920/2E

GEOPHYSICAL REPORT

on an

Airborne Magnetometer Survey

of the

SHEEP-GOAT GROUP OF MINERAL CLAIMS

979

near Lillooet, B.C.

Lillooet Mining Division
(Lat.51°10' Long.122°40')

51°122° SE ?

for

DUFFEY LAKES MINES LTD.

c/o Dr. Sid E. Sheard
4631 Kingsway,
Burnaby, B. C.

Survey by:

Husky Industries & Services Ltd.

97-845 Hornby St.
Vancouver 1, B.C.

Interpretation & Report by:

Jos. Sullivan, P.Eng.
201-525 Seymour,
Vancouver B.C.

September 22nd to October 4th, 1966

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Report on an

Airborne Magnetometer Survey

for the

Sheep - Goat Group of Mineral Claims

Introduction:

On September 22, 1966 Husky Industries and Services Ltd., 845 Hornby Street, Vancouver 1, B.C. conducted an airborne magnetometer survey over the Sheep-Goat group of mineral claims owned by the Duffey Lake Mines Ltd.

Mr. R. Robillard did the field instrumentation- The processing and compilation of data for the report was done by Mr. Don Fritz of the "Husky" staff.

The ground markers for control of the flight lines were the responsibility of theclient, Duffey Lakes Mines Ltd.

Property and Location (Lat.51° 10' Long. 122° 40')

There are 35 located claims in one contiguous group owned by Duffey Lakes Mines Ltd., 418-510 West Hastings Street, Vancouver, B.C. They are in the Lillooet Mining Division of British Columbia, in the Yalakom River Valley. Poison Mountain lies four miles northwest, and Quartz Mountain lies six miles west. A sketch of the group has been included at the back of this report along with a "4 - mile" sketch of the location.

Geological Summary:

The owners representatives supplied Mr. Robillard with an outline of the regional geology of the area. This was to be of assistance in the interpretation of the survey results. Originally the information came from Mr. W. C. Cheesman who explored the Poision Mountain copper deposits in 1956 and 1957 for Granby Mining Co. Ltd.

The underlying formations consist of a siliceous greywacke of probable Jura-Cretaceous age which has been intruded by a porphyry complex in a general east-west direction. The porphyry composition varies from quartz-biotite-diorite, to horneblend-diorite and biotite-diorite in a general banded pattern.

Mineralization consists of pyrite, chalcopyrite magnetite and minor amounts of molybdenite occurring as minute fracture filling and dissemination in the biotite-diorite porphyry, and the adjacent, altered greywacke. Malachite occurs near the surface as an alteration mineral.

Method of Survey:

A magnetometer built to record the vertical component of the earth's magnetic field was mounted in a Bell G3-B helicopter. The readings were fed into a chart recorder so that a continuous record of the gamma changes appeared on the charts. The claim group was covered by nineteen northwest flight-lines at approximately 500 - foot spacing. Control for the survey consisted at 13 markers placed at known claim corners.

The operator's field record is included as Appendix I at the back of this report.

Interpretation:

There is much distortion common to all the charts and poor repetition of signatures from one line to the next, probably due to flying subparallel to the trends. Greater clarity can be achieved when the flight lines are laid out normal to the general strike of the main geological structures.

Trend No. 1: The sudden rise in the gamma values may indicate a rock contact with the formation on the west having a more basic composition than that on the east.

Trend No. 2: An isolated signature with a pronounced rise in gamma values form southeast to northwest.

Trend No. 3: This is a poorly defined dipole that may not follow the strike indicated on the trend sketch, but may reduce to isolated signatures, one on line 11 northerly, and the other on line 12 southerly.

Trend No. 4: The trend is poorly defined. Gamma values drop about 800 gammas from southeast to northwest.

Trend No. 5: Another rock contact may underlie this trend with the formation on the southwest side having a more basic composition than that on the northeast.

Trend No's. 6 and 8: These may be isolated magnetic peaks or may be related to each other. If so related they indicate a north northwest trend intersecting trend No. 7 at a small angle.

Trend No. 7: A pronounced magnetic depression much greater than minus 500 gammas.

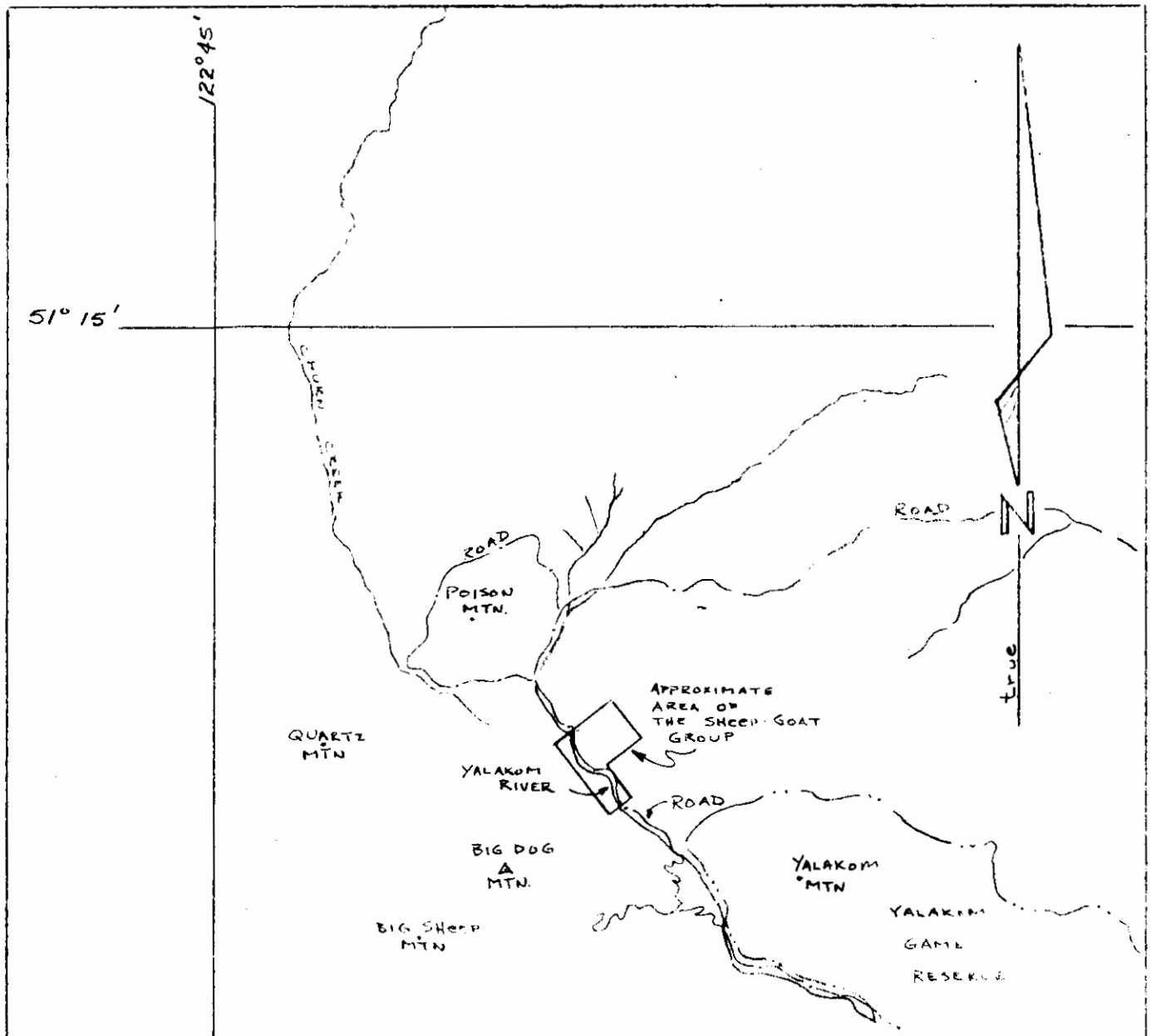
Trend No. 9: This is an isolated magnetic peak on the northerly end of flight line 5.

