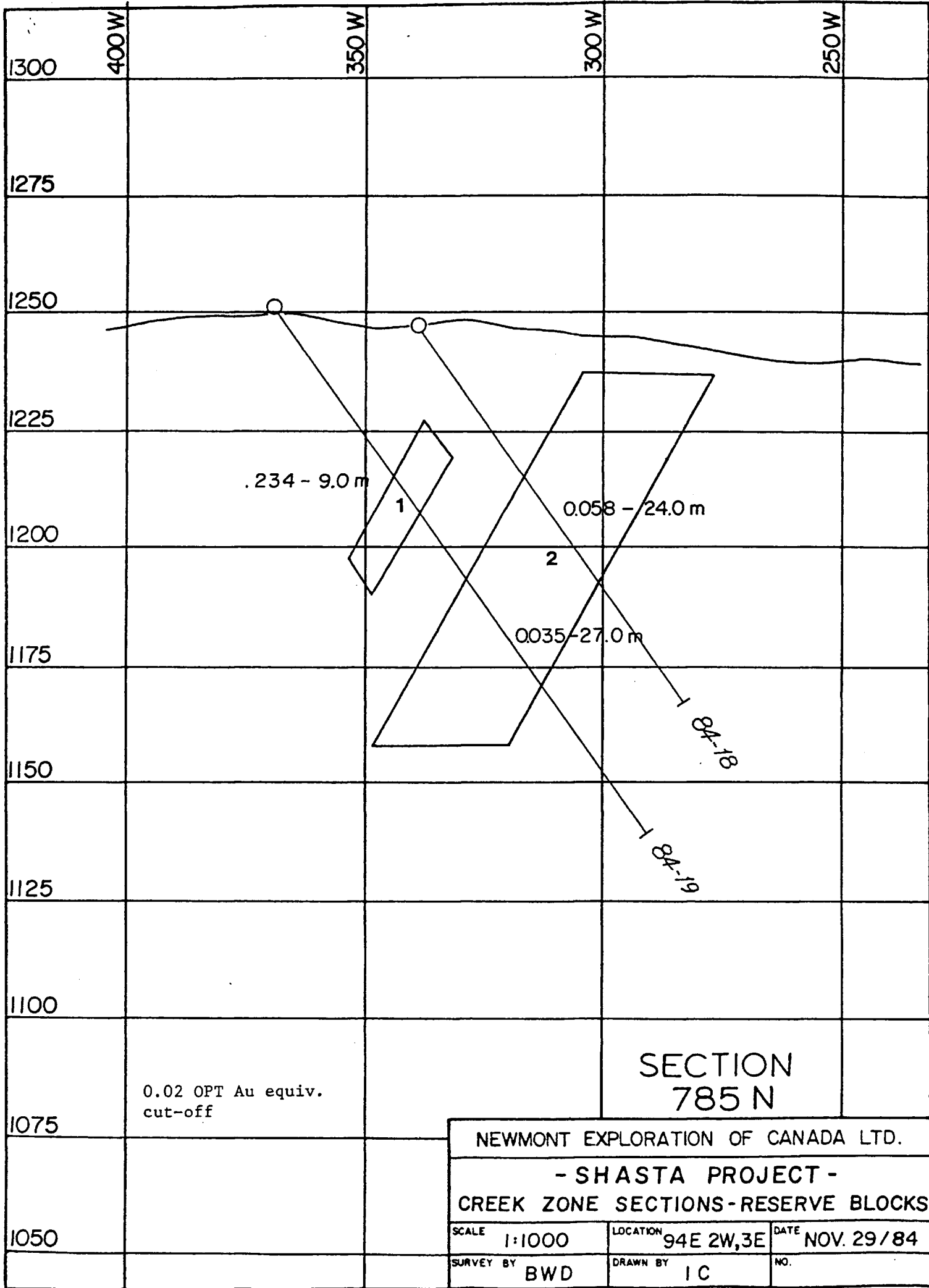
.063 - 35.7 m

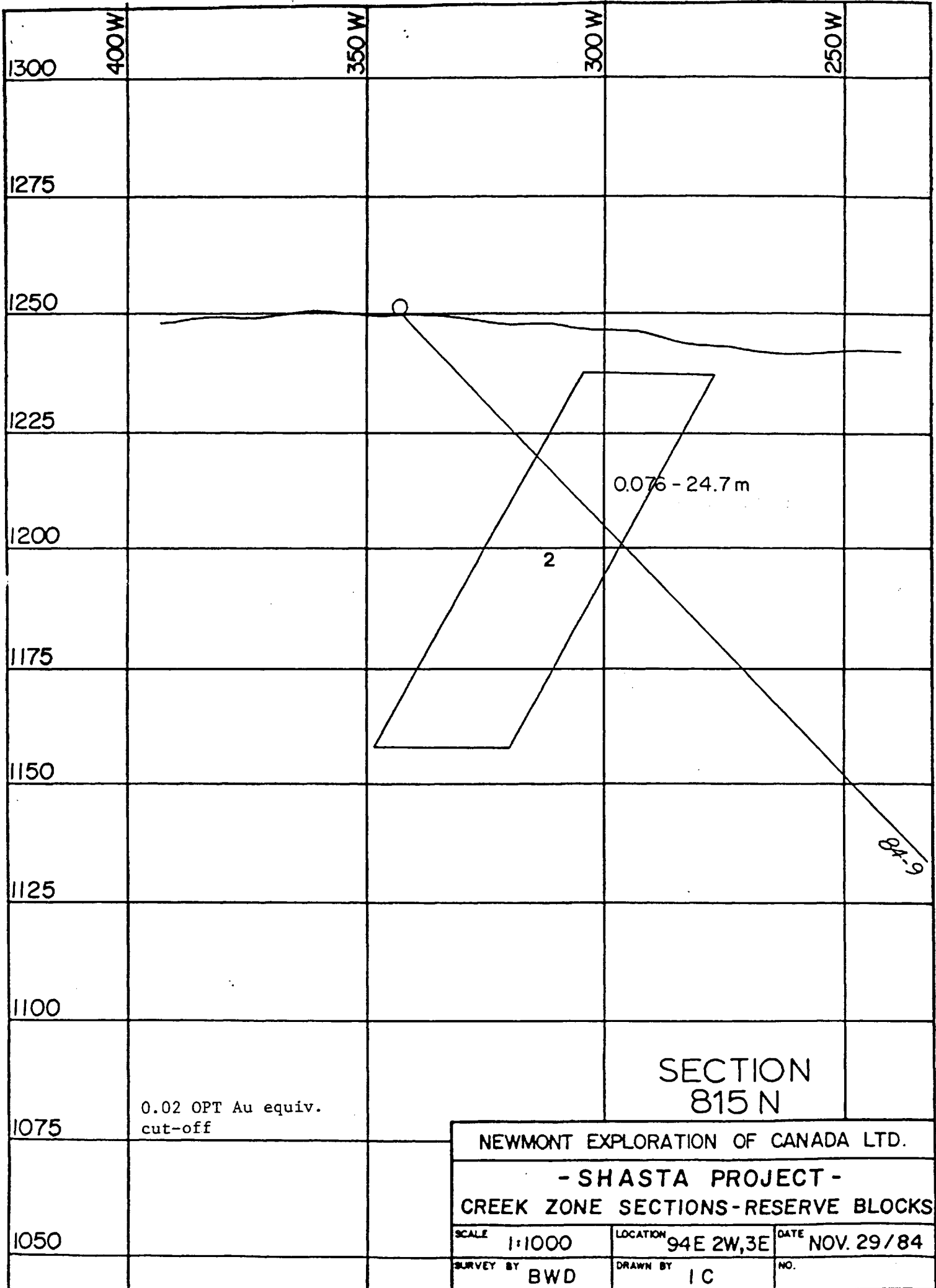
84-1

84-1

SECTION  
700 N

NEWMONT EXPLORATION OF CANADA LTD.		
- SHASTA PROJECT - CREEK ZONE SECTIONS-RESERVE BLOCKS		
SCALE 1:1000	LOCATION 94E 2W,3E	DATE NOV. 29/84
SURVEY BY BWD	DRAWN BY IC	NO.





1300

400W

350W

300W

250W

1275

1250

1225

1200

1175

1150

1125

1100

1075

1050

0.02 OPT Au equiv.  
cut-off

0.076 - 24.7 m

2

SECTION  
815 N

NEWMONT EXPLORATION OF CANADA LTD.

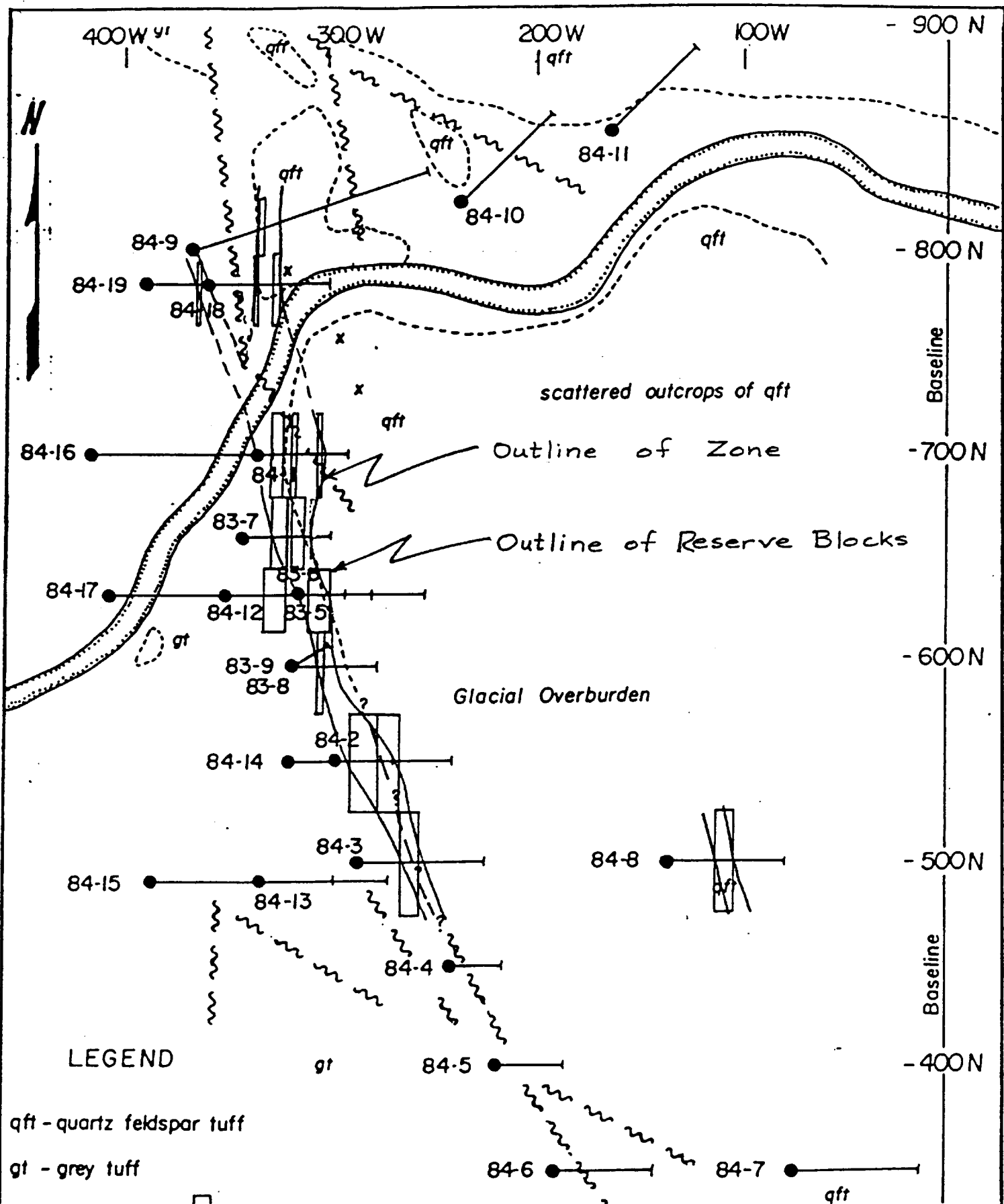
- SHASTA PROJECT -  
CREEK ZONE SECTIONS-RESERVE BLOCKS

SCALE	1:1000	LOCATION	94E 2W,3E	DATE	NOV. 29/84
SURVEY BY	BWD	DRAWN BY	IC	NO.	

