

Rock Geochemistry of Wanda Claims, Coal Harbour Area, Northern Vancouver Island

Nanaimo Mining Division

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NTS 92 L/12 E & W Lat. 50⁰37' Long. 127⁰45' Owner-Operator: B.D.Pearson, P.Eng. Author of Report: B.D.Pearson, P.Eng.

Dated: Dec. 10, 1984

GEOLOGICAL BRANCH ASSESSMENT REPORT

13,389

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Introduction

The Wanda Group of 68 claim units plus one fractional claim is centered 13 Km. west of Coal Harbour and 22 Km. southwest of Port Hardy on Northern Vancouver Island. It lies along the northern shore of Holberg Inlet and extends from the flats along the inlet up onto the crest of the Pemberton Hills to the north. Maximum elevation is 582 M. Except at the highest elevations, the claims are covered by a dense growth of mature timber consisting largely of cedar and hemlock, although logging carried out over the past year and currently in progress is beginning to yield a number of relatively clear areas.

The history of the area was covered in detail in a report submitted March 22, 1982. Briefly, much of the ground had been staked by Utah Construction and Mining Company (now Utah Mines) during the fall and winter of 1967-1968. At that time access was by boat along Holberg Inlet, or by an extremely difficult overland slog south from the logging road between Port Hardy and Holberg. Much of Utah's work was carried out from helicopter-supported base camps within the area. That company carried out soil geochemistry, and locally, detailed geological mapping, vertical magnetic intensity surveys using a fluxgate type magnetometer, and, in the vicinity of the Wanokana delta, an induced polarization survey. The work is reported in assessment reports authored by Young, 1969, Clouthier, 1971 and Ascensios, 1973. The area has also been mapped on a regional scale by Muller, working for the G.S.C. and by Northcote, working for the B.C.D.M. See bibliography for details.

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In recent years, an extensive network of logging roads has been developed in the area, initially by Rayonier, more recently by its successor company, Western Forest Products. Our work has been aided by the easier access, and by the numerous rock pits developed for road-fill, as well as the exposures of outcrop revealed by logging and slash-burning. We have also been assisted by the generosity of Western Forest Products in making available to us excellent topographic maps on a scale of 1 inch to 400 feet and more recently on scale of 1 to 5,000 and 1 to 15,000.

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The rocks for which analyses are presented in this report were collected in the course of field work carried out from March 1 through March 9, 1984. Most of the results of that field work were presented in a report dated March 22, 1984. Unfortunately the analytical work could not be carried out within that period and was done later. Those results are the subject of the present report.