Trend No's 10 and 12: These are dipoles that may be related to each other. If so related, they would indicate a north northwest trend

BY D.M.F DATE 22-9-66 SUBJECT HUSKY INDUSTRIES & SERVICES SHEET NO. ..... OF .....

CHKD. BY ..... DATE ..... AIRBORNE MAGNETOMETER SURVEY FOR JOB NO. 5-A

SCALE 1" = 4 MILES DUFFEY LAKES MINES LTD. (N.P.L.) SHEEP-GOAT GROUP



Department of
Mines and Petroleum Resources
ASSESSMENT REPORT

NO. 929 MAP 1

LOCATION SKETCH

FIGURE I

intersecting trend No. II at a small angle. (Conditions similar to Trend No's 6 and 8).

Trend No. II: The pronounced drop in gamma values from southeast to northwest may be due to the valley bottom or to a fault underlying the valley floor.

Recommendations:

The claim group is worthy of a prospecting and geological mapping program. The trend No's. 3, 5, 7, and 11 may depict the general geological trend in the area and have no economic interest to the owners. Geological mapping would prove or disprove this theory.

The isolated trend No's 2, 6, 8, 9, 10, and 12 appear anomalous to the above indicated general geological trends. These should receive special attention in both the prospecting and mapping efforts suggested here.

Where trend No. 4 projects into trend No. 3 is another area recommended for special attention. The lines 10 and 11, in their northerly half show excessive magnetic activity.

Respectfully submitted,

Jos. Sullivan, P.Eng.

October 5, 1966.

Appendix I

Airborne Magnetometer Survey

For Duffey Lakes Mines Ltd. over

Sheep Group #1 - 19 and Goat Group #2 - 17

Line No.	Direction Flown	Chart Length	Mileage
1	SE - NW	14.5"	2.90
2	SE - NW	12.6"	2.52
3	SE - NW	11.6"	2.32
4	SE - NW	11.3"	2.26
5	SE - NW	13.1"	2.62
6	SE - NW	12.4"	2.48
7	SE - NW	11.4"	2.28
8	SE - NW	7.2"	1.44
9	SE - NW	7.5"	1.50
10	SE - NW	7.7"	1.54
11	SE - NW	8.4"	1.68
12	SE - NW	7.4"	1.48
13	SE - NW	7.9"	1.58
14	SE - NW	8.6"	1.72
15	SE - NW	8.4"	1.68
16	NW - SE	8.1"	1.62
17	SE - NW	8.8"	1.76
18	NW - SE	8.6"	1.72
19	SE - NW	10.0"	2.00
TOTAL			37.10 Miles

Date Flown - September 22, 1966

Altitude - Approximately 700'

Air Speed - 60 M.P.H.

Sensitivity - 1000 Gamma Full Scale

Lines 500' Apart

Line Bearings - 17 Lines @ N39°W, 2 Lines @ S30°E (Approximately)

Operator - R. Robillard

APPENDIX II

A. CLAIMS SURVEYED:

All or parts of Sheep Group - No.'s 1 - 19

All or parts of Goat Group - No.'s 2 - 17

B. INSTRUMENTATION:

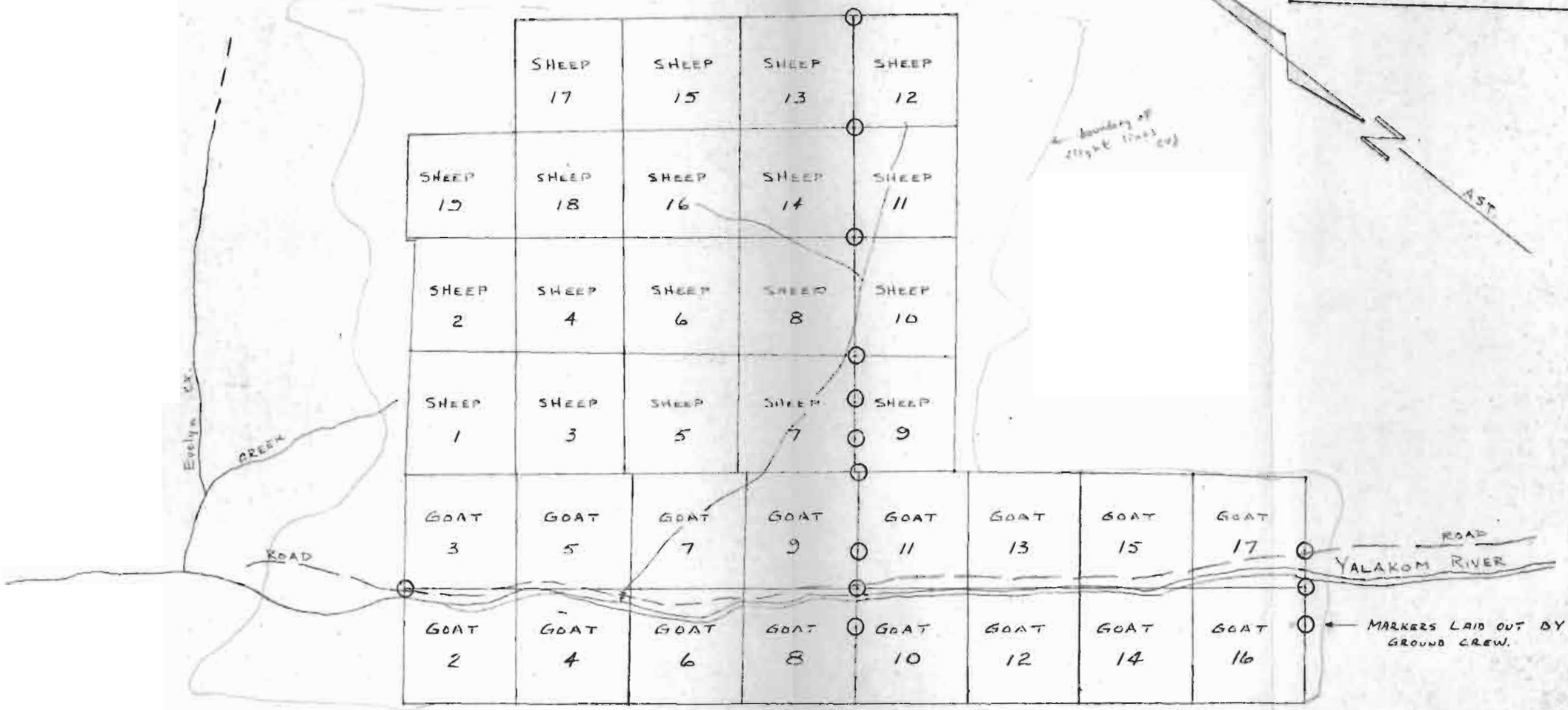
Magnetometer sensing head - Saturable core type, D.C. Operational Amplifier and related circuitry - manufactured by Sabre Electronics Ltd., Burnaby, B.C. Recorder - Bausch & Lomb, VOM 6 model.

