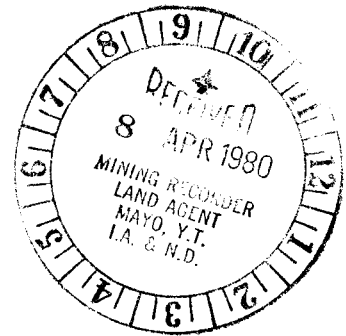




CCH Resources Ltd.

Assessment Report

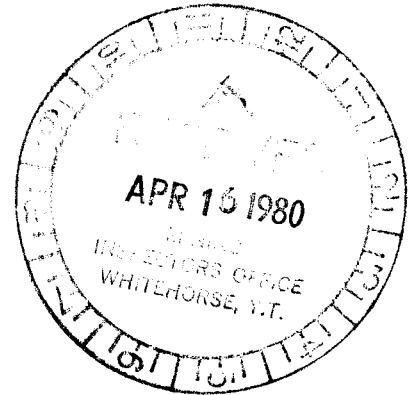
Geochemical Survey
Geological Mapping



EPD Claims 1 to 84

115- P- 9, 10, 15, 16

63° 45' N 136° 30' W



Mayo Area

Yukon Territory

D. R. Kennedy
March 21, 1980.

090542

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Attached:

EPD 1-84	Sketch map $\frac{1}{2}$ mile = 1"		
Ty-46	EPD Group, Geology	1:5,000	1980
Ty-48	EPD Group, Detail Soil Geochem., Sn	1:5,000	1979
Ty-49	EPD Group, Detail Soil Geochem., W	1:5,000	1979
Ty-50	EPD Group, Detail Soil Geochem., Cu	1:5,000	1979
Ty-51	EPD Group, Detail Soil Geochem., Zn	1:5,000	1979
Ty-52	EPD Group, Detail Soil Geochem., Ag	1:5,000	1979

INTRODUCTION

The EPD claims straddle the lower part of the Oliver Creek drainage area just south of the McQuesten River. A claim sketch is attached.

The claims are owned by CCH RESOURCES LTD. of Toronto, Ontario.

The work outlined in this report was conducted intermittently from May 25, 1979 to September 5, 1979 by CCH RESOURCES LTD. as part of the Cortin Joint Venture's exploration program.

EPD Group

Exploration History

There are no records of exploration work or mineral discoveries in the EPD area before CCH Resources Ltd. sampled Oliver Creek in 1977. Pan values (THMC) up to 7.35% Sn and 1.90% WO_3 prompted ground acquisition in 1978, when claim line sampling and preliminary detail geochemistry traced an area of highly anomalous Sn-Zn-Cu-Ag values in the centre of the claim group. One piece of malachite-stained breccia float running 0.18% Sn, 0.84% Cu, 0.15% Zn and 45 g/t Ag was also found in 1978.

The EPD group totals 84 claims.

Geology

Maps Ty 46 and 47 show the areas mapped this year by B. Paul. Outcrop is poor, particularly between the West Zone and Discovery Zone, where the rounded hill shoulder is blanketed by a thick moss and scrub cover. Most of the claim group lies below tree-line. In addition to obscuring outcrop, the soil and vegetation cover may become a problem in the future due to its inherent instability. A number of mudslides occurred in 1979 after heavy rains.

Bedded rocks are dominantly micaceous quartzites, phyllites and argillaceous quartzites of the Yukon Group, a remarkably monotonous series with no evident marker horizons or lithological trends. Carbonate horizons have not been found on the property to date. Foliation dips are gentle to moderate southerly. The relationship between bedding and foliation is not clear, and though the two are probably coincident much of the time, one outcrop was found in 1978 which showed foliation dipping some 30° steeper than bedding. "S" and "Z" folds are rare, and only one outcrop, immediately above the Hawk showing, had appreciable fabric distortion. Several visitors to the property have felt the metasediments may have a strong volcanogenic component.

Intrusive Rocks

Granites, pegmatites, "greenstones" and biotite-dacites have been found to date.

The granite, which outcrops more than 3 km west of the Discovery Zone, is a white, medium-grained muscovite granite with accessory chlorite and tourmaline. It has not yet been examined in thin section, but topaz and fluorite are almost certainly present.

Pegmatites are also rare, but there is evidence to suggest they increase in number towards the granite. Tourmaline, Kspar and rose quartz are the most common constituents.

"Greenstones" found as float and in outcrop vary in composition from gabbroic to dioritic, are frequently chloritised and sheared, and occasionally mineralised. It is not known whether they form dykes or sills, nor whether they are extrusive or intrusive. Furthermore, their relationships with the country rocks, the granite, and the mineralisation are in doubt.

An extensive area of biotite dacite porphyry was found east of Oliver Creek, and the genesis, age, and configuration of this is just as much an unknown.

Structure

EPD lies on the southern limb of the McQuesten anticline, all dips being toward the south. The two most important structural elements are brecciated shear zones and faults.