BA-9

SHASTA PRELIMINARY RESERVE ESTIMATE TO 0.050 Au EQUIVALENT CUTOFF

<u>Section</u>	<u>Block</u>	<u>DDH No.</u>	<u>Intercept m</u>	<u>Height m</u>	<u>Length m</u>	<u>Vol m<sup>3</sup></u>	<u>Tonnes</u>	<u>Grade oz Au equiv.</u>	<u>Grade X Tonnes</u>
500 N	500-1	84-3	5.7	54	50	13,500	36,450	0.369	13,450.0
	500-2	84-3	11.1	54	50	25,650	69,255	0.093	6,440.7
	500-3	84-8	15.2	59	50	38,350	103,545	0.099	10,251.0
550 N	550-1	84-2	6.8	48	48	13,824	37,324	0.118	4,404.3
	550-2	84-2	7.8	48	48	15,437	41,679	0.055	2,292.4
	550-3	84-14	22.8	49	48	47,040	127,008	0.156	19,813.2
600 N	600-1	83-9	10.6	34	40	9,520	25,704	0.195	5,012.3
640 N	640-1	84-12	17.8	27	30	13,770	37,179	0.083	3,085.9
	640-2	83-6	17.6	22	30	10,560	28,512	0.218	6,215.6
	640-3	83-5	7.4	16.5	30	3,218	8,688	0.566	4,917.7
	640-4	trench	5.0	16.5	30	2,475	6,682	0.365	2,439.1
666 N	666-1	83-7	9.6	56	35	18,620	50,274	0.079	3,971.6
	666-2	83-7	8.6	56	35	16,660	44,982	0.125	5,622.8
700 N	700-1	84-1	9.2	35	42	12,495	33,736	0.096	3,238.7
	700-2	84-1	2.2	24	42	2,218	5,988	0.222	1,329.5
	700-3	84-1	3.5	24	42	3,528	9,525	0.069	657.3
785 N	785-1	84-19	3.0	25	30	2,250	6,075	0.553	3,359.5
	785-2	84-18	2.0	25	34	1,700	4,590	0.135	619.7
	785-3	84-18	7.0	25	36	5,400	14,580	0.130	1,895.4
	785-4	84-19	2.5	25	34	1,700	4,590	0.056	257.0
815 N	815-1	84-9	3.3	27	28	2,268	<u>6,123</u>	<u>0.365</u>	<u>2,235.1</u>
					<b>TOTAL</b>		702,495	0.145	101,508.8



**LEGEND**

qft - quartz feldspar tuff

gt - grey tuff

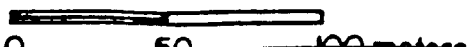
~ fault



cut-off 0.050 oz / t Au equivalent

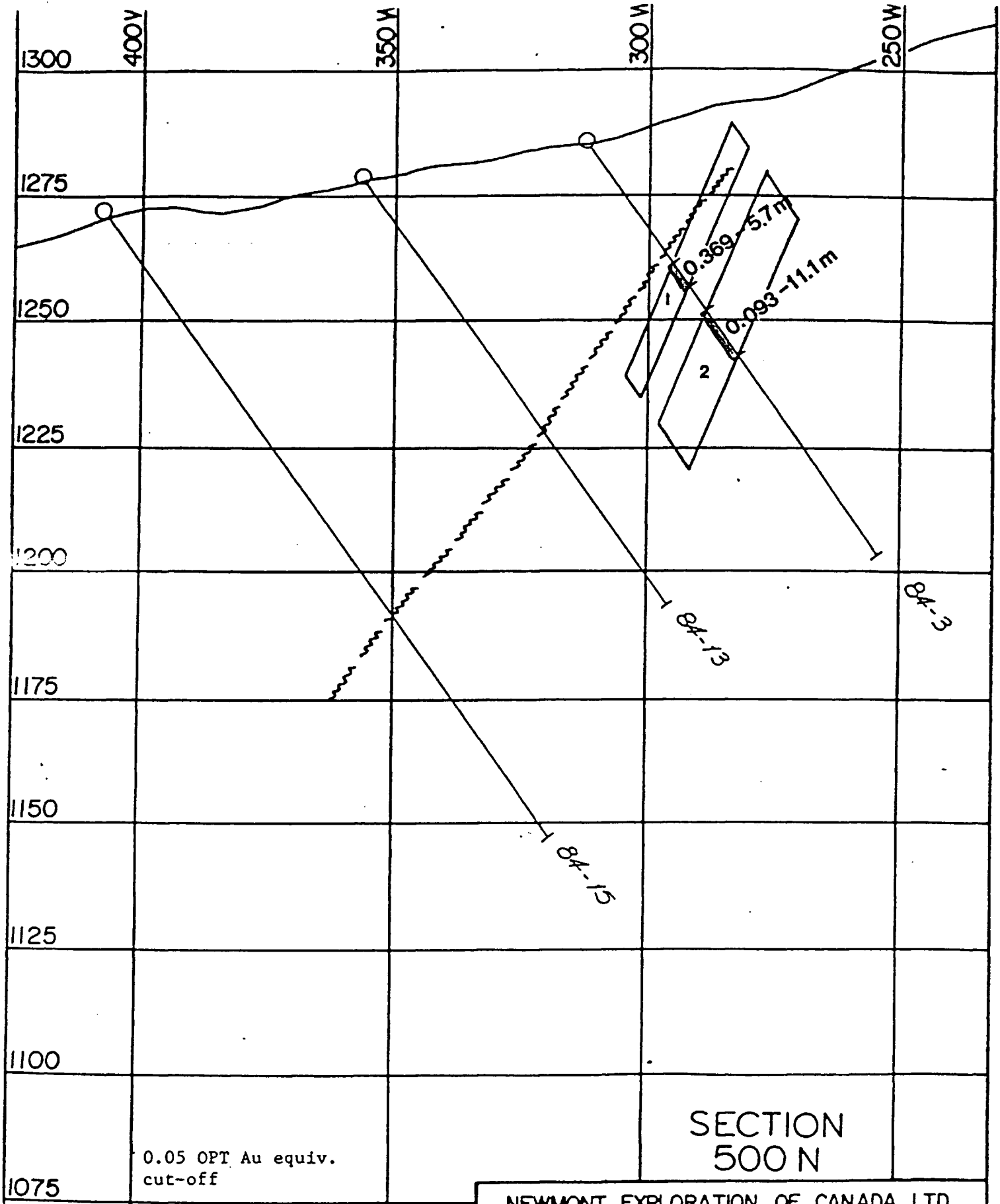
x new zones, 1984

**SCALE**

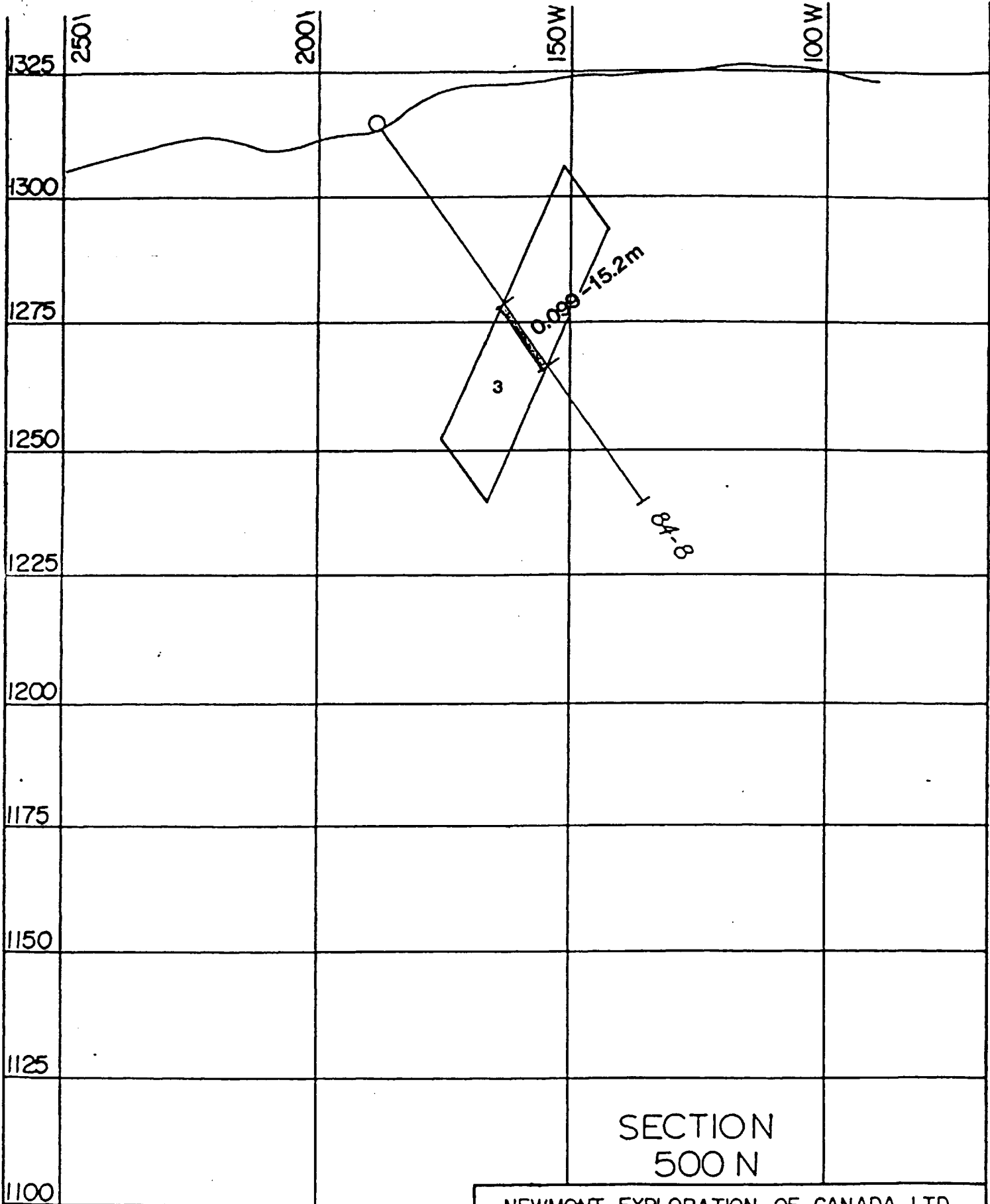


NEWMONT EXPLORATION OF CANADA LTD.		
SHASTA PROJECT		
Plan map - Drill holes 1984		
SCALE 1:2500	LOCATION NTS 94 E	DATE NOV. 26, 1984
SURVEY BY BWD	DRAWN BY J.C.	NO. 2





NEWMONT EXPLORATION OF CANADA LTD.		
-SHASTA PROJECT - CREEK ZONE SECTIONS-RESERVE BLOCKS		
SCALE 1:1000	LOCATION 94E 2W,3E	DATE NOV. 29/84
SURVEY BY R.W.D.	DRAWN BY J.C.	NO.