A saturable core is mounted in an oil dampened gimbol and attached to a boom on the front of a helicopter. Impulses from the core, proportional to the vertical component of the earth's magnetic field, are amplified and recorded continuously and automatically on the chart recorder.

Mr. R. Robillard, the geophysical operator, has had two years practical experience in the operation of ground, mobile and airborne geophysical equipment. Mr. R. Robillard was under direct supervision of Mr. D. Turcotte, field manager of Husky Industries and Services Ltd.

C. PERSONNEL:

Name	Occupation	Address	Dates Worked
J. Sullivan	P. Eng.	2766 W.30th, Vanc. B.C.	Oct.3-4/66
R. Robillard	Instrument.	Husky Industries & Services	Sept.22/66
D. Fritz	Drafting	Husky Idustries & Services	Sept.30 - Oct.4/66
D. Turcotte	Field Mang.	Husky Industries & Services	Sept.22/66



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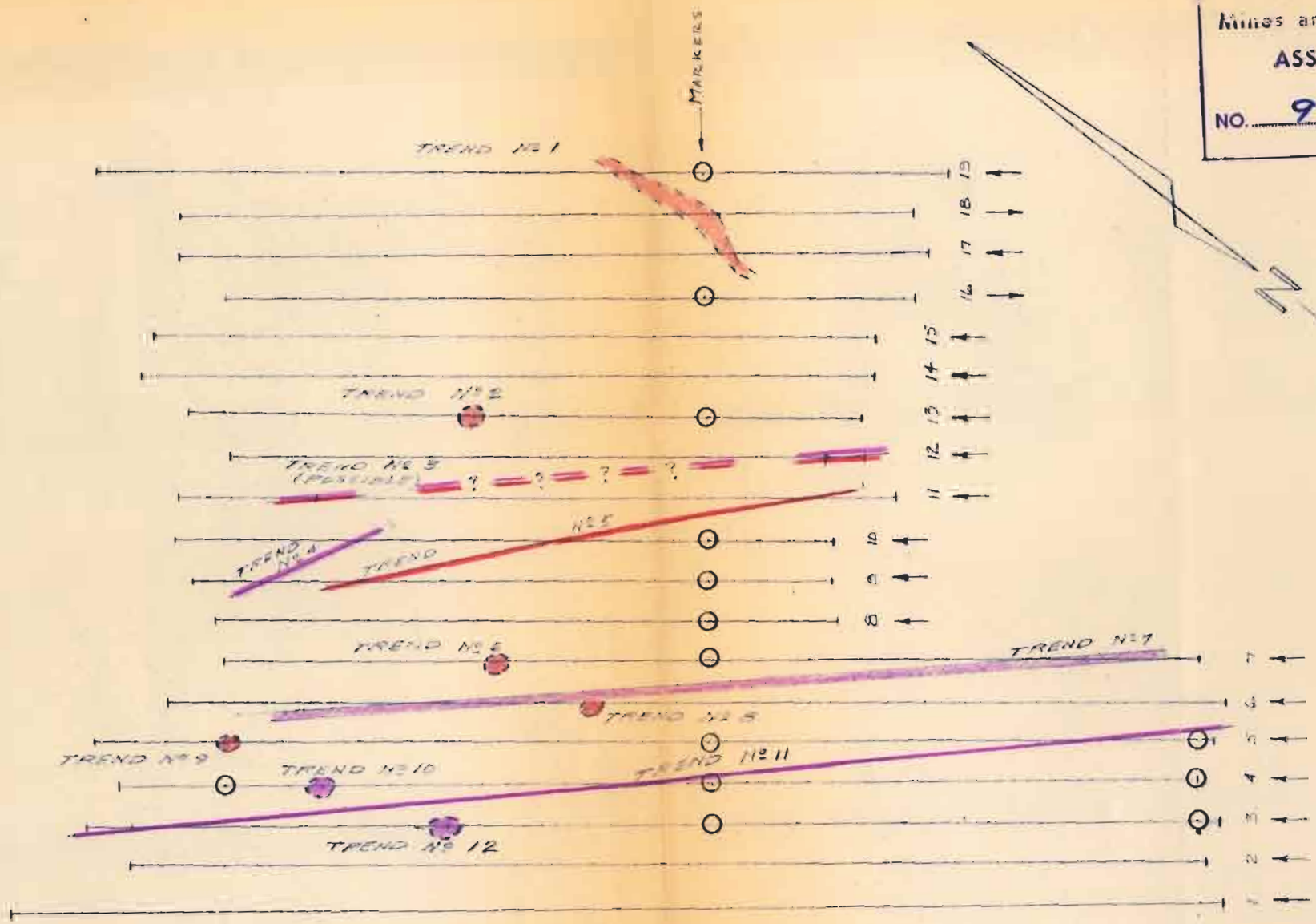
CLAIM SKETCH - SHEEP - GOAT GROUP

FIGURE II

	HUSKY INDUSTRIES & SERVICES LTD.	
DUFFY LAKES MINES LTD. N.P.L.		SHEEP-GOAT GROUP
SCALE 1" = 1500'	SEPTEMBER 22, 1966	by: D. M. F.