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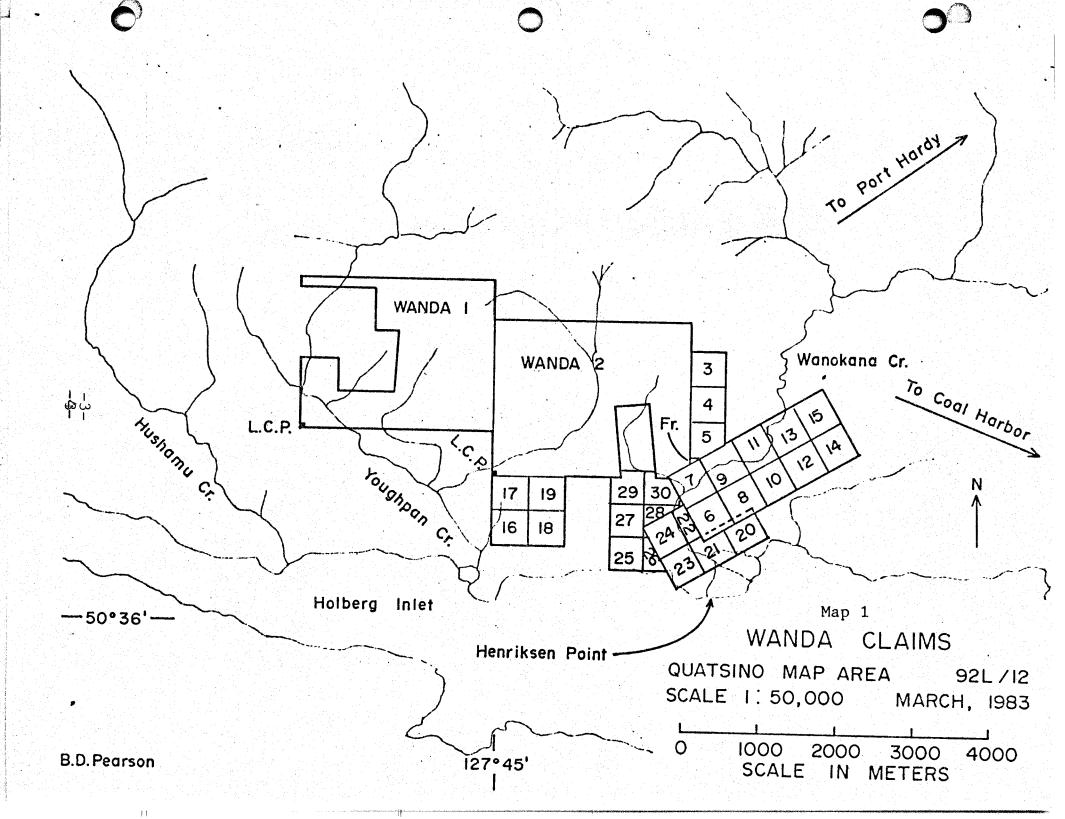


Table 1 Claim Record

Claim Name	Record	Number
and number	number	ofunits
Wanda 1	1079(3)	20
"2	1080(3)	20
" 3	1081(3)	1
" 4	1082(3)	1
" 5	1083(3)	1
* 6	1084(3)	1
"7	1085(3)	1
" 8	1086(3)	1
"9	1087(3)	1
" 10	1088(3)	1
" 11	1089(3)	1
" 12	1090(3)	1
" 13	1091(3)	1
" 14	1092(3)	1
" 15	1093(3)	1
" 16	1094(3)	1
" 17	1095(3)	1
" 18	1096(3)	1
" 19	1097(3)	1
" Fraction	1098(3)	Fraction

Owner: Bradford D. Pearson 7431 Lindsay Road Richmond, B.C. V7C 3M7

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Table 2 Claim Record

Additional Claims Acquired During Past Year

Claim Name and number	Record number	Number of units
Wanda 20	1473(6)	1
" 21	1474(6)	1
" 22	1475(6)	1
" 23	1476(6)	1
" 24	1477(6)	1
" 25	1478(6)	1
" 26	1479(6)	1
" 27	1480(6)	1
" 28	1481(6)	1
" 29	1482(6)	1
" 30	1483(6)	1

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Table 3 Statistics of Work Done

One silt sample was gathered from Wanda 2.

Approximately 40 rock samples were gathered from the following claims or their immediate periphery:

Wanda 2, 6, 7, 21, 23, 25 and 26.

Of the various samples collected, 21 rock samples and the silt sample*were analyzed by appropriate methods (to be detailed later) for the following elements: Hg, Ba[#], Au, As, Mo, Zn, P, Pb, Bi, Cd, Co, Ni, Fe, Mn, Cu and Ag.

* The silt sample was not analyzed for Hg. # Only nine samples were analyzed for barium.

Geological Setting

The geology of the Wanda claims has been discussed in detail in previous assessment reports and in the references listed in the accompanying bibliography. Briefly, the claims are underlain by Jurassic Bonanza volcanics with some (probably largely coeval) intrusives. The volcanics consist largely of andesitic tuffs, usually very fine grained, most of which have been slightly altered to the propylitic facies. Some zones of intense silicification have been developed locally, and there are occasional zones of clay alteration associated with the silicification. In addition there is a fragmental* unit noted only at the point where the main logging road crosses Wanokana Creek. The unit appears to be undeformed but is cut by a set of north-south joints and a fine-grained basalt dike of similar trend. To the west a hitherto undescribed sequence of felsic (largely rhyolitic) rock of limited extent can now be mapped.