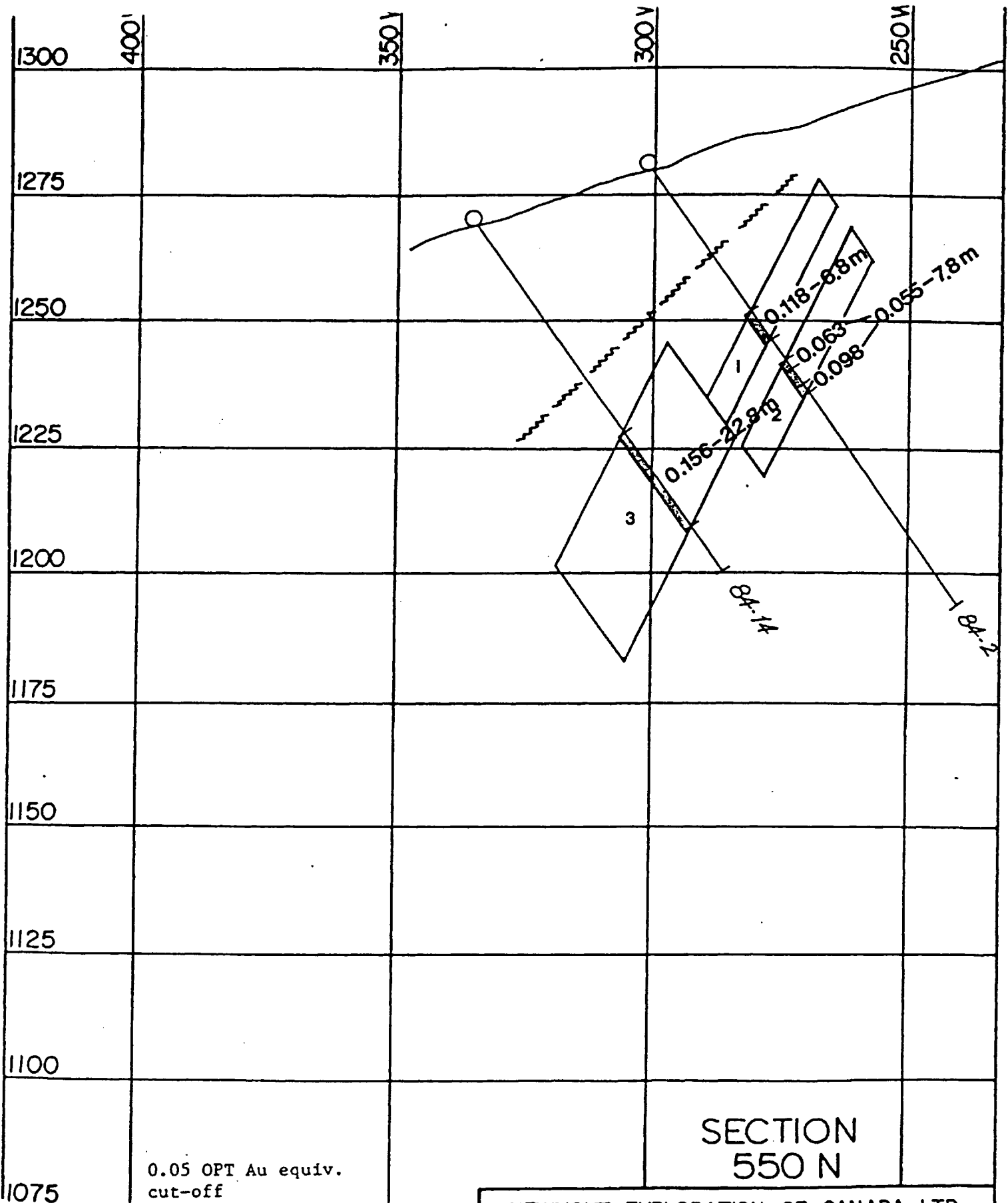
0.05 OPT Au equiv.  
cut-off

SECTION  
500 N

NEWMONT EXPLORATION OF CANADA LTD.

- SHASTA PROJECT -  
CREEK ZONE SECTIONS - RESERVE BLOCKS

SCALE	1:1000	LOCATION	94 E 2W, 3E	DATE	NOV. 29 / 84
SURVEY BY	BWD	DRAWN BY	IC	NO.	

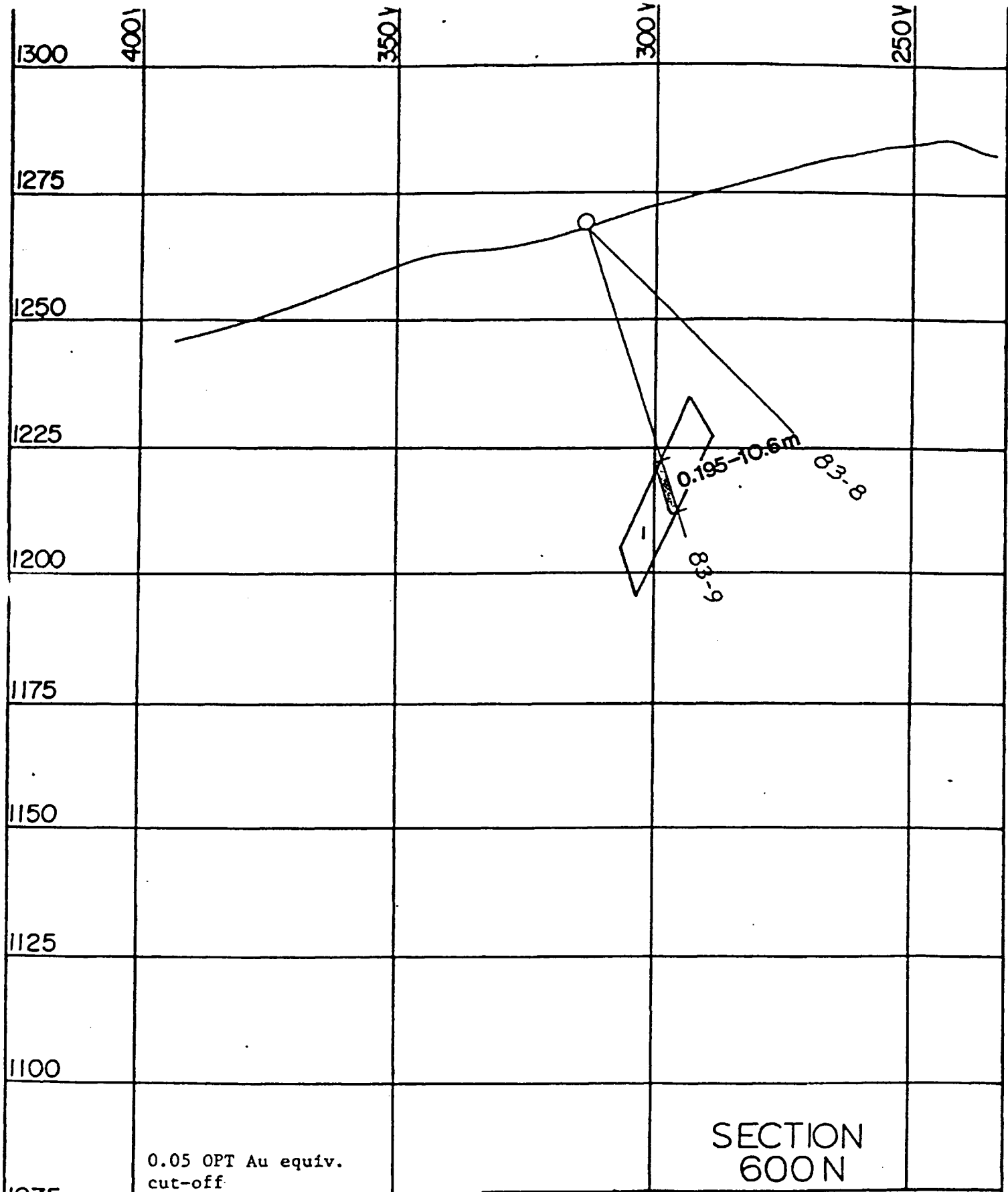


SECTION  
550 N

NEWMONT EXPLORATION OF CANADA LTD.			
- SHASTA PROJECT -			
CREEK ZONE SECTIONS-RESERVE BLOCKS			
SCALE	1:1000	LOCATION	94E 2W,3E
		DATE	NOV. 29/84
SURVEY BY	BWD	DRAWN BY	LC
		NO.	