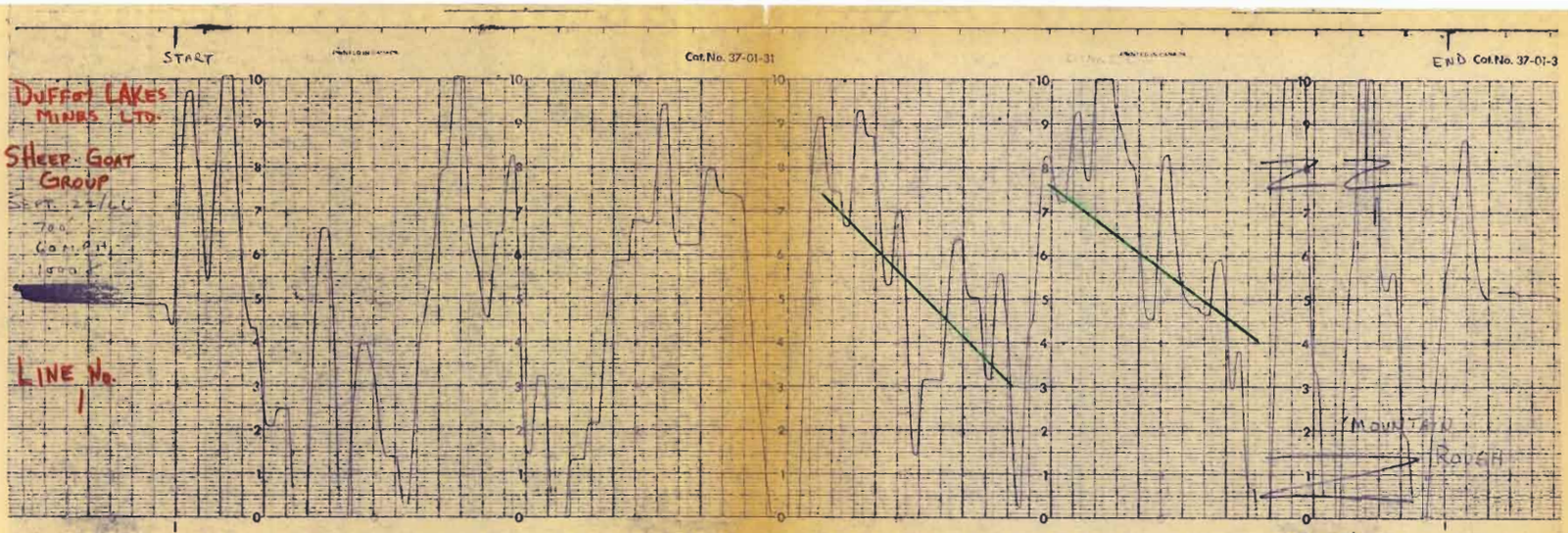


FLIGHT LINES & TRENDS

979

FIGURE III

	HUSKY INDUSTRIES & SERVICES LTD.
DUFFEY LAKES MINES LTD. (N.P.L.)	SHEEP-GOAT GROUP
SCALE 1" = 1500'	SEPTEMBER 22, 1966 BY: D. M. F.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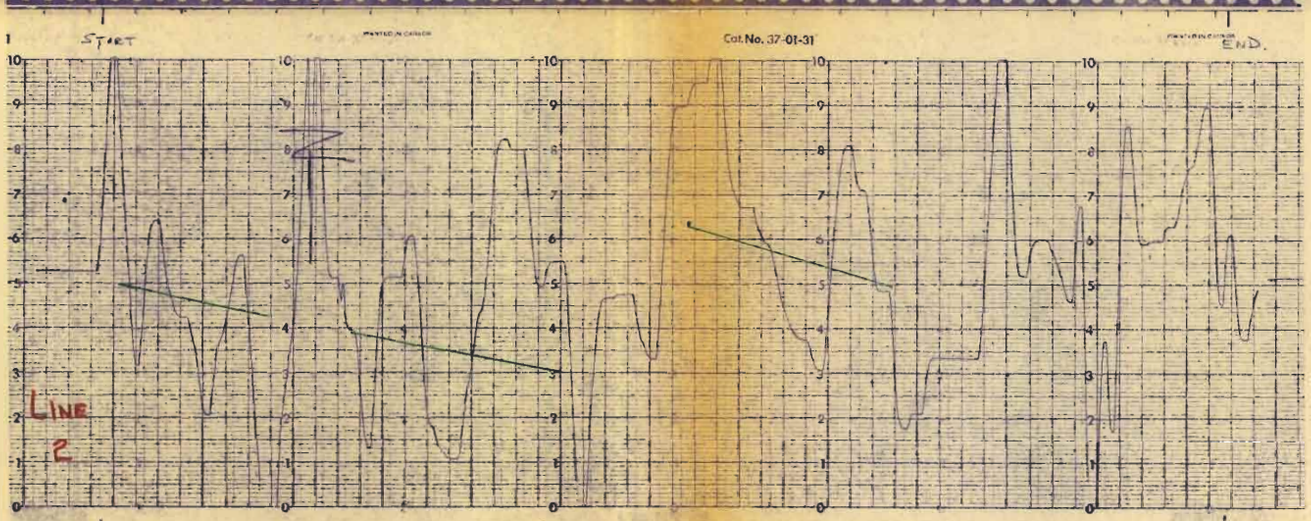
END Cat. No. 37-01-3
DUFFERIN LAKES MINES LTD.
SHEEP-GOAT GROUP
LINE No. 1
