754002

ABERFOYLE MANAGEMENT PTY. LTD.

PROGRESS REPORT NO. 3

on

Exploration at the Great Pyramid, N.E. Tasmania

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Senior Geologist
June 30, 1972

754003

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Unavailable

SUMMARY

This report describes in summary form the results of a programme of semi-detailed geochemical and geological investigations, initiated with the object to appraise the mineral potential of the area situated mainly to the north and west of an occurrence of low grade tin mineralisation at the Great Pyramid Prospect, Upper Scamander, Tasmania.

Three separate zones of limited areal extent were identified which are weakly anomalous with respect to tin and copper.

A fourth area, close to Brock's workings gave higher coincident tin - copper values in the soils. This area appears to be part of the Pyramid complex of tin mineralisation.

Further detailed exploration over selected areas is recommended.

2. INTRODUCTION

2.1 General Statement

A programme of semi-detailed reconnaissance exploration was undertaken in an area of about one square mile situated mainly to the north and west of the old Great Pyramid Prospect (Fig. 1). The object of the survey was to test the potential of the area for the presence of possible tin and copper mineralisation of the Great Pyramid type using surface geochemical and geological techniques. A brief history of previous activities in the area is given in the company progress report No.1 by R.J. Varley.

2.2 Statistical

Area investigated	: 1 mile square approx.
gridding	: 90,100 line feet
Geological mapping	: 90,100 line feet
no. of soil samples collected	: 924
no. of analyses	: 1,848

2.3 Lease Tenure

Mineral Leases 22M/62, 23M/62 and 31M/67 totalling 48 acres were purchased by Paringa Mining and Exploration Co. Ltd.

Scamander Mining Corporation N.L. of Launceston, Tasmania, holds title to mineral lease 136M/70 wich adjoins the above leases to the west.

These mineral leases are surrounded by an area of 2 square miles exempt from the mining act 1929 by Statutory Rule No. 31, 1971, Gazetted 24.2.71.

Paringa Mining and Exploration Co. Ltd. was granted permission to undertake exploration for seven months to April 30, 1972 in that half of the exempt area which surrounds the company's Great Pyramid Lease.

An extension of six months to October 31, 1972 was approved in respect of this authority to explore the area.

The approximate relative positions of the areas discussed is shown in Fig. 1.

2.4 Topography and Access

The area is deeply dissected, giving rise to hilly topography with frequent steep gradients. The vegetation cover is open, consisting predominantly of gums with sparse undergrowth and thick patches of bracken confined mainly to slopes in the vicinity of creek beds.

The NW sector of the area beyond the Great Pyramid Prospect is accessible by 4-wheel drive vehicle up to The Pinnacles. All parts of the area may be reached from this track on foot.

Some rehabilitation of an old track leading to Loila Tier would provide vehicle access to the north of the area.

3. GEOLOGY

3.1 Lithology

Sparse available outcrop and abundant scree indicate that the greater part of the area is underlain by a monotonous sequence of interbedded shales, mudstones, siltstones, sandstones and occasional quartzites. These are considered by Spry and Banks to be of Siluro-Devonian age (Fig. 2). The beds have a general regional north-westerly trend with steep dips.

The sandstones are medium to fine grained sediments varying in colour from khaki through light grey to grey when fresh. They may be bleached or stained buff, yellow, pink, red, mauve or purple when weathered. Feldspathic and micaceous units were noted. Individual beds vary from several inches to several feet in width.

The quartzites are generally hard, massive, dark grey, medium grained, well jointed rocks with a blocky appearance.

The siltstones form a bedded, jointed occasionally micaceous sequence which may grade imperceptibly to sandstones or shale. The range of coloration of this rock-type is similar to that of the sandstones.

The shaly rocks comprise mudstones, shales and slates. They are generally khaki or grey but a black facies has been recognised. The sequence is usually well bedded, with individual beds rarely exceeding several feet in thickness.

3.2 Structure

Lack of outcrop in the area as a whole makes lithological and structural correlation difficult and extrapolation sketchy. However, a number of features were recorded which suggest structural complications in the area.

Departures from the regional trend of the bedding were observed in two areas.

In the south-central sector, several exposures of interbedded sandstones and dark shales show a westerly or south-westerly bedding strike with dips of 70-88° southerly.

In the north east sector, meridional trends were recorded in sandstones which dip at angles of 58°-78° to the east. The reason for the swing in strike in these two blocks is not known.

A number of dip reversals suggest that the sediments may have been warped along north-west trending axes into folds with steep limbs. Overturned structures were not observed.

Several minor north-west trending faults were recorded in widely separate parts of the area (Fig. 2).

Scattered float of quartz, quartz veinlets, fractured sandstone and occasional breccia suggest the presence of a north-westerly zone of fissuring and brecciation of unknown width in a sequence comprising mainly sandstone, approximately 2000 feet north of the Great Pyramid. This zone can be traced intermittently over a north-westerly strike length of more than 3000 feet. Minor limonitic gossan was noted in association with breccia in a shallow trench at the south-eastern extremity of this zone in the area.

3.3 Mineralisation

No direct signs of outcropping tin mineralisation were noted in the area mapped. However, other factors may indicate possible mineralisation in the area.

Veinlets of white, medium-grained quartz occur in several parts of the area. The quartz forms thin coatings on joints and may also be present in narrow fissures mainly in sandstones and quartzites. Small clumps and patches of limonite were occasionally observed in vughs and other cavities, but no fresh sulphide mineralisation was found.

A grey to black variety of quartz may occur mainly in sandstones and quartzites in thin, often highly irregular stringers. This variety of quartz was found to be barren at the Great Pyramid Prospect as well as in the area mapped.

A minor occurrence of a haematitic gossan was located in the vicinity of peg 41, line 28, but neither sulphide nor tin mineralisation was observed.

Further minor quantities of limonitic material and ferruginous staining were noted in an old trench at line 4N, peg 31.

Silicification of sandstone and siltstone as well as bleaching of quartzite was noted at several localities in the area (viz. Fig.2). These features occur in association with anomalous areas 5 and 6 (c.f. Fig.2 and Fig.3).

4. SOIL GEOCHEMISTRY

During the reconnaissance programme soil samples were collected from a depth of about 12-18". The minus 80 mesh fraction of each sample was analysed for tin and copper by Geomin of Sydney.

The sampling indicated three areas of near coincident, low tin-copper concentrations in the soil to the north-west of the Great Pyramid Prospect. The most extensive of these has a strike length of some 2000 feet with an average width of about 200 feet. The highest values encountered were 250 ppm tin and 200 ppm copper. Minor faulting and local silicification of sandstone on the flank of a postulated anticlinal structure was noted in this area (Area 5, Figs. 2 and 3).

In the south-west of the area a line anomaly of some 800 feet strike length and approximate width 150 feet gave values of up to 520 ppm tin and 270 ppm copper. This area coincides with a change in the structure of the underlying bedrock with comprises sandstones and shales with minor siltstones. These are interpreted to lie on the western flank of an anticline. (Area 6, Figs. 2 and 3).

A more limited area with values in excess of 7000 ppm tin and 220 ppm copper occurs immediately to the south west of Brock's workings. This area is considered to be part of the Great Pyramid zone of mineralisation. (Area 4, figs. 2 and 3).

A fourth area, containing a minor, horse-shoe shaped anomaly approximately 2000 feet NNW of Brock's Adit shows a peak of 360 ppm tin and a laterally displaced spot high of 120 ppm copper. Sandstones outcrop in the area. (Area 7, figs. 2 and 3).

In addition to the above a number of tin and copper spot anomalies were located throughout the area. The majority show tin-copper concentrations of a low order. Several of these are associated with a north-west trending fracture zone to which reference is made in Section 3.2.

By visual inspection of the contoured geochemical results it would appear that the 50 ppm contour for copper and the 100 ppm contour for tin appear to be threshold values which may in a broad sense delineate areas of anomalous concentrations of tin and copper of the Great Pyramid type in the area investigated.

