Annual Report to 30/12/96
EL8313 Frances Creek South
Pine Creek District, Northern Territory

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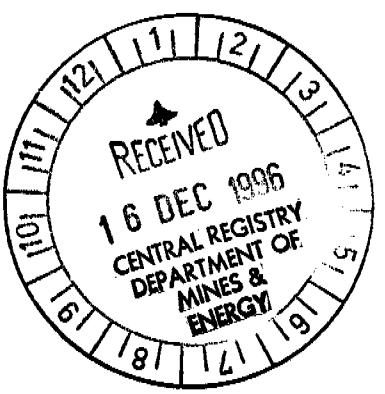
Homestake Gold of Australia Limited

Compiled by J Goulevitch
Exploremin Pty Ltd



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December, 1996

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1 SUMMARY

EL8313 lies approximately 25km north of Pine Creek township and is easily accessed by a well formed gravel road. The road, built to service the Frances Creek Iron mines is serviceable all year except when it is "closed" following heavy rainfalls. Away from the main access road motorised access is extremely difficult due to the steep topography and deeply incised Creeks.

During the 1996 field season (March to November) a comprehensive first pass exploration program has been applied to most of the licensed area and some follow-up work completed. The activities concluded include various forms of geochemical sampling, geological line mapping, EM surveying and magnetic data interpretation. this activity culminated in the drilling of three holes to test various targets. Two RC holes were drilled to test purely geochemical targets and one RC/diamond hole was completed to test a geophysical target.

Those areas drilled have proved disappointing with assay results well below expectation. In the areas tested with drill holes, it is difficult to see that any further work which could lead to the discovery of significant mineralisation.

2 INTRODUCTION

2.1 Access and Physiography

EL8313 lies approximately 25km by road north of Pine Creek township (Figure 1). Pine Creek is situated 230km south of Darwin along the Stuart Highway. From Pine Creek travelling 3km along the Kakadu Highway then turning north onto the well made Frances Creek road and covering 25km leads directly to the project area. All roads in the area are subject to closure or become impassable due to heavy seasonal rains between November and March.

Within the project area vehicle access is heavily restricted by steep sided hills and deeply incised Creeks. Following the wet season long grass, 1m to 2m high restricts both vehicle and pedestrian traffic away from the main road. One poorly formed and unmaintained track leads from the Frances Creek road to an abandoned airstrip in the south-central portion of EL8313. This track when visible, after burn-off, provides limited access to the south-central and the eastern edge of the project area.

2.2 Tenure

EL8313 was granted to Norman Sydney McCleary on 31 December, 1993, for a period of 5 years. The original licence covered almost 9 graticule blocks (a small area of freehold land in the abandoned township of Frances Creek was excluded) bounded by latitudes 13° 37"S and 13° 40"S and longitudes 131° 50"E and 131° 53"E (Figure 2). The licence has been reduced to five graticule blocks effective from 31 December, 1995. No relinquishment is planned for the next year of the licence.

Background land tenure under EL8313 is Mary River West Pastoral Lease (PL815). An area of freehold land (Frances Creek township) straddles the boundary between the EL8313 and AN389 which abuts the licence on its northern boundary.

2.4 Previous Exploration and Mining

Within AN389 and EL8313 previous mining activity has been restricted to the iron deposits to the east and northeast of Frances Creek. According to Ahmad *et. al.* (1993) these were discovered in 1962 and mined by the Frances Creek Iron Mining Corporation Pty Ltd between 1966-1974. A total of 8 million tonnes grading 59% Fe were produced, the bulk (6.1 million tonnes) from the Helene No. 6 and 7 lodes within AN389. The iron ore occurred as a series of massive hematite lodes conformable within tight to open folded pyritic, carbonaceous shales near the base of the Wildman Siltstone. The ore consists of massive and micaceous hematite with included shale and quartz grains in varying proportions. Ahmad *et. al.* (1993) postulate that the ore developed by oxidation of a pyritic horizon though no drillholes have penetrated this unit in the primary zone to confirm this interpretation.

After the cessation of mining activity and surrender of the original titles the area was held within a Mining Reserve because of the extent of surface disturbance caused by the operations. Consequently, up until the grant of the current titles the area was not available for systematic exploration and hence escaped the detailed investigations for gold conducted throughout the surrounding region over the past decade.

Since the current titles were granted, reconnaissance soil sampling was completed in 1994 by the title holder over the rocks of the South Alligator Group (Hardy, 1995). These crop out in a band about 0.5-0.8 kilometres wide along the western margin of AN389 and in the northwest corner of EL8313. A total of 135 samples were collected at 25 metre intervals and composited to 100 metre samples along 15 lines spaced 400 metre apart. Samples were analysed for gold (BLEG) and arsenic. Two weak but distinct linear gold-arsenic anomalies, each 2 to 2.5 kilometres long and with values to 30 ppb Au and 120 ppm As, were defined. These coincided with westerly dipping Koolpin Formation metasediments which form the hanging-wall of a metadolerite sill at the base of the unit. Further detailed soil sampling, rock-chip sampling and mapping were recommended.

In November 1995, Homestake Gold of Australia Limited (HGAL) commissioned a soil sampling program over the western portion of the licences. The survey was situated to test the extent of the Koolpin Formation. The grids referred to as the northern and southern were pegged at 50m on lines 100m apart.

Approximately 550, -20# samples were collected on 100m spaced lines. The samples were composited from material collected 15m east, 15m west and at the 50m spaced peg. In all cases the top 10cm of material was described prior to sieving the sample. The majority of samples were sieved in the field however due to wet conditions some bulks were collected, dried at Assaycorp, Pine Creek and then disaggregated and sieved. All samples and duplicates were assayed for gold by Assaycorp.

3 GEOLOGICAL SETTING

AN389 and EL8313 straddle the contact between metasediments and metadolerites of the Early Proterozoic Pine Creek Geosyncline succession and the later, though still Early Proterozoic, intrusive Allamber Springs Granite, part of the Cullen Batholith (Figure 3) The regional stratigraphy and geological relationships are summarised in Table 1 and are described in more detail in recent accounts by Ahmad *et. al.* (1993) and Stuart-Smith *et. al.*(1993).

Table 1

Stratigraphic relationships in the Pine Creek area (From Pine Creek 1:100 000 Geological Series Map, BMR/NTGS, 1985, and other sources))

RECENT/CAINOZOIC
Alluvium and Colluvium
Laterite
MESOZOIC
Petrel and Bathurst Island Formation
Mullaman Beds
Unconformity
CAMBRIAN
Daly River Group
Unconformity
MIDDLE PROTEROZOIC
Tolmer Group
Unconformity
EARLY PROTEROZOIC
Cullen Batholith
Major period of deformation and regional metamorphism - 1870 - 1810 Ma
EARLY PROTEROZOIC
Finniss River Group
Burrell Creek Formation/Welltree Metamorphics?

South Alligator Group
Mt Bonnie Formation
Gerowie Tuff
Koolpin Formation
Unconformity
Mount Partridge Group
Wildman Siltstone
Mundogie Sandstone
Unconformity
Namoona Group
Masson Formation
Unconformity, deformation and high grade metamorphism
ARCHAEAN/EARLY PROTEROZOIC
Welltree Metamorphics?

The metasediments within the titles under review largely belong to Wildman Siltstone and Mundogie Sandstone of the Mount Partridge Group. These unconformably overlie the Masson Formation of the Namoona Group in the south east of corner of AN389 and are unconformably (?, weak warping) overlain by the Koolpin Formation and Gerowie Tuff of the South Alligator Group along the western margin of AN389 and the northwestern corner of EL8313. Metadolerite sill of the syn-sedimentary Zamu Dolerite intrude the Koolpin Formation and the contact between the Koolpin Formation and underlying Wildman Siltstone.

According to the published 1:100,000 geological map of the area (Pine Creek) the Masson Formation consists mainly of carbonaceous phyllite, slate, silty phyllite and sandy siltstone with minor quartzite and massive ironstone and rare tremolite marble. The Mundogie Sandstone is comprised of coarse pebbly feldspathic quartzite, arkose and micaceous quartzite with minor chert and pebble conglomerate. The Wildman Siltstone is divisible into to units. The upper part consists dominantly of siltstone, phyllite, carbonaceous phyllite and minor laminated coarse sandstone whereas the lower part includes mainly pyritic carbonaceous phyllite, siltstone and pyritic carbonaceous shale breccia (massive hematite ironstone lenses on the surface). In the South Alligator Group, the Koolpin Formation consists mainly of ferruginous (pyritic and pyrrhotitic) and carbonaceous phyllite with horizons of laminated, lensoidal and nodular chert along with minor dolomite and marl. The Gerowie Tuff is comprised of grey siltstone interlayered with crystal tuff, lithic tuff and black cherty tuff as well as minor laminated chert.

The Zamu Dolerite sills are composed of chloritised quartz dolerite and amphibolite.

Adjacent to the contact with the sediments and dolerites, the Allamber Springs Granite is composed mostly of pink, coarse, equigranular and porphyritic, biotite granite while further from the contact, in the southern half of EL8313, pink-green coarse porphyritic hornblende-biotite granite and pink-grey fine to medium equigranular leucogranite and alkali feldspar granite sequentially dominate. Greisen stockwork is extensively developed within a kilometre or two of the contact

The metasediments and metadolerite sills are folded about upright folds which plunge at a shallow angle to the north-northwest. Folding was accompanied by lower greenschist regional metamorphism. The folding and the regional metamorphism are overprinted by the effects of granite intrusion. The granite contact truncates the folded sequence in a passive fashion and albite-epidote hornfels and hornblende hornfels facies contact metamorphism overprints the regional metamorphic assemblages progressively closer to the contact. A distinctive feature of the contact metamorphism is the development of fine white andalusite (chiastolite) needles in the more aluminous black carbonaceous meta-mudstones of the Masson Formation, Wildman Siltstone and Koolpin Formation.

Flat-lying Mesozoic sandstone, siltstone and conglomerate unconformably overlie all of the Early Proterozoic rocks in the area. Several remnant outliers of these rocks are present in the Frances Creek area and one of these is within the eastern part of AN389 (Figure 3). They form flat topped mesa-like landforms above an elevation of 240 metres ASL. According to Ahmad *et. al.* (1993) these sediments were originally mapped by Skwarko (1966) as Mullaman Beds but were interpreted by Hughes (1978) as belonging to the Petrel Formation of Jurassic to Lower Cretaceous age and the Darwin Member of the Bathurst Island Formation of Lower to Upper Cretaceous age.

Finally Cainozoic alluvial and colluvial sand, silt clay and gravel are deposited across the area and as pointed out by Ahmad *et. al.* (1993) these are separated from the basement rocks by residual laterite in many areas.

Four main styles of gold mineralisation are known to occur throughout the region. These occur exclusively within the metasediments and metadolerites of the Pine Creek Geosyncline sequence and almost without exception above the stratigraphic level of the middle of the Koolpin Formation in the South Alligator Group.

Of prime interest is gold mineralisation of the Cosmo-Howley/Golden Dyke style which is hosted by silicate-sulphide facies, cherty iron formations in the middle and upper levels of the Koolpin Formation. At the Golden Dyke Mine (and adjacent smaller deposits), 35 kilometres west of Frances Creek, the mineralisation occurs as a stratiform lens on the western side of the Golden Dyke Dome. At the Cosmo Howley Mine, 50 kilometres west of Frances Creek, similar stratiform mineralisation occurs on the limbs and the crest of the Cosmo Anticline where it has been complicated by, and possibly remobilised and upgraded by, strong axial plane faulting and nearby granite intrusion.. To date no mineralisation of this type has been discovered below the iron formations in the Middle Koolpin Formation. Similar mineralisation occurs at Mount Porter, 2.5 kilometres west of the Frances Creek titles.

Around the Golden Dyke Mine there is also extensive development of bedded tourmalinite (5-30 metres thick, several kilometres in strike extent) at the same stratigraphic level as the gold mineralisation but laterally removed from it. In that area lenses of stratiform gold mineralisation (and tourmalinites) occur in at least two and possibly more stratigraphic levels in and above the middle of the Koolpin Formation.

Of secondary interest in this area is sulphide-associated gold mineralisation in the Zamu Dolerite sills which occur at several levels in the Koolpin Formation and overlying Gerowie Tuff. Mineralisation of this style was mined from the Chinese Howley South deposit a few kilometres north of the Cosmo Howley Mine and it also occurs at Margaret Diggings 7 kilometres southeast of the Golden Dyke Mine and at the Quest 29 prospect in the Mount Bundey area. In these deposits the gold occurs mainly in discontinuous quartz-sulphide veins and reefs which in places are concentrated sufficiently close enough to form coherent mineable resources. Some disseminated mineralisation is also present. This style of gold mineralisation is considered by some to constitute a remobilisation of stratiform gold mineralisation from enveloping units of the Koolpin Formation but others have explored for this style of gold mineralisation in dolerites in this region using dolerite-hosted gold mineralisation at Kalgoorlie as the empirical model.

Of lesser importance in the Frances Creek titles, but of major importance elsewhere in the region, is gold mineralisation in sheeted and stockwork and saddle quartz-pyrite vein systems. This type of mineralisation is generally developed along the crest and limbs of major regional anticlines and is almost exclusively hosted by tuffaceous greywacke-siltstone sequences above the Koolpin Formation. Significant examples of stockwork-type gold mineralisation (as this type is collectively described) in the region include the Enterprise Mine at Pine Creek (1.3 million ounces of production and resources) the Batman deposit at Mount Todd further to the south (2-3 million ounces of reserves and resources) and the Union Reef, Brocks Creek, Rustlers Roost, Goodall and Woolwonga deposits. Lesser deposits include Chinese Howley, Big Howley, Spring Hill, Yam Creek, Fountain Head and Western Arm. Stratiform gold mineralisation hosted by pyritic chert and banded iron formation in the Gerowie Tuff is known at the Zapopan mine and this may also be part of this group.

Stratiform poly-metallic base metal mineralisation (with associated gold) occurs at Mount Bonnie and Iron Blow, 30 kilometres west of Frances Creek. In both cases it is hosted by the lower Mount Bonnie Formation. While there have been several intense exploration programmes in the region seeking this type of mineralisation in the carbonaceous sediments of the underlying Koolpin Formation, they have met with only very limited success.

Because of the stratigraphic position of the Frances Creek titles they are highly prospective for mineralisation of the Cosmo Howley/Golden Dyke-type, especially in the Middle and Upper Koolpin Formation.

4 EXPLORATION ACTIVITIES 1996

4.1 -20# Soil Sampling - South Grid

The results of the 1995 sampling program were encouraging with several areas of anomalous gold and arsenic delineated.

Results of the initial soil sampling in 1995 defined two areas of interest in the south grid. The first of these is centred about 91800N, 7300E and covers an area 300m long and 200m wide . The best result was 457ppb Au with several results above 25ppb. The anomaly was open to the north-east. The second area of interest occurred on the southern most line of survey and consisted of three samples in a row with the centre being 29.6ppb Au flanked by results greater than 10ppb Au. This anomaly was open to the south.

Field inspection of the southern grid anomalies indicated the gold response were being generated by highly sericitic greisenised granite with iron straining after pyrite. During the inspection a rock chip sample of the greisen was taken which returned 0.43ppm Au.

To better define and close the anomalous responses a program of infill and extension sampling was conducted. The sampling was done in several passes during May and June 1996. The sampling method employed was identical to the first survey and the program concluded anomalous areas had be sampled at a 50 x 50m spacing. In the second program samples were collected and assayed for gold and arsenic.

Figures 4 and 5 show the sample locations and analytical results. Appendix 1 lists the assay results.

The results of the "infill" program were enigmatic in that while anomalous responses were generated where expected the level of anomalism was lower than previously described. The difference was so distinct that enquires were made with Assaycorp to seek possible explanations. Following Assaycorp's suggestion that the variation may in some way be attributable to difference in weight of samples collected in the two programs a short re-sampling program was conducted.

In this program four samples of different weight were taken from 10 sites sampled in 1995. The samples were sieved in field and the samples submitted to the laboratory in randomised order. As an additional check on field technique one sample was sieved at -40# while the rest were at -20#. Table 1 displays the sample number, mesh size, location and gold results for the different weights of sample and volume of digestion. The results of this work were also inconclusive but it is believed that either some problem of a non-reproducible nature may have occurred at the laboratory or that levels of extractable gold in the soils vary with the seasons. Nevertheless, while the values obtained in the 1996 sampling are subdued the anomalous pattern is present and the data can be used.