* The fragmental unit is probably andesitic in composition.

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Sampling Methods

The silt sample was taken from the upstream side of a road crossing beyond the zone of disturbance of roadbuilding activity. It consisted of fines gathered below the water line. It was stored in a heavy kraft paper bag designed for such work.

Rock samples 84-3-9-4, -6, and -7 were grab samples taken from the broken rock present in a freshly-blasted rock-pit. Each aggregated about two pounds. Three samples were taken to assess the degree of variability present in the rock.

Rock samples 84-3-6-5 and 84-3-10-1 were grab samples, each an individual chunk weighing between one and two pounds. Sample 84-3-8-4 also fits this description.

Samples 84-3-8-1 and 84-3-8-2 were largely of clay alteration material sampled by channeling across the two to three foot shear zone using the pick of a rock hammer. Size- about $\frac{1}{2}$ Kgm.

Samples 84-3-6-1, -2, and -3 were chip samples taken over an area about ten feet in diameter. Sample 84-3-6-4 was collected by breaking chunks from a large (1 meter diam.) boulder. All samples were in range $\frac{1}{4}$ - $\frac{1}{2}$ Kgm.

Samples 84-3-3-1, -2, and -3 were channel samples gathered with the pick-end of a rock hammer across widths of one-third meter, one half meter and one meter respectively. Sample 84-3-3-4 was a chip sample gathered from numerous points across the exposed area of the gouge zone. Sample size approximated one Kgm.

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Samples 84-3-3-5, -6, -7, -8, and -9 were channel samples gathered along sub-vertical channels approximately one meter long. Each sample weighed approximately one kilogram.

All samples excepting the silt sample were collected in heavy-duty polyethylene bags supplied by Chemex Laboratories. Bags were secured closed with wire-and-plastic bag ties.

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Description of Rock Samples

84-3-3-1

Light tan (bleached?) cherty-looking rock, probably a v.f.g. rhyolitic tuff.

84-3-3-2

Black chert with v.f.g. dissem. sulfides (largely pyrite) and highly contorted banded (probably sedimentary-exhalative) pyrite.

84-3-3-3

Lt. tan to grey highly fractured, chertylooking rock (but may be tuff), strongly stained with limonite and manganese.

84-3-3-4

Fault gouge, largely clay, apparently bleached but slightly limonitic.

84-3-3-5

White, slightly limonitic, clay from shear zone. 84-3-3-6

> Clay from cross-cutting shear distinguished from above-mentioned shear by strong hematite and manganese stain.

84-3-3-7

White, slightly limonitic, clay from shear zone. 84-3-3-8

White, slightly hematitic, clay from shear zone. 84-3-3-9

Friable rock, probably originally an andesitic fragmental, highly chloritized and hematized.

84-3-6-1

Highly leached, light brown rock with malachite staining. Shoreline outcrop in intertidal zone. Probably an intermediate volcanic. 84-3-6-2

Similar to 84-3-6-1 and from same location 84-3-6-3

As above.

84-3-6-4

Black feldspar porphyry. Phenocrysts about 2 mm. in diameter. Dissem. pyrite (2-3%) gives surface a heavy limonitic coating. From large float boulder above shoreline where last three specimens were collected, but highly irregular and probably derived from hillside above.

84-3-6-5

Propylitically altered green and esitic tuff with disseminated pyrite (approx. 1-2%)

84-3-8-1

Clay-silica-pyrite-saussurite from alteration zone cutting andesite in creek-bed.

84-3-8-2

Light grey clay from same zone.

84-3-8-4

Pyritic andesite tuff taken from a point in the outcrop intermediate between the propylitic and the clay-silica zones. Some saussurite.