5. CONCLUSIONS

1. The rock sequence in the area is similar to that seen at and in the vicinity, of the Great Pyramid Prospect.

2. The programme of regional geochemical reconnaissance outlined 4 major areas of low order anomalous copper and tin in the soil.

3. Evidence of fissuring and the presence of quartz veinlets were found in association with three of these areas.

4. Limited bleaching of quartzite is associated with one of the anomalous areas. Silicification of sandstone and siltstone occurs in two of the anomalous areas.

6. RECOMMENDATIONS

1. It is recommended that the source of anomalies 5, 6 and 7 be investigated by detailed soil sampling, selective costeaning, trenching, bedrock sampling and geological mapping. If this follow-up work gives promising results, then the appropriate anomalies could be tested at depth by percussion drilling under strict geological control.

2. Anomaly 4 should be investigated in depth by percussion drilling and its possible extension to anomaly 6 tested by detailed soil sampling and surface geological mapping.

754013

REFERENCES

Spry, A. and Banks, M.R. 1962 "The Geology of Tasmania" Journal of the Geol. Soc. of Aust. Vol.9, Pt. 2.

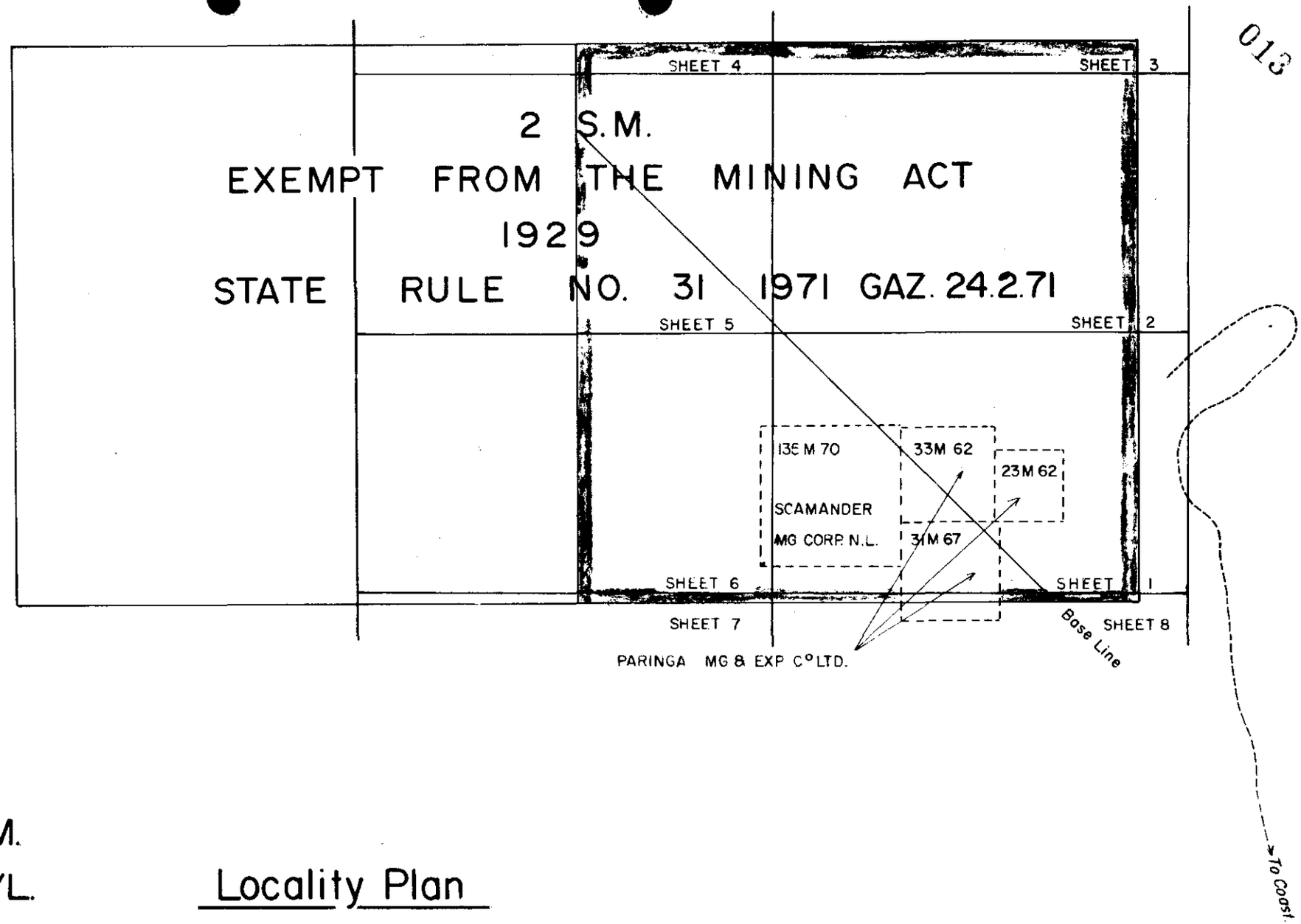
Varley, R.J. "Progress Report No.1 on Exploration at the Great Pyramid, N.E. Tasmania." A.M.P.L. Company Report. Aug. 1970.

APPENDIX

GPY 095	Surface Geological Fact,	sheet 2	1":100'
GPY 096	Surface Geological Fact,	sheet 3	"
097	" " "	sheet 4	"
098	" " "	sheet 5	"
099	" " "	sheet 6	"
100	" " "	sheet 7	"
101	" " "	sheet 8	"
GPY 102	Geochemical - Tin	sheet 2	"
103	" "	sheet 3	"
104	" "	sheet 4	"
105	" "	sheet 5	"
106	" "	sheet 6	"
107	" "	sheet 7	"
108	" "	sheet 8	"
GPY 109	Geochemical - Copper	sheet 2	"
110	" "	sheet 3	"
111	" "	sheet 4	"
112	" "	sheet 5	"
113	" "	sheet 6	"
114	" "	sheet 7	"
115	" "	sheet 8	"
GPY 116	Surface Geological - Interpretation		1":500'
117	Soil Geochemistry - Tin		1":500'
118	Soil Geochemistry - Copper		1":500'

MISSING. NOT RECIEVED WITH THIS REPORT





E.L.6/68 295 S.M.

TEXINS DEV. P/L.

23·8·71

Locality Plan

5 cm

Fig I

UPPER SCAMANDER.

NOTE· SHEET LAYOUT APPROX ONLY

SCALE· 4"· 1 MILE

013

754015

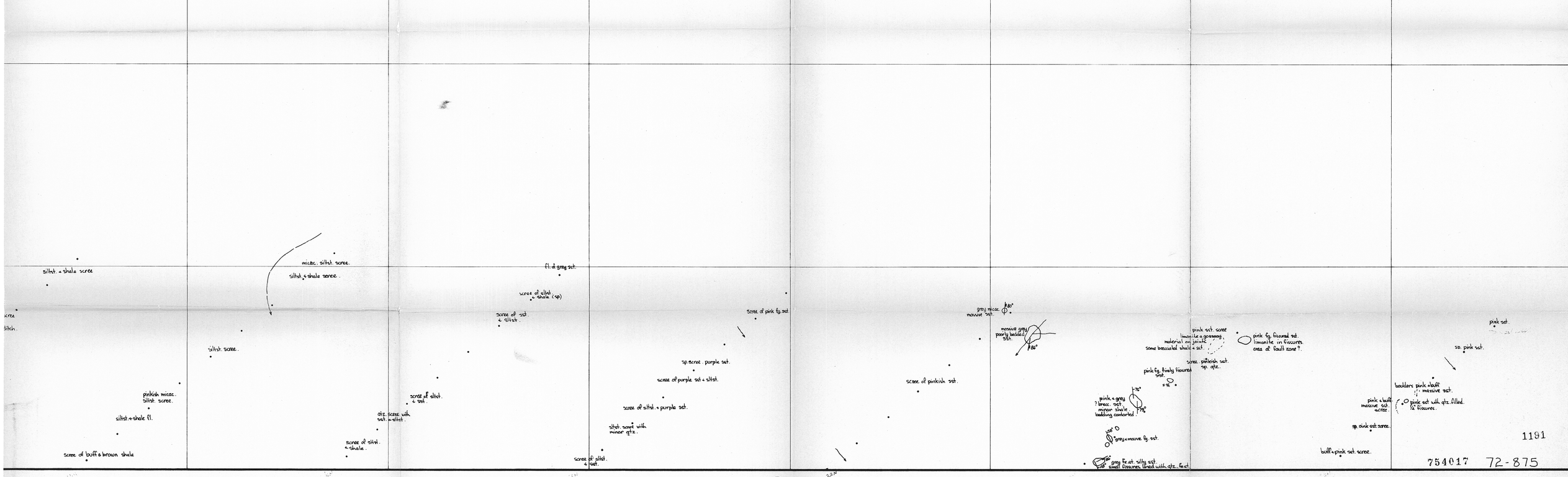
PMECL
Great Pyramid Prospect
Surface Geology
Fact

SHEET 2

SURVEY	–	–	/ /
GEOLOGY	–	–	/ / 72
DRAWN	–	–	/ / 72
TRACED	–	–	/ /

DRAWING No. – GPY 005

1199
754016 72-875



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P.M.E.C.L.