TABLE 2: CHECK ASSAYS, -20# SOIL SAMPLING, FRANCES CREEK

SampNo	#	N	E	W1	W2	W3	W4	R1/750	R2/750	R3/750	R4/150
122234	40	91750	7250	796	578	295	191	47.1	49.8	41.2	34.6
122235	20	91750	7250	880	559	276	201	41.3	41.6	36.4	74.6
122236	20	91700	7200	712	491	271	207	32.7	31.5	36.0	49.3
122237	20	91700	7250	748	548	252	195	24.1	28.7	30.4	26.2
122238	20	91700	7300	860	483	276	216	5.8	5.9	5.4	1.4
122239	20	91800	7250	777	561	248	214	13.5	IS	13.9	9.8
122240	20	91950	7300	715	498	280	223	15.5	25.9	15.0	55.2
122241	20	91900	7250	804	49x	280	235	5.2	6.3	7.0	8.3
122242	20	91900	7300	762	547	264	231	9.8	7.4	22.2	29.9
122243	20	91900	7350	798	487	257	219	42.3	41.6	75.9	180.8

4.2 Stream Sediment Sampling

A regional stream sediment sampling program was completed over most of the Frances Creek project area in April and May. This survey involved the collection of 2kg, -2.5mm samples and 150g, -40# samples at 78 sites within AN389 and EL8313. In addition 11, -6mm samples weighing 5kg or more were collected. Each site was permanently marked by permatag and a GPS position recorded. The -2.5mm, 2kg samples were assayed for gold via the BLEG technique while the -40# samples were analysed for arsenic using a hydride generation technique at Assaycorp. The 11 -6mm bulk samples were analysed by Analabs using a variation on the BLEG technique.

Figure 6 shows the sample site locations and the gold and arsenic responses. Analytical results are listed in Appendix 2.

The results of the stream sediment sampling program were as expected with one areas of anomalous drainage defined in EL8313. This originates from the area of gold-in-soil anomalism delineated in the South Grid.

4.3 Line Mapping

A limited amount of line mapping has been completed with the Frances Creek project area. The mapping was conducted to facilitate and augment the interpretation of geochemical responses. In the South Grid mapping was carried out to accurately plot the granite-sediment contact in the southern part of EL8313 and limited detailed line mapping was undertaken to delineate the zone of sericite alteration and the granite-dolerite contact.

In the East Grid 1:5000 scale line mapping of the Mt Partridge Group between 92400N and 92800 north was completed. Plan 1 shows the fact geology. The mapping was undertaken to try and provide a basis upon which the EM survey results could be interpreted. However, attempts to produce a meaningful geological interpretation were abandon when it became apparent that insufficient, consistent geological information could be collected at this scale. The principal problems were poor rubbly outcrop with abundant scree slopes; coarse-grained units which failed to preserve subtle fabrics uniformly; and numerous late stage small scale folds which effectively mask larger structures and stratigraphic trends.

4.4 EM Survey

To further investigate the economic potential of the Mt Partridge Group area, an EM survey was conducted over that part of the East Grid area within EL8313. The survey consisted of two 800 x 400m fixed loops located to evaluate the possible conductance associated with magnetic anomalies delineated in 1995. To facilitate the survey a detailed grid was established with lines 200 metres apart pegged at 50m spacing over the area shown in Figure 2. The gridding was completed by Arnhem Geological and Exploration Service Pty Ltd.

The EM data was collected by Outer-Rim Exploration Services. Interpretation of the results was undertaken by G.O. Dickson and associates. Their report is included as Appendix 3.

4.5 Aeromagnetic Data Interpretation

The aeromagnetic data collected and processed in 1995 was examined and modelled by G.O. Dickson and Associates. Their findings are discussed in their report included as Appendix 3.

4.6 Drilling

Two reverse circulation (RC) holes and one reverse circulation/diamond drill hole were completed in EL8313 in 1996. The holes were designed to test targets where stream and soil geochemical sampling, conceptual models and geophysical interpretations suggested the possibility of locating significant mineralisation. In all cases the RC component of the holes was sampled as 2m composites and submitted to Assaycorp, Pine Creek. The diamond core was geologically logged, susceptibility measurements were taken throughout and selected intervals of cut core were analysed.

The location of the drill holes are shown on Figure 7. Geological logs and assay results for the RC holes (FCRC001-002) are contained in Appendix 4 and plotted on Plans 2 and 3. Appendix 5 contains the geological and geophysical logs and assay results for the diamond drill hole (FCDH008). The geology and assays for FCDH008 are also plotted on Plans 4 and 5. Table 3 contains a summary of the drilling details

FCRC001 and 002 were drilled to test alteration zones within the basement granite. The assay results in conjunction with the geological logs clearly demonstrate the positive association of gold mineralisation with alteration. In FCRC001 the zone 22-32m is green sericitic granite with pyrite and rare arsenopyrite. The assay results, although subdued, show a corresponding elevation with 0.19 g/t Au and 2800ppm As the maximum values for a 2m interval. Similarly in FCRC002 the interval 12-25m is sericite-pyrite granite and has elevated gold responses with 0.56g/t Au as the maximum.

The combined RC/diamond drill hole was completed at 192m in almost pure, well bedded dolomite-marble (Appendix 5). At the (magnetic) target depth of 80m the lithology changes from a grey pyritic siltstone/mudstone to a dark grey-black graphitic, highly pyrrhotitic mudstone. This persists to 128.9m and is cut by occasional granitic dykes and/or sills. Susceptibility measurements in this zone are sufficiently strong to explain the aeromagnetic anomaly.

TABLE 3: DRILL HOLE DETAILS, EL8313, FRANCES CREEK SOUTH

Hole No	Easting	Northing	RL	Azimuth (Mag)	Incln	Depth (m)
FCRC001	6966	91350	190	265°	-60°	81
FCRC002	7263	91720	200	265°	-60°	80
FCDH008	7904	92400	224	-	-90°	51/192
					Total	**353**

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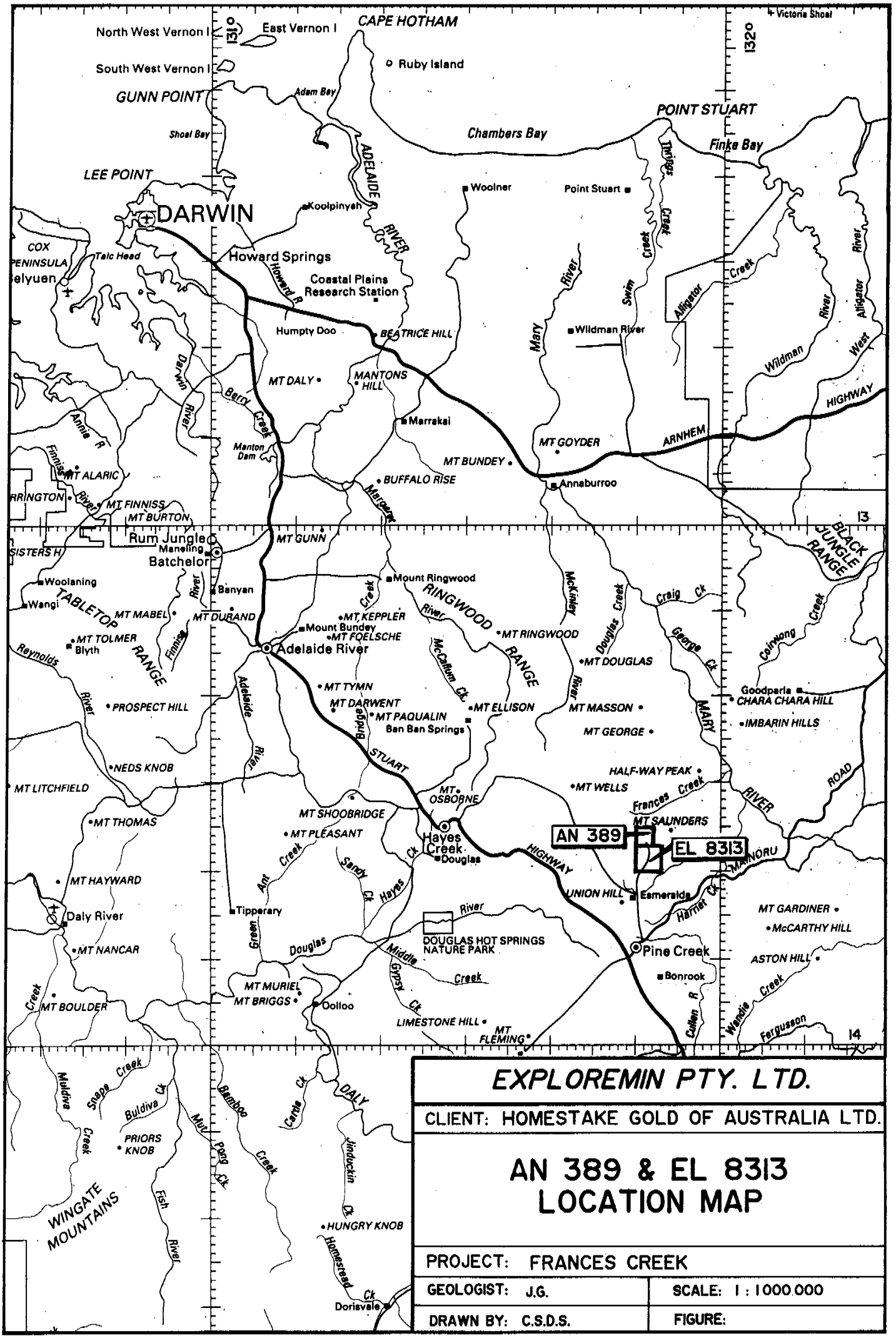
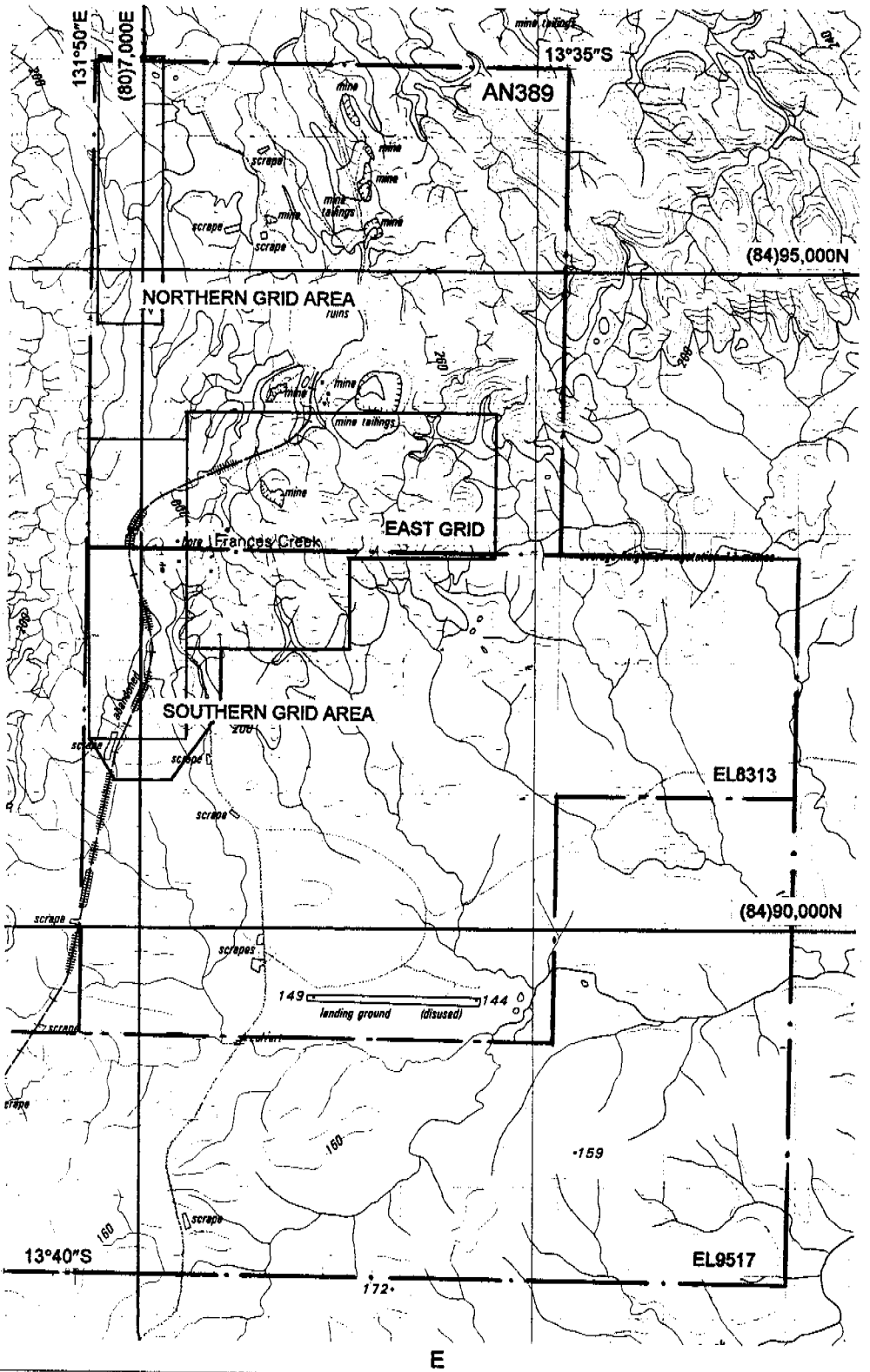


EXPLOREMIN PTY. LTD.

CLIENT: HOMESTAKE GOLD OF AUSTRALIA LTD.

AN 389 & EL 8313 LOCATION MAP

PROJECT: FRANCES CREEK	
GEOLOGIST: J.G.	SCALE: 1 : 1 000 000
DRAWN BY: C.S.D.S.	FIGURE:



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Scale 1: 50000

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GEO: JG	HOMESTAKE GOLD OF AUST LIMITED
	FRANCES CREEK PROJECT
SCALE 1:50000	TENEMENT PLAN & GRID LOCATION
PLAN:	DATE:11-12-1995 FIGURE: 2