MOUNTAIN ROUGH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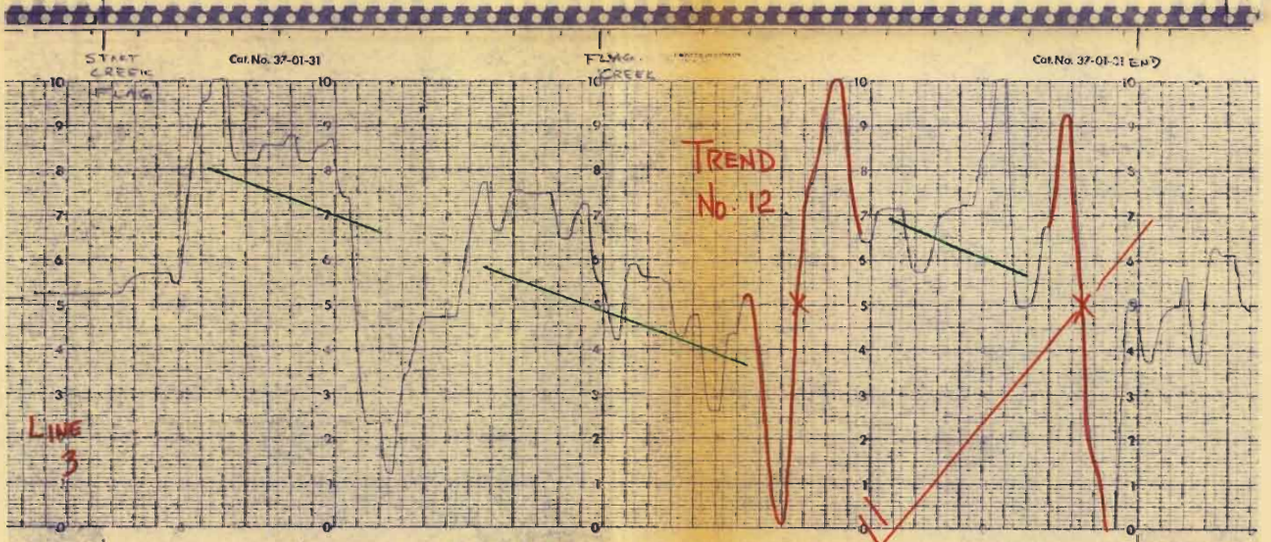
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TREND No. 12
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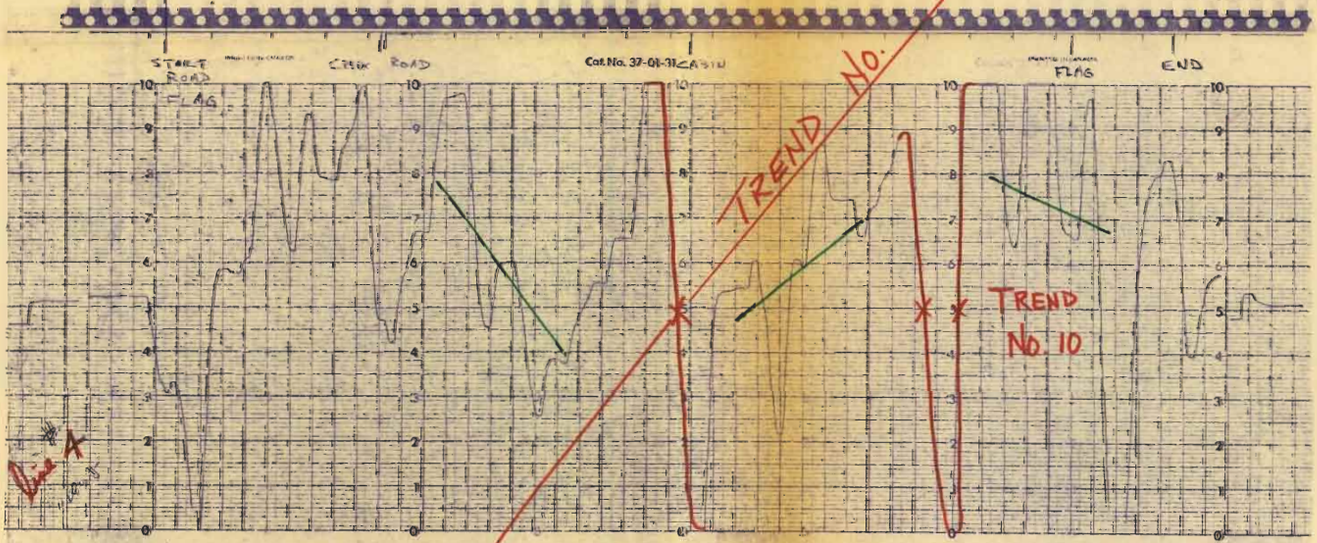
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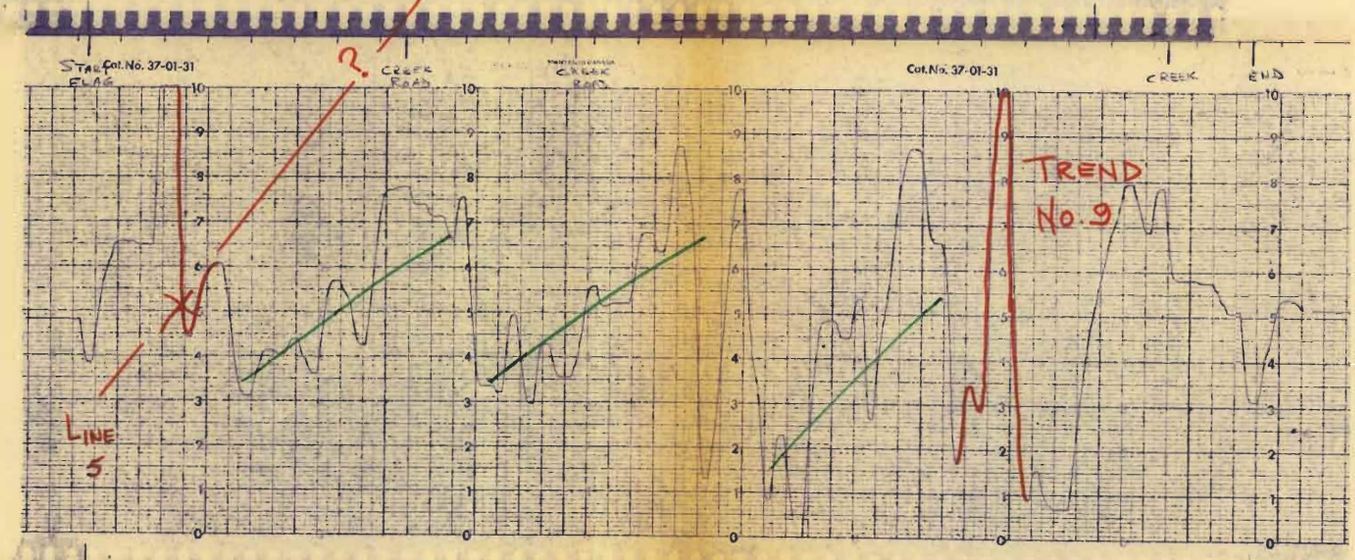
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ROAD
CREEK
ROAD
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LINE