84-3-9-4

84-3-9-6

84-3-9-7

Highly silicic white rock with much disseminated white clay. Almost certainly an altered rhyolitic tuff, as evidenced by very fine banding in one specimen, and a cherty appearance. Rare fragments were noted in other specimens taken from this outcrop area. Pyrite very rare but is present as small cubes (much less than 1 mm. in cross-section). 84-3-10-1

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Similar to 84-3-6-5, but with heavier concentrations of pyrite as fine-grained masses. Propylitically-altered andesite tuff. Base-2,25 - 1

Analytical Methods

All analytical work was performed by Chemex Labs of North Vancouver, B.C. Silt sample 84-1 was analyzed after dry sieving to collect the -80 mesh fraction. Rock samples were crushed, subsampled and ring pulverized to approximately -100 mesh. All samples were run for gold by fire assay and neutron activation analysis. The silt sample was then analyzed for thirteen elements using inductively coupled plasma techniques after a perchloric-nitric acid digestion. All rock samples were also analyzed for 13 elements using inductively coupled plasma after perchloricnitric acid digestion. They were also analyzed for mercury using flameless atomic absorption techniques. Samples 84-3-3-1 to 84-3-3-9 were also analyzed for barium after a total digestion using perchloric-nitric-hydrofluoric acid, again using atomic absorption techniques.

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4-3-3-3	90	<1	69	300	6	<2	(0.5	14	<1	3.81	485	55	0.4			 -		
4-3-3-4	60	9	26	355	27	<2	<0.5	6	<1	3.56	94	159	0.4					-
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4-3-6-2	190	19	<1	280	7	<2	<0.5	6	6	4.38	15	680	<0.2					•
4-3-6-3	105	5	2	910	<1	<2	(0.5	10	8	2.43	15	445	<0.2					-
4-3-6-4	<10 770	5	<1	430	{!	(2	<0.5	15	6	4.90	37	50	<0.2					-
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4-3-10-1	2600	12	35	145	11	<2	2.5	49	19	30.50	1650	120	3.6		·	1		

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CHEMEX LABS LTD.

CERTIFICATE OF ANALYSIS

212 BROOKSBANK AVE NORTH VANCOUVER, B.C. CANADA V7J 2C1

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TELEPHONE: (604) 984-0221

ANALYTICAL CHEMISTS

• GEOCHEMISTS

REGISTERED ASSAYERS

TELEX: 043-52597

TO : PEARSON, MR. BRAD

7431 LINDSAY ROAD RICHMOND, B.C. V7C 3M7

CERT. # A8411286-001-A INVOICE # : 18411286 DATE : 23-APR-84 P.O. # : NONE

Sample	Ргер	Hg	Ba	AU NAA	and a start of a start	
description	ncode	ppb	n	pob		
84-3-3-1	205	90	700	<1		na se
84-3-3-2	205	1500	4300	10		
84-3-3-3	205	150	140	10		
84-3-3-4	205	220	100	<1		
84-3-3-5	205	180	200			
84-3-3-6	205	70	40	<1		l some som som andered
84-3-3-7	205	170	100	<1	ار روا ند - والماري	
84-3-3-8	205	40	40	<1		
84-3-3-9	205	40	180	<1		n an an an Anna an Ann Anna an Anna an
84-3-6-1	205	3000		7		
84-3-6-2	205	910		8		
84-3-6-3	205	400		<1		
84-3-6-4	205	160		3		
84-3-6-5	205	170		52		
84-3-8-1	205	30	- m	2	n an	
84-3-8-2	205	30		21		
84-3-8-4	205	20		6	n an an Arabana an Arabana An Arabana an Arabana a	
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84-3-9-6	205	160		<1	n an an tha a Tha an tha an t	
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MEMBER CANADIAN TESTING ASSOCIATION

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HartBuchler Certified by .