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EXPLOREMIN PTY LTD

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Scale 1: 100000

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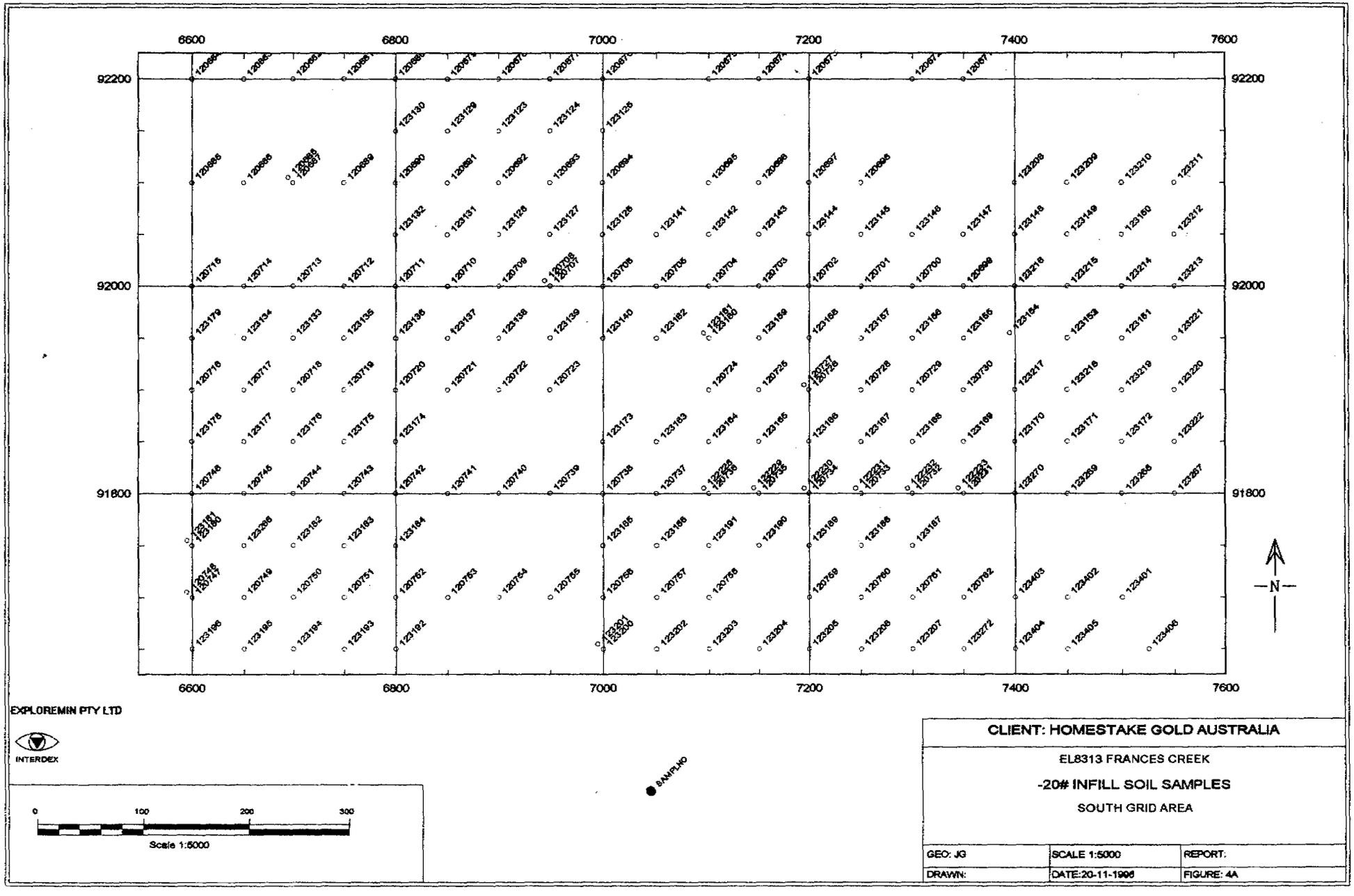
GEO: Various	HOMESTAKE GOLD OF AUST LIMITED
	FRANCES CREEK PROJECT
	REGIONAL GEOLOGY
SCALE 1:100000	From PINE CREEK 1:100,000 Geology Map
Refer PINE CREEK, 1985, for Legend	PLAN: DATE:11-12-1995 FIGURE: 3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SAMPLING
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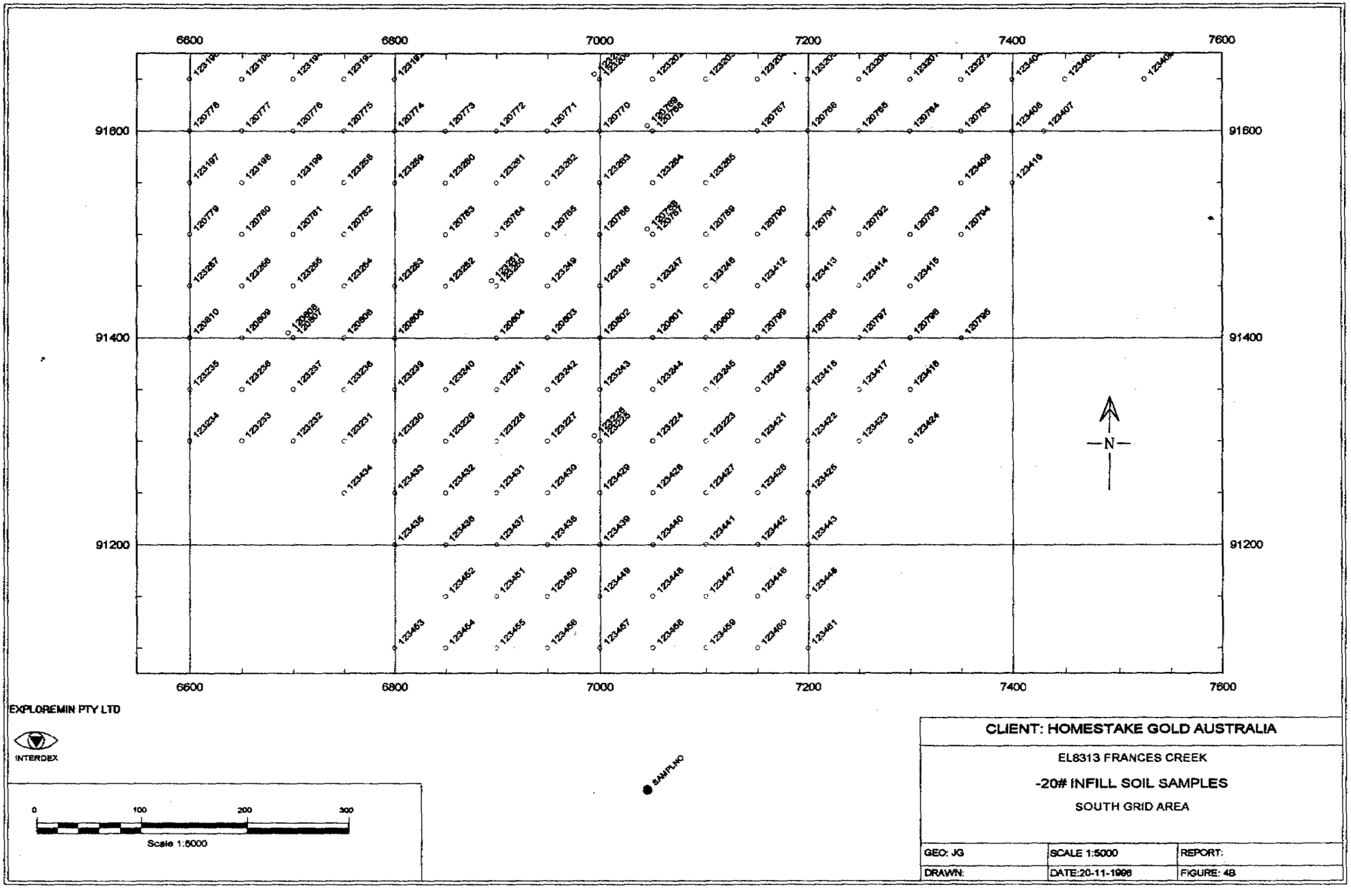
FIGURE: 4A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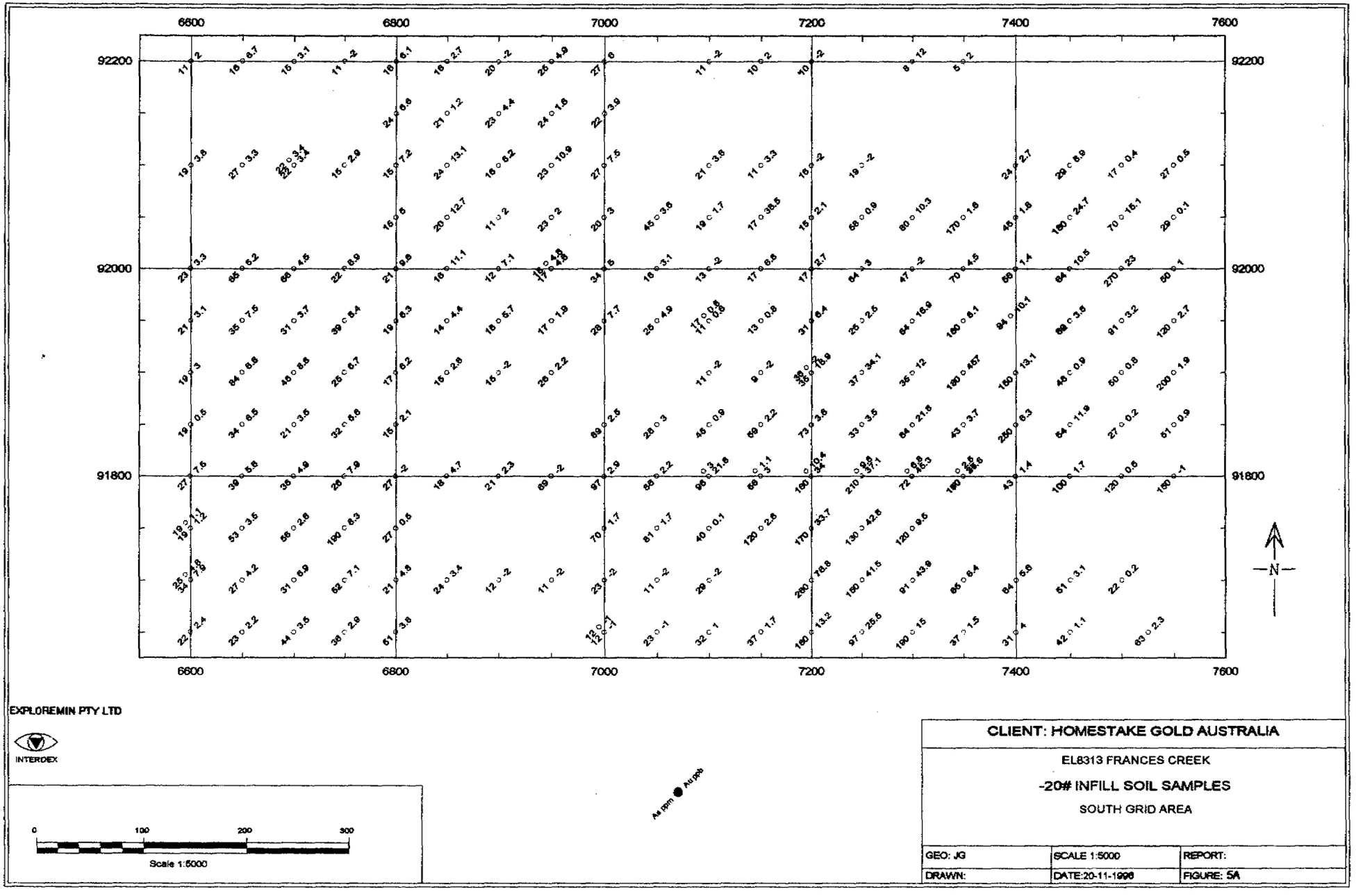
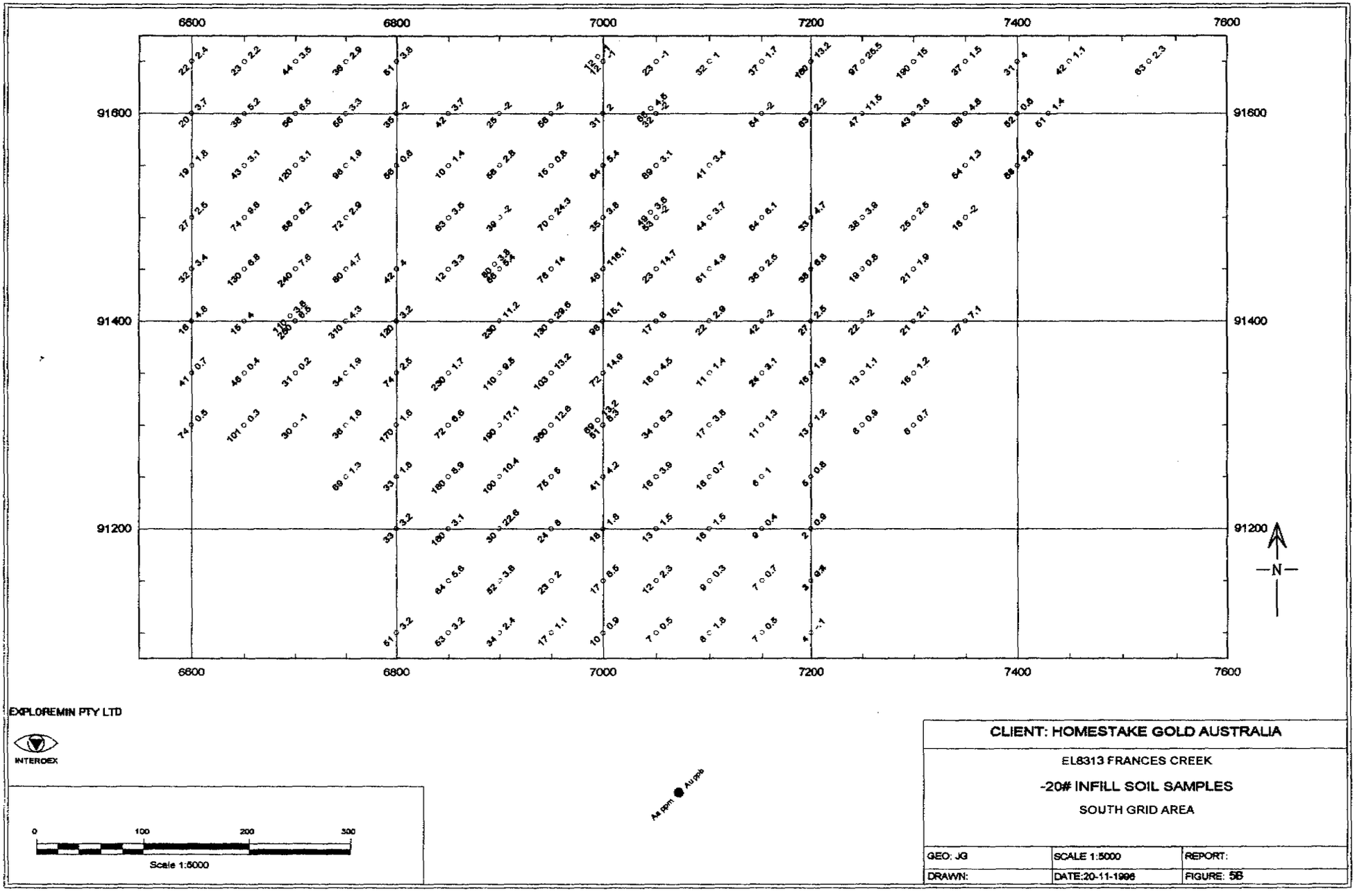
DATE:20-11-1998
FIGURE: 48


6600
6800
7000
7200
7400
7600
92200
92000
91800
N
EXPLOREMIN PTY LTD
INTERDEX
0
100
200
300
Scale 1:5000
Au ppm
Au ppb
CLIENT: HOMESTAKE GOLD AUSTRALIA
EL8313 FRANCES CREEK
-20# INFILL SOIL SAMPLES
SOUTH GRID AREA
GEO: JG
SCALE 1:5000
REPORT:
DRAWN:
DATE:20-11-1998
FIGURE: 5A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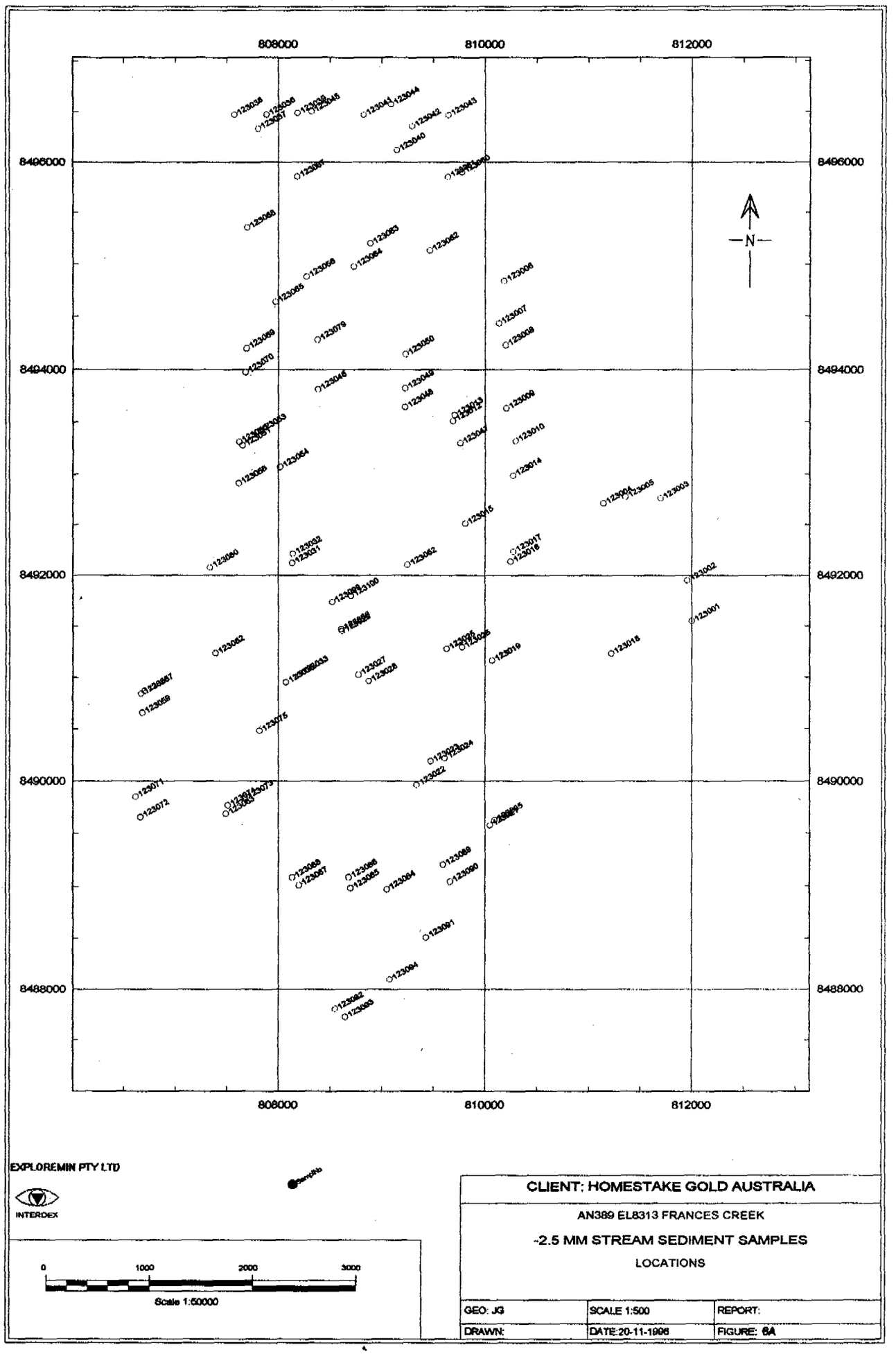
6800
7000
7200
7400
7600
91600
91400
91200
N
EXPLOREMIN PTY LTD
INTERDEX
0
100
200
300
Scale 1:5000
As ppm
Au ppb
CLIENT: HOMESTAKE GOLD AUSTRALIA
EL8313 FRANCES CREEK
-20# INFILL SOIL SAMPLES
SOUTH GRID AREA
GEO: JG
SCALE 1:5000
REPORT:
DRAWN:
DATE:20-11-1998
FIGURE: 5B