The shear zone (or zones) are thought to be oriented east-west, of major dimensions, and to embrace at least two periods of movement. In the Mayo-McQuesten area, with its known enrichment in a variety of metals, the problem of ground preparation is perhaps the most important factor in determining the location and extent of economic mineralisation. Here, on EPD, we are lucky enough to have a beautiful example of ground preparation in the form of these brecciated shear zones.

Some of the mineralised specimens from the Discovery Zone and the West Zone are identical in hand specimen, and a general east-west continuity of structure is evidenced by the geochemical trends shown on Map Ty 53.

Faulting on the property can be inferred from the soil geochemistry patterns. Referring to Map Ty 53 it will be seen that some of the Sn anomalies appear to run across Oliver Creek, but the majority of the Ag-base metal values do not. This abrupt cut-off of the geochemical trends implies a north-south dislocation along Oliver Creek. It also suggests that at least some of the tin mineralisation may predate the faulting, while the remainder of the tin, and most of the Ag-base metal deposition postdates the faulting.

Alteration

Alteration products on the EPD Group are widespread and it is difficult to find a rock without some evidence of chlorite, tourmaline, quartz or sulphide veining. More pervasive alteration, generally of chlorite-tourmaline-sulphide character, is probably confined to the vicinity of the shear zones. There appear to be two generations of chlorite, one a product of low-grade regional metamorphism, the other caused by more recent hydrothermal events.

Geochemical Methods

All of the samples were collected directly below the organic layer, though occasionally the humus layer was in excess of 0.3 m and at these locations humus samples were inevitable. Some orientation auger sampling was done.

The -80 mesh fraction was analysed for Sn, W, Cu, Pb, Zn and Ag, by Bondar-Clegg and Co. in their Whitehorse, Vancouver and Ottawa laboratories.

Tin was analysed by ammonium iodide fusion, 1 NHCl leach, followed by atomic absorption spectrophotometry, the technique developed by Stanton and further described by A. Smith of the GSC.

Tungsten was sintered with Na_2CO_3 followed by colourimetric analysis using zinc diphioI.

Copper, Lead, Zinc and Silver were treated in the standard way with HNO_3 - NHCl and analysed by atomic absorption spectrophotometry.

The XRF unit in Ottawa used for tin check analyses is a discrete-scan instrument.

1979 Geochemical Results

The soil geochemistry results are shown on Maps Ty 48 to 53. These maps are largely self-explanatory, and the following section highlights some of the more important features.

TIN (Map Ty 48) - 15 very strong soil anomalies have been delineated, and a general east-west trend is evident. The low background results over the hill shoulder in the centre of the grid are thought to be due to depth of overburden. Some continuity of anomalies across Oliver Creek contrasts with the dislocation evident with other elements. The anomaly near the West Zone is displaced from the observed surface mineralisation. This is probably because the mineralised breccia float is found as angular scree blocks in a gully, where weathered tin minerals "dive" below sampling depth, whereas the geochemical anomaly 100 m to the south is from an area of stable soil cover, which would be more likely to "hold" tin minerals near surface sampling depths. Limited auger sampling had a tendency to shift the peak of the soil anomalies as much as 20 m either way, which may indicate dip of mineralisation. Auger sampling also increased the tenor of the Sn anomalies, particularly on line 109W, and augering may greatly assist geochemistry in areas of deeper overburden cover. The Fewmet Zone, discovered late in 1979 dies out to the east, but this is probably due to increased organic overburden.

TUNGSTEN (Map Ty 49) - Apart from a strong narrow anomaly between 109W and 115W, which strengthens the concept of east-west structural continuity, tungsten soil values are weak and ill-defined. This is upsetting because a pan concentrate from Oliver Creek assayed 1.90% WO_3 (THMC). Reconnaissance soil sampling suggests that values may pick up nearer the granite to the north-west of the present detail grid.

COPPER (Map Ty 50) - A broad coincidence with tin is seen, but several disparities are evident in detail. The general east-west strike of the anomalies is abruptly terminated by Oliver Creek, which suggests that the creek follows a line of dislocation which may be younger than some tin mineralisation, but older than most Ag-base metal phases. The strong north-west strike near the West Zone is confined to a talus slope and represents down-slope dispersion.

ZINC (Map Ty 51) - The zinc results have a pattern similar to copper, but the down-slope dispersion near the West Zone, and the cut off of anomalies east of Oliver Creek are more pronounced.

SILVER (Map Ty 52) - The silver plot shows characteristics similar to both the tin pattern and the base metal patterns, suggesting that silver mineralisation occurred in at least two distinct phases. Again, down-slope dispersion is evident over the West Zone, and particularly noticeable is the lack of silver over the Fewmet Zone.

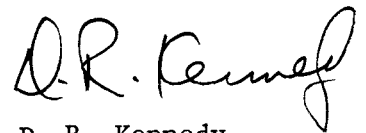
Recommendations

1) A very detailed auger sampling program should be carried out in the area of the Discovery Zone.

2) Several NQ diamond drill holes should be drilled to assess the geochemical anomalies.

Vancouver, B. C.

March 20, 1980



D. R. Kennedy

Project Geologist

Statement of Qualifications

The work on the EPD claims was carried out under the supervision of A. Woodsend, Field Manager, North and D.R. Kennedy, Project Geologist.