Discussion of Results

Map 2 (front pocket) shows the locations and assays of all samples excepting those taken from Delta Rock Pit immediately west of the Wanokana delta. Samples taken from this rock pit are located on Maps 3 and 4 (rear pocket). Map 3 shows the geology of the pit walls and presents the assays for each sample. Map 4 is a plan map of the pit and merely shows the location of the samples with respect to one another. Assays are presented in tabular form in order to more easily allow for inter-sample comparison. Assays for Bi, Cd and Ni are so low or so uniform that they have not been included on the maps, but may be referred to on the assay report sheets.

The following generalizations may be made with respect to the samples taken from Delta rock-pit. The high barite content of Samples 84-3-3-1 and 84-3-3-2 is strongly indicative of exhalative origin, and confirms the impression gained by a visual inspection of the banded nature of the pyrite mineralization. The high mercury content of the banded material suggests that that element may be a useful tracer for such bands, and its detection in soil samples is probably a valuable guide to use. The high arsenic value of 84-3-3-2 (915 ppm) suggests the possibility that gold exists within the hydrothermal system, even though gold values in the samples taken were very low (10 ppb). Copper, molybdenum and cobalt are also very high in sample 84-3-3-2 (345 ppm, 55 ppm, and 132 ppm respectively), and it is clear that the horizon sampled warrants further investigation along strike and at depth. Aside from these two samples, the rest of the sampling in the quarry yielded unremarkable results.

Sampling from a rock pit on Wanokana 1000 yielded two rocks of particular interest. The location is within a larger area of

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propylitic alteration, and pyritic veining is common in what was probably an andesitic tuff. Both samples are high in gold (52 ppb and 876 ppb) and in arsenic (370 ppm and 2600 ppm). As would be expected, silver is also above average (1.8 ppm and 3.6 ppm). The propylitic alteration probably overlies a zone of more intense alteration of the sort that can be noted in outcrop at the intersection of Wanokana 1000 with Wanokana Main.

Also of interest are samples taken from a shoreline outcrop immediately southeast of the southeastern corner of Wanda 20. Copper values in three samples are 445 ppm, 880 ppm, and 8970 ppm. As would be expected of such high values, copper mineralization is visible to the naked eye in the form of malachite. The rock is badly leached, but was probably an andesitic tuff which has been altered to some facies above the propylitic zone. Leaching (the rock is in the intertidal zone) makes identification difficult.

Rhyolitic tuff was sampled at a location midway between Wanda 27 and Wanda 18. Assay values for all elements were very low. Small amounts of very-fine-grained pyrite were noted in the specimen, mostly localized along highly contorted fractures. They do not appear to represent a possible indicator of gold mineralization.

The single silt sample taken (84-1) showed no values of significance, as judged by our previous experience with this area.

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Statement of Qualifications

Bradford D. Pearson

S.B., Massachusetts Institute of Technology, 1950. M.A., Boston University, 1961.

Graduate work in Economic Geology, Harvard University, 1955-1956.

Member, Association of Professional Engineers of B.C. Fellow, Geological Association of Canada Member, G.S.A., A.A.A.S., C.I.M., M.A.C.

Have practiced as an exploration and mining geologist in Western Canada since 1962. Experience includes four and a half years of underground mining work with much experience in sampling procedures involving chip and channel sampling of rock exposures. Have worked with carbonate-hosted lead-zinc deposits, massive sulfides, porphyry copper-molybdenum deposits, uranium and precious metal deposits, heavy oil, tar sands and natural gas drilling projects. Heavy emphasis on geochemical approaches to exploration.

Statement of Costs

Personnel

	B.D.Pearson	
	Office time during period April 15	
	to May 15 – 1½ days @ \$425	\$637.50
	Office time during period Dec.3	
,	to Dec.14 – 1½ days @ \$425	637.50
Assays	Chemex Laboratories	486.70
Drafting	1 hour @ \$20.00	20.00
Typing	15 pages @ \$5.00	75.00
Xeroxing	and map reproductions	38.19

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Plus credit from PAC account