0.05 OPT Au equiv.  
cut-off

1050

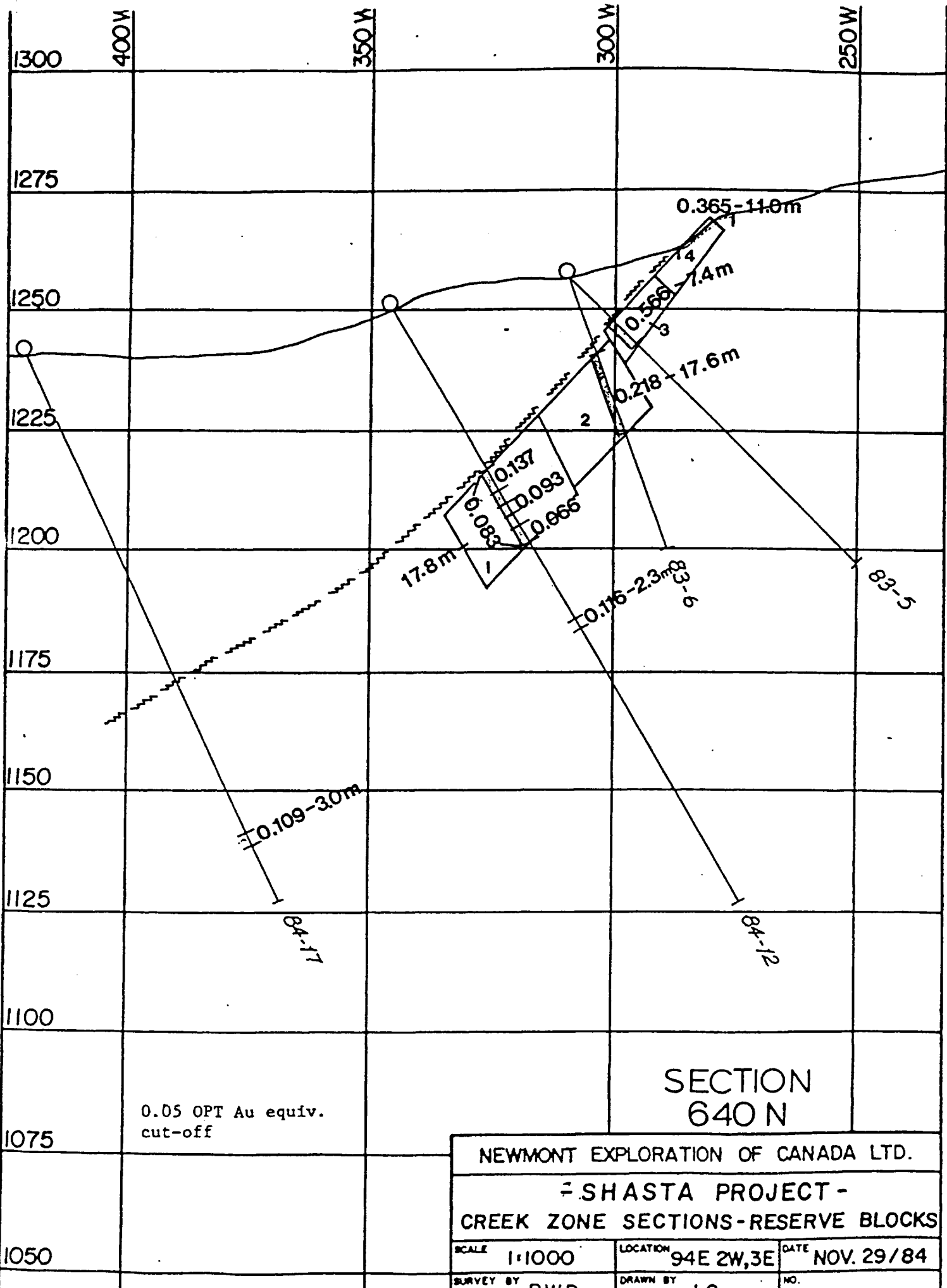


0.05 OPT Au equiv.  
cut-off

SECTION  
600 N

NEWMONT EXPLORATION OF CANADA LTD.		
- SHASTA PROJECT - CREEK ZONE SECTIONS-RESERVE BLOCKS		
SCALE 1:1000	LOCATION 94E 2W,3E	DATE NOV. 29/84
SURVEY BY BWD	DRAWN BY LC	NO.

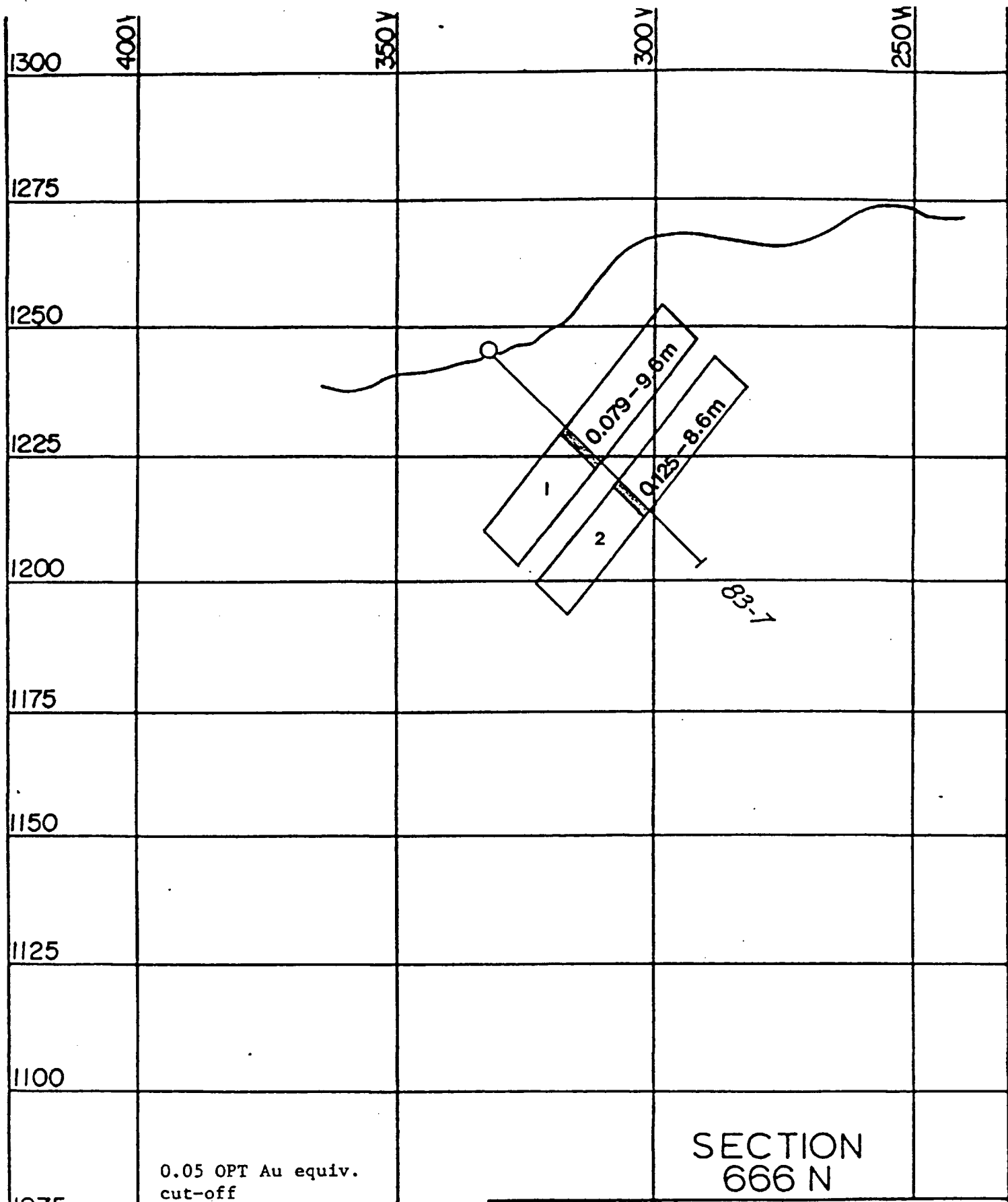
1050



0.05 OPT Au equiv.  
cut-off

SECTION  
640 N

NEWMONT EXPLORATION OF CANADA LTD.		
SHASTA PROJECT - CREEK ZONE SECTIONS-RESERVE BLOCKS		
SCALE 1:1000	LOCATION 94E 2W,3E	DATE NOV. 29/84
SURVEY BY D.W.D.	DRAWN BY J.C.	NO.



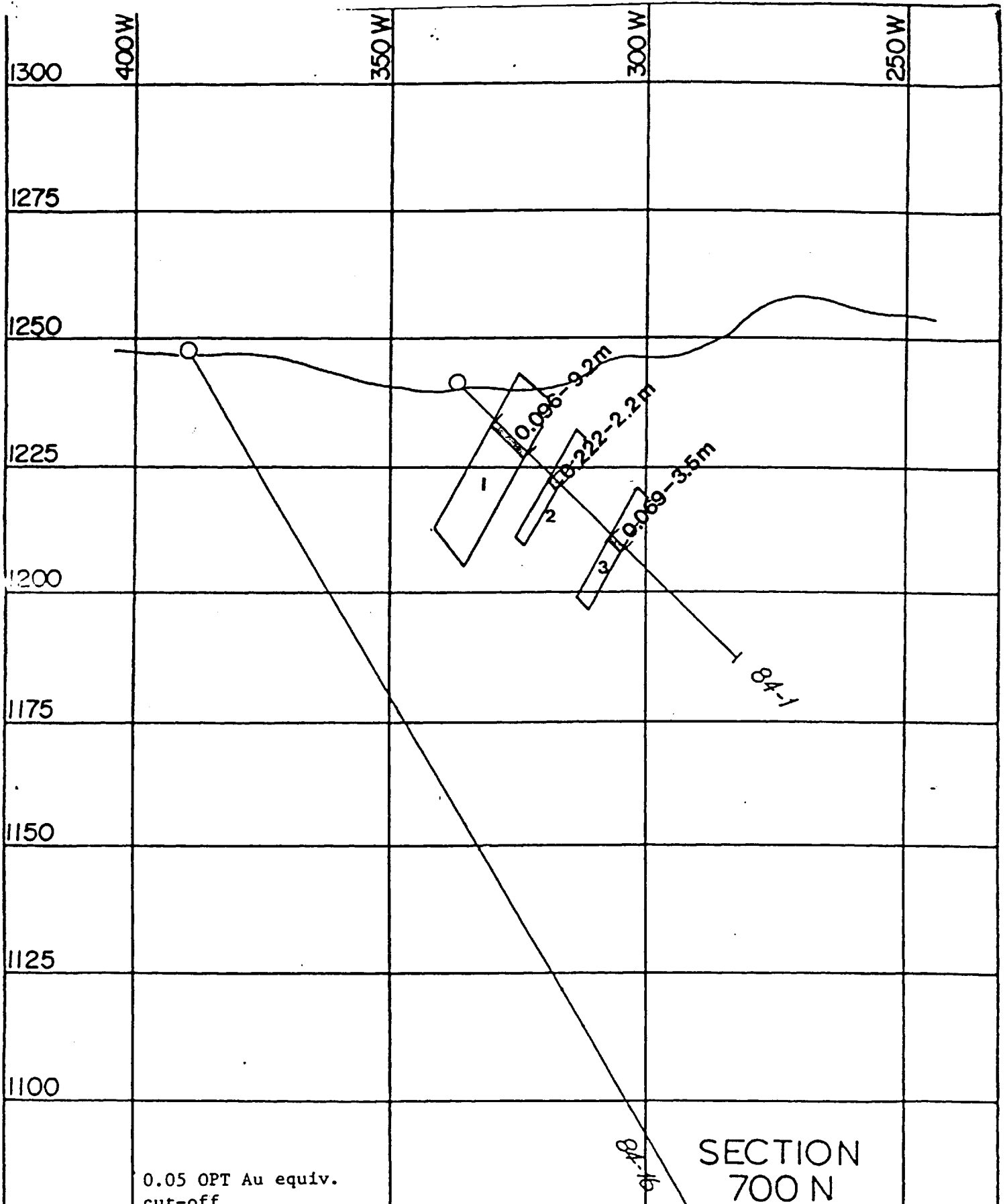
0.05 OPT Au equiv.  
cut-off

SECTION  
666 N

NEWMONT EXPLORATION OF CANADA LTD.

- SHASTA PROJECT -  
CREEK ZONE SECTIONS-RESERVE BLOCKS

SCALE	1:1000	LOCATION	94E 2W,3E	DATE	NOV. 29 / 84
SURVEY BY	BWD	DRAWN BY	IC	NO.	