EXPLOREMIN PTY LTD

INTERDEX

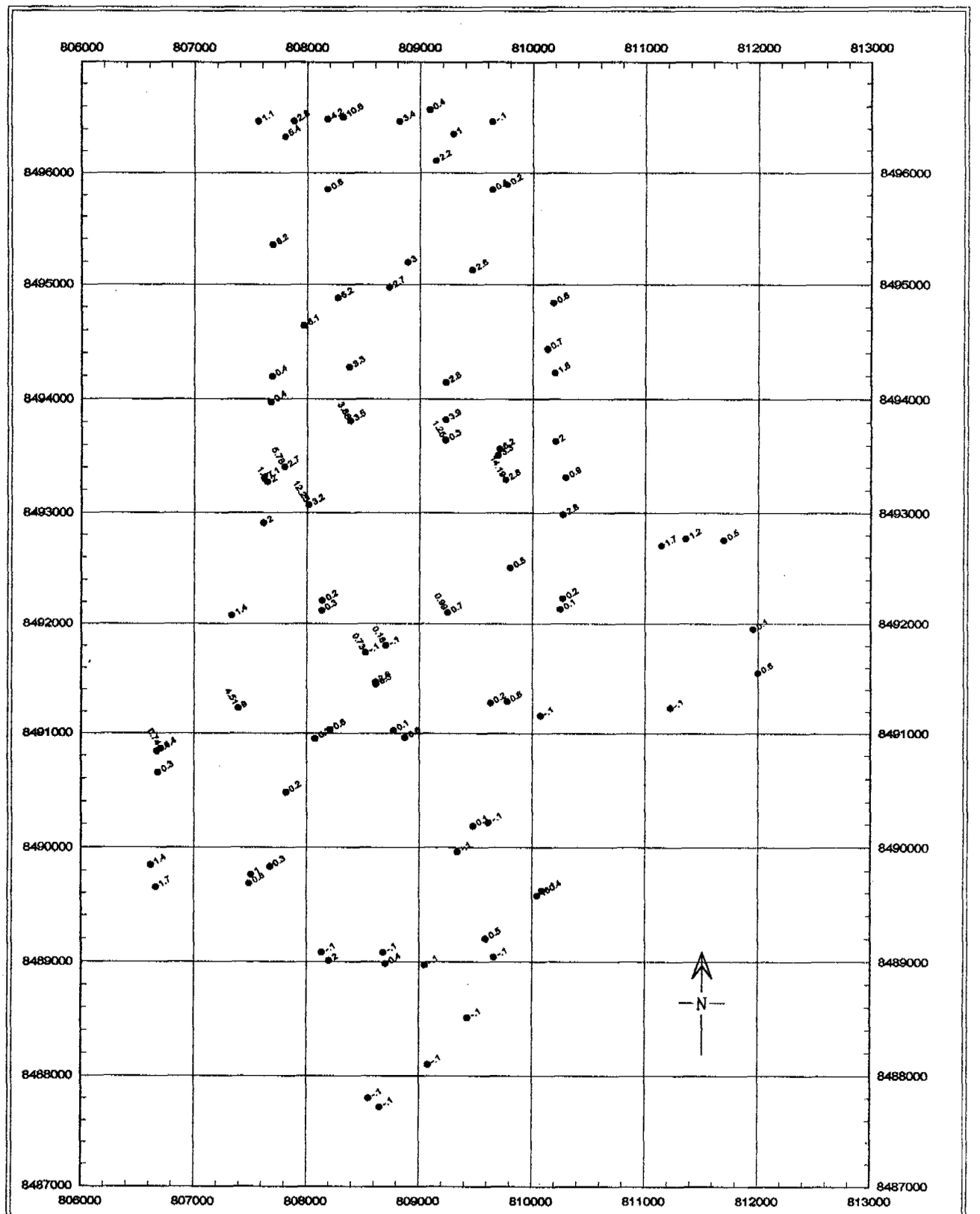
CLIENT: HOMESTAKE GOLD AUSTRALIA

AN389 EL8313 FRANCES CREEK

-2.5 MM STREAM SEDIMENT SAMPLES

LOCATIONS

GEO: JG	SCALE 1:500	REPORT:
DRAWN:	DATE:20-11-1996	FIGURE: 6A



EXPLOREMIN PTY LTD

INTERDEX

0 1000 2000 5000

Scale 1:50000

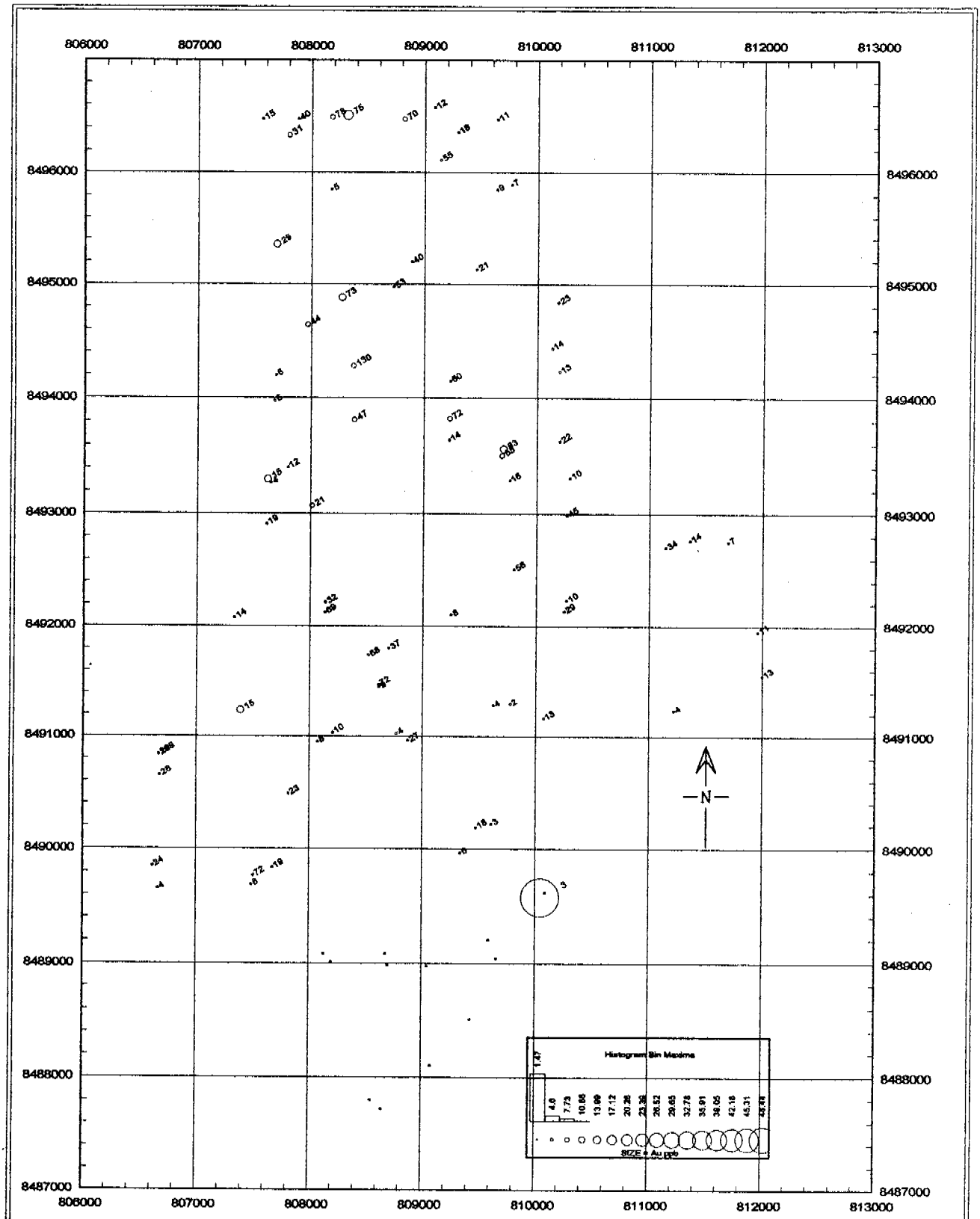
CLIENT: HOMESTAKE GOLD AUSTRALIA

AN389 EL8313 FRANCES CREEK

-2.5 MM STREAM SEDIMENT SAMPLES

Au ppb Assaycorp/Au ppb Analabs 30/120 Deg

GEO: JG	SCALE 1:500	REPORT:
DRAWN:	DATE:20-11-1998	FIGURE: 68



EXPLOREMIN PTY LTD

0 1000 2000 3000

Scale 1:50000

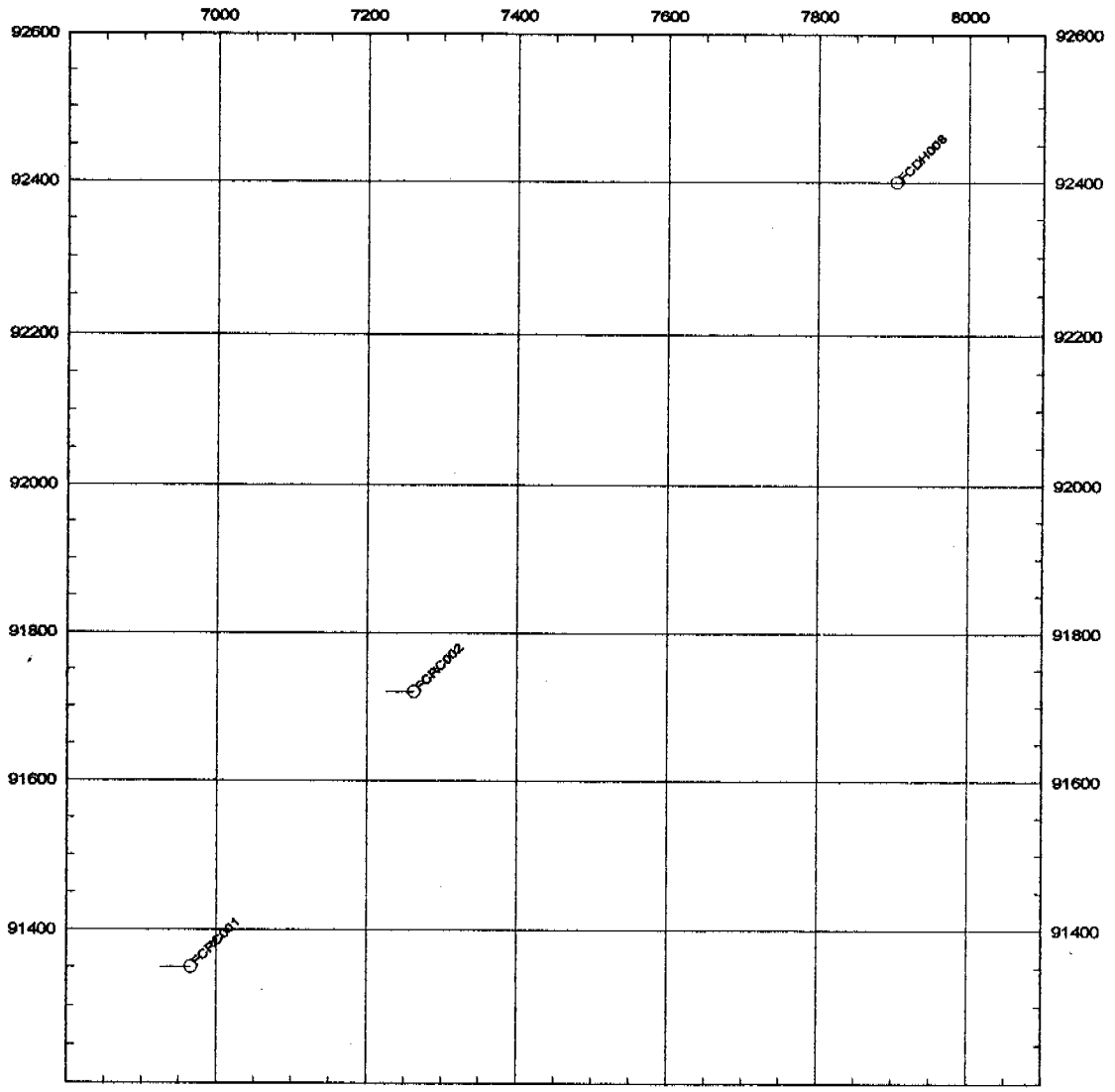
CLIENT: HOMESTAKE GOLD AUSTRALIA

AN389 EL8313 FRANCES CREEK

-2.5 MM STREAM SEDIMENT SAMPLES

As ppm

GEO: JG	SCALE 1:50000	REPORT:
DRAWN:	DATE:20-11-1998	FIGURE: 6C



N

EXPLOREMIN PTY LTD

INTERDIEX

0 200 400 600

Scale 1:10000

CLIENT: HOMESTAKE GOLD AUSTRALIA

AN389 FRANCES CREEK

DRILL HOLE LOCATIONS

GEO: JG	SCALE: 10000	REPORT:
DRAWN:	DATE:28-11-1996	FIGURE: 7

APPENDIX 1

Analytical Results Sheets - -20# Soil Samples

ASSAYCORP

Report Code: .... AC 29288
Samples Received: 30/05/96
Number of Samples: 245

Homestake Gold of Australia Ltd.
226 Great Eastern Highway
Belmont WA 6104

Reference: 10046
Project: ....
Cost Code: ....