\$1,894.89 505.11

\$2,400.00

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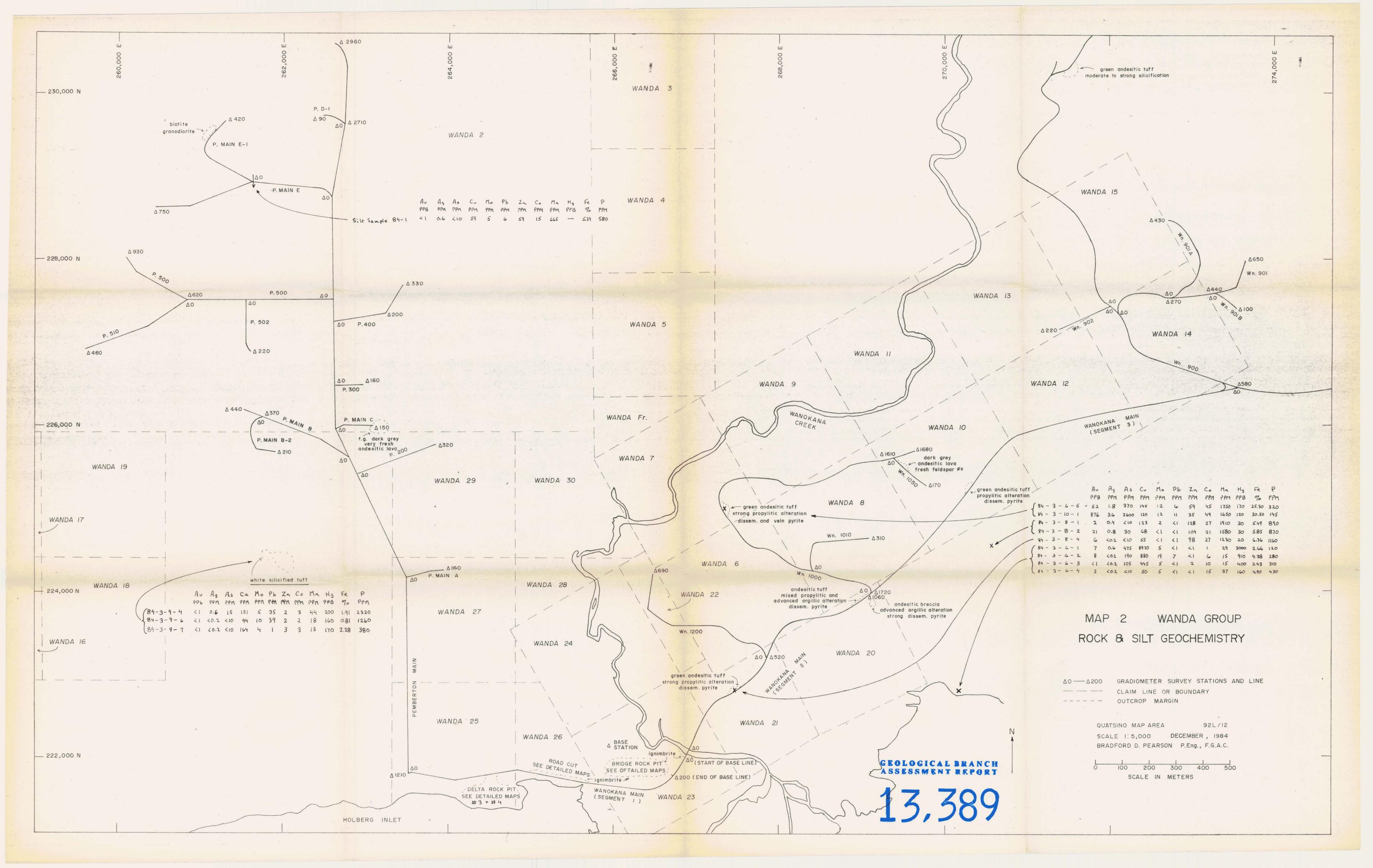
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