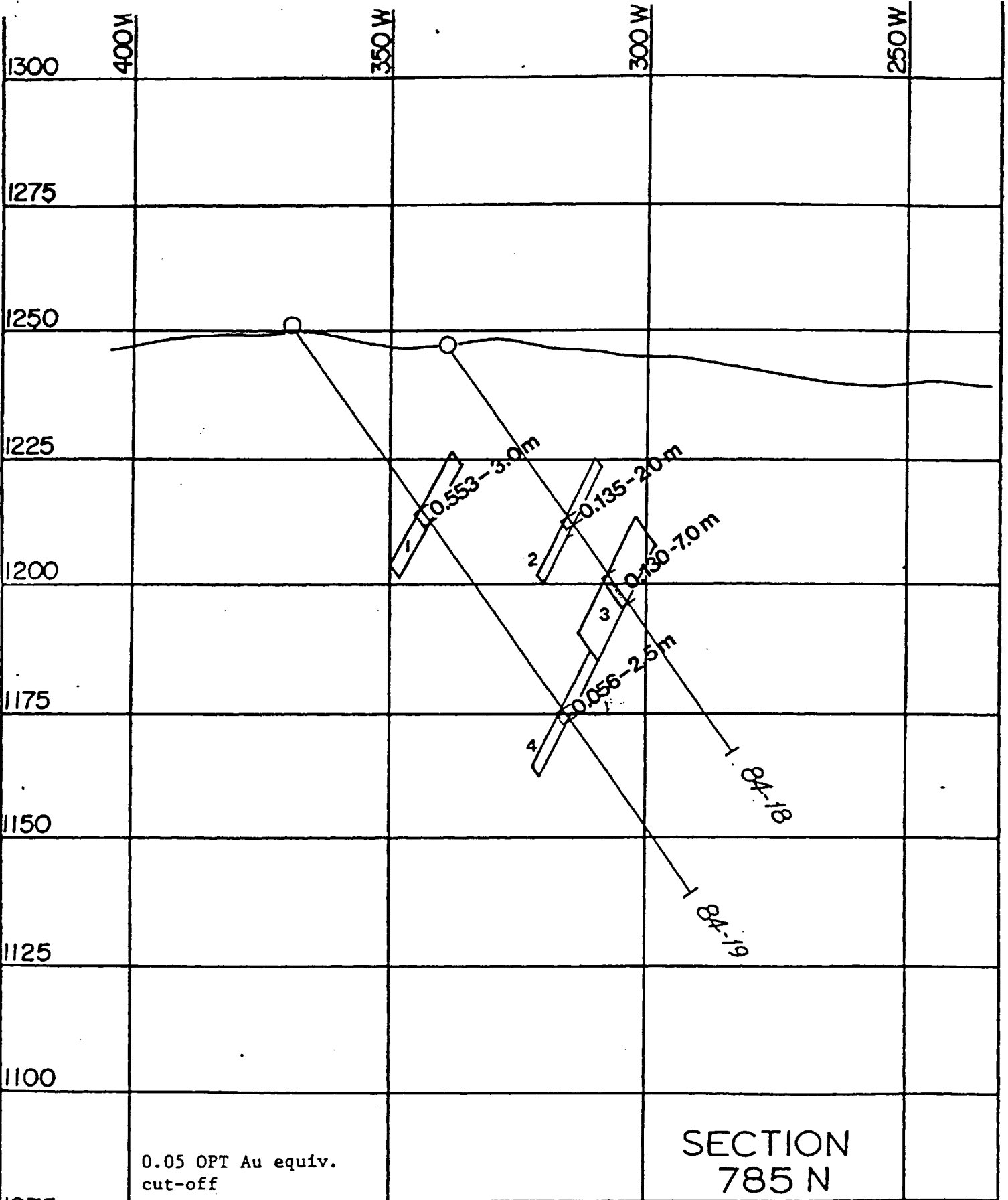
0.05 OPT Au equiv.  
cut-off

SECTION  
700 N

NEWMONT EXPLORATION OF CANADA LTD.

- SHASTA PROJECT -  
CREEK ZONE SECTIONS-RESERVE BLOCKS

SCALE	1:1000	LOCATION	94E 2W,3E	DATE	NOV. 29/84
SURVEY BY	D.W.D.	DRAWN BY	J.A.	NO.	

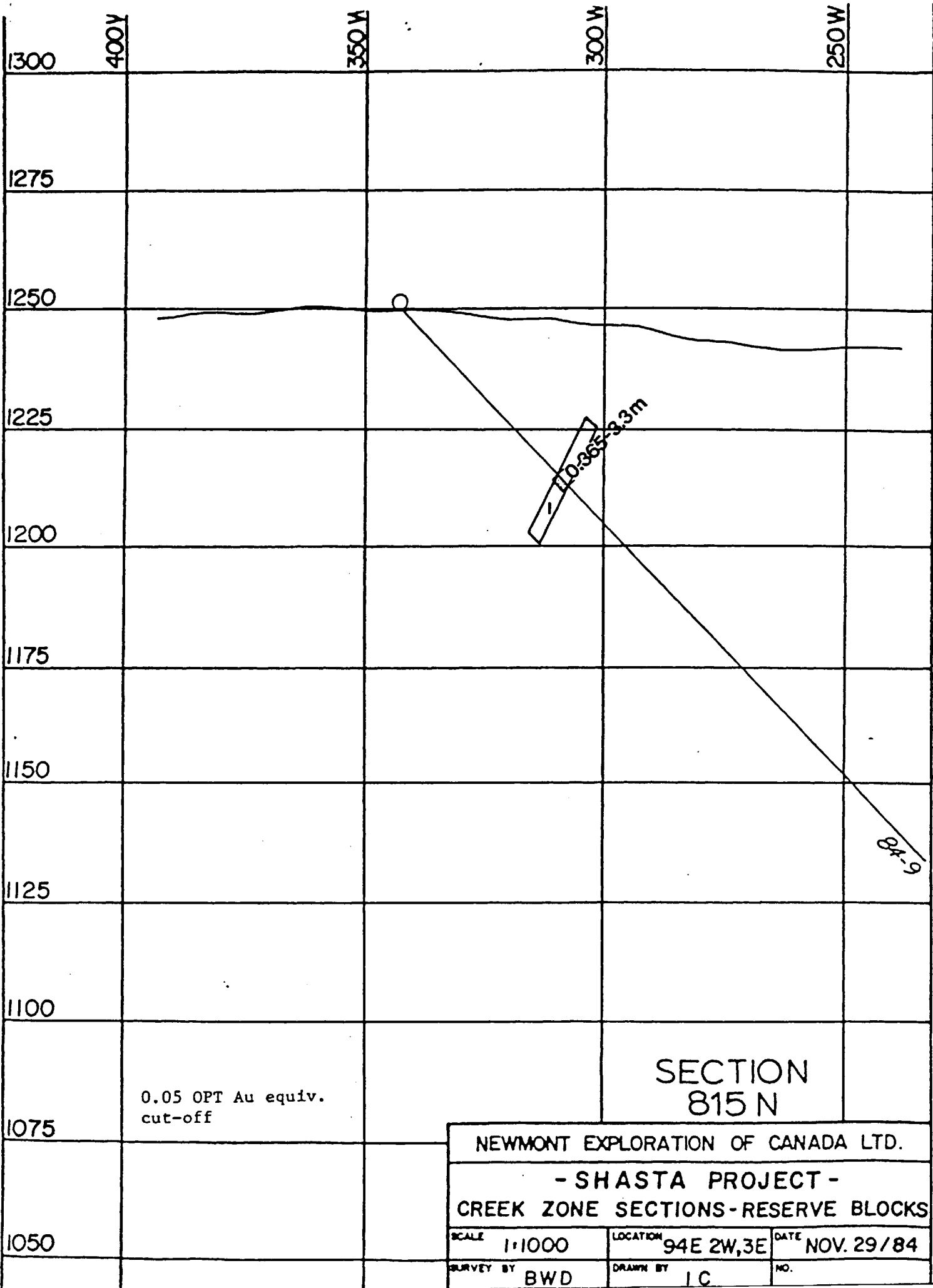


0.05 OPT Au equiv.  
cut-off

SECTION  
785 N

NEWMONT EXPLORATION OF CANADA LTD.		
- SHASTA PROJECT - CREEK ZONE SECTIONS-RESERVE BLOCKS		
SCALE	1:1000	LOCATION 94E 2W,3E
		DATE NOV. 29/84
SURVEY BY	RWD	DRAWN BY LC
		NO.





SECTION  
815 N

0.05 OPT Au equiv.  
cut-off

NEWMONT EXPLORATION OF CANADA LTD.

- SHASTA PROJECT -  
CREEK ZONE SECTIONS-RESERVE BLOCKS

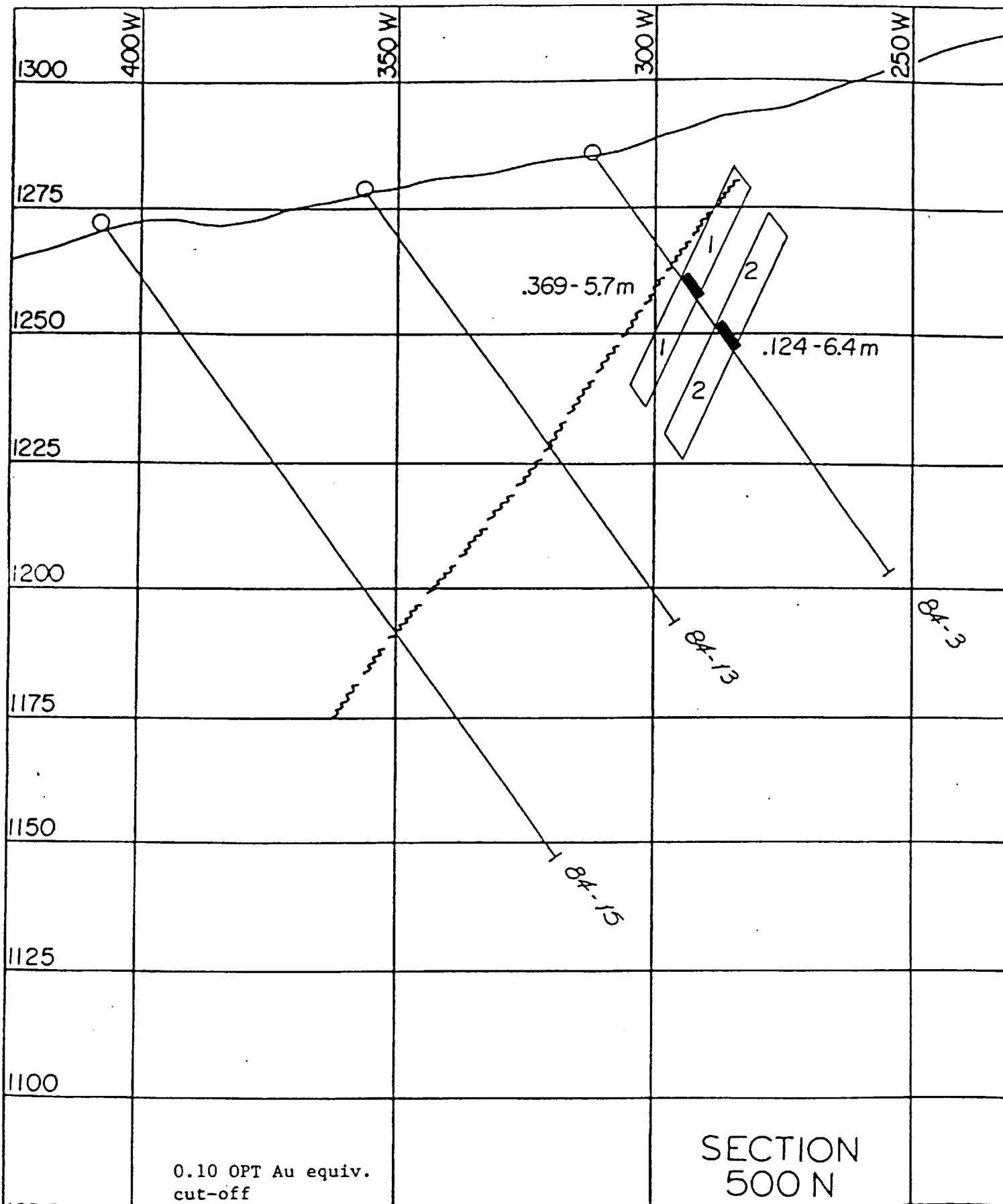
SCALE	1:1000	LOCATION	94E 2W,3E	DATE	NOV. 29/84
SURVEY BY	BWD	DRAWN BY	J.C.	NO.	