Great Pyramid Prospect

Surface Geology

Fact

Rpt 3

SHEET 3.

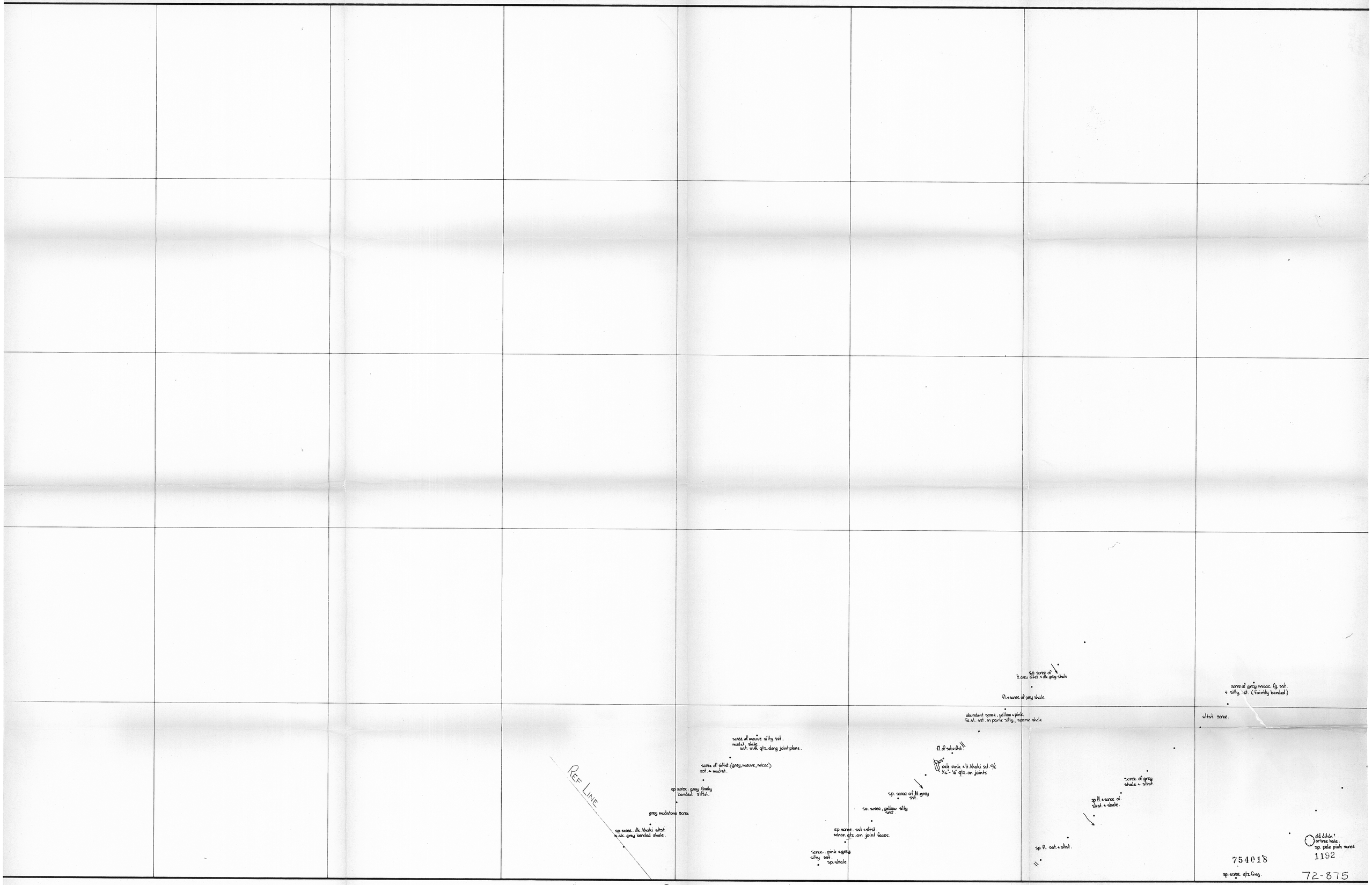
SURVEY	–	–	/ /
GEOLOGY	–	–	/12/71
DRAWN	–	–	/12/71
TRACED	–	–	/ /

DRAWING No. – GPY 096

1191

754017 72-875

5 cm



PMECL
Great Pyramid Prospect
Surface Geology
Fact

0

5 cm

Rpt 3

SHEET 4

SURVEY	-	-	/ /
GEOLOGY	-	-	/12/71
DRAWN	-	-	/12/71
TRACED	-	-	/ /

DRAWING No. – GPY-097

sp. scree. area + buff. micac. sandy siltst.

sp. scree.

thick humic soil

sp. fl. of khaki shale

sp. fl. silty micac. sst(fg) + shale talus.

minor grey silty shale

qtz lined joints

sp. scree khaki micac. sandy siltst.

buff silted. sil. interbanded shale

scree of silic. siltst. + sst.

fine bld. shale scree

slope

shale.

fine scree of pale silst. + shale minor sst.

siltst. + shale scree.

sp. scree of silst. + sst.

buff siltst. + shale scree.

scree of pink sst. + grey shale + mud st.

aureole + buff shale scree

shale scree

sp. siltst.

sst. scree.

shale scree.

sst. + shale scree.

Scree of silst. / grey knobb + pink sst. sp. shale.

abundant scree grey sst. qtz. on joint planes.

siltst. scree.

shale scree

buff sandy siltstone with minor buff shale in trench.

old trench

scree. slope

shale + siltst. scree

shale + siltst. scree. minor sst.

pink sst. minor thin shale bands.

reddish siltst + silty sst

pink fe st. sst. minor bands of siltst. + shale

pink fg. sst. blocky. minor shale bands.

sp. qtz.

pink sst. scree.

scree of purple shale

red siltst. + shale bands

siltst + silic. sst.

sst with shaley band. minor irreg. qtz. veining

silic. sst.

fl. with highly contorted bedding

lt. grey sst.

siltst. scree + silic. sst. fe st.

khaki + buff silic. sst. minor shale band.

FAULT LINE

slate. scree.

scree. shaly shale + siltst.

grey siltst. scree.

grey shale scree

shale

sst.

sst. Float.

sst scree.

minor qtz. up to 1/8" long

interc. grey shales + siltst.

scree. of sst.

sp. scree silty grey sst.

boulders of pink + grey micac. sst.

siltst. + mudst. fl.

fg shaley shale

grey siltst.

shear bedding fault?

banded siltst.

finely div. scree grey sst.

float of sst + shale. limonitic + fissured.

massive silic grey silic. sst.

fl. dk grey shaley shale

shale. dk. grey shaley well bedded.

khaki shale.

interbedded dk. grey shale + hard silic. qtzite.

massive greenish sst.

sst with narrow bands of siltst. + shale.

massive silic. sst.

dk grey shale

silic sst.

black shale.

fine scree of silst. + sst. + shale.

scree of sst + shale

grey siltst. shale + sst. interbedded.

shale scree.

sst. scree.

sst. scree.

fl. + scree of hard (silic) sst.

finely div. scree of sst. + shale

sst. + banded shale + siltst.

sst. scree.

massive silic. sst.

scree with vuggy qtz. on joints + fissures.

reddish sst. scree. + tr. qtz. on joints. Fe st. fissured qtzite + sst frags.

sst. scree.

scree of sst + shale.