Mr. Woodsend is Field Manager, North for CCH RESOURCES LTD. He holds a B.Sc. (Hons.) Degree in Geology from Southampton University, England, and has practiced his profession continuously for nine years in a variety of countries and geological environments.


Mr. Kennedy is a Project Geologist for CCH RESOURCES LTD. He holds a B.Sc. Degree from Acadia University, Wolfville, Nova Scotia, and has practiced his profession as a mineral exploration geologist for the past ten years. Mr. Kennedy is a member of the Geological Association of Canada and the Canadian Institute of Mining and Metallurgy.

Mapping on the EPD group was conducted by B. Paul, currently an M. Sc. student at University of Winnipeg. Soil sampling was carried out by H. Happyjack and C. Blacksmith, both of Miquelon, Quebec, M. Warwick of London, Ont., T. Hawke and K. Patton of Lindsay, Ont. and R. Mitchell of Vancouver, B. C.

Statement of Expenditures

1300 Soil samples analysed for Sn, W, Cu, Pb, Zn, Ag @ \$10.65 -	\$13,845.00
22 Geologist days at \$60.00/day	1,320.00
84 Assistant days at \$45.00/day	3,780.00
10 Supervision days at \$75.00/day	750.00
17 Helicopter hours at \$400.00/hour	6,800.00
Drafting and interpretation	1,000.00
Food and supplies 116 man days at \$12.00/day	<u>1,392.00</u>
	\$28,887.00

Vancouver, B.C.
March 20, 1980

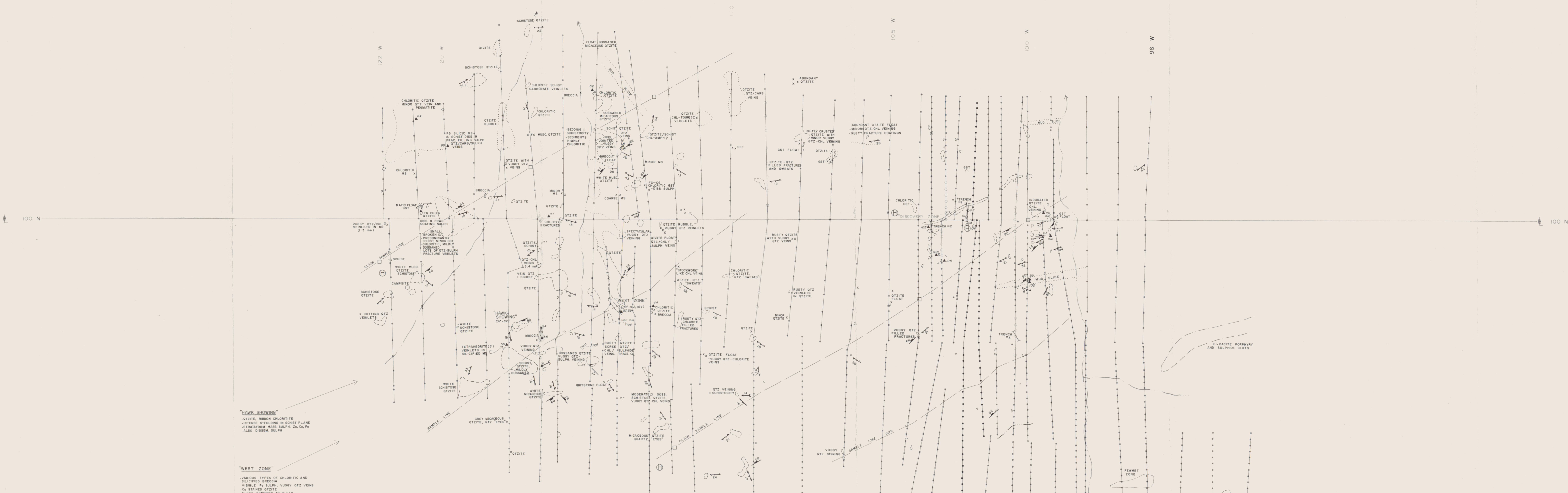

D. R. Kennedy
Project Geologist



CLAIM SKETCH

CCH RESOURCES LTD.
 EPD GROUP
 115-P-9, 10, 15, 16.
 SCALE 1/2 mile = 1 in.

27 Feb 1980. *Ad.*



"BEST ZONE"
 LARGELY TYPE OF CHLORITIC AND
 DIOGENITE SCHIST
 STRONGLY FOLIATED
 QUARTZITE
 ALSO SOME GABBRO

"WEST ZONE"
 LARGELY TYPE OF CHLORITIC AND
 DIOGENITE SCHIST
 STRONGLY FOLIATED
 QUARTZITE
 ALSO SOME GABBRO

LEGEND

- GRANITE
- DACITE
- DIABASE, GABBRO, DERIVATIVE SCHISTS ('GREENSTONE')
- QUARTZITE, GNEISS, SCHIST

- TRACE OF MINERALIZED FLOAT, QUARTZ BRECCIA, CHLORITE BRECCIA
- OUTLINE OF ABUNDANT FLOAT
- FLOAT OCCURRENCE
- STRIKE, DIP SCHISTOSITY/BEDDING
- STRIKE, DIP JOINTING/FRACTURING
- "S" and "Z" FOLD AXIAL TRACE
- INTRUSIVE CONTACT
- FRENCH CONTACT