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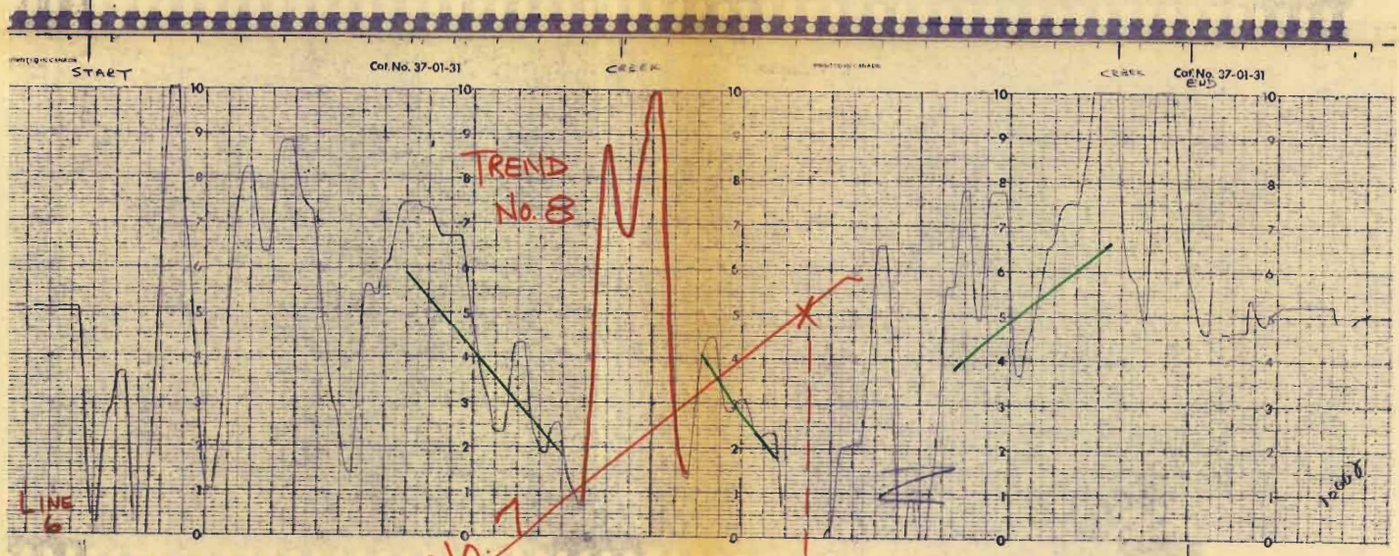
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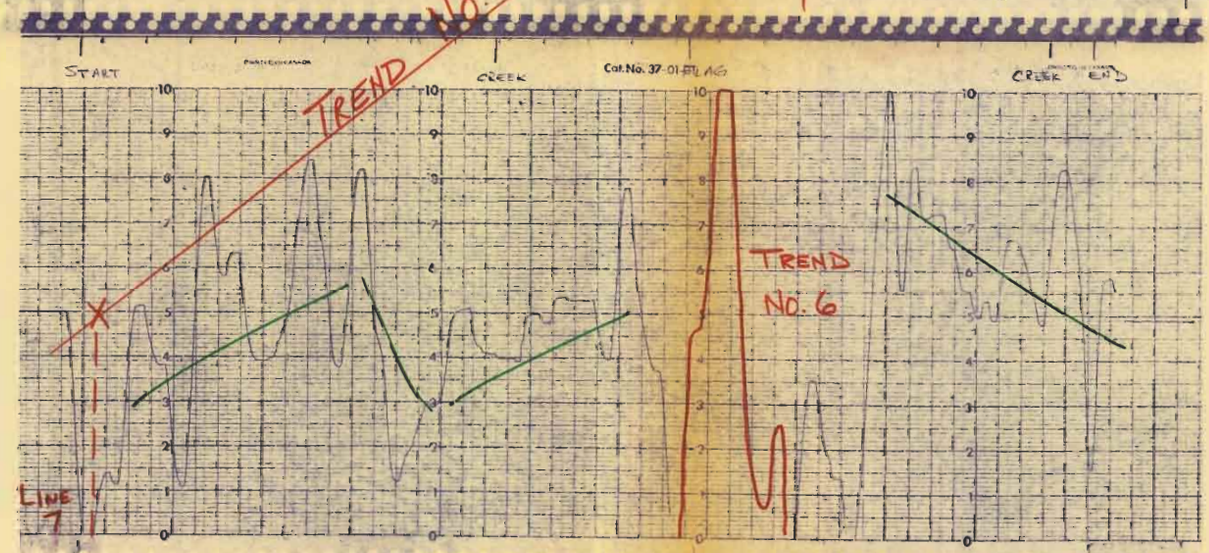
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LINE
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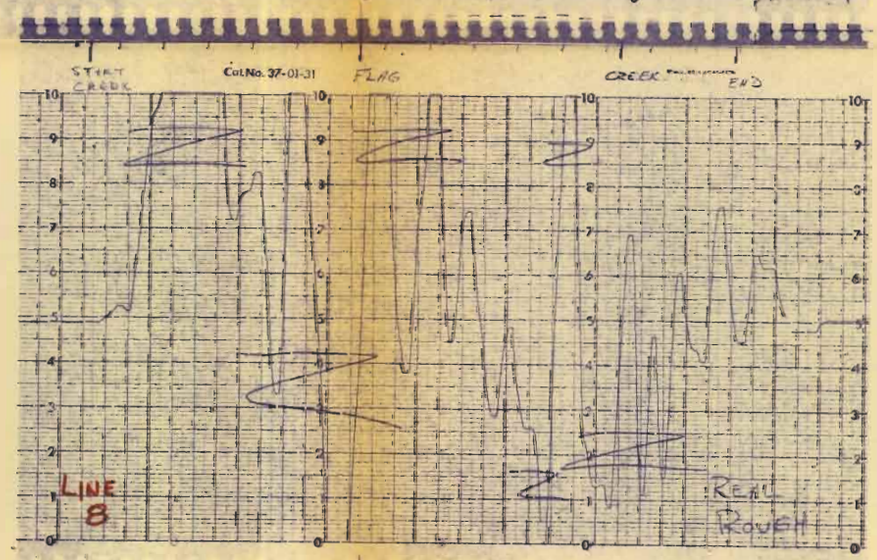
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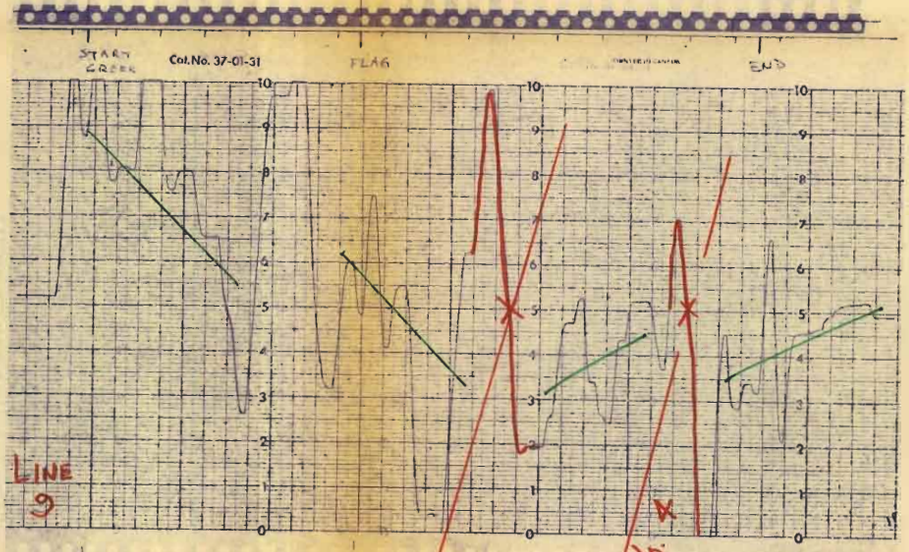