754019

72-875

1183

finely div. scree ltgrey sst. minor shale tr. qtz.

0

PMECL

GREAT PYRAMID Prospect

Surface Geology

Fact

5 cm

SURVEY	-	-	/ /
GEOLOGY	-	-	12/72
DRAWN	-	-	1/9/73
TRACED	-	-	/ /

SHEET 5

DRAWING No. - GPY-098

ssf. scarce.

sp. ssf scarce.

scarce ssf. boulders of pk. grey sltst.

sltst. scarce.

scarce of black ang fg ssf.

sp. ssf scarce.

sp. ssf. scarce wht. qtz.

ang fg. ltbrn qtzite. massive ang qtzite, jointed qtzite.

ang qtz. fract. ang qtzite. massive ang qtzite, jointed qtzite.

dk grey slty ss. mbrn qtz. fract. qtzite. in fissures.

fl. lam. sp breccia.

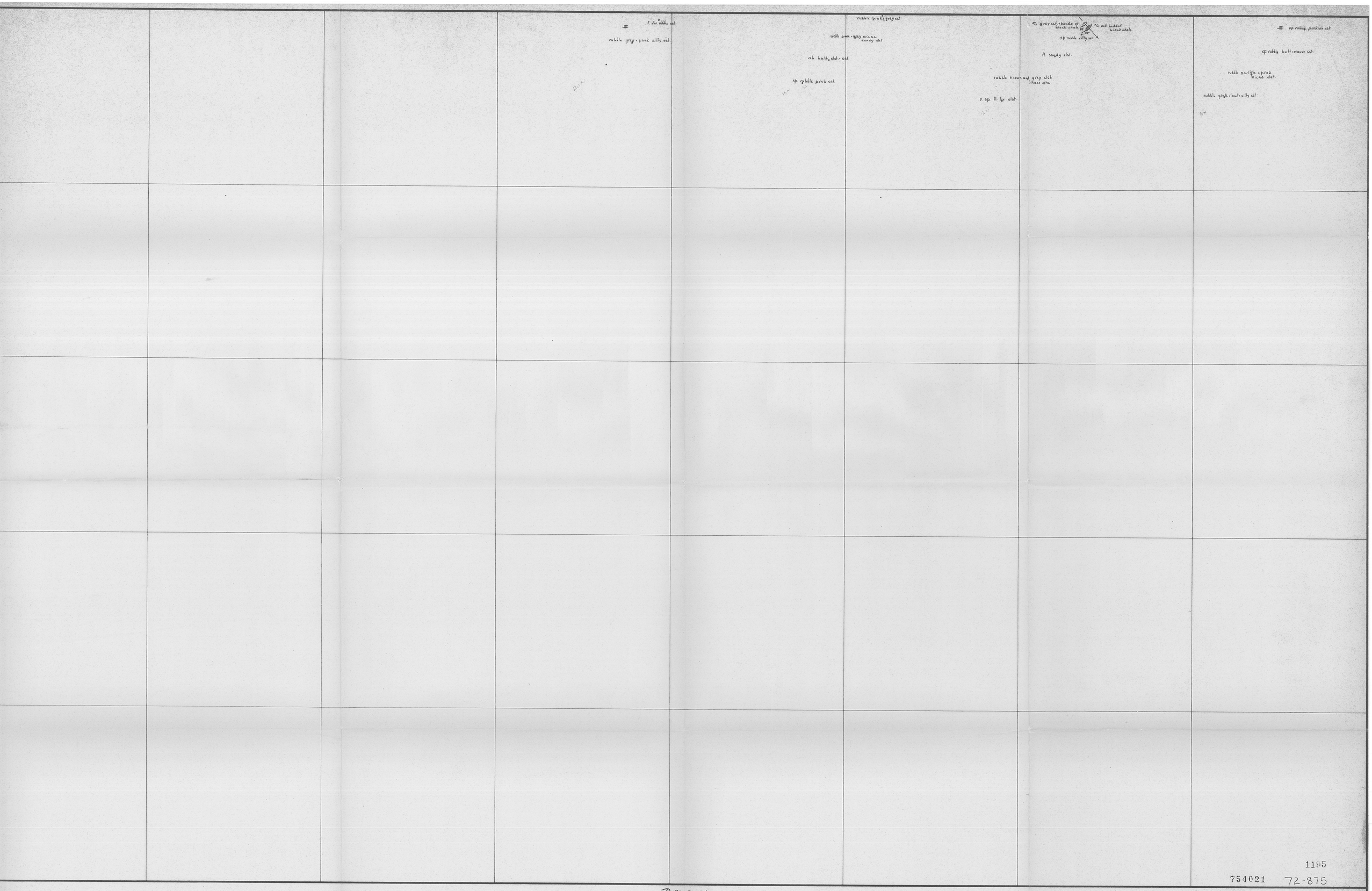
fe. st. greenish vuggy qtzite.

sp fl. khaki green shale. black ssf. shaley silty shale.

boulders of shale.

massive jointed qtzite.

massive sltst ◇ scarce. sp. ssf. scarce. in fractures. sl. ssf. thinbed. sltst. ss. in fissures. qtzite. sp fl. of fine. qtzite. mbrn qtz. sp fl. sltst. scarce. sltst. sp fl. of dk. grey shale. qtzite. sp. ssf. fl. sltst. sltst. sp fl. of fine. qtzite. sltst. sp fl. of fine. qtzite. sltst. sp fl. of fine. qtzite



1195

754021 72-875

P.M.E.CL.
Great Pyramid Prospect
Surface Geology
Fact.

0

Rpt 3

5 cm

SURVEY - - 1 1
GEOLOGY - - 12 12
DRAWN - - 12 12
TRACED - - 1 1

SHEET 7

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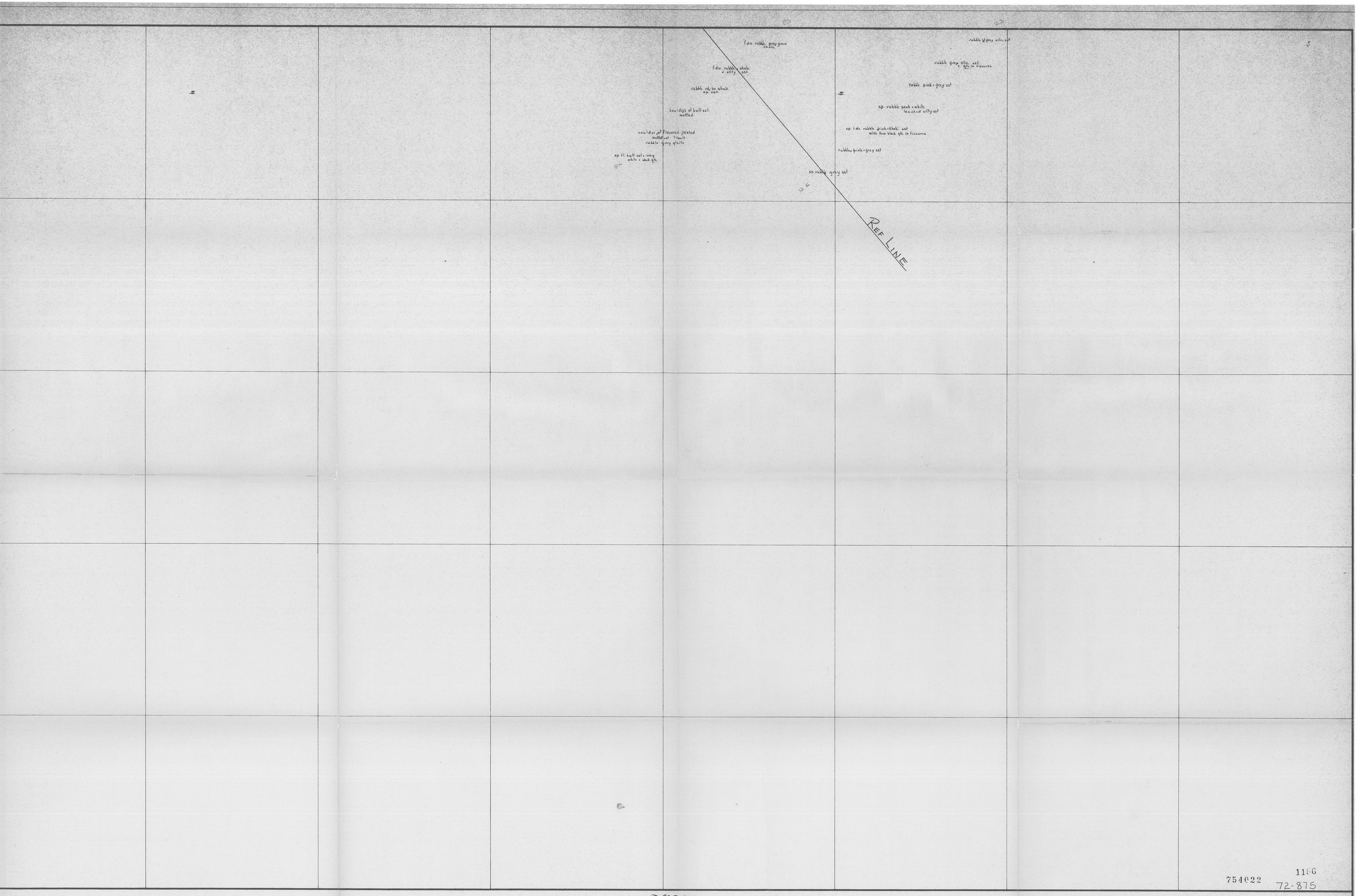