- SOIL SAMPLE LINES
- HAND SAMPLE LOCATION AND NUMBER (E9-79-106, etc.)
- DIAMOND DRILL HOLE-COLLAR AND AZIMUTH ONLY (DDH-E9-79-010)
- STREAM
- CLAM POSTS
- HELICOPTER PAD

ABBREVIATIONS

QTZ - QUARTZ	TOUR - TOURMALINE
CHL - CHLORITE	AMPH - AMPHIBOLITE
GS - GREENSTONE	DIOG - DIOGENITIC
SLPH - SULPHIDE	MS - METASEDIMENTS
CARB - CARBONATE	- PARALLEL
MUSC - MUSCOVITE	O/C - OUTCROP
FE, CO - FINE GRAINED, COARSE GRAINED	
GOSS - GOSSANED	

**CORTIN JOINT VENTURE
 CCH RESOURCES LTD.**

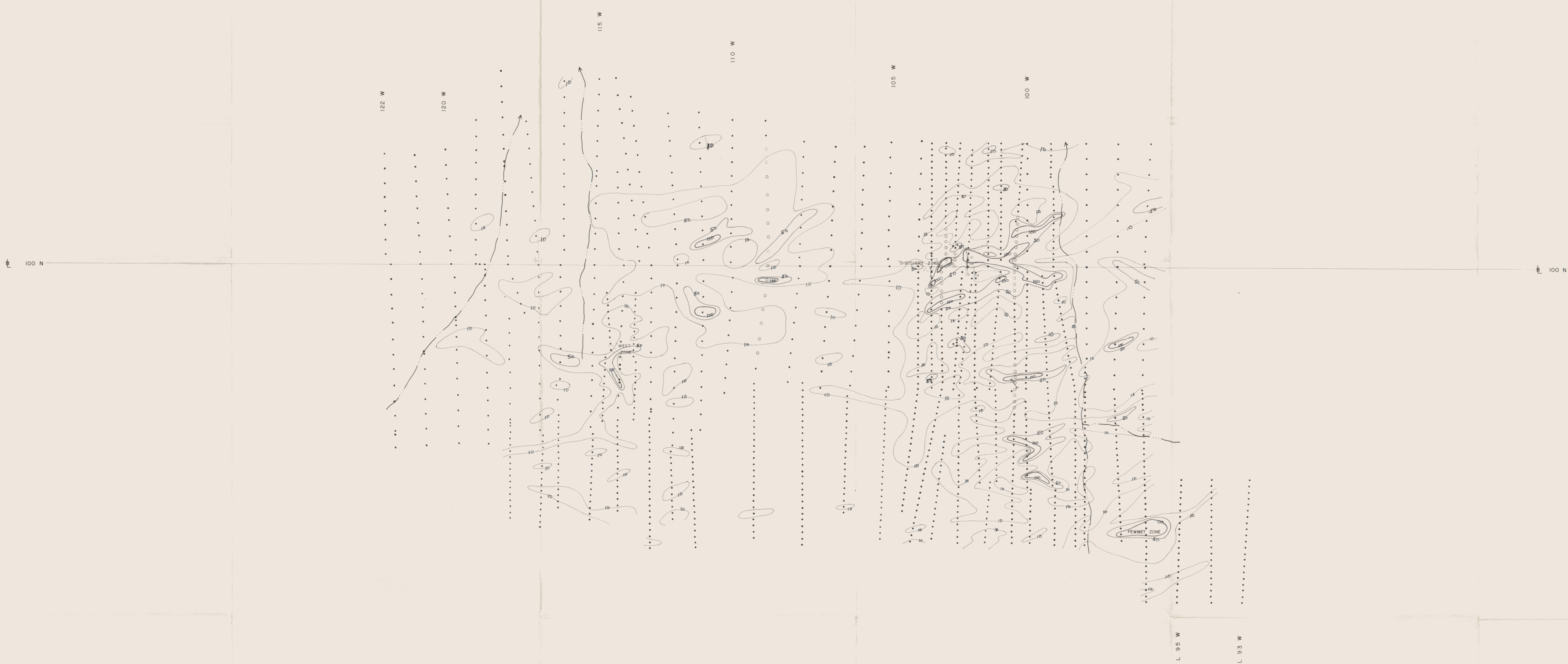
115 - P - 15

EPD GROUP

GEOLOGY

Drawn by: DFN Date: NOV 8, 79 Project No: 704 Plan No: TY-46

Revised by: Date: Scale: 1:5000

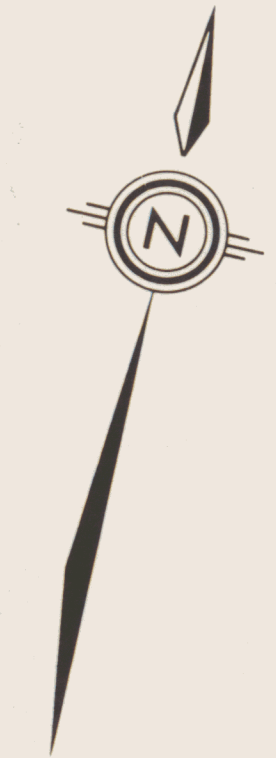


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	N 10 < 50
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	SOIL SAMPLE LOCATION
	AUGER SAMPLE LOCATION
	TRENCH
	DIAMOND DRILL HOLE (DDH-EPD-79-02, MC.) - COLLAR AND AZIMUTH ONLY
	CREEK

CORTIN JOINT VENTURE
CCH RESOURCES LTD.