Assaycorp Pty Ltd
A.C.N. 052 982 911
174 Ward St
PINE CREEK NT 0847
Ph (089) 76 1262
Fax (089) 76 1310

Report Distribution
HOMESTAKE GOLD OF AUST.
J.Goulevitch

Sample Preparation:

Assay Data:

Analysis	Analytical Technique	Precision & Accuracy	Detection Limit	Data Units
Au	BLEG	Prec. ± 15%	0.1	ppb
As	AAS/MA-3	Prec. ± 10%	1	ppm
WEIGHT	Grav/Read	Acc. ± 1 units	1	gms

Frances Ck Infill Soils
-20#
3 spot
50m
±15m

Report Comment:

Authorisation: Ray Wooldridge
Report Dated: 11/06/96

ASSAYCORP

Sample	Au (ppb)	As (ppm)	WEIGHT (gms)		
123117	3.4	18	747	92250N	7000E
123118	2.6	16	700	92350 N	7000E
123119	4.1	13	729		6950
123120	4.5	11	731		6900
123121	1.1	13	677	92250N	6905
123122	1.9	14	783		6950
123123	4.4	23	724	92150	6900
123124	1.6	24	729		
123125	3.9	22	646		7000
123126	3.0	20	660	92050	7000
123127	2.0	23	610		
123128	2.0	11	762		6900
123129	1.2	21	776	92150	6850
123130	6.6	24	790		6800
123131	12.7	20	747	92050	6850
123132	5.0	15	783		6800
123133	3.7	31	728	91950	6700
123134	7.5	35	638		6650
123135	8.4	39	714		6750
123136	6.3	19	767		
123137	4.4	14	687		
123138	5.7	18	608		
123139	1.9	17	626		
123140	7.7	28	723		7000
123141	3.6	45	667	92050.	7050

ASSAYCORP

ASSAY CODE: AC 29288

Sample	Au (ppb)	As (ppm)	WEIGHT (gms)
123142	1.7	19	615
123143	38.5	17	857
123144	2.1	15	777
123145	0.9	58	995
123146	10.3	80	892
123147	1.6	170	1013
123148	1.8	45	822
123149	24.7	180	758
123150	15.1	70	784
123151	3.2	91	807
123152	3.5	80	766
123153	3.8	82	832
123154	10.1	94	996
123155	8.1	180	894
123156	16.9	64	834
123157	2.5	25	904
123158	6.4	31	820
123159	0.8	13	723
123160	0.6	11	514
123161	0.6	17	496
123162	4.9	25	739
123163	3.0	28	657
123164	0.9	45	848
123165	2.2	59	828
123166	3.6	73	918

N: 92050, 91950, 91850

E: 7100, 7500, 7500, 7050, 7050

ASSAYCORP

ASSAY CODE: AC 29288

Sample	Au (ppb)	As (ppm)	WEIGHT (gms)
123167	3.5	33	906
123168	21.8	84	893
123169	3.7	43	851
123170	6.3	250	786
123171	11.9	54	755
123172	0.2	27	737
123173	2.5	89	914
123174	2.1	15	785
123175	5.8	32	727
123176	3.5	21	691
123177	6.5	34	743
123178	0.5	19	819
123179	3.1	21	773
123180	1.2	19	755
123181	1.1	19	674
123182	2.6	56	582
123183	8.3	190	755
123184	0.5	27	598
123185	1.7	70	893
123186	1.7	81	892
123187	9.5	120	884
123188	42.8	130	841
123189	33.7	170	823
123190	2.6	120	764
123191	0.1	40	544

N: 91950, 91750

E: 7500, 6800, 6600, 6600, 6600, 6800, 7000, 7050, 7300, 7100

ASSAYCORP

ASSAY CODE: AC 29288

Sample	Au (ppb)	As (ppm)	WEIGHT (gms)	N	E
123192	3.8	51	827	91650	6800
123193	2.9	36	674		
123194	3.5	44	727		
123195	2.2	23	750		
123196	2.4	22	803		6600
123197	1.8	19	835	91550	6600
123198	3.1	43	860		
123199	3.1	120	818		6700
123200 D	<0.1	12	711	91650	7000
123201 D	<0.1	12	686		
123202	<0.1	23	840		
123203	1.0	32	936		
123204	1.7	37	867		
123205	13.2	180	844		
123206	25.5	97	852		
123207	15.0	190	858		7300
123208	2.7	24	711	92100	7400
123209	8.9	29	823		
123210	0.4	17	753		7500
123211	0.5	27	926		7550
123212	0.1	29	728	92050	7550
123213	1.0	50	865	92000	7550
123214	23.0	270	717		
123215	10.5	64	884		
123216	1.4	56	772		7450

ASSAYCORP

ASSAY CODE: AC 29288

Sample	Au (ppb)	As (ppm)	WEIGHT (gms)	N	E
123217	13.1	150	857	91900	7400
123218	0.9	48	809		
123219	0.8	50	775		
123220	1.9	200	782		7550
123221	2.7	120	792	91950	7550
123222	0.9	51	801	91850	7550
123223	3.8	17	912	91300	7100
123224	5.3	34	955		
123225 D	8.3	51	866		
123226 D	13.2	69	861		
123227	12.8	360	864		
123228	17.1	190	904		
123229	6.6	72	906		
123230	1.6	170	911		
123231	1.8	36	940		
123232	<0.1	30	981		
123233	0.3	101	919		
123234	0.5	74	905		6600
123235	0.7	41	919	91350	6600
123236	0.4	48	855		
123237	0.2	31	970		
123238	1.9	34	954		
123239	2.5	74	842		
123240	1.7	230	966		
123241	9.5	110	856		6900

ASSAYCORP

ASSAY CODE: AC 29288 Page 6 of 10

Sample	Au (ppb)	As (ppm)	WEIGHT (gms)	N	E
123242	13.2	103	917	91350	6950
123243	14.9	72	939		
123244	4.5	18	909		
123245	1.4	11	1077		7100
123246	4.9	81	980	91450	7100
123247	14.7	23	918		
123248	116.1	46	853		
123249	14.0	76	965		
123250 D	5.4	86	890		
123251	3.8	80	860		
123252	3.3	12	871		
123253	4.0	42	852		
123254	4.7	80	865		
123255	7.6	240	689		
123256	6.8	130	793		
123257	3.4	32	802		6600
123258	1.9	98	955	91550	6750
123259	0.6	56	1001		
123260	1.4	10	838		
123261	2.8	56	802		
123262	0.8	15	974		
123263	5.4	84	940		
123264	3.1	69	810		
123265	3.4	41	889		7100
123266	3.5	53	641	91750	6650

ASSAYCORP

ASSAY CODE: AC 29288 Page 7 of 10

Sample	Au (ppb)	As (ppm)	WEIGHT (gms)	N	E
123267	<0.1	150	787	91800	7550
123268	0.5	120	865		
123269	1.7	100	944		
123270	1.4	43	885		
123271	37.8	170	735		7350
123272	1.5	37	800	91650	7350
123273 D	2.6	26	860	95850	6850
123274	2.7	40	838		
123275	1.7	31	872		
123276	3.8	28	755		
123277	4.3	13	733		
123278	3.6	14	794		6650
123279	6.8	14	661	95950	6650
123280	5.0	20	866		
123281	4.9	36	834		
123282	2.6	12	822		
123283	1.9	14	773		6850
123284	2.2	11	752	96050	6850
123285	4.6	11	913		
123286	3.6	14	797		
123287	3.2	14	897		
123288	5.2	38	865		6650
123289	2.1	14	784	96550	6850
123290 D	4.9	10	828		
123291	2.9	10	736		6900

ASSAYCORP

Report Code: ..... **AC 30322**
Samples Received: 04/07/96
Number of Samples: 61

Homestake Gold of Australia Ltd.
9th Floor 2 Mill Street
Perth WA 6000

Reference: 10056
Project: .....
Cost Code: .....

ASSAYCORP PTY LTD
A.C.N. 052 982 911
174 Ward St
Pine Creek NT 0847
Ph (089) 76 1262
Fax (089) 76 1310

Report Distribution
HOMESTAKE GOLD OF AUST.
J.Goulevitch

Sample Preparation:

Assay Data:

Analysis	Analytical Technique	Precision & Accuracy	Detection Limit	Data Units
Au	BLEG/750g	Prec. ± 15%	0.1	ppb
As	AAS/HA-3	Prec. ± 10%	1	ppm
WT	Grav/Read	Acc. ± 0.1 units	0.1	gms

Frances Ck
-20# Soils
5th End of
Grid

Report Comment:
Leach volume was 1000mL.

Authorisation: Ray Wooldridge
Report Dated: 15/07/96

ASSAYCORP

ASSAY CODE: AC 30322

Sample	Au (ppb)	As (ppm)	WT (gms)
123401	0.2	22	1024.0
123402	3.1	51	954.0
123403	5.6	64	1110.0
123404	4.0	31	1055.0
123405	1.1	42	972.0
123406	2.3	63	974.0
123407	1.4	51	991.0
123408	0.6	52	832.0
123409	1.3	54	1040.0
123410	3.6	54	1024.0
123411	1.3	68	1081.0
123412	2.5	36	1034.0
123413	6.8	38	1035.0
123414	0.8	19	997.0
123415	1.9	21	958.0
123416	1.2	16	1186.0
123417	1.1	13	1136.0
123418	1.9	16	1065.0
123419	2.0	14	1104.0
123420	3.1	21	1021.0
123421	1.3	11	1042.0
123422	1.2	13	1014.0
123423	0.9	8	1079.0
123424	0.7	6	1136.0
123425	0.8	5	998.0

ASSAYCORP

ASSAY CODE: AC 30322

Sample	Au (ppb)	As (ppm)	WT (gms)
123426	1.0	6	1001.0
123427	0.7	16	887.0
123428	3.9	16	1089.0
123429	4.2	41	1047.0
123430	5.0	75	961.0
123431	10.4	100	865.0
123432	8.9	180	808.0
123433	1.8	33	1020.0
123434	1.3	69	940.0
123435	3.2	33	1056.0
123436	3.1	160	912.0
123437	22.6	30	1042.0
123438	8.0	24	1100.0
123439	1.8	18	974.0
123440	1.5	13	1081.0
123441	1.5	16	998.0
123442	0.4	9	1085.0
123443	0.9	2	1096.0
123444	<0.1	2	980.0
123445	0.4	3	984.0
123446	0.7	7	1053.0
123447	0.3	9	932.0
123448	2.3	12	1059.0
123449	6.5	17	1041.0
123450	2.0	23	1023.0

ASSAYCORP

ASSAY CODE: AC 30322

Sample	Au (ppb)	As (ppm)	WT (gms)
123451	3.6	52	1047.0
123452	5.6	64	1113.0
123453	3.2	51	991.0
123454	3.2	53	1008.0
123455	2.4	34	1144.0
123456	1.1	17	1135.0
123457	0.9	10	1086.0
123458	0.5	7	1086.0
123459	1.8	6	1104.0
123460	0.5	7	973.0
123461	<0.1	4	1078.0

To: John Goulevitch.

ASSAYCORP

Report Code: .... AC 30054
Samples Received: 26/06/96
Number of Samples: 40

Homestake Gold of Australia Ltd.
9th Floor 2 Mill Street
Perth WA 6000

Reference: 10054
Project: ....
Cost Code: ....

ASSAYCORP PTY LTD
A.C.N. 052 982 911
174 Ward St
Pine Creek NT 0847
Ph (089) 76 1262
Fax (089) 76 1310

Report Distribution
HOMESTAKE GOLD OF AUST.
J.Goulevitch

S le Preparation:

Assay Data:

Analysis	Analytical Technique	Precision & Accuracy	Detection Limit	Data Units
Au	BLEG/2Kg	Prec. ± 15%	0.1	ppb
WEIGHT	Grav/Read	Acc. ± 1 units	1	gms
VOLUME	Vol/	Prec. ± 10%	1	ml

Frances Ok
Repeat Samples
Sth Area
-20# Samples
-40#

Report Comment:

Authorisation: Ray Wooldridge
Report Dated: 04/07/96

ASSAYCORP

ASSAY CODE: AC 30054

Sample	Au (ppb)	WEIGHT (gms)	VOLUME (ml)
122234	47.1	796	750
122235	41.3	880	750
122236	32.7	712	750
122237	24.1	748	750
,22238	5.8	860	750
122239	13.5	777	750
122240	15.5	715	750
122241	5.2	804	750
122242	9.8	762	750
122243	42.3	798	750
122244	49.8	578	750
122245	41.6	559	750
122246	31.5	491	750
122247	28.7	548	750
'22248	5.9	483	750
122249	-IS-	561	750
122250	25.9	498	750
122251	6.3	498	750
122252	7.4	547	750
122253	41.6	487	750
122254	41.2	295	750
122255	36.4	276	750
122256	36.0	271	750
122257	30.4	252	750
122258	5.4	276	750

ASSAYCORP

ASSAY CODE: AC 30054

Sample	Au (ppb)	WEIGHT (gms)	VOLUME (ml)
122259	13.9	248	750
122260	15.0	280	750
122261	7.0	280	750
122262	22.2	264	750
,22263	75.9	257	750
122264	180.8	219	1500
122265	29.9	231	1500
122266	8.3	235	1500
122267	55.2	223	1500
122268	9.8	214	1500
122269	1.4	216	1500
122270	26.2	195	1500
122271	49.3	207	1500
122272	74.6	201	1500
'22273	34.6	191	1500

APPENDIX 2

Analytical Results Sheets - Stream Sediment Samples

ASSAYCORP

Report Code: ..... **AC 28959**
Samples Received: 16/05/98
Number of Samples: 86

Homestake Gold of Australia Ltd.
226 Great Eastern Highway
Belmont WA 6104

Reference: 10042
Project: .....
Cost Code: .....

Assaycorp Pty Ltd
A.C.N. 052 982 911
174 Ward St
Pine Creek NT 0847
Ph (089) 76 1282
Fax (089) 76 1310

Report Distribution
HOMESTAKE GOLD OF AUST.
J.Goulevitch

Sample Preparation:

Assay Data:

Analysis	Analytical Technique	Precision & Accuracy	Detection Limit	Data Units
Au	BLEG/2Kg	Prec. ± 15%	0.1	ppb
As	AAS/HA-3	Prec. ± 10%	1	ppm

Report Comment:

Authorisation: Ray Wooldridge
Report Dated: 28/05/98

ASSAYCORP

ASSAY CODE: AC 28959

Sample	Au (ppb)	As (ppm)
123001	0.6	13
123002	0.1	11
123003	0.5	7
123004	1.7	34
123005	1.2	14
123006	0.6	23
123007	0.7	14
123008	1.6	13
123009	2.0	22
123010	0.9	10
123011	0.6	8
123012	3.3	55
123013	6.2	63
123014	2.8	45
123015	0.5	56
123016	0.1	29
123017	0.2	10
123018	<0.1	4
123019	<0.1	13
123020	<0.1	12
123021	180.4	3
123022	<0.1	6
123023	0.1	18
123024	<0.1	3
123025	0.2	4

ASSAYCORP

ASSAY CODE: AC 28959

Sample	Au (ppb)	As (ppm)
123026	0.6	2
123027	0.1	4
123028	0.6	27
123029	0.3	9
123030	2.6	72
123031	0.3	69
123032	0.2	32
123033	0.6	10
123034	<0.1	3
123035	0.3	8
123036	2.8	40
123037	5.4	31
123038	1.1	15
123039	4.2	78
123040	2.2	55
123041	3.4	70
123042	1.0	18
123043	<0.1	11
123044	0.4	12
123045	10.6	75
123046	3.5	47
123047	2.8	16
123048	0.3	14
123049	3.9	72
123050	2.8	60

ASSAYCORP

ASSAY CODE: AC 28959

Sample	Au (ppb)	As (ppm)
123051	2.0	4
123052	0.7	8
123053	2.7	12
123054	3.2	21
123055	7.1	15
123056	2.0	19
123057	0.4	69
123058	<0.1	29
123059	0.3	26
123060	0.2	7
123061	0.4	9
123062	2.6	21
123063	3.0	40
123064	2.7	53
123065	6.1	44
123066	6.2	73
123067	0.6	5
123068	8.2	29
123069	0.4	6
123070	0.4	6
123071	1.4	24
123072	1.7	4
123073	0.3	19
123074	1.0	72
123075	0.2	23

ASSAYCORP

ASSAY CODE: AC 28959

Sample	Au (ppb)	As (ppm)
123076	9.6	104
123077	1.2	52
123078	3.2	48
123079	3.3	130
123080	1.4	14
123081	1.8	18
123082	9.0	15
123083	0.8	8
123098	4.3	21
123099	<0.1	68
123100	<0.1	37

FAXED

Analabs Pty. Ltd.
ACN 004 591 664
50 Murray Road, Welshpool
Western Australia 6106
Telephone : (61 9) 458 7999
Facsimile : (61 9) 458 [illegible]

Our reference : PE016383
Your reference : 4596
Project code :
Date received : 28/05/96
Date reported : 04/06/96

John Goulevitch

Homestake Gold Of Australia Limited
Ascot Place
226 Great Eastern Highway

WA 6104

Number of pages of results : 1
Number of Samples : 11
First Sample : 123046
Last Sample : 123097

Invoice to:
John Goulevitch

Homestake Gold Of Australia Limited
Ascot Place
226 Great Eastern Highway

WA 6104

Electronic Data Transmission :
Modem / /
Facsimile / /
Disk Report / /

Results to:

Results to:

Remarks :

+6kg
-6.5mm
BLEG
FA Ck
Duplicates

Authorised by:.....
On behalf of:

Mr Richard Bowen
Manager-Minerals

The results in the following analytical report pertain to the samples provided to this laboratory for preparation and/or analysis as requested by the client.

Analabs Pty. Ltd.
ACN 004 591 664
52 Murray Road, Welshpool
Western Australia 6106
Telephone : (61 9) 458 7999
Facsimile : (61 9) 458 [illegible]

Our reference : PE016383
Your reference : 4596
Project code :
Report date : 04/06/96
Report status : Final
Page : 1 of 1

ANALYTICAL DATA

Sample	Au
123046	3.88
123047	14.19
123048	1.25
123051	1.80
123052	0.99
123053	5.78
123054	12.25
123098	4.51
123099	0.73
123100	0.18
123097	0.74

057

Method	GG342
Units	ppb
Detection Limit	0.05

Notes: N.A. not analysed, - = element not determined, I.S. = insufficient sample, I.N.R. listed not received

ASSAYCORP

Report Code: ..... AC 29732
Samples Received: 14/06/96
Number of Samples: 13

Homestake Gold of Australia Ltd.
226 Great Eastern Highway
Belmont WA 6104

Reference: 10050
Project: .....
Cost Code: .....

