

FIELD PROGRAMME.

JANUARY & FEBRUARY 1960.

60-302. (10000)

27th January, 60

60-302

To : Mr. G.F. Hudspeth.

Field Programme - Late January and February, 1960

In your absence the programme which is outlined below has been discussed with Mr. G. Hall, primarily during his visit to Moore's Valley on 20th-21st January. The programme is complementary to that commenced last October and which is outlined in report G107 and on plates P103, 104, 105 and 106.

At the end of the report are the lengths surveyed from October to December, 1959 together with the lengths finished during the previous season.

1. Churn Drilling

Hole L8 (site "p") was commenced on 18th January and by 22nd January was at 58 feet, passing through gravels and sands. The position of this hole has been altered slightly, the new co-ordinates are 12,020N, 12,150E. This was necessary owing to the original position (12,000N, 12,200E) being in a bog. The access road to site "Q" is completed (11,500N, 12,100E). In the event of the results from L8 proving not to be of economic interest, site "Q" may not be required. Consequently, two new sites have been planned for the second hole, site R on anomaly A at 11,300N, 13,500E and site 2 at the north edge of Anomaly C at 10,240N, 11,780E. Access roads have been constructed to within 200 to 300 feet of each new site.

2.

2. Induced PolarizationA. Finish of Existing Programme

Footage completed this year - 38,000  
 Footage completed to date - 38,000 + 33,600 = 71,600

Remaining lines 156N/36E to 80E = 4400  
 128N/00 to 80E = 8000  
 108N/00 to 100E = 10000  
 40E/92N to 182N = 9000

TOTAL = 31,400 feet

The work has outlined the easterly extension of anomalies A, B and C but no new anomalies have been located to date.

B. Addition

	<u>Line</u>	<u>Co-ords</u>	<u>Prepared</u>	<u>To be Prepared</u>
1.	19E	156N to 192N	3600	-
2.	15E	40N to 92N	-	5200
3.	10W	40N to 92N	-	5200
4.	76N	00 to 32W	3200	-
5.	76N extended	23E to 103E	<u>-</u>	<u>8000</u>
			<u>6,800</u> ft.	<u>18,400</u> ft.

Total = 25,200 feet

Reasons

1. Line 19E passes over northern boundary fault of the Moore's Valley structure. The two other lines in this area (Base Line and 40E) do not cover this feature adequately.
  
- 2,3 & 4 These lines will define the rapid increase in resistivity values which occur north of BL/44E. This is also the area of the residual gravity anomaly which I. Sefton's work is apparently defining. The lines to be prepared pass over button grass plains.
  
5. Line 76N extended commences on the west side of the road on the hill above the Conder River bridge (south side). This line is recommended in order to test the zone to the west of the baseline, in view of the negative results east of the baseline on lines 44N, 76N and beginning of 156N.

Line 5E has to be resurveyed over anomalies A and C in accordance with recommendations contained in telegram from P. Hallof to the E.Z. Company dated 7th January, 1960.

The McPhar team is about to commence the survey over the Duke Lyell/Great Lyell area at Queenstown (25th January). This is expected to be completed on or about 28th January and the team will move to Rosebery the next day. Consequently, McPhar will be unable to return to Moore's Valley on 30th January with the remainder of the personnel. This will allow the field personnel who usually operate with this team to prepare the new lines 10W and 15E. Line 76N extended passes through patches of scrub and can be prepared by the two men who have been engaged on the prospecting work at the south edge of the Valley.

4.

3. Afmag Survey

Personnel : one instrument operator (McPhar) and one to two assistants.

A. Wanderer - Moore's Valley

Object of survey : to test the supposed westerly continuation of the Moore's Valley structure and its intersection with the Birch ultra-basic belt.

The commencement date of the survey is not yet known.