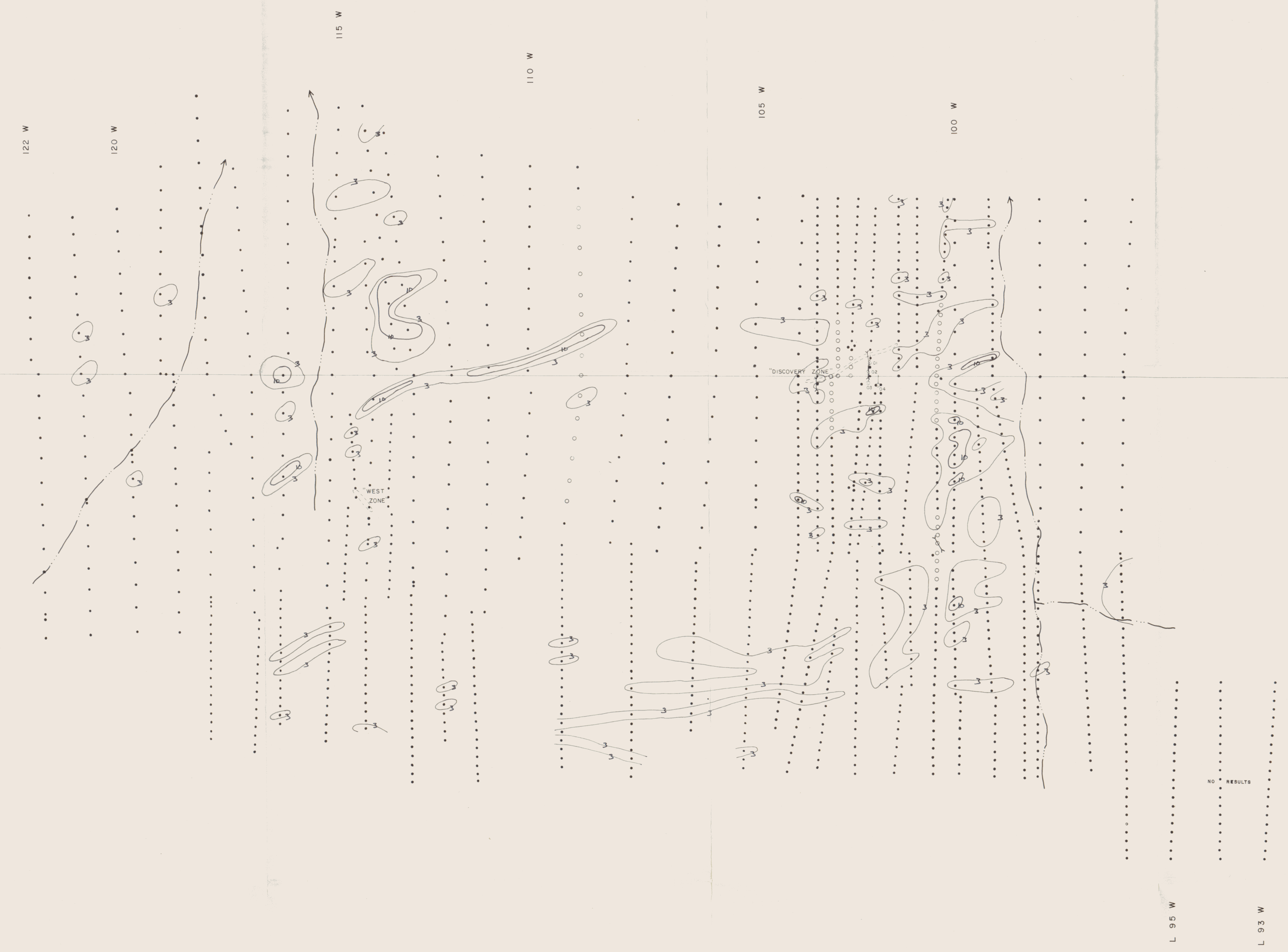
115-P-15
EPD GROUP
DETAIL SOIL GEOCHEMISTRY

Sn *A.R. Kennel*
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RELEASED BY: DATE: SCALE: 1:5000
TY-48