SHASTA PRELIMINARY RESERVE ESTIMATE TO 0.10 Au EQUIVALENT GRADE CUTOFF

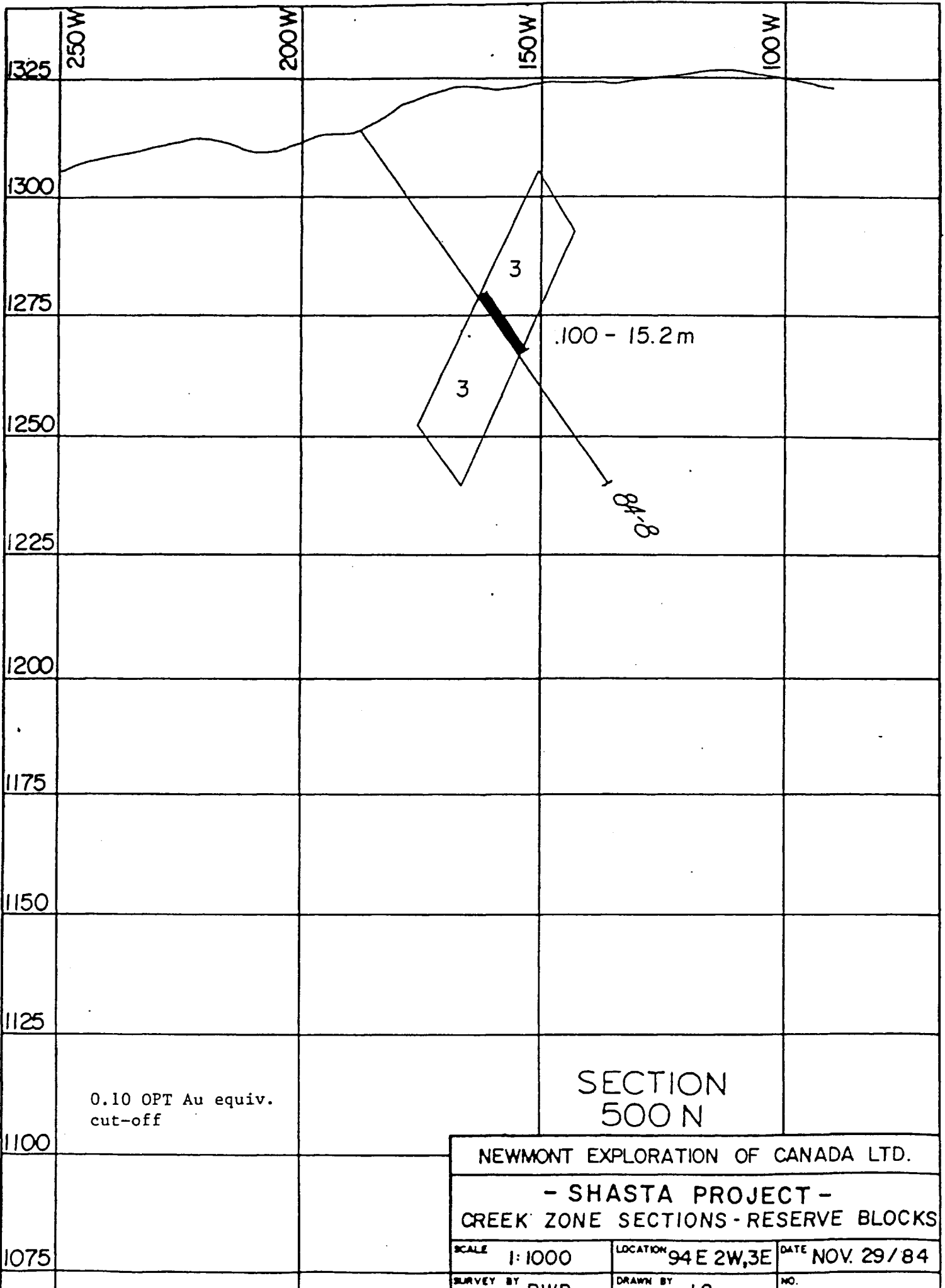
<u>Section</u>	<u>Reserve Block</u>	<u>DDH or Trench</u>	<u>Intercept m</u>	<u>Height m or Area m<sup>2</sup></u>	<u>Length m</u>	<u>Vol m<sup>3</sup></u>	<u>Tonnes</u>	<u>Grade Opt Au Equiv.</u>	<u>Grade X Tonnes</u>
500 N	500-1	84-3	5.7	42	44	10,534	28,442	0.369	10,495
	500-2	84-3	6.4	42	44	11,827	31,933	0.124	3,960
	500-3	84-8	15.2	50	50	38,000	102,600	0.100	10,260
550	550-1	84-2	6.8	37	44.5	11,196	30,230	0.118	3,567
	550-2	84-2	2.0	22	44.5	1,958	5,287	0.100	529
	550-3	84-14	22.8	42	44.5	42,613	115,056	0.156	17,948
600	600-1	83-9	10.6	22	41.5	9,678	26,130	0.195	5,095
640	640-1	83-6	11.2	179 m <sup>2</sup>	32.5	5,818	15,707	0.303	4,759
	640-2	83-5	5.0	120 m <sup>2</sup>	32.5	3,900	10,530	0.820	8,635
	640-3	trench	11.0	105 m <sup>2</sup>	30	3,150	8,505	0.365	3,104
	640-4	84-12	9.7	321 m <sup>2</sup>	32.5	10,433	28,168	0.107	3,014
	640-5	84-17	3.0	39 m <sup>2</sup>	30	1,170	3,159	0.109	344
666	666-1	83-7	4.7	20	34	3,196	8,629	0.100	863
	666-2	83-7	11.3	42	34	16,136	43,568	0.100	4,357
700	700-1	84-1	5.9	32	31.5	5,947	16,057	0.118	1,895
	700-2	84-1	2.2	20	31.5	1,386	3,742	0.222	831
785	785-1	84-18	2.0	21	30	1,260	3,402	0.137	466
	785-2	84-18	6.0	21	35	4,410	11,907	0.143	1,703
	785-3	84-19	7.1	26	40	7,384	19,937	0.292	5,822
815	815-1	84-9	3.3	20	22	1,452	<u>3,920</u>	<u>0.365</u>	<u>1,431</u>
TOTAL							516,909	0.172	89,078

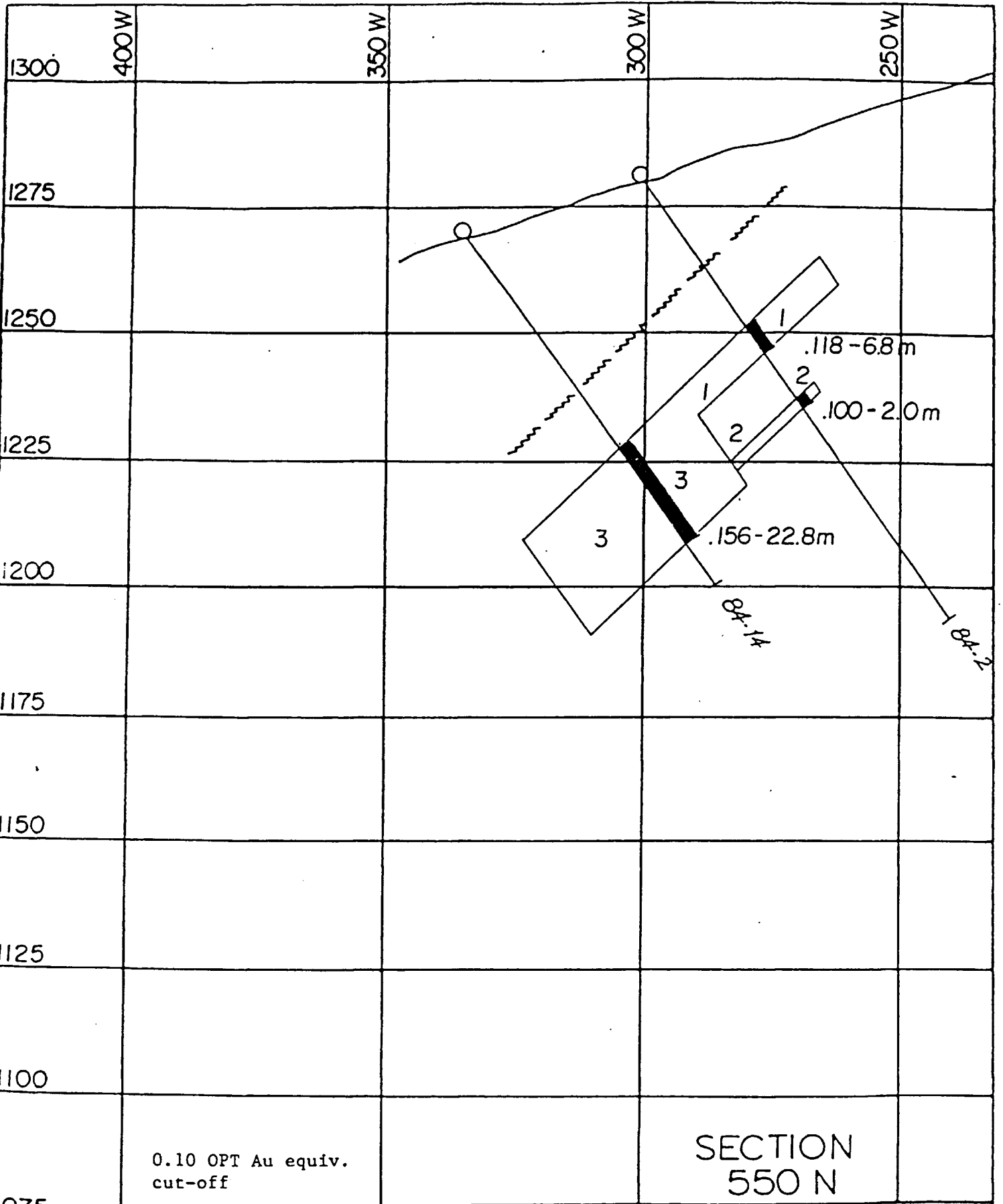
Revised Jan. 30/85  
GDD





NEWMONT EXPLORATION OF CANADA LTD.		
-SHASTA PROJECT -		
CREEK ZONE SECTIONS-RESERVE BLOCKS		
SCALE	1:1000	LOCATION 94E 2W,3E
		DATE NOV. 29/84
SURVEY BY	R.W.D.	DRAWN BY J.C.
		NO.