754022 1186
72-875

P.M.E.C.L.
Great Pyramid Prospect
Surface Geology
Fact

0

5 cm

Rpt 3

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GEOLOGY - - 12/72
DRAWN - - 14/72
TRACED - - / /

SHEET 8

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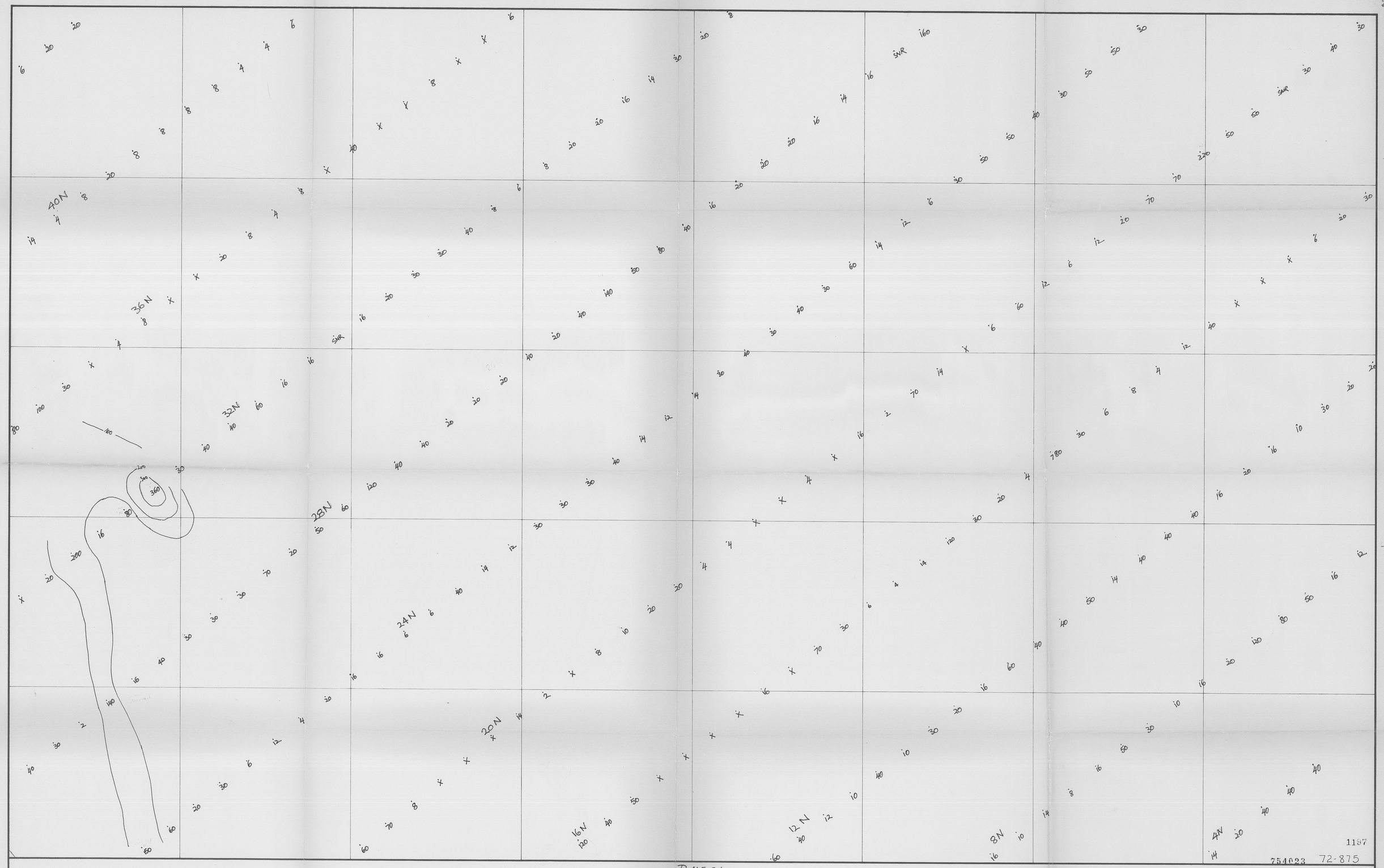

P.M.E.C.L
Great Pyramid Prospect
Soil Geochemistry
Tin

Rpt 3.

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GEOLOGY	-	- / /
DRAWN	-	- 12/72
TRACED	-	- / /