- (i) Along the road from about the 16 mile (the right angled bend in the road immediately west of Thirkell Hill) to the 24 mile to connect with line 76N extended, eight miles.
- (ii) The spur road from the Moore's Valley road to the Wanderer project, three miles.
- (iii) A traverse from the south end of the Wanderer road across the Wanderer River and along a ridge on its south side, 2 miles.
- (iv) Two traverse on north-south trending ridges, south side of river between the ridge in (iii) and Moore's Valley, 3 miles.
- (v) Traverse on the north side of the Wanderer River from the 21 miles on the Moore's Valley road to the River to connect with the western end of line 76N extended of the Moore's Valley grid, 1½ miles.

Most of the traverses (total  $17\frac{1}{2}$  miles) require little or no preparation since they are either along existing roads or ridges. A distance of 2500 feet needs to be cut for project (iii) above and two men will be required. In addition a camp has to be established at the end of the Wanderer road to house the personnel.

B. Lyell Shear between Thirkell Hill and Gordon River

The intersection of a single cross cutting fault and the Lyell Shear is known about 4 miles north of Thirkell Hill. The intersection can rapidly be tested by three east-west traverses across the shear at this point. The party may have to be positioned by helicopter.

C. Lyell Shear between Kelly Basin and Gordon River

Details yet to be worked out.

GRAVITY

Readings every 100 feet.

March 1959

Observations by I. Sefton.

<u>Line</u>	<u>Length</u>	<u>Distance</u>
10W	24N to 8S	3200
5W	24E to 11S + 50	3550
Baseline	24N to 19S	4300
5E	20N to 15S	3500
10	28N to 16S	4400
15E	24N to 00	2400
12N	14E to 21E	3500
16N	16W to 18E	3400
20N	20W to 15E	<u>3500</u>
	Total -	31,750 feet

November 1959

Observations by I. Sefton

A. Detailed Control

<u>Line</u>	<u>Length</u>	<u>Distance</u>
10W	8S to 40S	3200
5W	11S to 20s	900
Baseline	19S to 40S	2100
10E	11S to 40S	2900
15E	00 to 26S	2600
20E	20N to 40S	6000
30E	12N to 20S	3200
40E	12N to 38S	5000
12N	40W to 13W	2000
12N	20E to 55E	<u>3500</u>
	Total -	31,400 feet

B. Regional Control

Baseline	24N to 156N	13200
19E	156N to 190N	3400
76N	32W to 55E	8700
156N	30W to 48E	<u>7800</u>
	Total -	33,400 feet

Total - 64,500 feet

GRAND TOTAL FOR 1959 - 96,290 feet

INDUCED POLARISATION

Readings every 400 ft. except baseline where 100N to 52S readings every 800 ft., 40N to 40S every 400 ft. and 22N to 6S every 200 ft.

March/April 1959

Observations by J. Sevenhuysen and P. Hallof of  
McPhar Geophysics Ltd.

<u>Line</u>	<u>Length</u>	<u>Distance</u>
10W	40N to 16S	5600
5W	40N to 16S	5600
Baseline	100N to 52S	15200
5E	40N to 40S	8000
10E	40N to 40S	8000
15E	40N to 18S	5800
12N	20W to 20E	4000
44N	12W to 16E	<u>2800</u>
	Total -	55,000 feet

December 1959 Observations by E. Winniski of McPhar Geophysics Ltd.

<u>Line</u>	<u>Length</u>	<u>Distance</u>
20E	20S to 44N	6400
30E	20S to 28N	4800
40E	20S to 28N	4800
50E	20S to 24N	4400
12N	2E to 50E	4800
44N	16E to 100E	<u>8400</u>
	Total -	33,600 feet
	<u>GRAND TOTAL FOR 1959 -</u>	<u>88,600 feet</u>

LINE PREPARATION

All lines are marked every 100 feet.