0.10 OPT Au equiv.  
cut-off

SECTION  
550 N

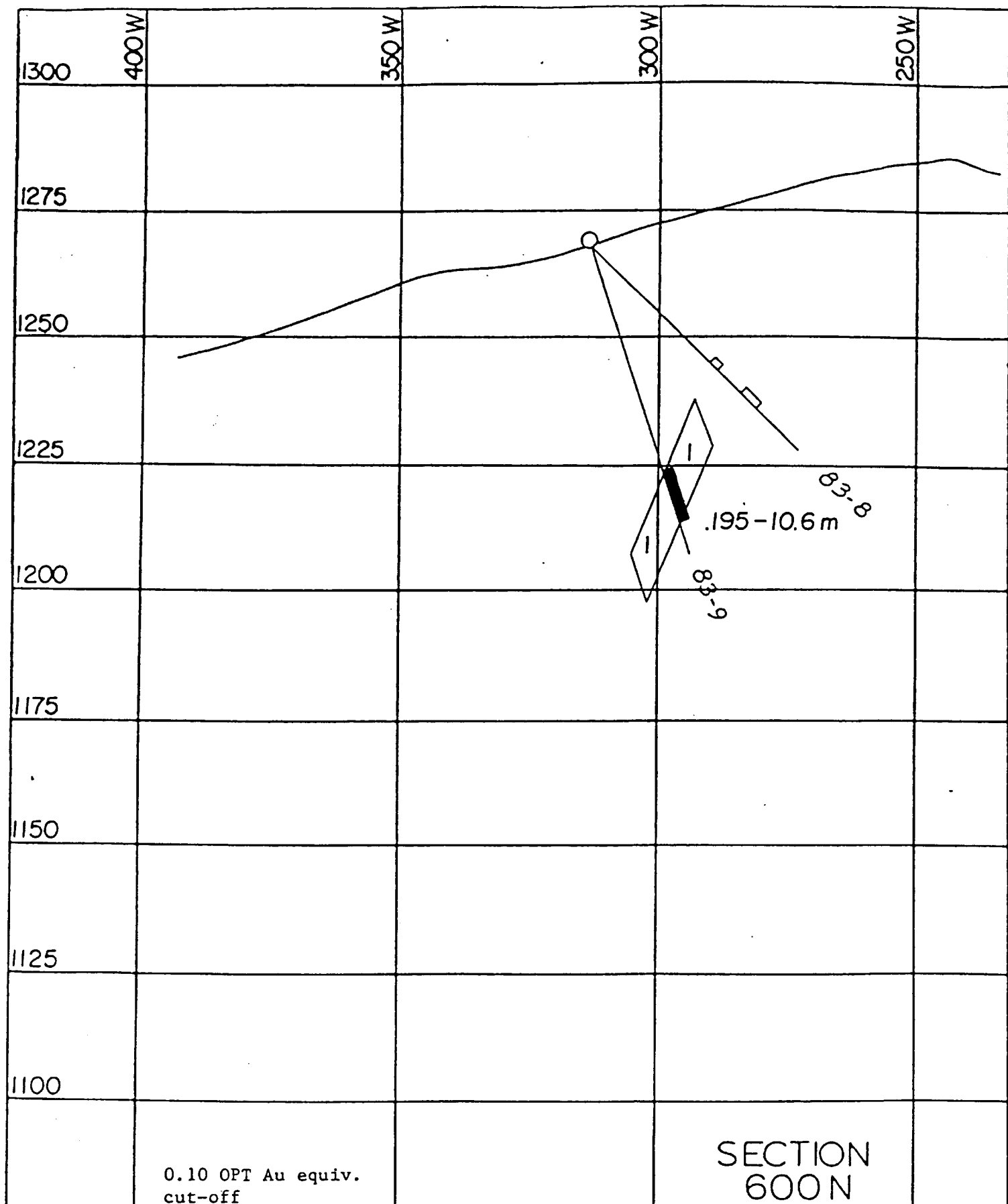
NEWMONT EXPLORATION OF CANADA LTD.

- SHASTA PROJECT -  
CREEK ZONE SECTIONS-RESERVE BLOCKS

SCALE 1:1000	LOCATION 94E 2W,3E	DATE NOV. 29/84
SURVEY BY	DRAWN BY	NO.

075

1050



0.10 OPT Au equiv.  
cut-off

SECTION  
600N

NEWMONT EXPLORATION OF CANADA LTD.

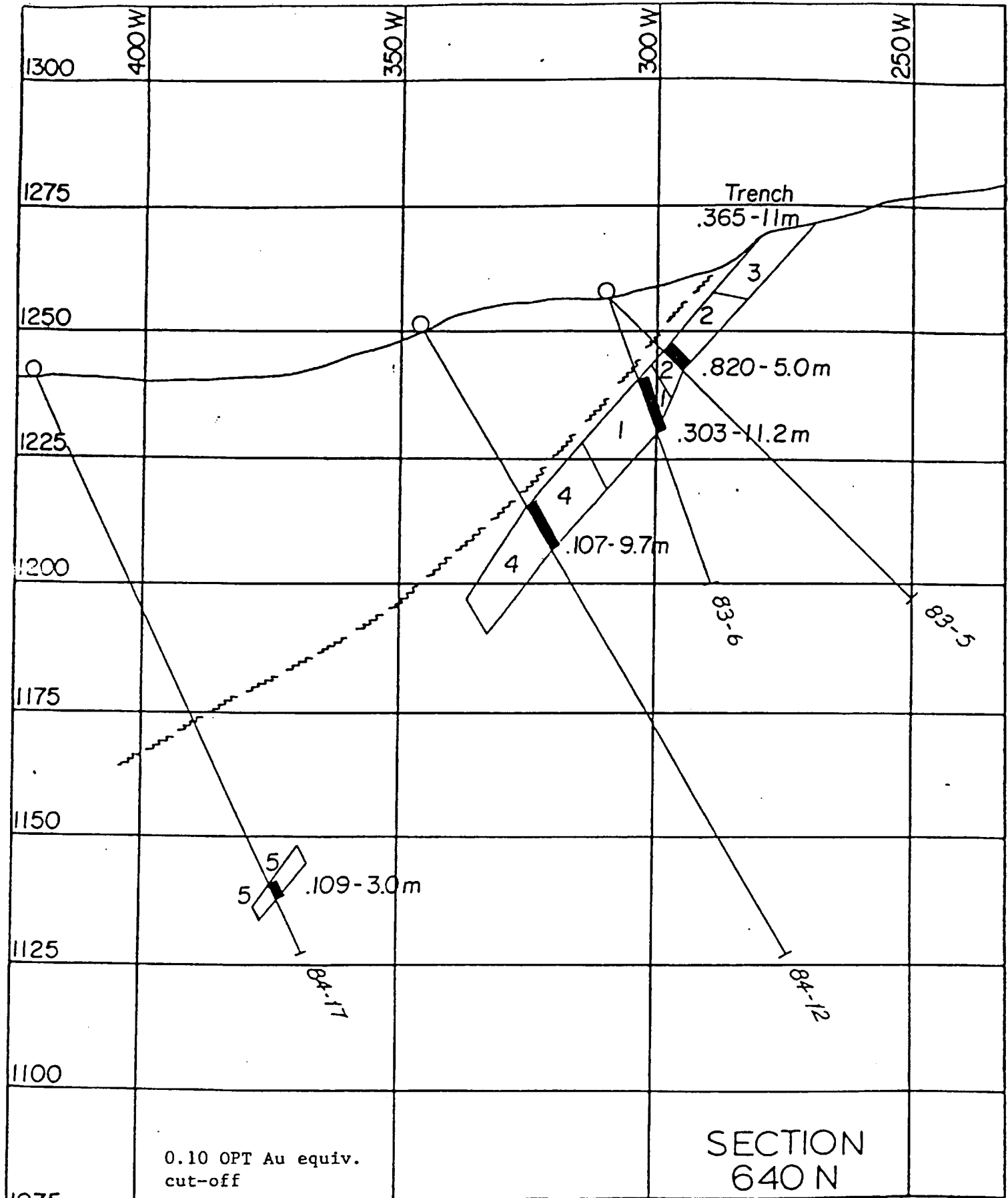
- SHASTA PROJECT -  
CREEK ZONE SECTIONS-RESERVE BLOCKS

SCALE	1:1000	LOCATION	94E 2W,3E	DATE	NOV. 29/84
-------	--------	----------	-----------	------	------------

SURVEY BY	BWD	DRAWN BY	J.C.	NO.	
-----------	-----	----------	------	-----	--

1075

1050



NEWMONT EXPLORATION OF CANADA LTD.