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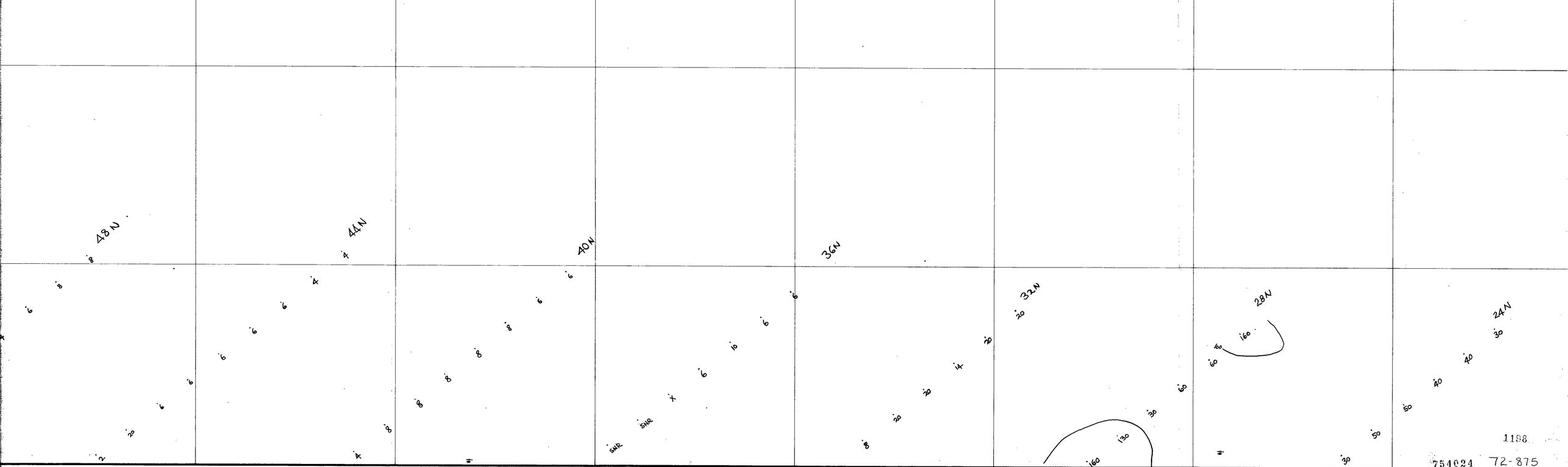
48N
44N
40N
36N
32N
28N
24N
SNR
SNR
160
130
160
60
60
50
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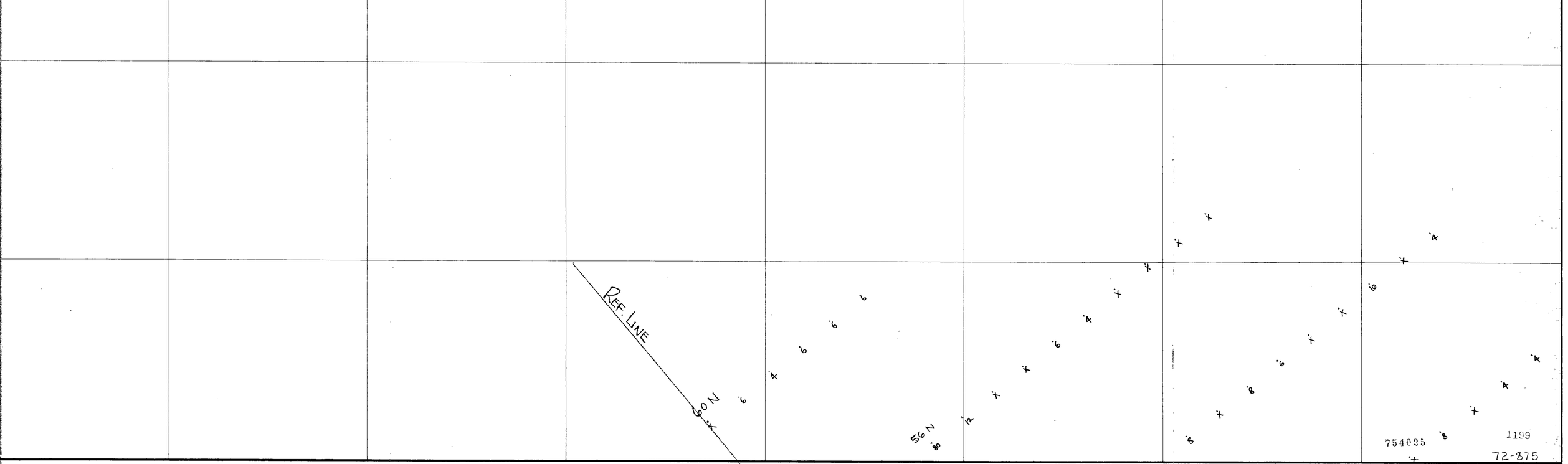
40
40
50
30
20
20
20



P.M.E.C.L.
Great Pyramid Prospect
Soil Geochemistry
Tin

0

5 cm

Sept 73

SURVEY	/ /
GEOLOGY	/ /
DRAWN	12/73
TRACED	/ /

SHEET 4

DRAWING No. – GPY-104

56N
52N
48N
44N
40N
36N
32N
28N
REF. LINE
SNR
754026
72-875
1200
P.M.E.C.L.
Great Pyramid Prospect
Soil Geochemistry
Tin
0
5 cm
SURVEY - - / /
GEOLOGY - - / /
DRAWN - - 12/2
TRACED - - / /
SHEET 5
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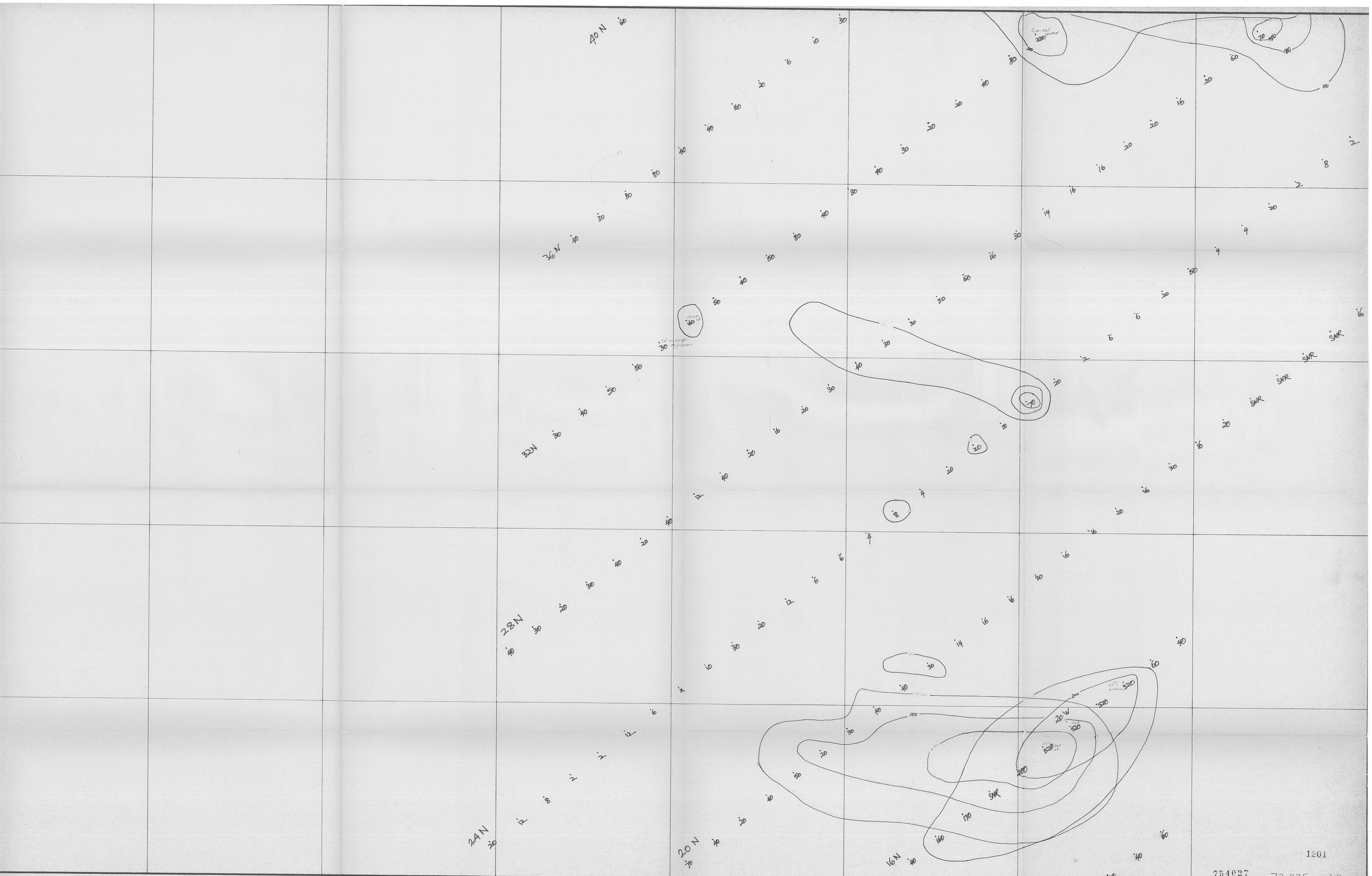

