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Preston Resources Ltd.  
Monmouth Rare Earth Property  
Monmouth Township  
Eastern Ontario Mining Division  
Ontario

Date: December 30, 1987.

H. Grant Harper, P.Eng.  
Economic Geologist.

Volume Label: PrestonEng  
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Filename: resamp87

OM87-9-C-094

Preston Resources Ltd.  
Monimouth Township Property  
1987 Rare Earth Sampling Program  
Ontario

### Introduction

A tremendous amount of research is now being undertaken by physicists in the field of super-conductivity, a group of phenomena which, when fully controlled, will revolutionize human existence to a greater extent than the industrial revolution. Certain of the Rare Earth group of elements appear to be essential to the creation of superconductive media and therefore there is a growing interest in the distribution and amounts of Rare Earths in the accessible crustal rocks and in the development and mining of Rare Earth ore reserves.

Since the Preston Property is known to contain widely occurrences of Rare Earths, and since Rare Earths are frequently associated with thorium and to a lesser extent uranium, it was decided to do a quick check for Rare Earths of the known areas of radioactivity on the Preston claims.

At the present time the markets for Rare Earths are exceedingly limited. Yttrium is in the greatest demand for use in colour video screens. Europium is also used in this connection. The market for Yttrium amounts to some 500 tons per year at a price of about US\$52.50 per pound. Gadolinium is used as a highly efficient heat sink. Apparently it has the potential of eliminating the need for compressors in all refrigeration and air conditioning units. It is anticipated that the market for Gadolinium will double many times in the next 10 years. In their first quarter 1987 Report to Shareholders General Motors announced the opening of a new plant in Michigan to manufacture a new style of starter motor for cars and trucks. The starters will use magnets which contain Yttrium. Even more recently, General Motors has announced that their scientists are using Prasesodymium and Neodymium in their research into super-conductivity.

### Spence Zone

Rare Earth minerals were first recognized in the late 1940's in the Spence Cut by Dr. Hugh Spence a Retired Geological Survey of Canada specialist in Rare Earth minerals. Subsequently, concentrations of Rare Earths and Yttrium were recorded in the concentrate liquors recovered during mill test research procedures developed by the federal government mill test laboratories in Ottawa.

During the present program, a picket line grid system was set up to tie in the Spence Cut and related trenches, the Adit, and the Shaft. These are all indicated on the accompanying map. Nine Grab samples were collected, and assayed for Yttrium, Lanthanum, Samarium Europium and Gadolinium. The results are tabulated on the accompanying Rare Earth Sheet.

### Conclusions and Recommendations

- 1.- For the relatively small extra cost involved, future samples should be assayed for all the Rare Earth elements.
- 2.- Samples 2390 to 2396 inclusive (7 samples) were collected from the Spence Cut. These show a wide variation in Rare Earth element content and clearly

indicate the the number of samples collected is insufficient to evaluate the Zone.

- 3.- No. 2 above is equally applicable to the 2 samples collected from trenches adjacent to the Spence Cut.
- 4.- It is recommended that the Spence Zone be re-sampled and that the samples be assayed for all of the Rare Earth elements
- 4.- The other known radioactive zones on the property, namely the Poker and Cliff Zones be sampled and assayed for Rare Earths.

This report is respectfully submitted.

*H.G. Harper*

H.G. Harper, P.Eng.

Willowdale, Ontario.  
December 30, 1987.

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Filename: \Report\RE87Spric



CERTIFICATE OF ANALYSIS

TO: PRESTON RESOURCES LTD.  
ATTN: H. GRANT HARPER  
20 EGLINGTON AVENUE EAST  
SUITE 404, BOX 2038  
TORONTO, ONTARIO, M4R 1K3

CUSTOMER NO. 1478

DATE SUBMITTED  
17-AUG-87

REPORT 1970

REF. FILE 28883-F4

9 ROCKS

WERE ANALYSED AS FOLLOWS:

	METHOD	DETECTION LIMIT
Y PPM	ICPMS	1.000
LA PPM	ICPMS	0.100
SM PPM	ICPMS	0.100
EU PPM	ICPMS	0.050
GD PPM	ICPMS	0.100

DATE 08-OCT-87

X-RAY ASSAY LABORATORIES LIMITED

CERTIFIED BY 

RECEIVED 26 1987

SAMPLE	Y PPM	LA PPM	SM PPM	EU PPM	GD PPM
2390	55	630.	13.3	1.83	6.8
2391	39	59.8	6.0	1.72	5.2
2392	162	2400.	39.6	3.58	22.3
2393	43	48.7	8.4	1.49	6.6
2394	338	3680.	84.0	8.81	55.1
2395	118	2560.	41.7	3.89	21.7
2396	159	474.	21.8	3.56	18.3
2397	13	250.	4.8	1.32	2.5
2398	139	1070.	26.4	2.68	18.2





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## NOTE TO FILE:

No locational data was given with this report, other than the Township name.