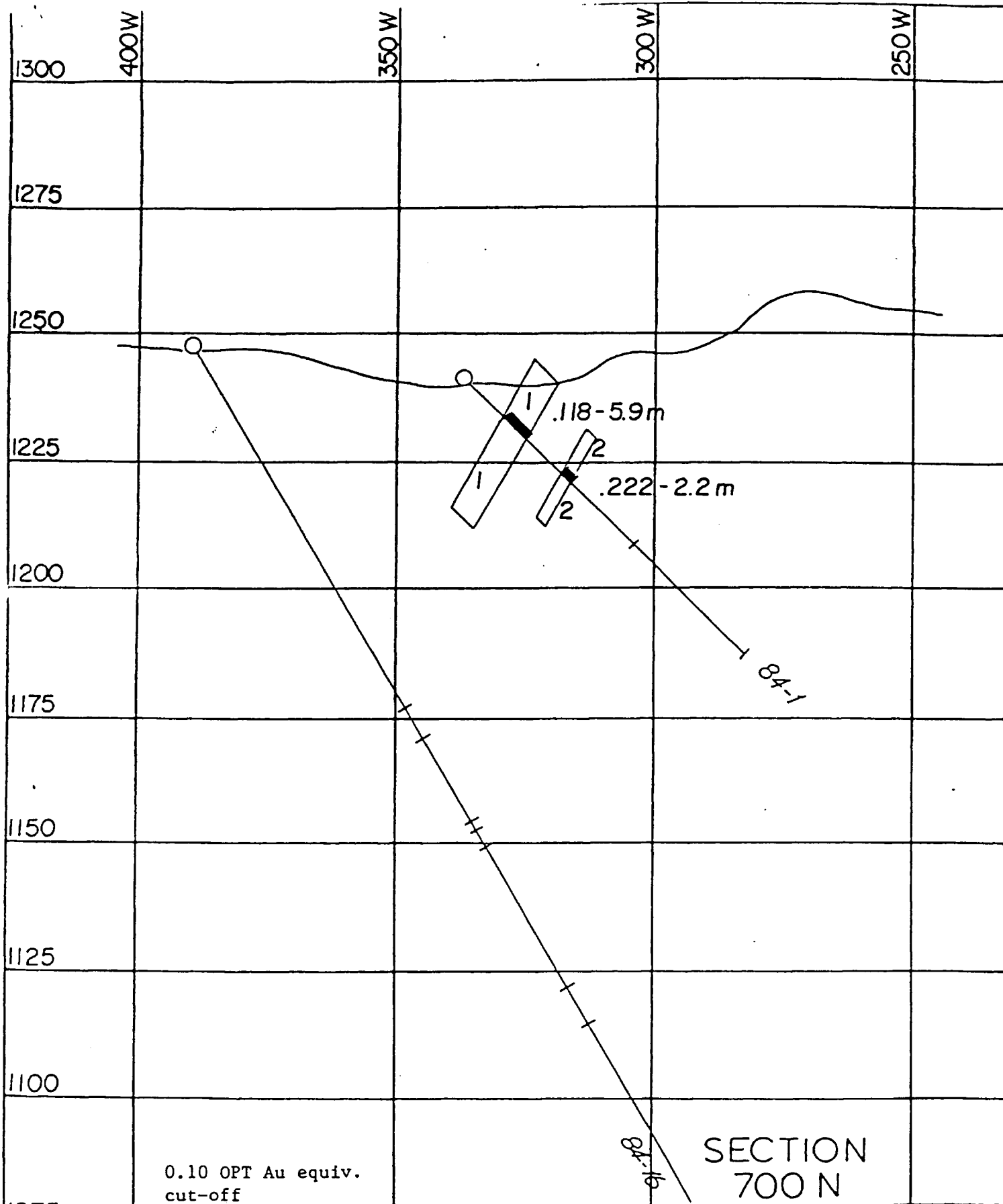
SHASTA PROJECT -  
CREEK ZONE SECTIONS-RESERVE BLOCKS

SCALE 1:1000	LOCATION 94E 2W,3E	DATE NOV. 29/84
--------------	--------------------	-----------------

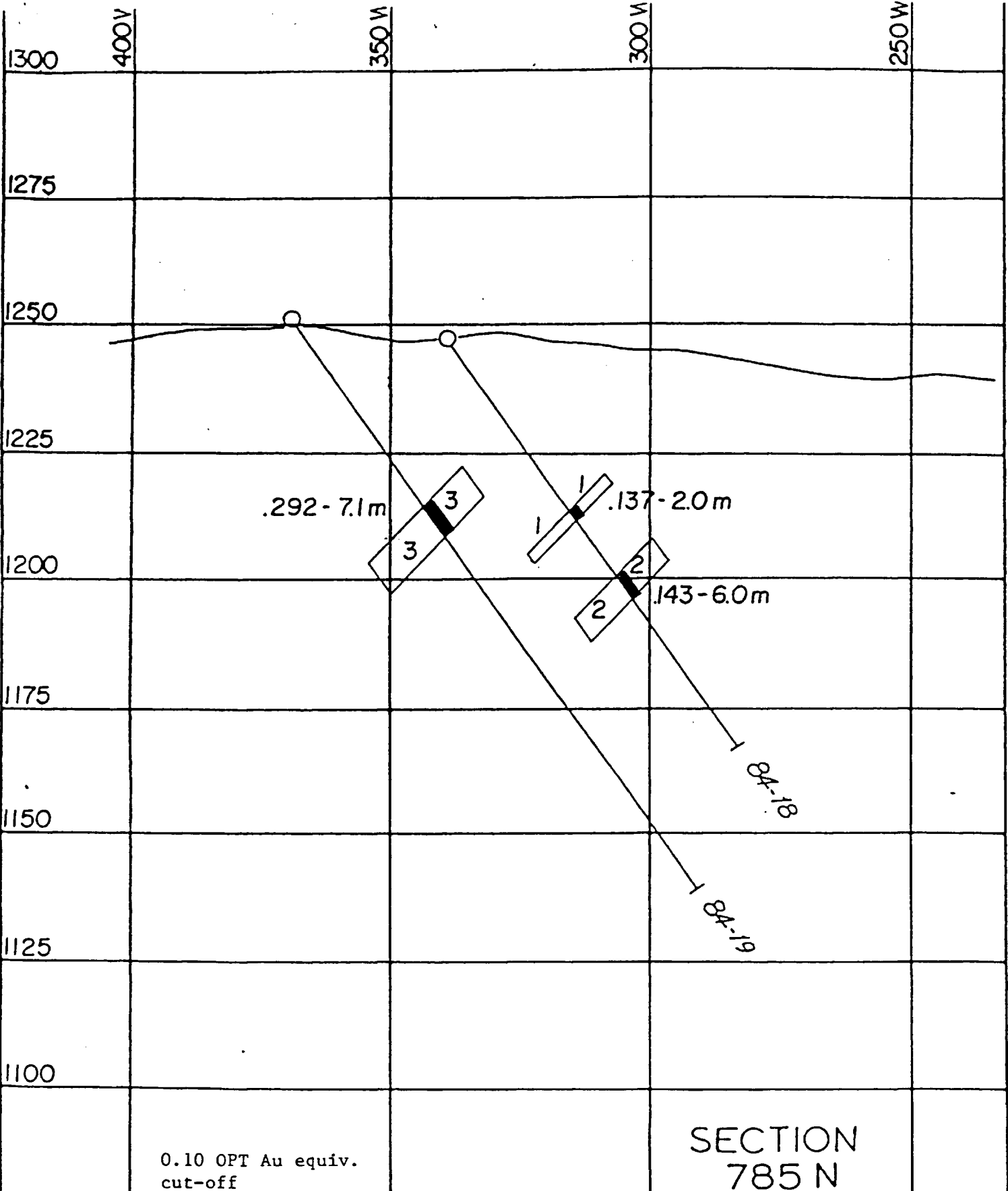
SURVEY BY BWD	DRAWN BY IC	NO.
---------------	-------------	-----

1050





NEWMONT EXPLORATION OF CANADA LTD.		
--SHASTA PROJECT--		
CREEK ZONE SECTIONS-RESERVE BLOCKS		
SCALE	1:1000	LOCATION 94E 2W,3E
		DATE NOV. 29/84
SURVEY BY	BWD	DRAWN BY IC
		NO.

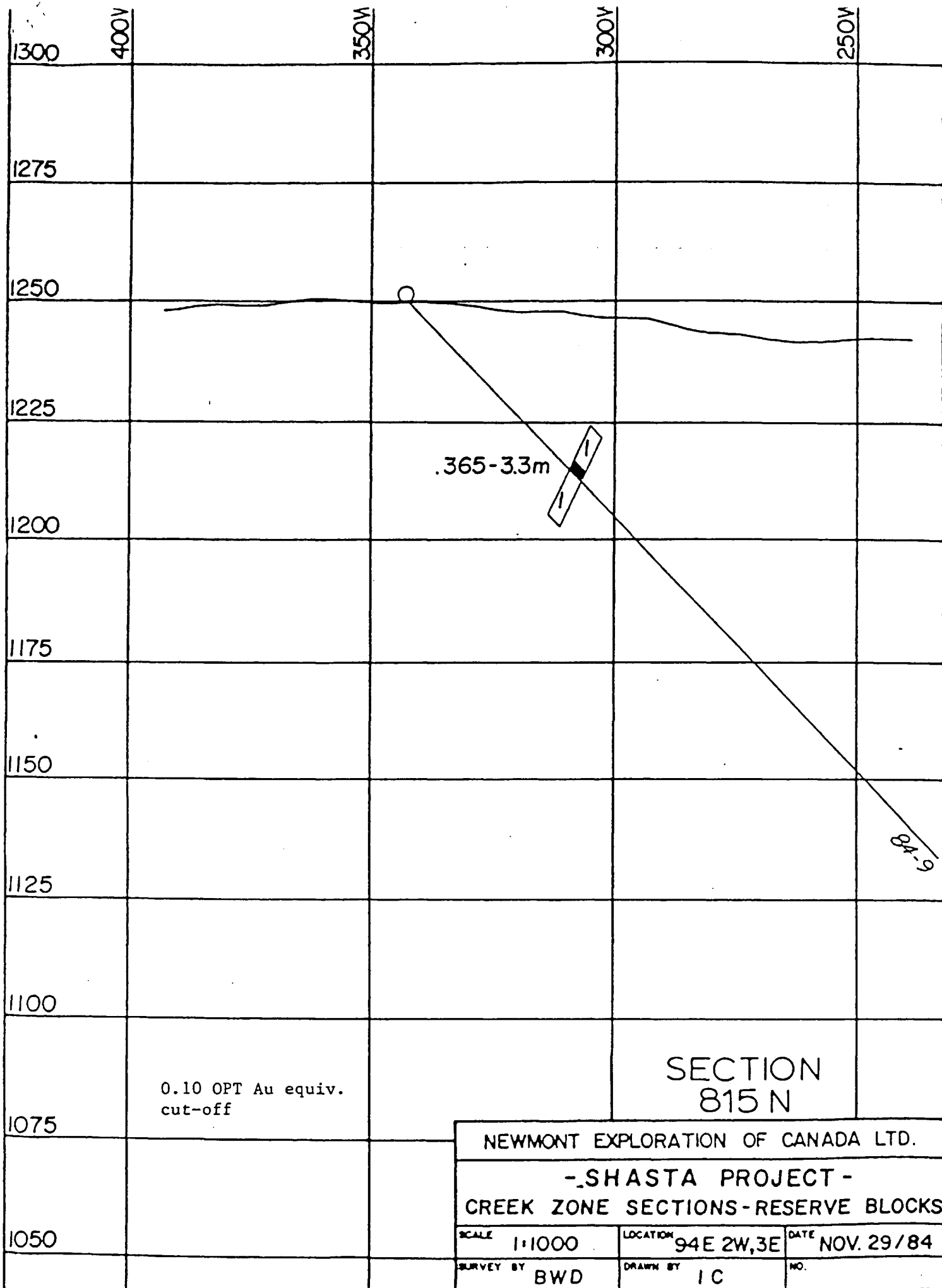


SECTION 785 N			
NEWMONT EXPLORATION OF CANADA LTD.			
-SHASTA PROJECT - CREEK ZONE SECTIONS-RESERVE BLOCKS			
SCALE	1:1000	LOCATION	94E 2W,3E
		DATE	NOV. 29/84
SURVEY BY	BWD	DRAWN BY	IC
		NO.	

1075

1050

0.10 OPT Au equiv.  
cut-off



1300

400V

350V

300V

250V

1275

1250

1225

1200

1175

1150

1125

1100

1075

1050

0.10 OPT Au equiv.  
cut-off

.365-3.3m

SECTION  
815 N

84-9

NEWMONT EXPLORATION OF CANADA LTD.

- SHASTA PROJECT -  
CREEK ZONE SECTIONS - RESERVE BLOCKS

SCALE	1:1000	LOCATION	94E 2W,3E	DATE	NOV. 29/84
SURVEY BY	BWD	DRAWN BY	IC	NO.	