100 N

100 N

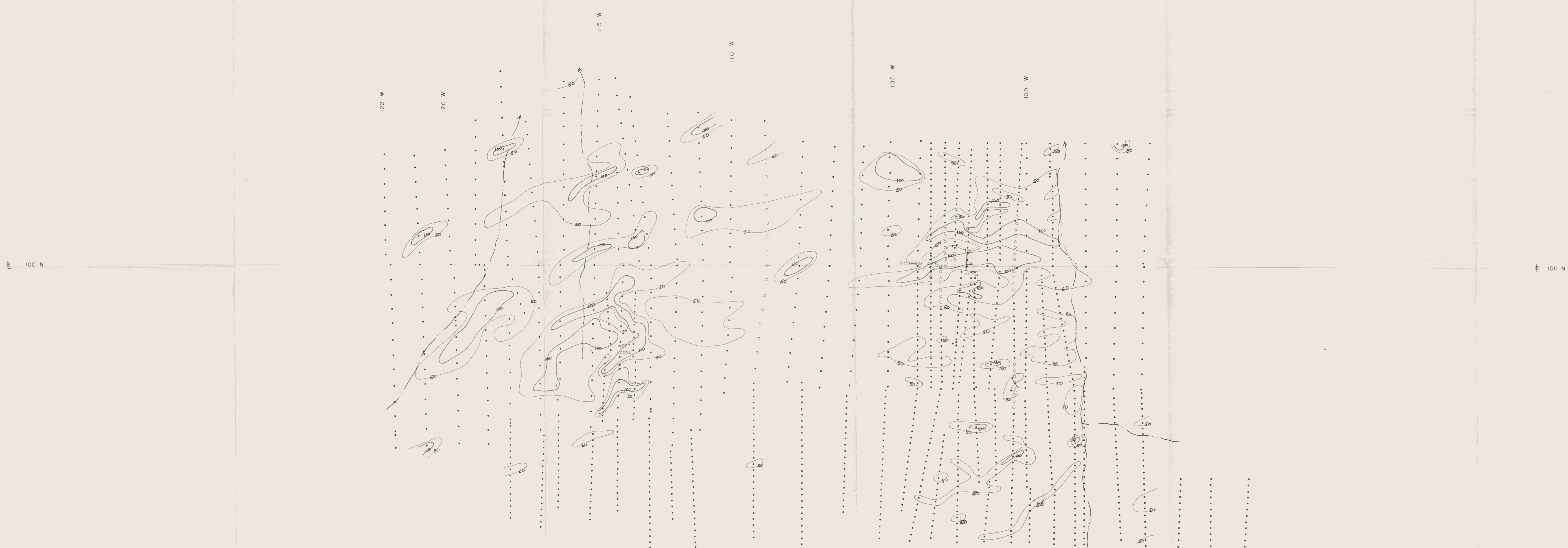
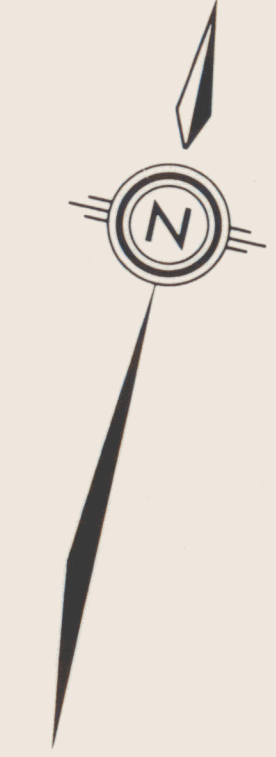


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	< 3
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	SOIL SAMPLE LOCATION
	AUGER SAMPLE LOCATION
	TRENCH
	DIAMOND DRILL HOLE (DDH-EPD-79-02, etc.) - COLLAR AND STAMPTH ONLY
	CREEK

CORTIN JOINT VENTURE
CCH RESOURCES LTD.

115-P-15
 EPD GROUP
 DETAIL SOIL GEOCHEMISTRY

W *D.R. Kessel*
 DRAWN BY: DFN DATE: NOV. 8, 79 PROJECT NO.: 704 SCALE: 1:5000
 REVISED BY: DATE: SCALE: 1:5000 TY-49



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	SOIL SAMPLE LOCATION
	AUGER SAMPLE LOCATION
	TRENCH
	DIAMOND DRILL HOLE (DDH-EPD-79-02, etc.) - COLLAR AND AZIMUTH ONLY
	CREEK