Assaycorp Pty Ltd
A.C.N. 052 982 911
174 Ward St
Pine Creek NT 0847
Ph (089) 76 1262
Fax (089) 76 1310

Report Distribution
HOMESTAKE GOLD OF AUST.
J.Goulevitch

Sample Preparation:

Assay Data:

Analysis	Analytical Technique	Precision & Accuracy	Detection Limit	Data Units
Au	BLEG	Prec. ± 15%	0.1	ppb

EZ9517
F/U Stream Sed.

Report Comment:

Authorisation: Ray Wooldridge
Report Dated: 19/06/96

ASSAYCORP

ASSAY CODE: AC 29732

Sample	Au (ppb)
123084	<0.1
123085	0.4
123086	<0.1
123087	2.0
123088	<0.1
123089	0.5
123090	<0.1
123091	<0.1
123092	<0.1
123093	<0.1
123094	<0.1
123095	<0.1
123096	0.1

APPENDIX 3

Report on Geophysical Investigations

HOMESTAKE AUSTRALIA

FRANCIS CREEK REPORT

TEM and AEROMAGNETIC DATA

PREPARED BY:-
G O DICKSON & ASSOCIATES

AUGUST 1996

1.0 INTRODUCTION

Aeromagnetic data were collected over the Francis Creek and Mount Porter areas which are located near Pine Creek in the Northern Territory.

The Francis Creek aeromagnetic data were used to locate six, time domain electromagnetic (TEM) transmitter (TX) loops to investigate the major magnetic anomalies. The TX loops measured 800 by 400 metres. The geology of the area was not well known and the surveys were designed to test for both steep and flat lying conductors.

Outer-Rim Exploration Services were invited to carry out the surveys using a Crone TEM system.

An interpretation of the TEM and aeromagnetic data is presented in this report.

2.0 ITEMS ACCOMPANYING THIS REPORT

All plans and images are at scale of 1:10,000 scale

1 TEM images of the vertical field component for loops 1,2 and 4 and for loops 3,6 and 7.

2 TEM images for the Y component for each of the six loops surveyed.

3 Images of the pole reduced magnetic data and the 1st vertical derivative (1V

4 Interpretation plan drafted on the 1VD image

3.0 CONCLUSIONS & RECOMMENDATIONS

1 The results of the TEM surveys were disappointing and the data are difficult to interpret. The response appears to be due to an earth whose conductivity increases with depth or to a layered earth where the deeper layers become more conductive. The response tends to be 'lock in' under the TX loops with a slow drift and shrinkage with time. Only two conductors, other than those associated with the loops, are mentioned. The source of C1 is likely current channelling and no follow up appears warranted. The position of C2 coincides with one of the shallowest magnetic bodies but it is unlikely that the magnetic body is the source of the TEM anomaly. The TEM anomalies also occur in areas where the depth to the magnetic source is much deeper.

2 We favour drill testing magnetic anomalies A and C. A could be relatively shallow and as bodies A and B are likely fault related it will provide a clue to the source of anomaly B with is much deeper. Magnetic body C is relatively shallow with perhaps a very gentle plunge to the north. A test on anomaly C would also provide an answer to source of the TEM anomalism.

4.0 INTERPRETATION- TEM DATA

Profiles for the Z component (+ve down at loop centre) and a horizontal component (X +ve in line & Y +ve north) are included under separate cover. Both in-loop and out-of-loop surveys were carried out as the geological attitude was not known.

The TEM response is not easy to understand. It is one of the most difficult TEM problems that I have encountered.

Reports submitted to Homestake by Outer-Rim show that the Z component response out to channel 30, ~13 ms (channel 30 is one of 35 maximum channels) stays fixed near the TX loop. We have combined the results for loops 1,2,4(out-of-loop surveys) into image 1 and those for loops 3,6,7(in-loop-surveys) into image 2. In the join of grids, the out-of-loop response should be 'continuous' for steeply dipping bodies. This is clearly not the case. The conclusion is that the response is dominated by the ground and the Z-component will be stronger under the TX loop. See the in-loop data, image 2.

In the case of the ground response, the rate of decay of the TEM response is diagnostic. The half space and the conductive layer will decay at different, but at predicable rates. Horizontal components always decay faster than the vertical components. *Predicable rates of decay are not achieved* except at very late time. Short of seeking an instrument problem (and we have no grounds for that) we suggest:-

- The conductivity of the earth continues to increase with depth in a smooth way from a more resistive surface reaching quite conductive material at depth. The induced ground response is confined to the conductive material for times beyond the resolution of most TEM equipment. We also imagine that the lower layers are folded or faulted and give rise to conductivity contrasts where current channelling may occur.

- The only way that we can explain the decay of horizontal components being slower than the vertical component is to assume a variable thickness or conductivity of the underlying material. Certainly, the centre of the maximum vertical field response may move with time with respect to the centre of the TX loop and this can result in unusual rates of decay for all components. In some cases, the late time rate of decay tends towards an exponential and this is unexpected for an unconfined conductor.

- Variability of conductivity and thickness of near surface material is not taken into account in the theoretical work and this variability can account for the departure from expected rates of decay.

4.1 LOOP SUMMARY

The vertical field response for loops 1,2 and 4 (out-of-loop surveys) are combined in image 1. The in-loop vertical field response in combined in image 2. To achieve better resolution, the results for loop 2 are reproduced in image 3. The Y component response cannot be combined (because of polarity changes across the loop) and presented in individual images. We note that in some cases the horizontal field response is distorted near the loop and this, no doubt, is due to a small misalignment of the coil.

LOOPS 1 AND 7. The response to the surveys from these two loops can be explained as set out in the general discussion above. There are no other TEM anomalies that warrant mention.

LOOPS 2 AND 3. An anomalous response is noted on several lines of this survey. The anomaly is best seen on image 3 (vertical field) and the corresponding Y field response where a very distinctive low, which corresponds to the axis of the conductor, strikes NW. The conductor is labelled C1 and its position is shown on the magnetic interpretative plan. The attitude of the conductor is such that it cannot be detected by the in-loop survey of loop 3. The conductor is in a position of poor coupling for the loop 3 survey. We suggest that the source of the anomaly is current channelling.

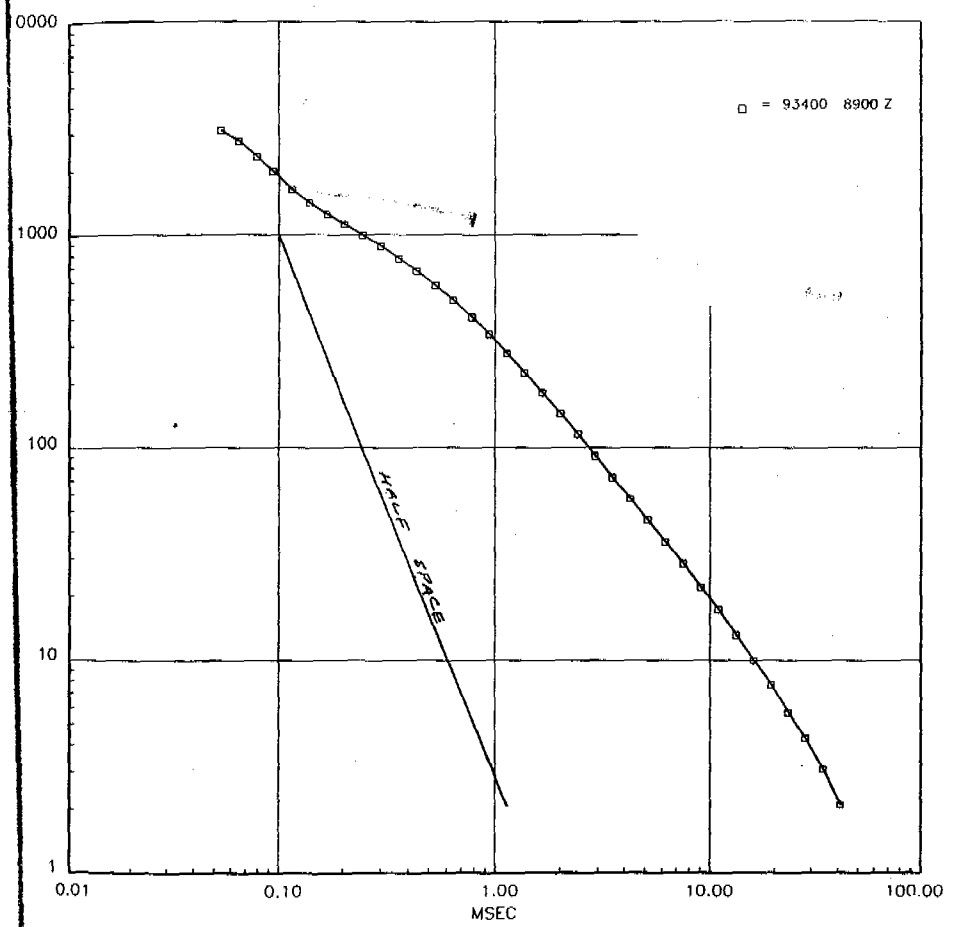
LOOPS 4 AND 6. The loop 4 results suggest some change in conductivity near the edge of one of the shallowest magnetic anomalies in the area. The results are confirmed by the loop 6 data where the peak Z field response lies directly over the axis of the magnetic body. The horizontal field data also support an increase in conductivity over the magnetic axis (we note that the Y field data of loop 6 is noisy near the TX loop at late delay times). The conductor position is shown on the magnetic interpretative image.

4.2 SELECTED DECAYS

Numerous decay curves have been examined for these data. A selection of decay curves are included in the following figures to high light the unusual TEM responses encountered. Figure 1 shows the response for a station on loop 4 along with the theoretical response for a half space. Figure 1a is the response for the same station in log-linear form. The response is due to neither a half space nor a confined conductor. Figure 2 shows a very long time constant. The response in linear on a log-linear plot after about 15 ms and therefore suggests a confined conductor of good conductance. However, the Y component does not have the same decay. Figures 3 and 4 show examples of the horizontal component decaying more slowly than the vertical component; physically impossible for a layered earth or a half space. This behaviour is due to movement of the circulating currents. In figure 3 the Y field response rises as the current approaches the station. Figures 5 and 6 are other examples of slow horizontal field decay.

HOMESTAKE GOLD
FRANCIS CREEK

LOOP4.DAT

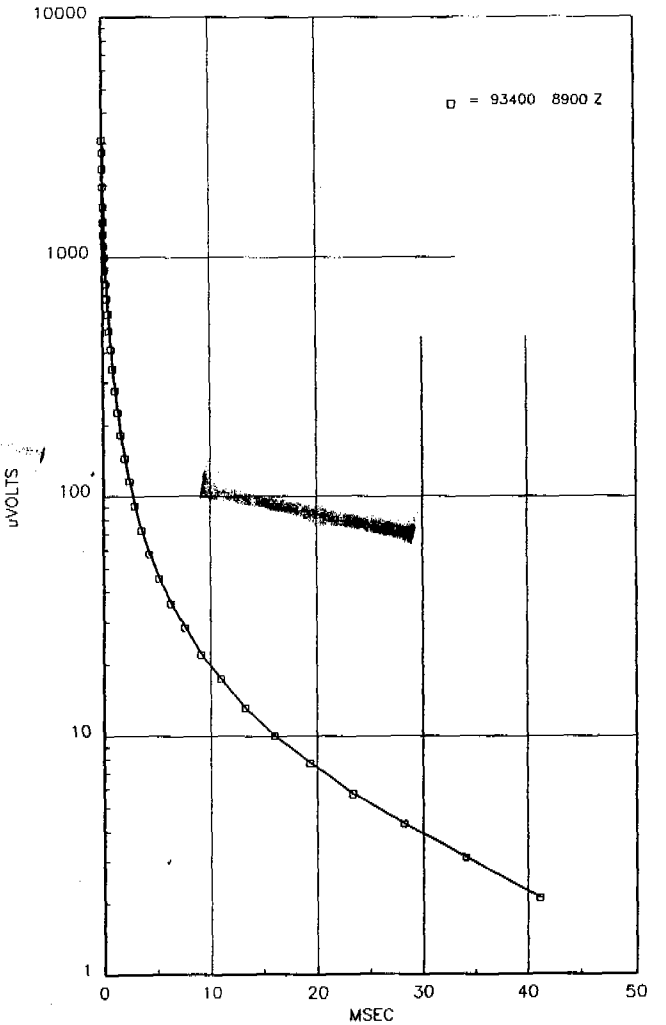


CRONE EM SURVEY

800 BY 400 METRE TX LOOP

HOMESTAKE GOLD
FRANCIS CREEK

LOOP4.DAT



CRONE EM SURVEY

800 BY 400 METRE TX LOOP

5.0 INTERPRETATION- MAGNETIC DATA

An image of the pole reduced magnetic data and the 1st vertical derivative (1VD) accompany this report. The 1VD image is also used as an interpretative plan.

Five profiles were cut from the data and the sections are numbered and shown in blue on the interpretative plan. The profiles were modelled to get some idea of the depth to the magnetic sources and the results are shown in the figures which follow. Briefly, the results suggest the following approximate depths in metres:-

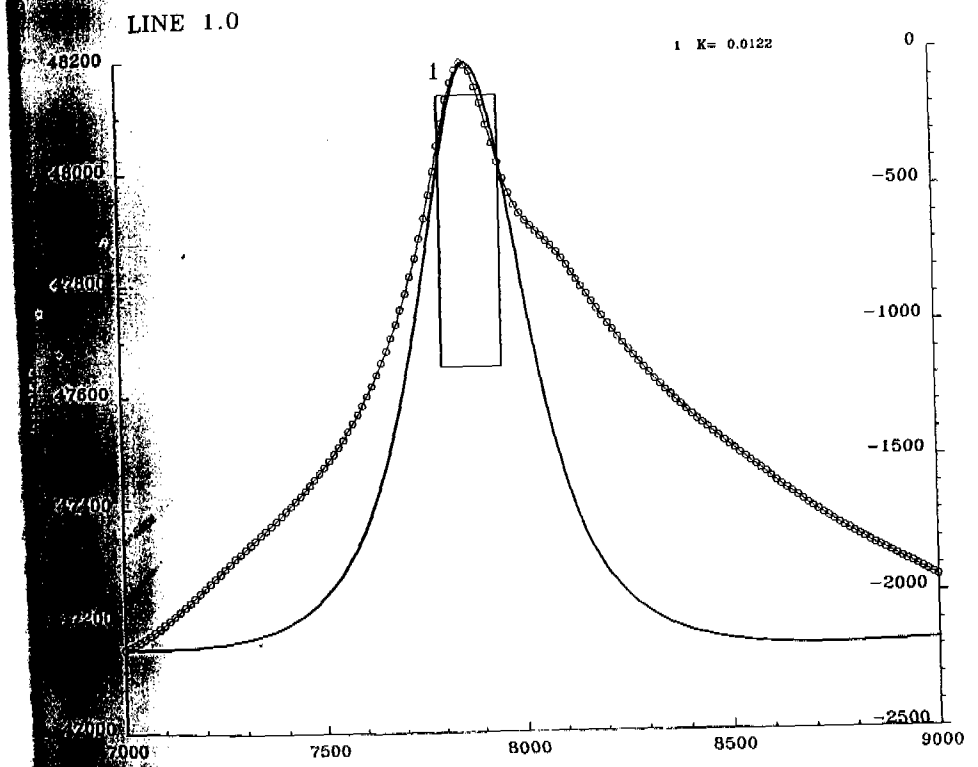
MAGNETIC BODY	A	B	C	D
DEPH	80.	400.	120.	200.

Our interpretation of the magnetic data suggests two faults F1 and F2. F1 strikes roughly north east and separates A and B with right lateral movement and downward displacement to the north. F2 strikes roughly north south between B and C. The suggestion is upward movement to the east. An earlier interpretation of the Mt. Porter and Francis Creek magnetic data also suggested north south and north east faulting. Anomalies C and D may also be separated by a fault. Modelling suggests moderately high susceptibilities.

We are inclined to interpret the source of the magnetic bodies as doubly plunging folds with a shallower north plunge. We understand that a granite occurs to south of the magnetic bodies but it northern limit is not well defined by the magnetic data.