P.M.E.C.L
Great Pyramid Prospect
Soil Geochemistry
Tin

Rpt 3

5 cm

SHEET 6

SURVEY	-	- / /
GEOLOGY	-	- / /
DRAWN	-	- 12/72
TRACED	-	- / /

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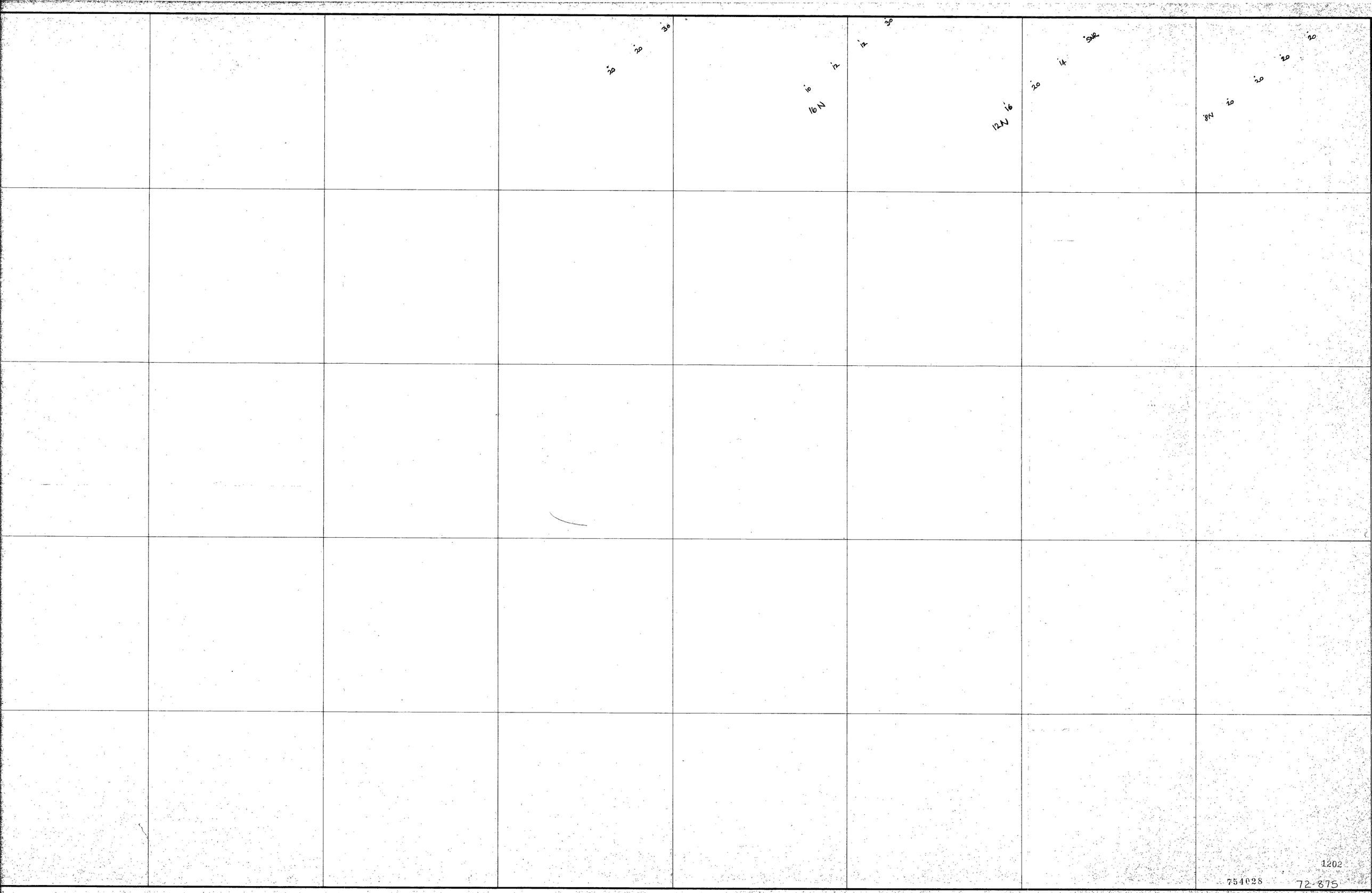

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754028 72-875

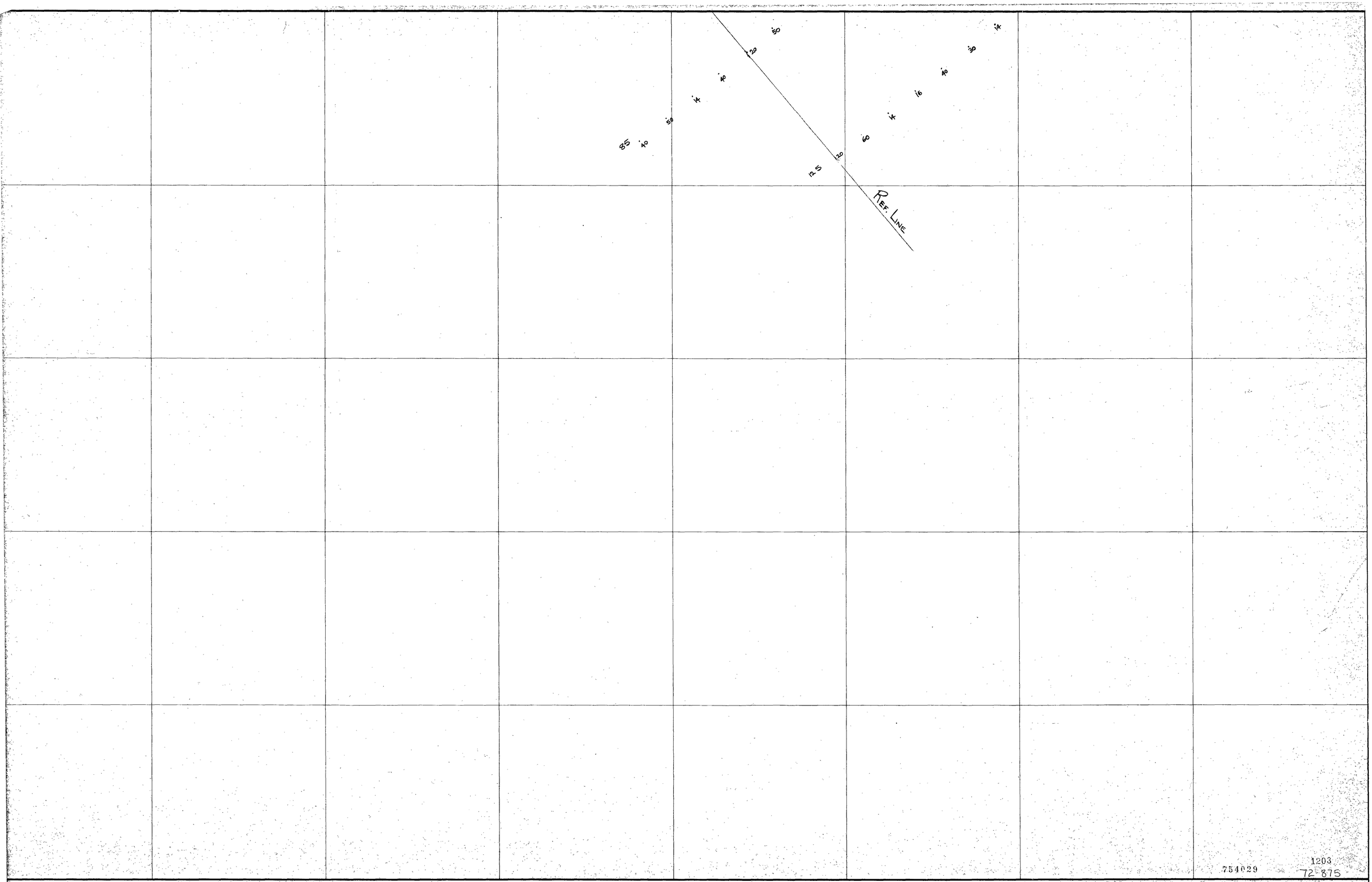
P.M.E.C.L.
Great Pyramid Prospect
Soil Geochemistry
Tin