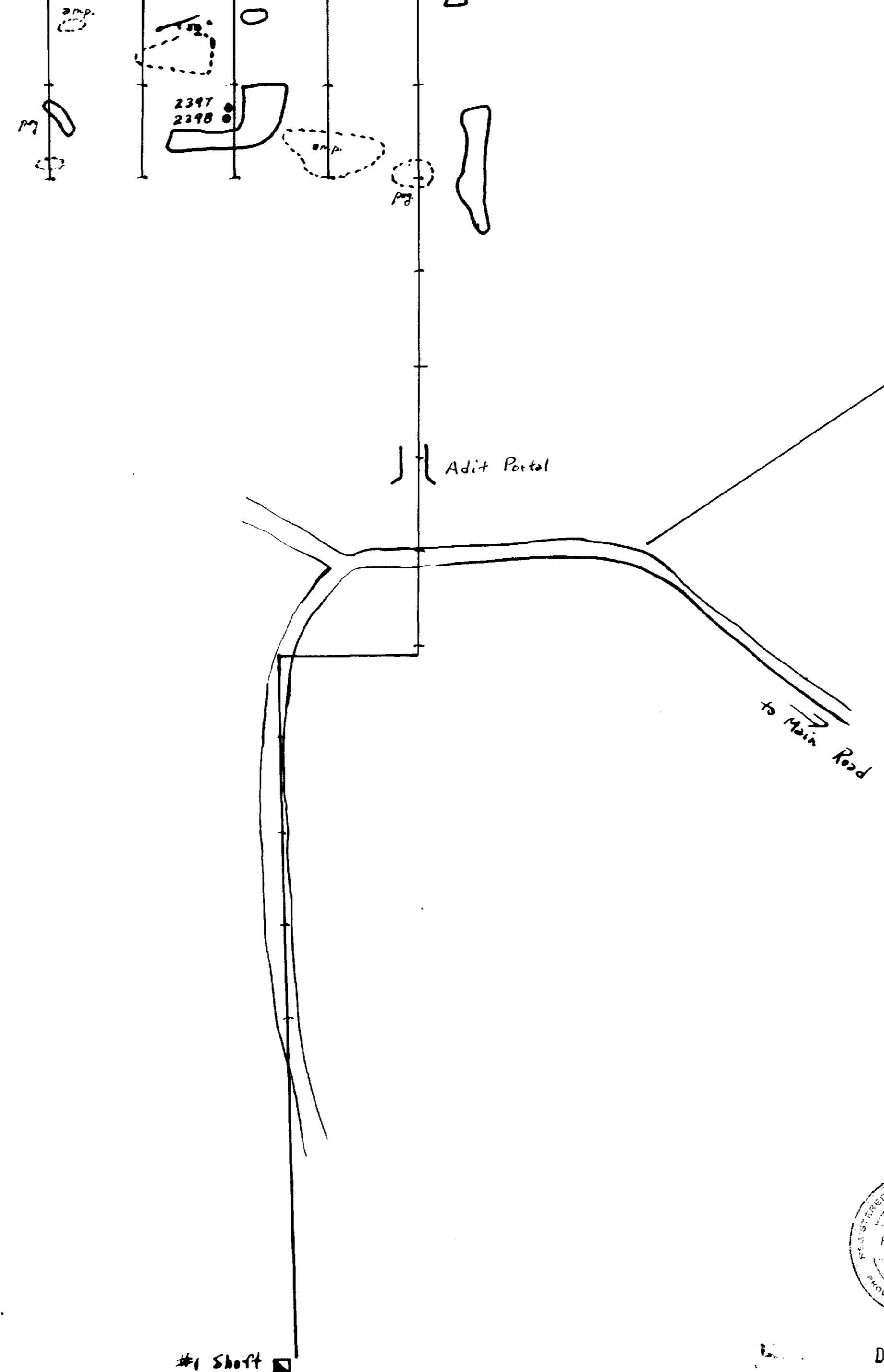
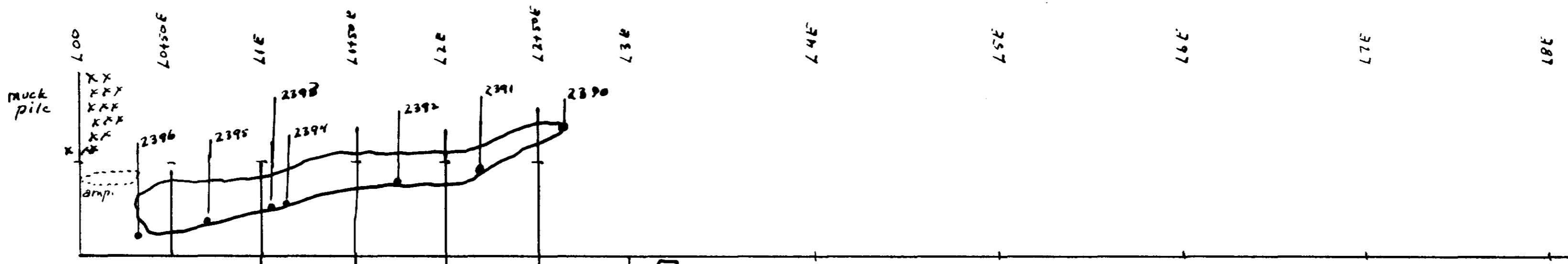
After some research, the most plausible location was determined to be Con. VIII, lot 20 (approximately - shaft location) - Amalgamated Rare Earth Mines Ltd. once held this ground.

Robert Owen

O.G.S.

Exploration Information Officer

BL. N 32° E Asc.



Preston Resources Ltd.  
 Spence Cut.  
 Rock Earth Sampling  
 1" = 50'  
 Sept 1987

DEC 3 0 1987

#1 Shaft

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