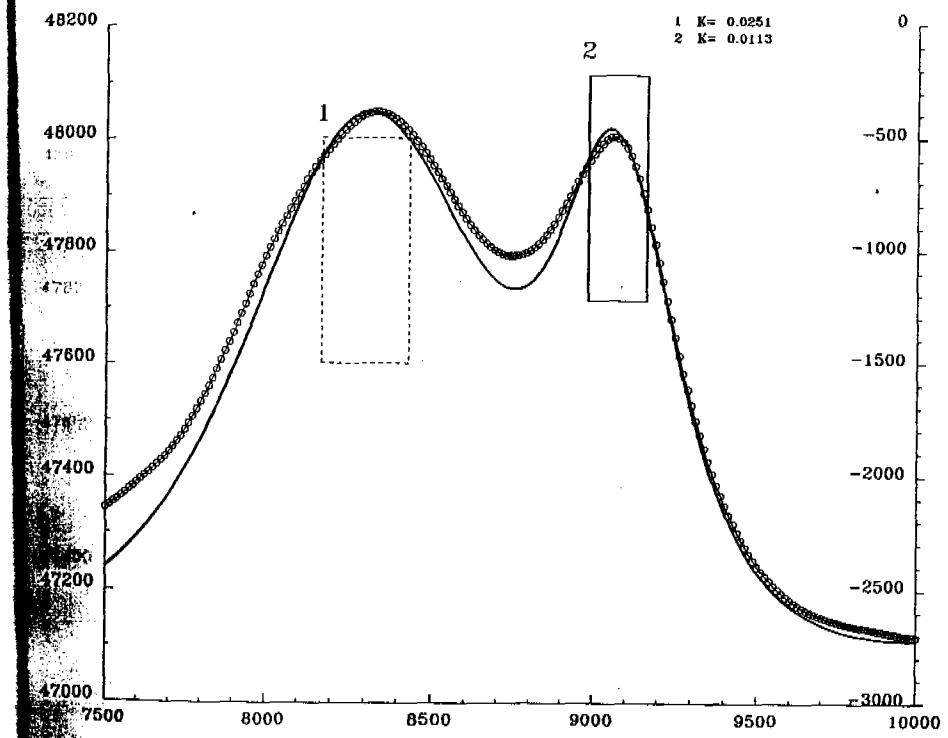
The position of conductors C1 and C2 are shown on the interpretative plan. C1 we belief is due to current gathering in the near surface material and is not directly related to magnetic source B. The position of conductor C2 is however intriguing. We doubt that the TEM source is directly related to the magnetic source but given the relatively shallow depth to the magnetic body it is a favourable position for a drill test.