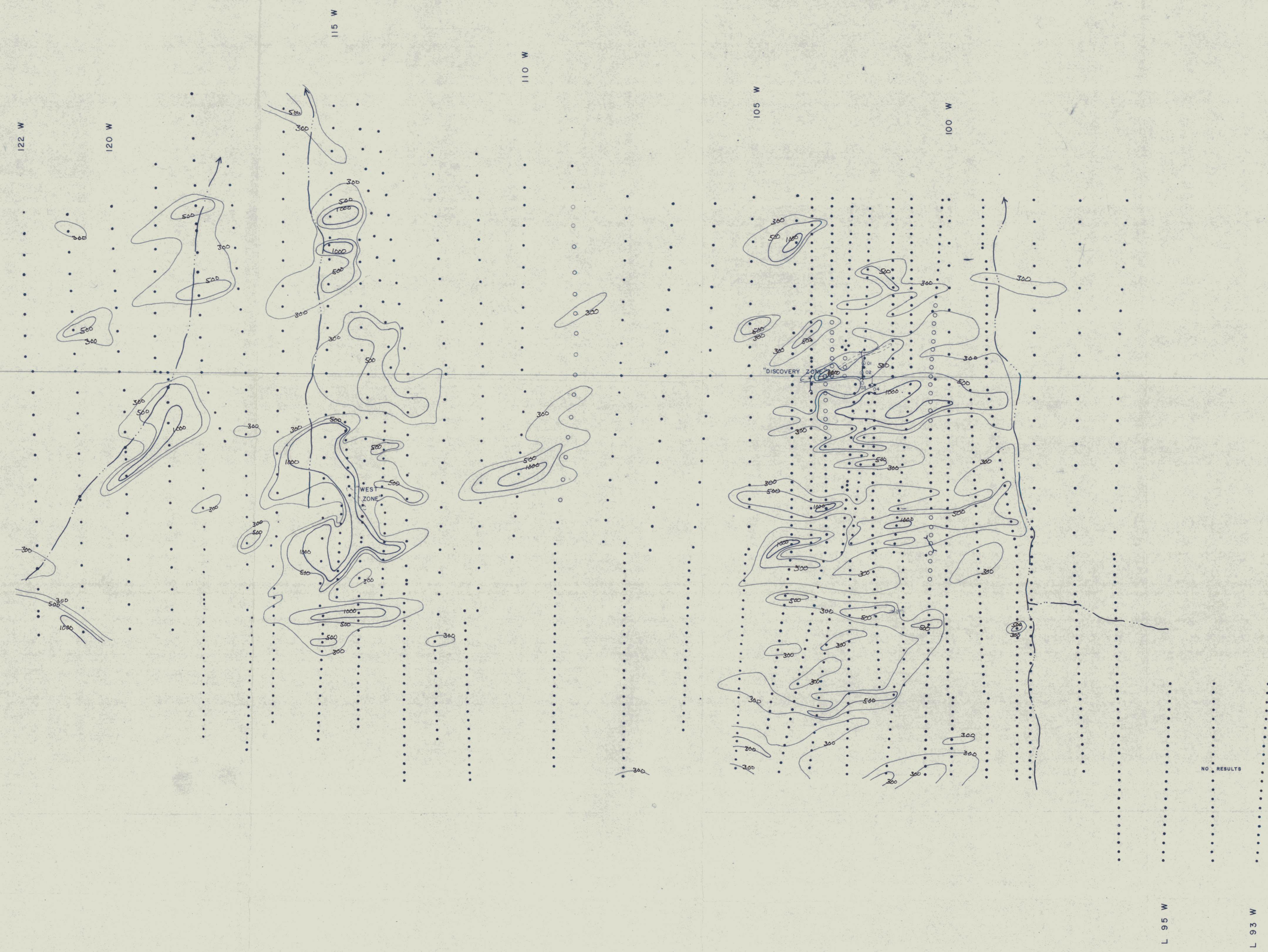
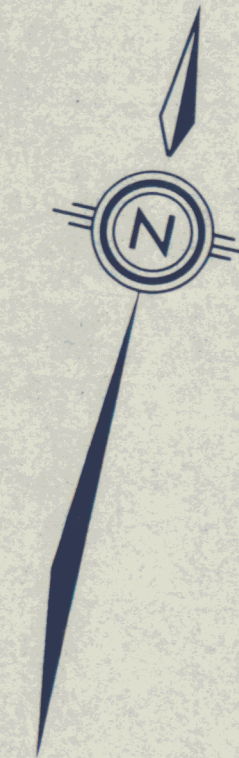
**CORTIN JOINT VENTURE
CCH RESOURCES LTD.**