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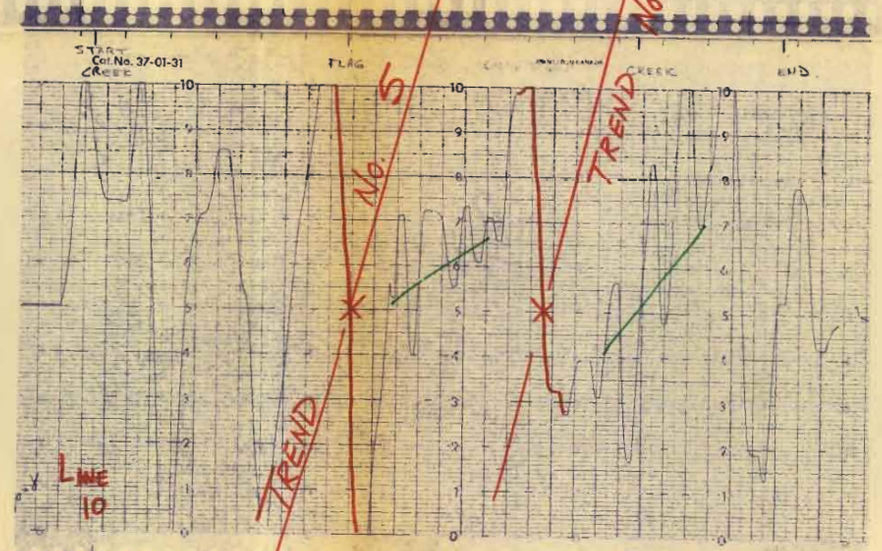
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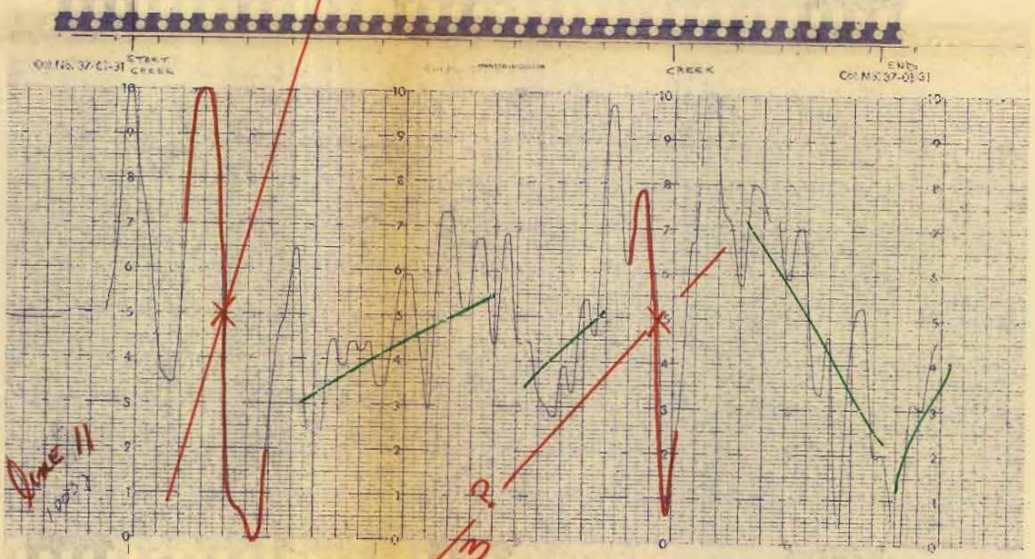
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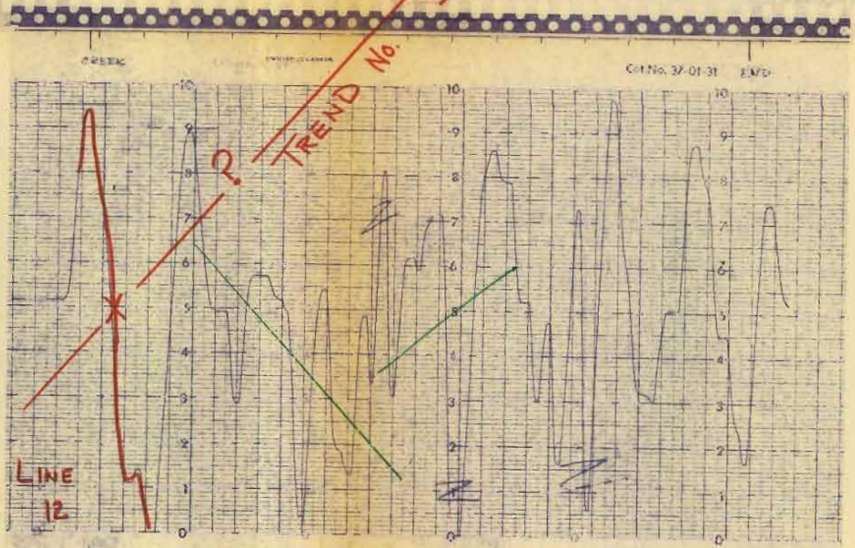
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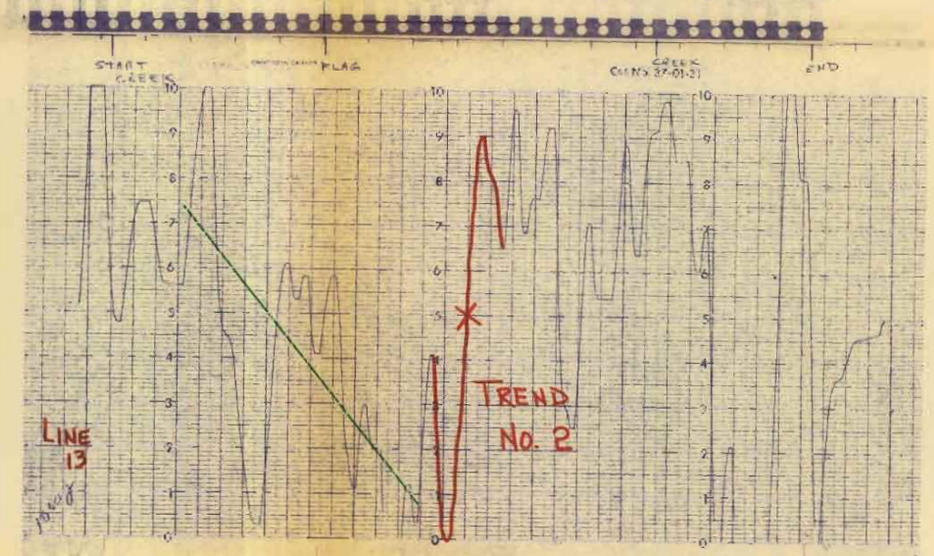