January/March 1959

<u>Line</u>	<u>Length</u>	<u>Distance</u>
x 10W	40N to 16S	5600
5W	40N to 20S	6000
x Baseline	132N to 52S	18400
5E	40N to 40S	8000
10E	40N to 40S	8000
15E	40N to 26S	6600
x 40E	92N to 156N	6400
x 12N	20W to 20E	4000
16N	20W to 16E	3600
20N	20W to 20E	4000
24M	20W to 20E	4000
28N	20W to 20E	4000
32N	20W to 20E	4000
34N	20W to 20E	4000

36N	20W to 20E	4000
40N	20W to 20E	4000
x 44N	20W to 20E	4000
48N	20W to 20E	4000
52N	20W to 20E	4000
56N	20W to 20E	4000
60N	20W to 20E	4000
68N	0 to 23E	2300
72N	0 to 17E	1700
x 76N	20W to 36E	5600
84N	0 to 40E	4000
92N	0 to 40E	4000
x 108N	11E to 51E	4000
116N	11E to 51E	<u>4000</u>

Total - 140,200 feet

xExtended during programme November/December, 1959

November/December 1959

<u>Line</u>	<u>Length</u>	<u>Distance</u>
10W	16S to 40S	2400
Baseline	132N to 180N	4800
19E	156N to 200N	4400
20E	20N to 40S	6000
25E	12N to 20S	3200
30E	12N to 20S	3200
35E	12N to 20S	3200
40E	12N to 40S	5200

10.

40E	156N to 182N	2600
45E	12N to 20S	3200
50E	12N to 20S	3200
60E	12N to 30S	4200
12N	40W to 20W	2000
12N	20E to 55E	3500
44N	20E to 100E	8000
76N	20W to 32W	1200
76N	36E to 100E	6400
108N	0 to 11E	1100
108N	51E to 100E	4900
128N	0 to 80E	8000
156N	30W to 80E	<u>11000</u>

Total - 91,700 feet

GRAND TOTAL FOR 1959 - 231,900 feet

MAGNETIC

Readings every 100 feet

February/March 1959

Observations by D. Rowston of B.M.R.

<u>Line</u>	<u>Length</u>	<u>Distance</u>
12N	11W to 8E	.1900
20N	20W to 20E	4000
24N	20W to 20E	4000

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11.

28N	20W to 20E	4000
32N	20W to 20E	4000
36N	20W to 20E	4000
40N	20W to 20E	4000
44N	20W to 20E	4000
48N	20W to 20E	4000
52N	20W to 20E	4000
56N	20W to 20E	4000
60N	20W to 20E	4000
68N	00 to 23E	2300
72N	00 to 16E	1600
76N	20W to 36E	5600
84N	00 to 40E	<u>4000</u>

Total - 59,400 feet

December 1959

Observations by T.N. Burrell

<u>Line</u>	<u>Length</u>	<u>Distance</u>
10W	20N to 40S	6000
5W	20N to 20S	4000
Baseline	20N to 20S	4000
5E	20N to 20S	4000
10E	28N to 40S	6800
15E	24N to 20S	4400
20E	20N to 40S	6000
12N	40W to 55E	<u>9500</u>

Total - 44,700 feet

GRAND TOTAL FOR 1959 - 104,100 feet

TOPOGRAPHICAL SURVEYINGMarch/April 1959

Stadia survey by P. Towndrow of E.Z. Co. of A'asia Ltd.

<u>Line</u>	<u>Length</u>	<u>Distance</u>
10W	24N to 9S	3300
5W	24N to 13S	3700
Baseline	92N to 52S	14400
5E	20N to 16S	3600
10E	27N to 11S	3800
15E	24N to 00	2400
12N	15W to 24E	3900
16N	16W to 20E	3600
20N	15W to 16E	<u>3100</u>
	Total -	41,800 feet

November/December 1959

Levelling by T.N. Burrell

10W	9S to 40S	3100
5W	13S to 20S	700
Baseline	20N to 156N	13600
Baseline	19S to 40S	2100

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13.

10E	11S to 40S	2900
15E	00 to 26S	2600
20E	20N to 40S	6000
30E	12N to 20S	3200
40E	12N to 38S	5000
12N	13W to 40W	2700
12N	23E to 55E	3200
76N	32W to 55E	8700
156N	30W to 48E	7800
19E	156N to 195N	<u>3900</u>

Total - 65,500 feet

GRAND TOTAL FOR 1959 - 107,300 feet