0

5 cm

SURVEY
GEOLOGY
DRAWN
TRACED

SHEET 7 DRAWING No. – GPY-107



754029

1203
72 875

P.M.E.C.L.
Great Pyramid Prospect
Soil Geochemistry
Tin

Rpt 3

SURVEY – / /
GEOLOGY – / /
DRAWN – / /
TRACED – / /

5 cm

SHEET 8

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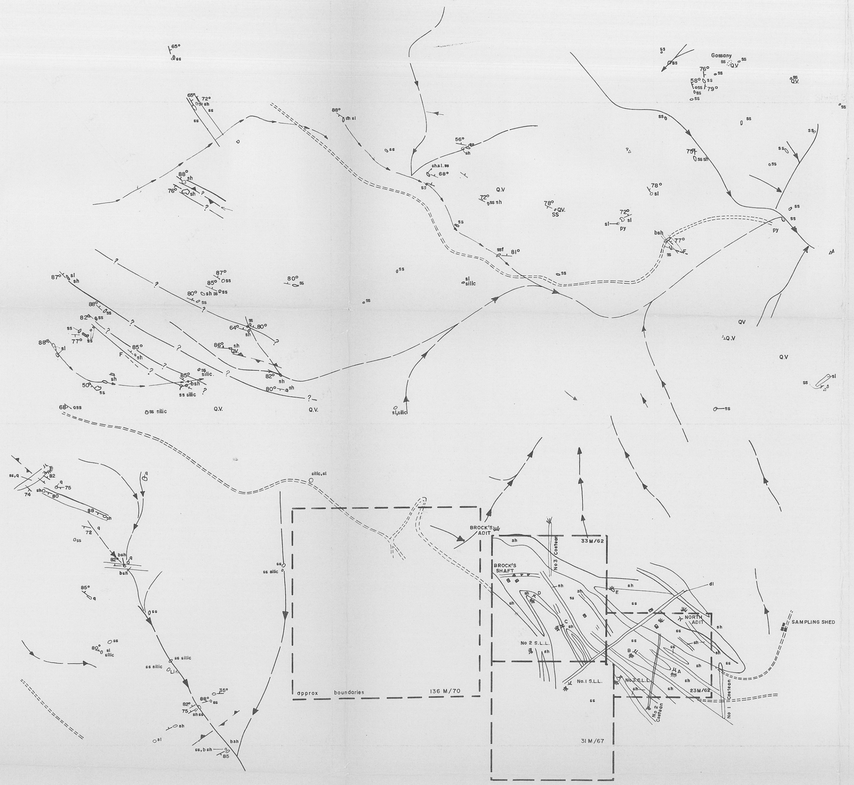


P.M.E.C.L.

GREAT PYRAMID

SURFACE GEOLOGY INTERPRETATION

5 cm

Anticlinal axis		ss q	Sandstone, Quartzite
70	Bedding	si	Siltstones
Qv	Quartz veining	sh	Shales
b △	Breccia	bsh	Black shale
silic	Silicified	di	Dolerite
py	Pyrite		
Lim	Limonitic		

1204

754030 72-875

Rpt. 3

Fig 2

SURVEY		
GEOLOGY	R.J.V.	5 71
	G.K.	2 72
DRAWN	G.K.	6 72
TRACED	D.T.	6 72

DRAWING No. — GPY-116



6,500 N

4,000 N

1,500 N

1,000 S

10,000 W | 7,500 W | 5,000 W | 2,500 W | 00 | 2,500 E | 5,000 E

0 500 1000 1500

SCALE OF FEET

P.M.E.C.L.

GREAT PYRAMID PROSPECT

SOIL GEOCHEMISTRY

ppm Sn

754031

1205

72-875

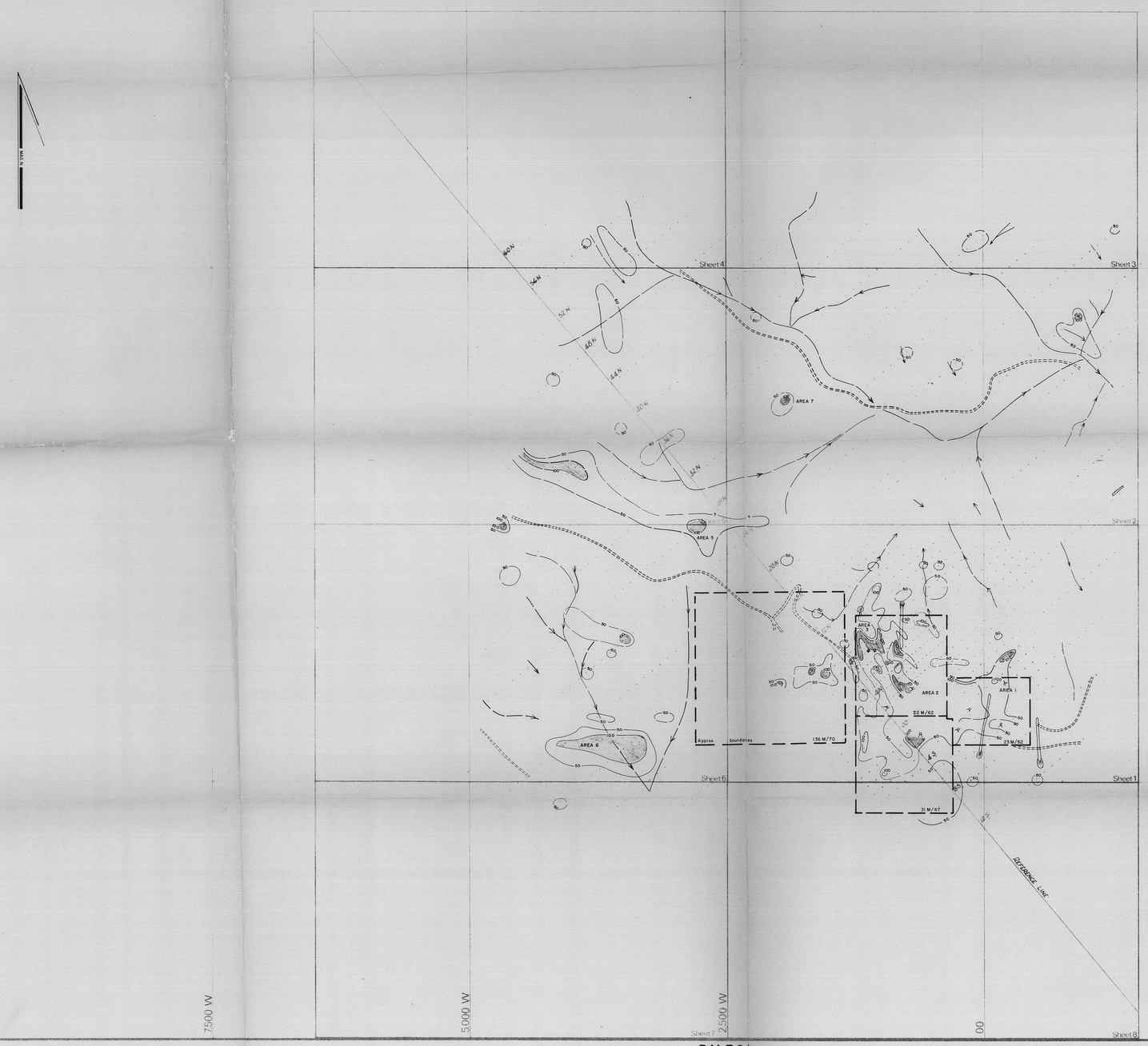
Rpt 3

Fig 3

SURVEY	-	-	/ /
GEOLOGY	- G.K.	-	/2/72
DRAWN	- G.K.	-	/4/72
TRACED	- D.T	-	/6/72

DRAWING No.- GPY 117

5 cm



6,500 N

4,000 N

1,500 N

1,000 S

10000 W

7500 W

5000 W

2500 W

00

2500 E

5000 E

500 0 500 1000 1500

SCALE OF FEET

P.M.E.C.L.

GREAT PYRAMID PROSPECT

SOIL GEOCHEMISTRY

ppm Cu.

754032 1206 72-875

Rpt. 3

SURVEY	-	-	/ /
GEOLOGY	-	-	/ /
DRAWN	- G.K.	-	/6/72
TRACED	- D.T.	-	/6/72

5 cm

Fig 4

DRAWING No. - GPY 118