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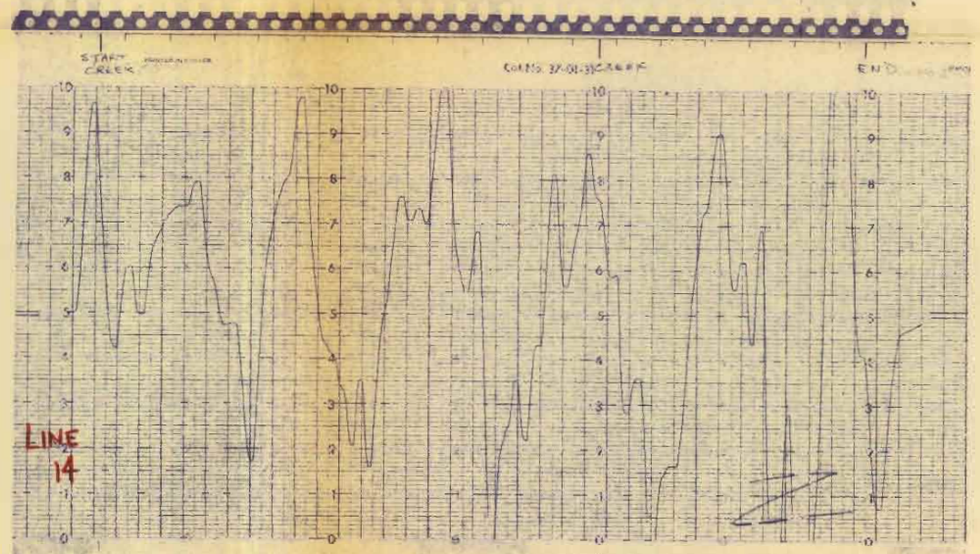
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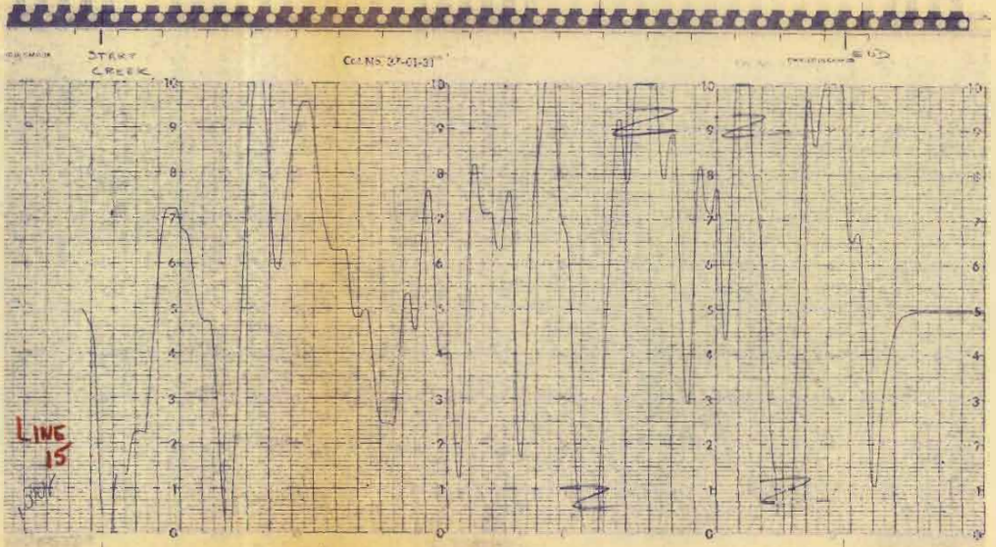
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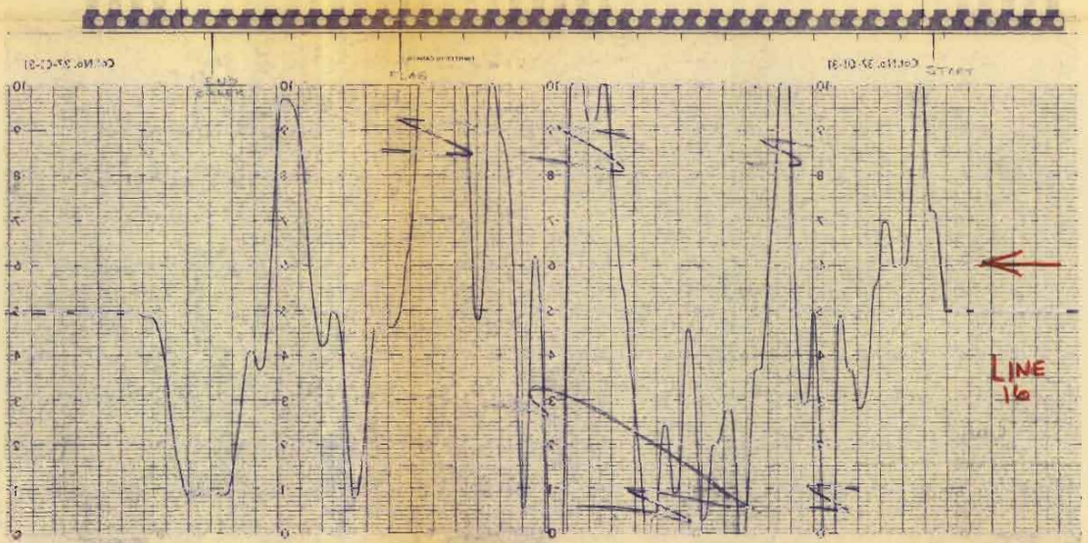
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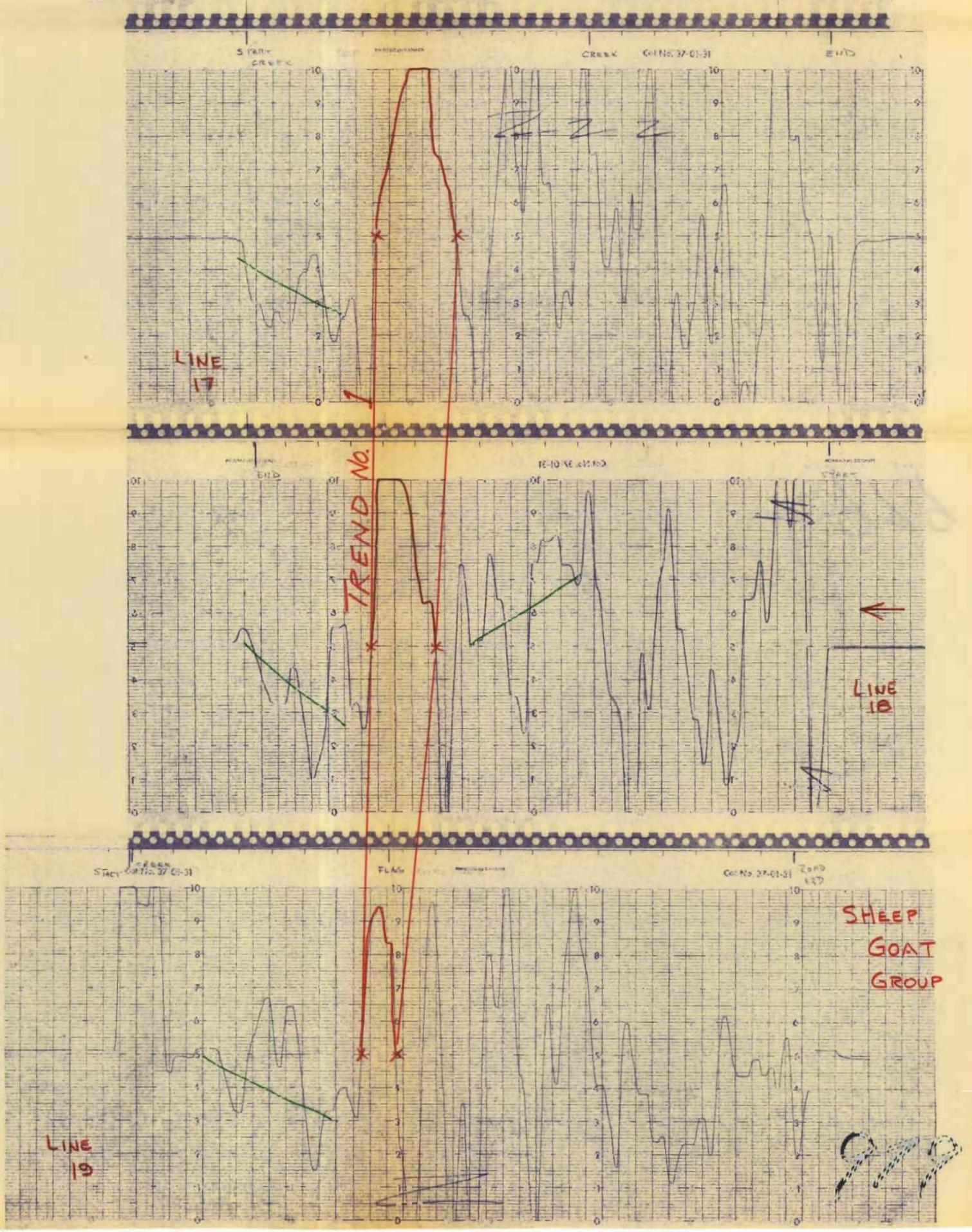
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