115-P-15
EPD GROUP

DETAIL SOIL GEOCHEMISTRY

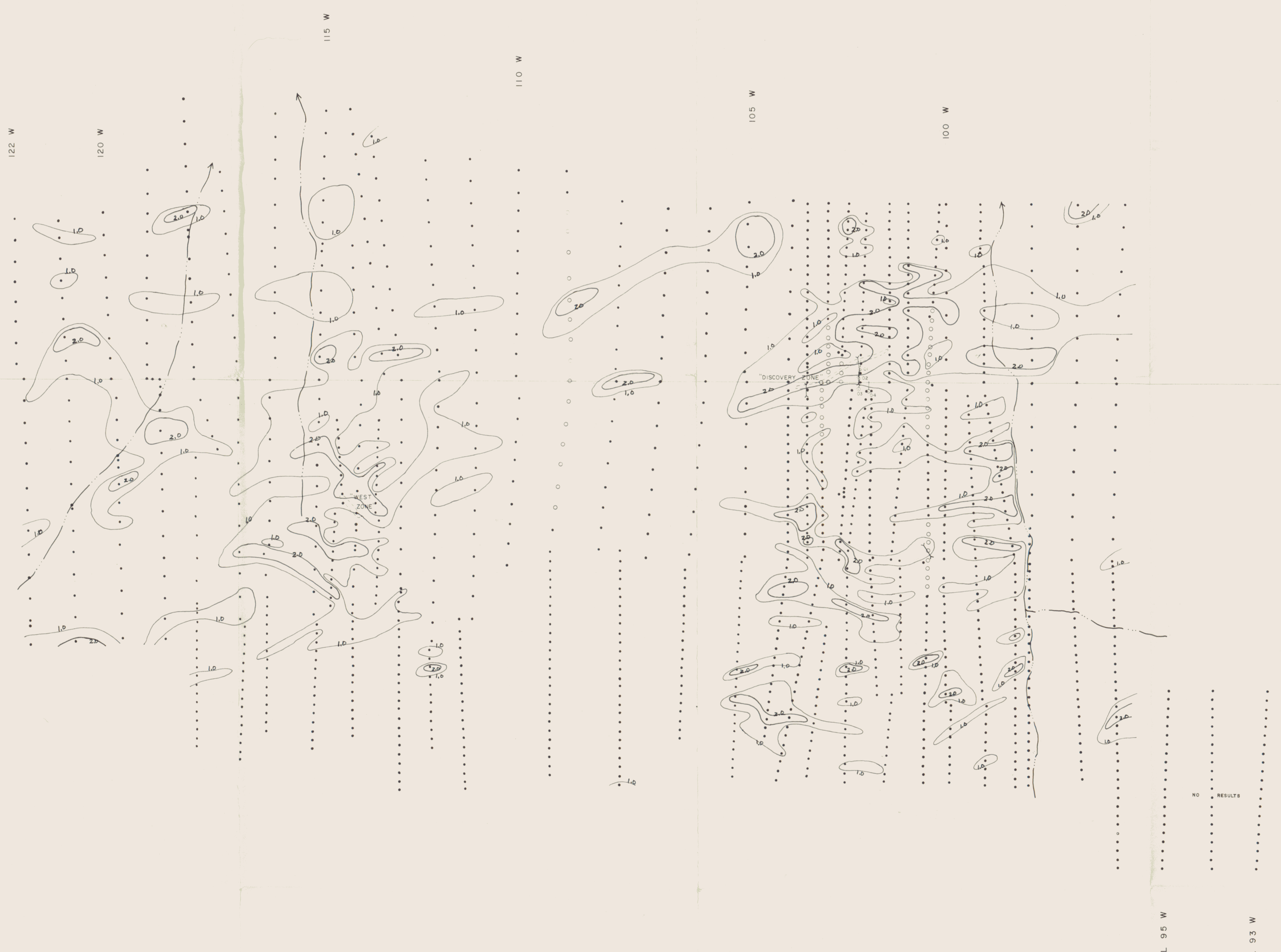
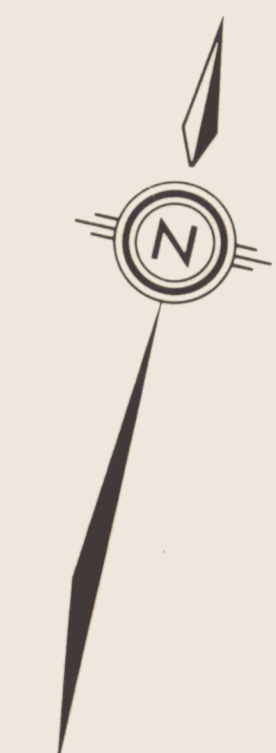
Cu *R.R. Bessel*

DRAWN BY: DFN	DATE: NOV 8, 79	PROJECT NO.: 704	SCALE: 1:5000	TY-50
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□	≥ 500 < 1000
□	≥ 300 < 500
---	TRACE OF MINERALIZED FLOAT BRECCIA
•	SOIL SAMPLE LOCATION
○	AUGER SAMPLE LOCATION
—	TRENCH
◇	DIAMOND DRILL HOLE (100M-EPD-79-02, etc.) - COLLAR AND AZIMUTH ONLY
~	CREEK

**CORTIN JOINT VENTURE
CCH RESOURCES LTD.**
115-P-15
EPD GROUP
DETAIL SOIL GEOCHEMISTRY
Zn
DRAWN BY: DFN DATE: NOV. 8, 79 PROJECT No. 704 PLAN No. TY-51
REVISED BY: DATE: SCALE: 1:5000



LEGEND

ALL VALUES GIVEN IN PPM

□	> 2.0
□	> 1.0 < 2.0

--- TRACE OF MINERALIZED FLOAT BRECCIA
• SOIL SAMPLE LOCATION
○ AUGER SAMPLE LOCATION
--- TRENCH
◇ DIAMOND DRILL HOLE (DDH-EPD-79-02, etc.) - COLLAR AND AZIMUTH ONLY
--- CREEK

**CORTIN JOINT VENTURE
CCH RESOURCES LTD.**

115-P-15
EPD GROUP

DETAIL SOIL GEOCHEMISTRY

Ag *DR. R. ...*

DRAWN BY: DFR DATE: NOV 8, 79 PROJECT NO.: 104
CHECKED BY: DATE: SCALE: 1:1000