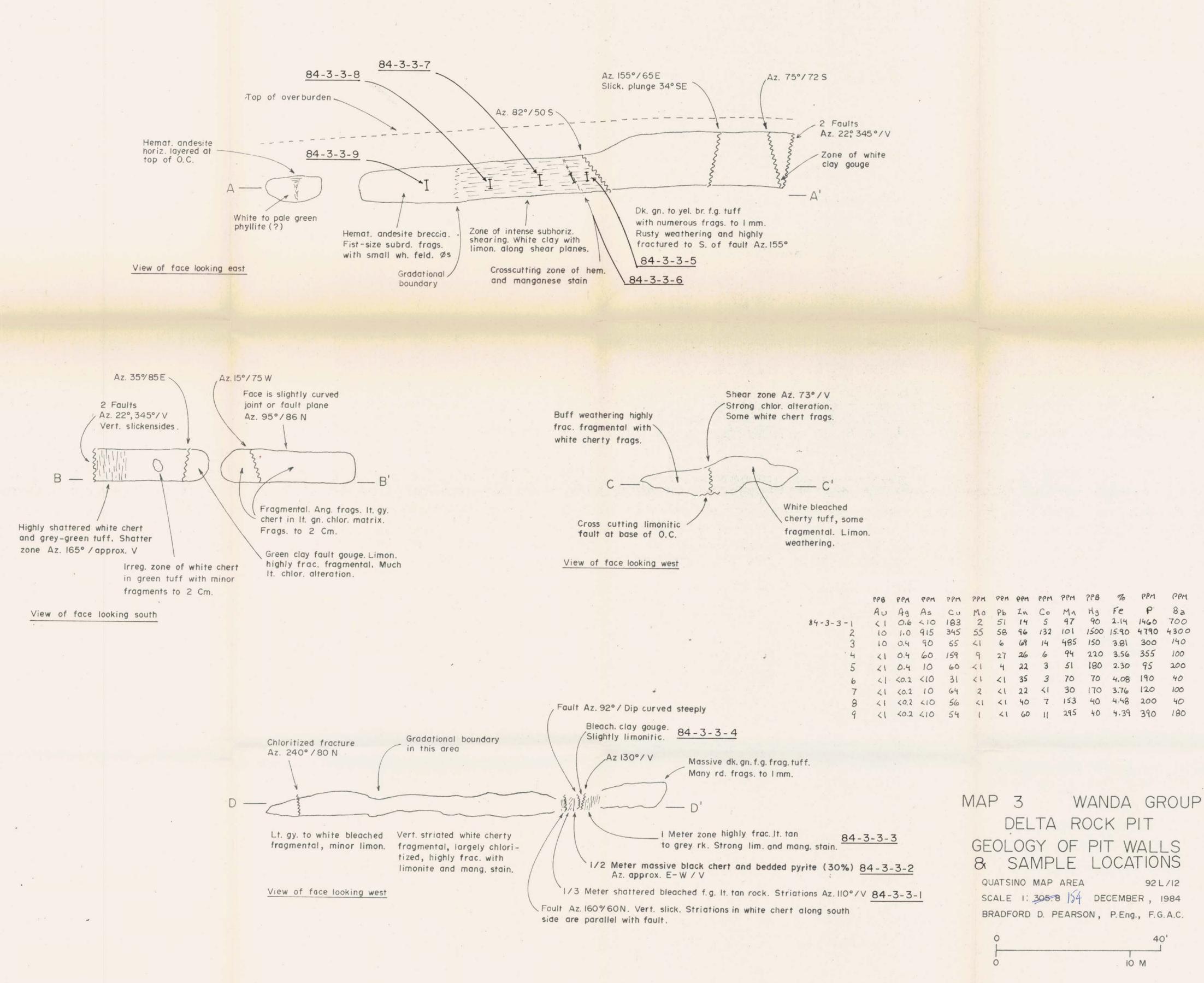
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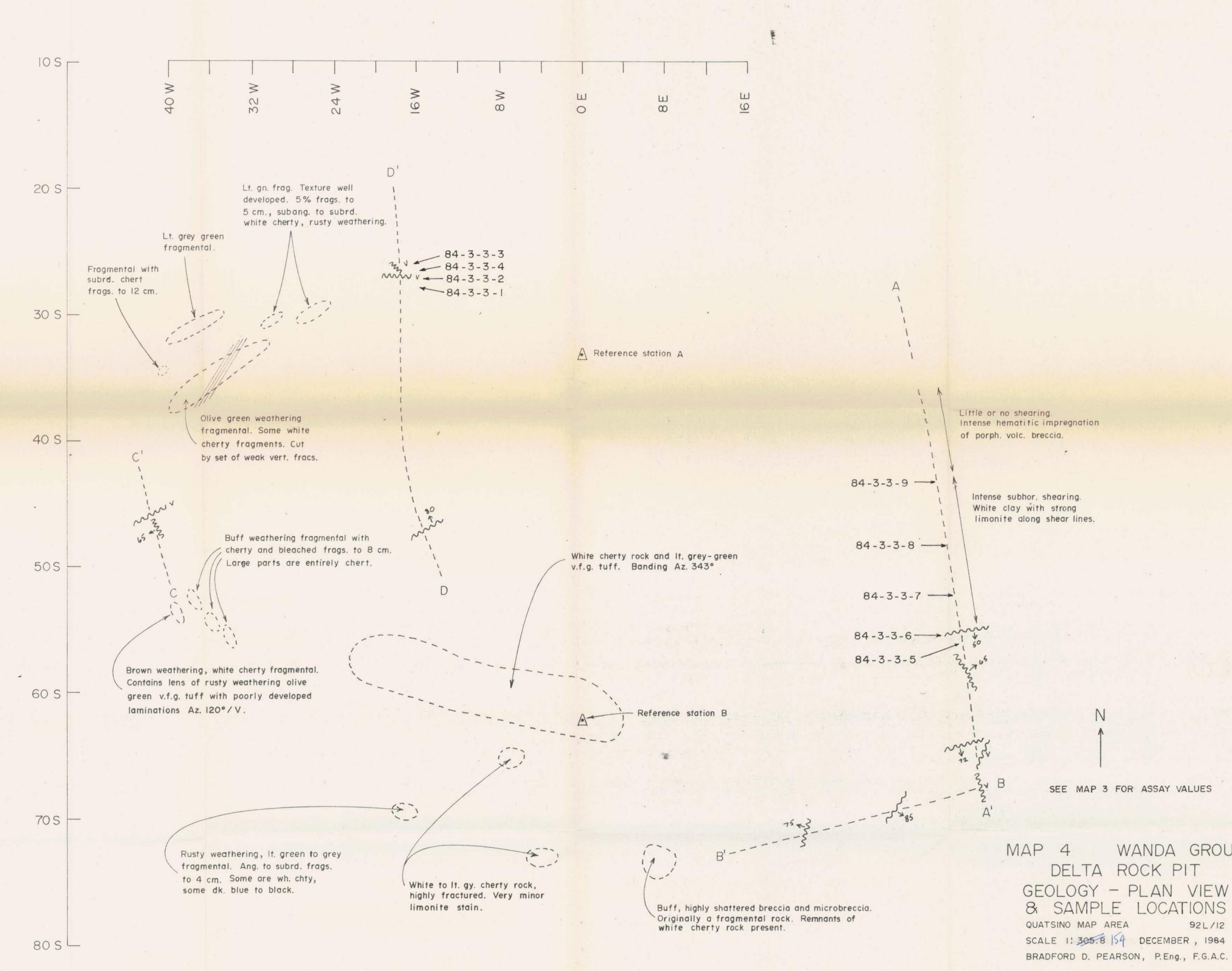
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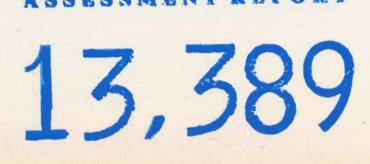
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WANDA GROUP 92L/12 40'

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