HOMESTAKE AUSTRALIA
FRANCIS CREEK



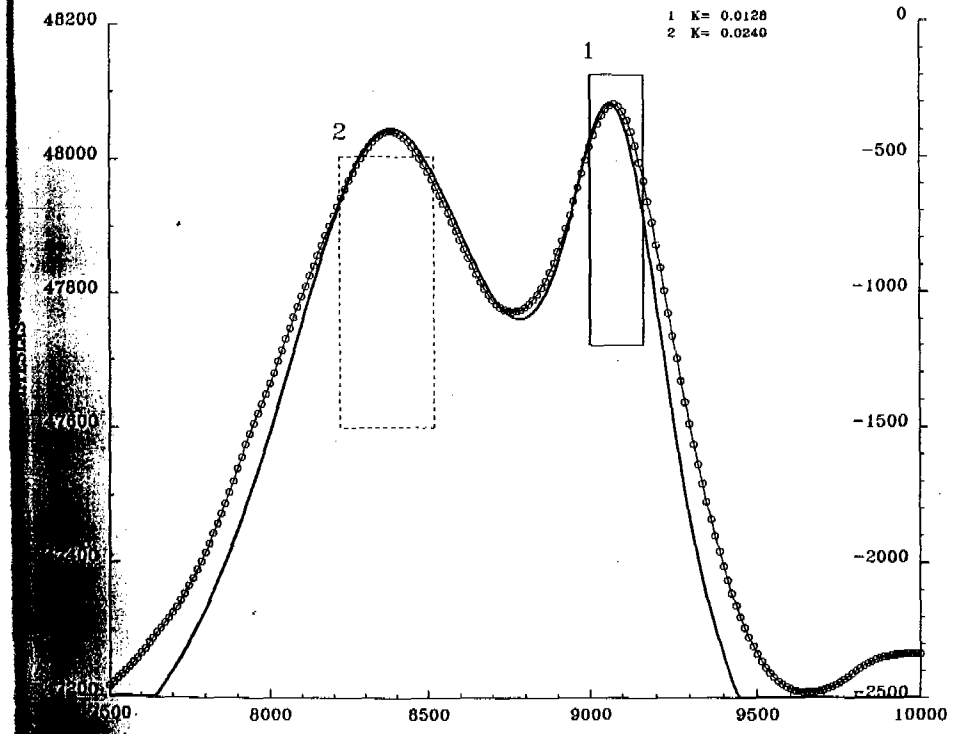
HOMESTAKE AUSTRALIA
FRANCIS CREEK

LINE 2.0



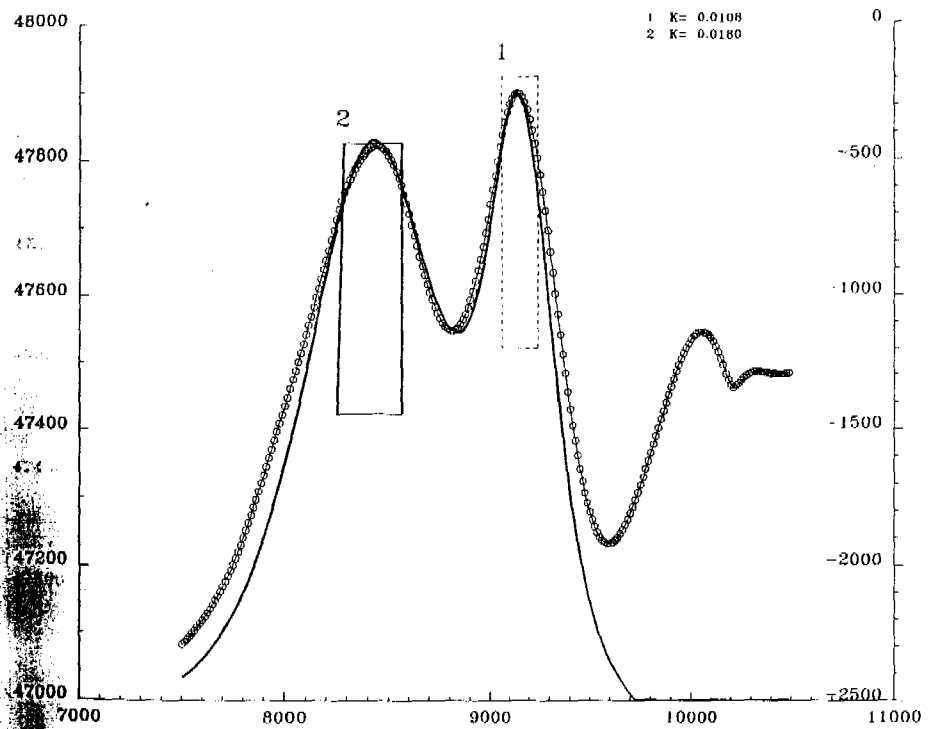
HOMESTAKE AUSTRALIA
FRANCIS CREEK

LINE 3.0



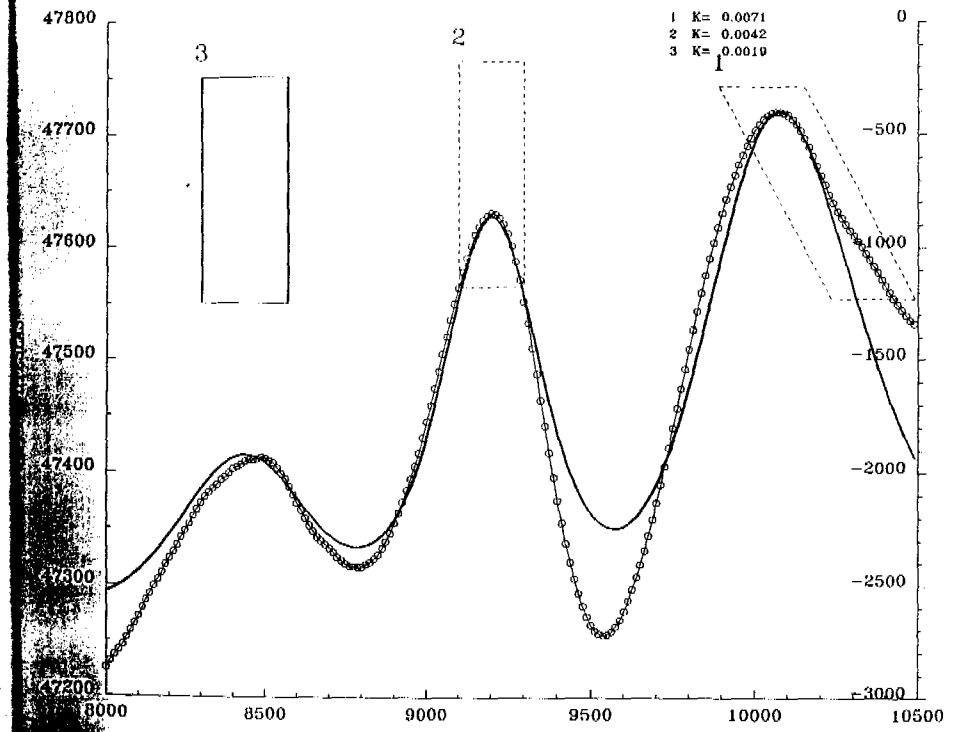
HOMESTAKE AUSTRALIA
FRANCIS CREEK

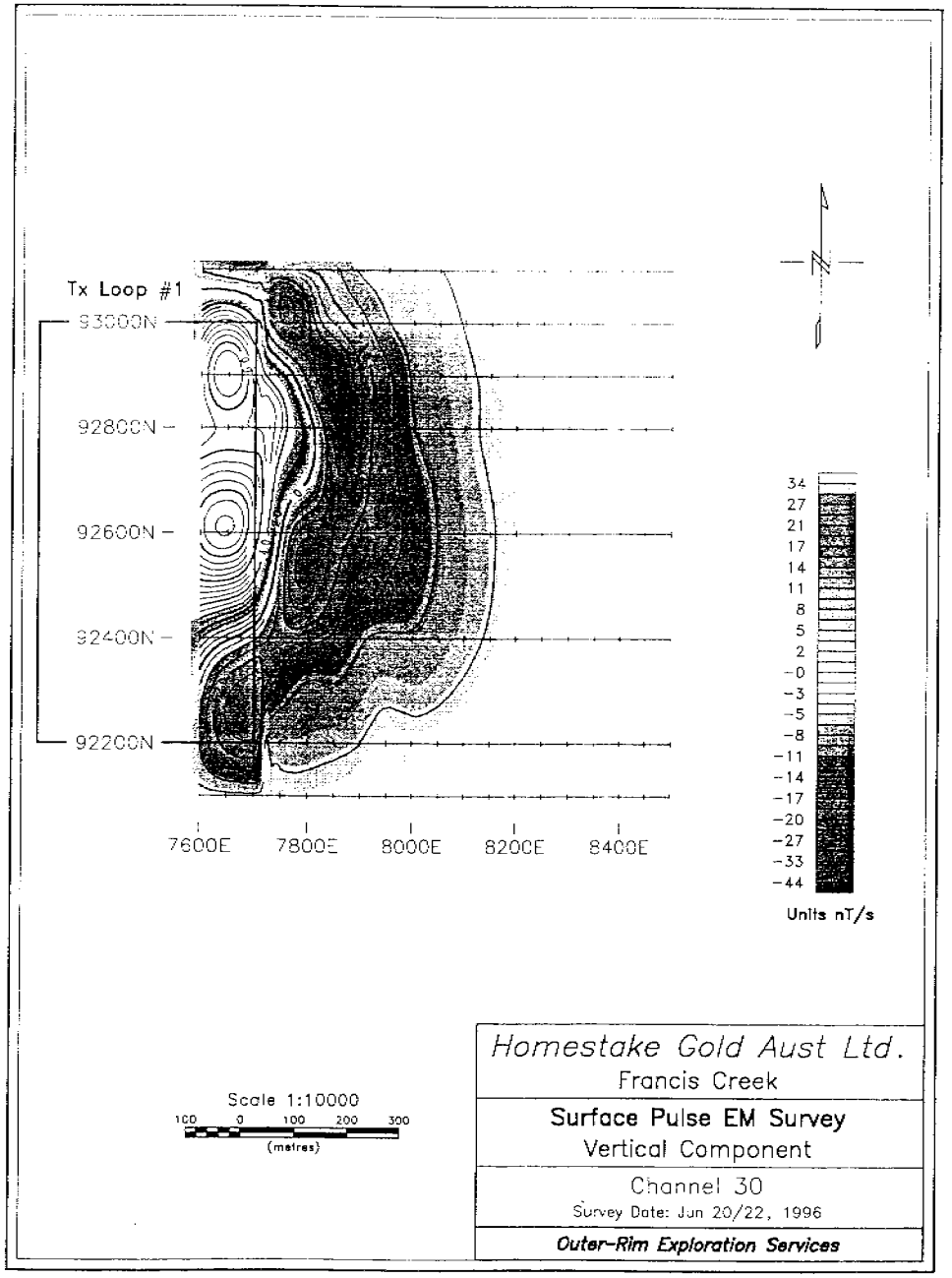
LINE 4.0

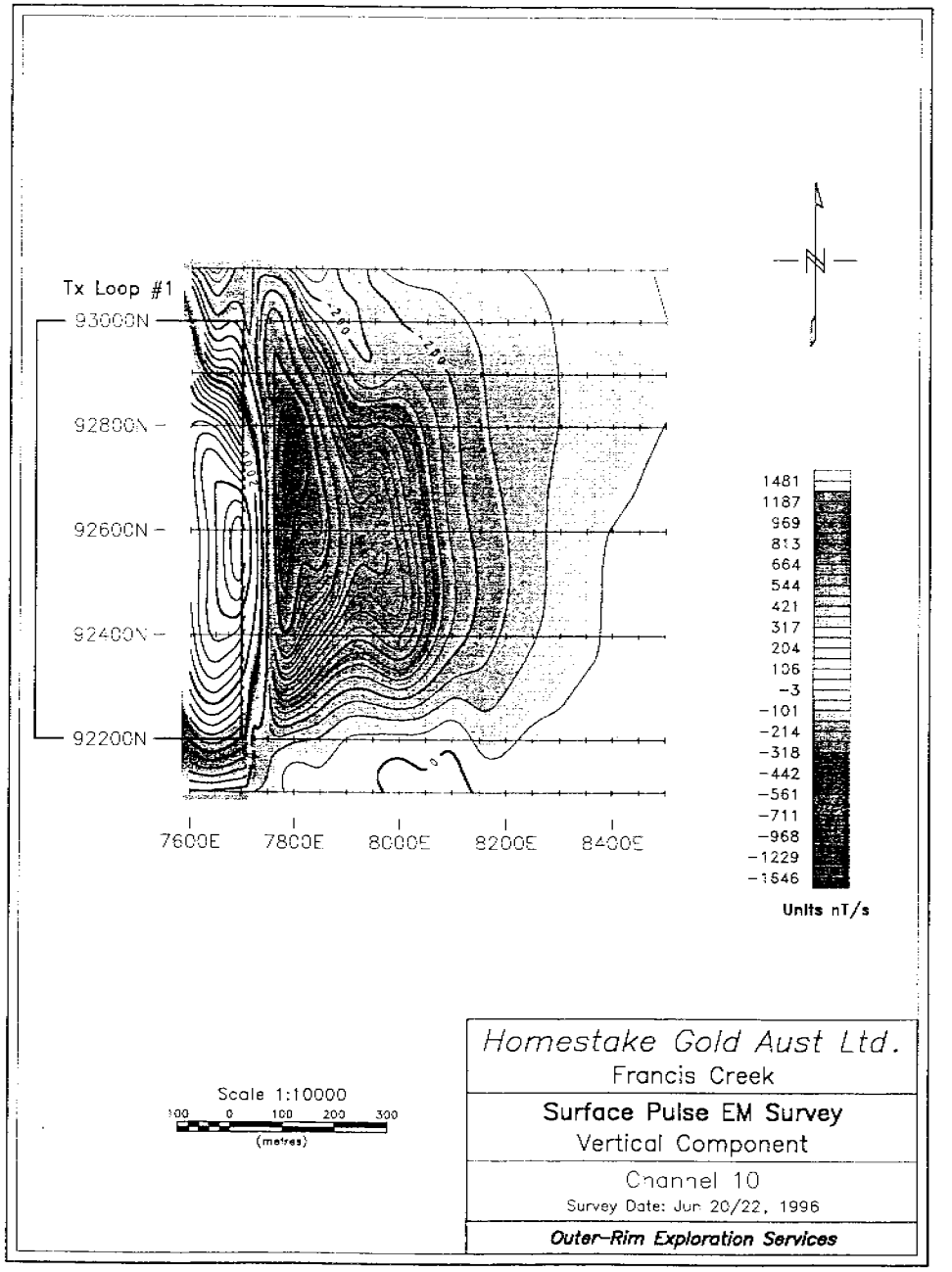


HOMESTAKE AUSTRALIA
FRANCIS CREEK

LINE 5.0




Tx Loop #1
93000N
92800N
92600N
92400N
92200N
7600E
7800E
8000E
8200E
8400E
34
27
21
17
14
11
8
5
2
-0
-3
-5
-8
-11
-14
-17
-20
-27
-33
-44
Units nT/s
Scale 1:10000
100 0 100 200 300
(metres)
Homestake Gold Aust Ltd.
Francis Creek
Surface Pulse EM Survey
Vertical Component
Channel 30
Survey Date: Jun 20/22, 1996
Outer-Rim Exploration Services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92800N
92600N
92400N
92200N
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7800E
8000E
8200E
8400E
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969
813
664
544
421
317
204
106
-3
-101
-214
-318
-442
-561
-711
-968
-1229
-1546
Units nT/s
Scale 1:10000
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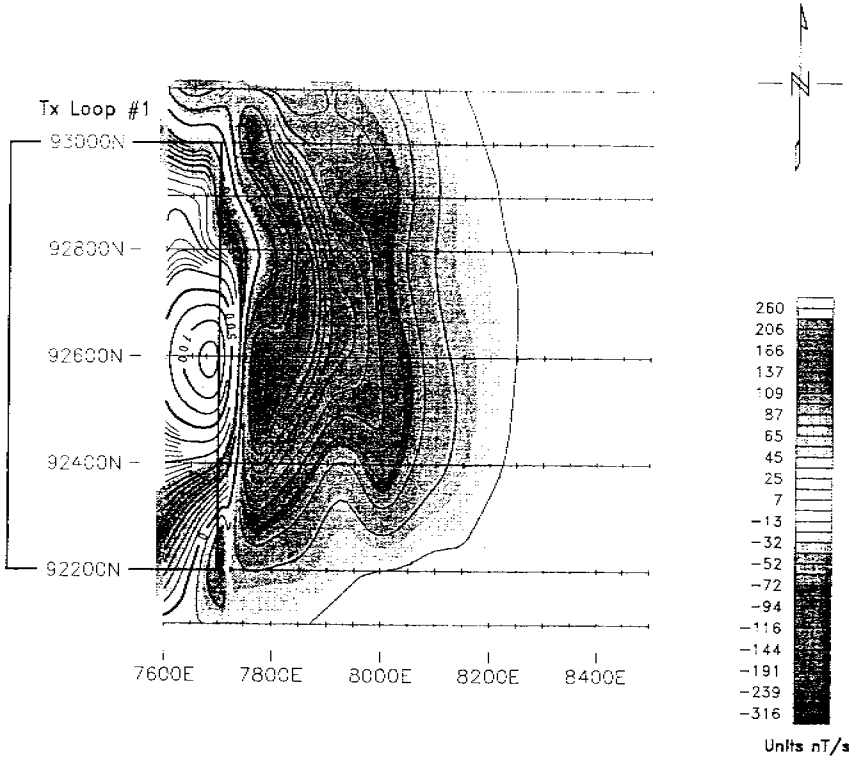
(metres)
Homestake Gold Aust Ltd.
Francis Creek
Surface Pulse EM Survey
Vertical Component
Channel 10
Survey Date: Jun 20/22, 1996
Outer-Rim Exploration Services



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(metres)

Homestake Gold Aust Ltd.

Francis Creek

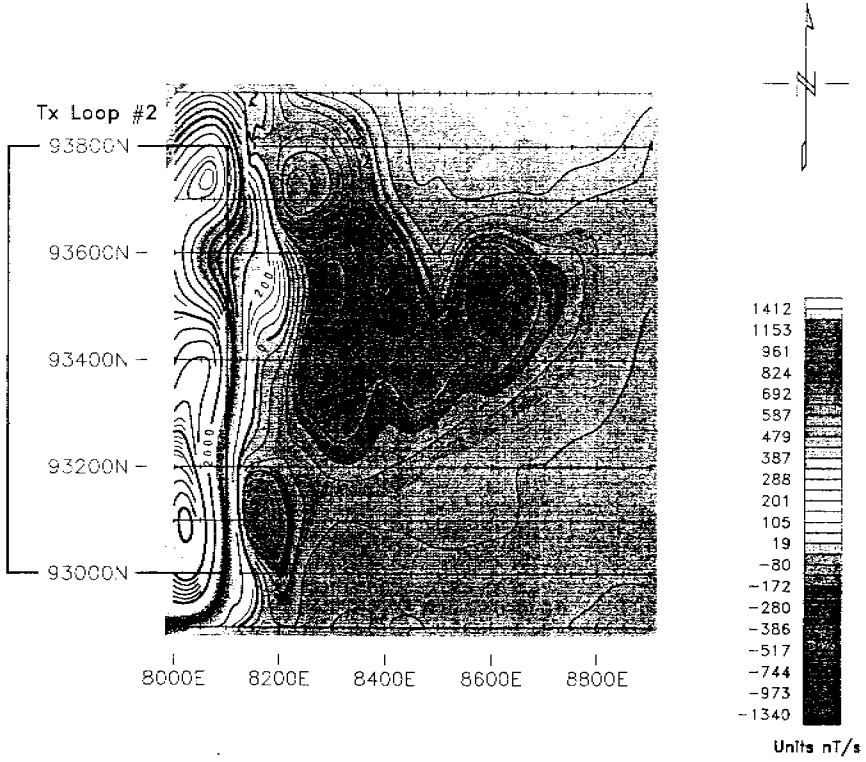
Surface Pulse EM Survey

Vertical Component

Channel 20

Survey Date: Jun 20/22, 1996

Outer-Rim Exploration Services



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(metres)

Homestake Gold Aust Ltd.

Francis Creek

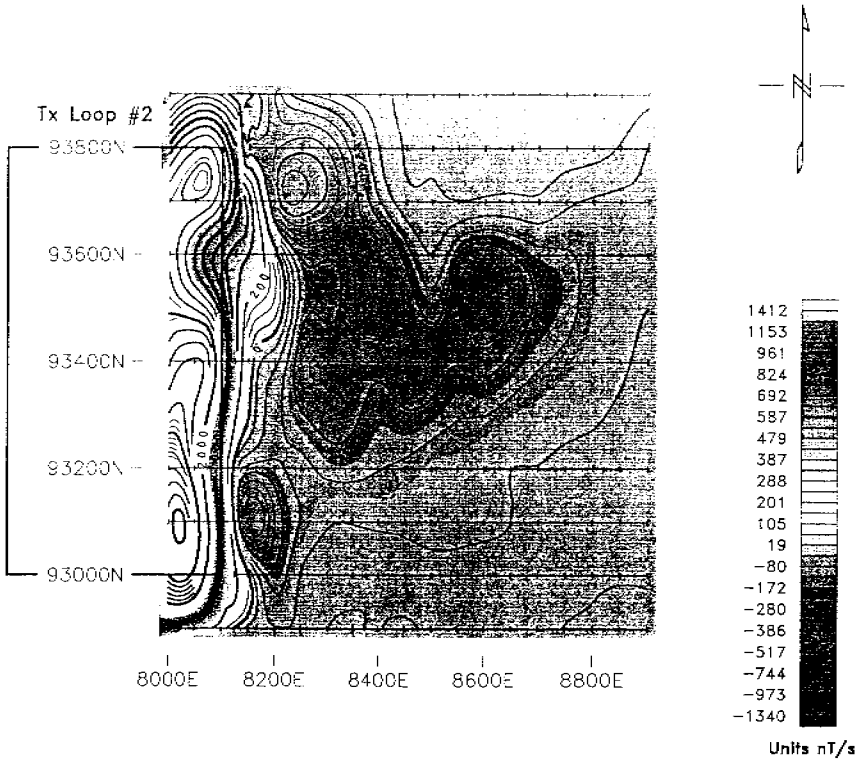
Surface Pulse EM Survey

Vertical Component

Channel 10

Survey Date: Jun 15/17, 1996

Outer-Rim Exploration Services



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(metres)

Homestake Gold Aust Ltd.

Francis Creek

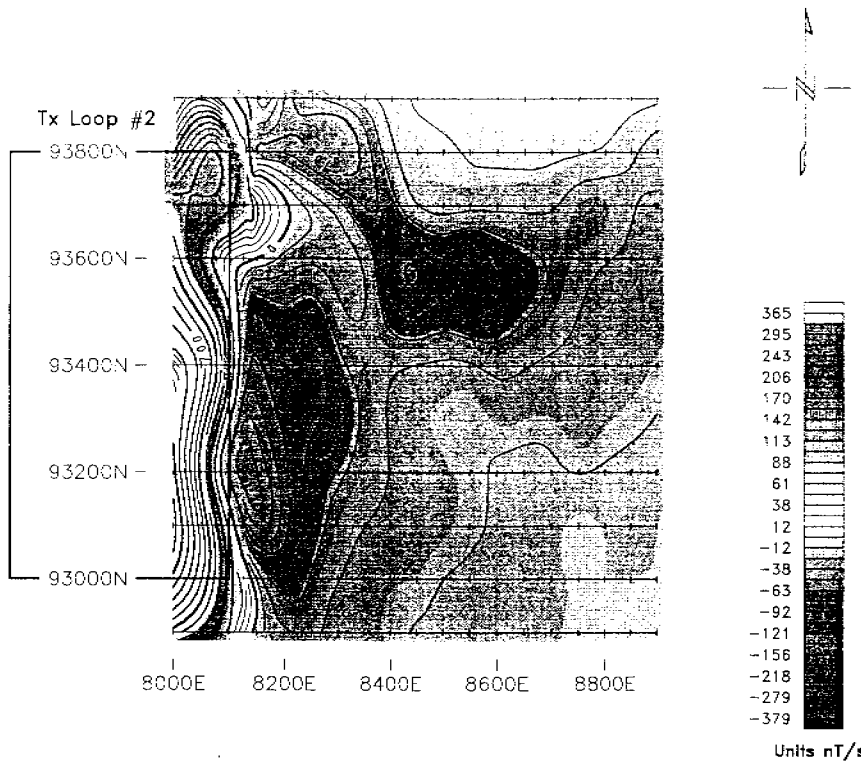
Surface Pulse EM Survey

Vertical Component

Channel 10

Survey Date: Jun 15/17, 1996

Outer-Rim Exploration Services



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(metres)

Homestake Gold Aust Ltd.

Francis Creek

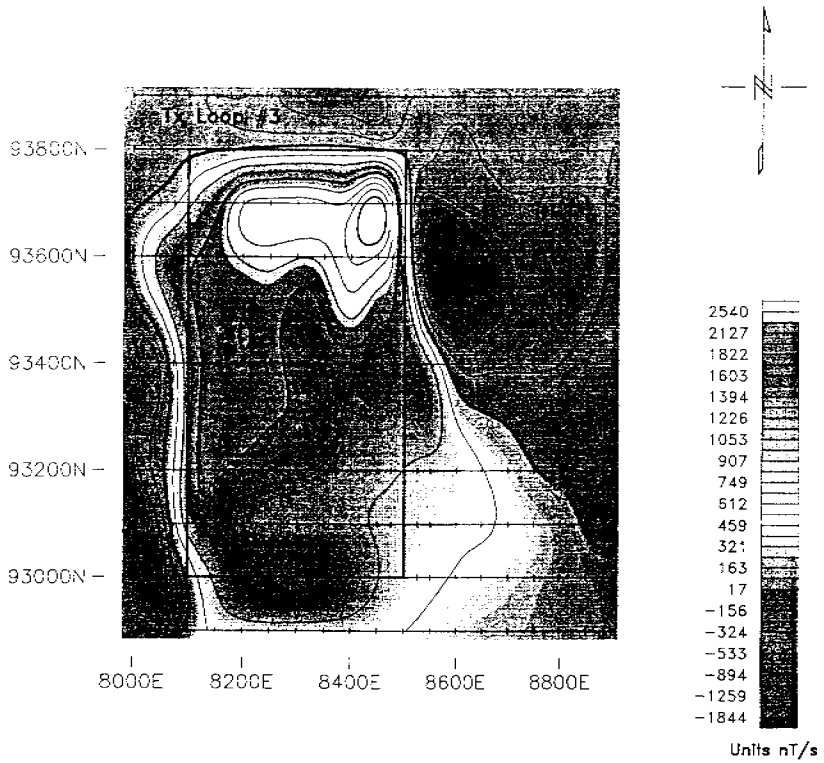
Surface Pulse EM Survey

Vertical Component

Channel 20

Survey Date: Jun 15/17, 1996

Outer-Rim Exploration Services



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(metres)

Homestake Gold Aust Ltd.

Francis Creek

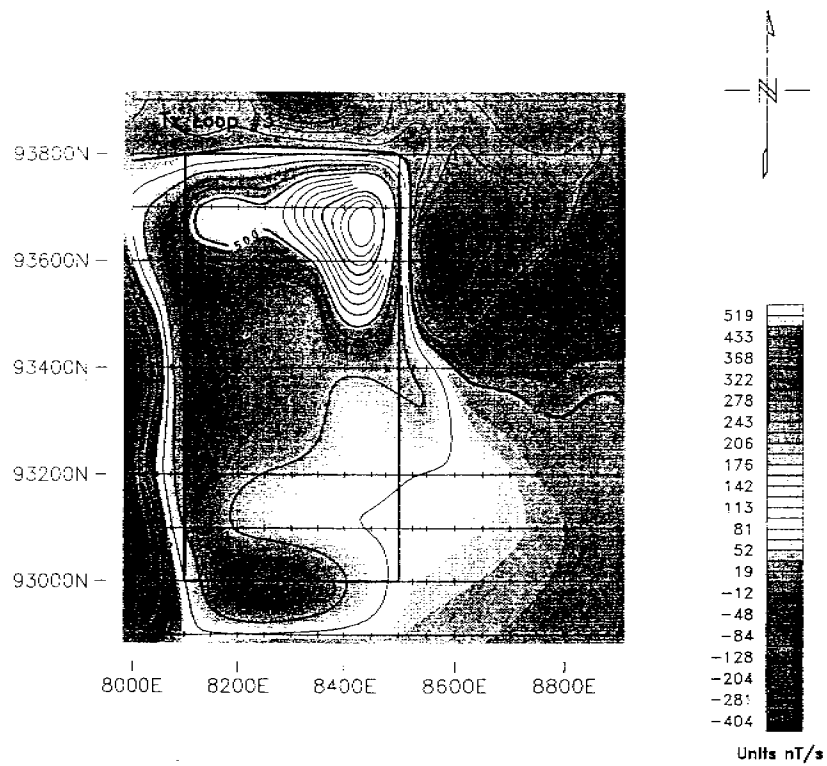
Surface Pulse EM Survey

Vertical Component

Channel 10

Survey Date: Jun 10/14, 1996

Outer-Rim Exploration Services



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(metres)

Homestake Gold Aust Ltd.

Francis Creek

Surface Pulse EM Survey

Vertical Component

Channel 20

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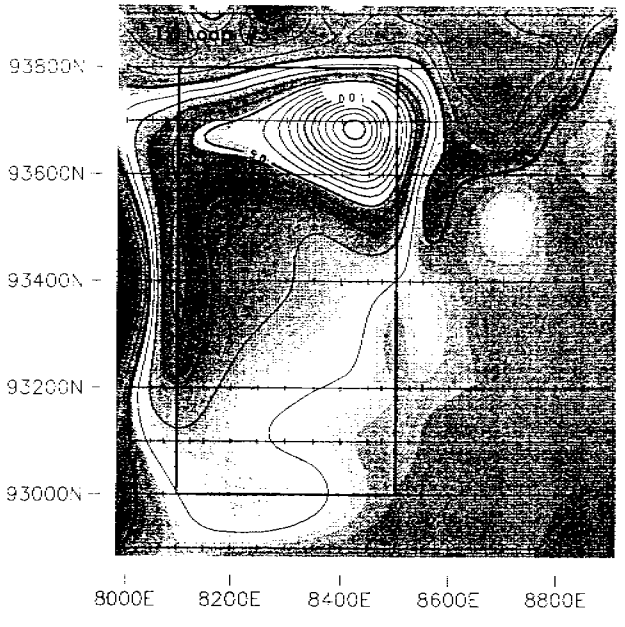
Outer-Rim Exploration Services



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(metres)

Homestake Gold Aust Ltd.

Francis Creek

Surface Pulse EM Survey

Vertical Component

Channel 30

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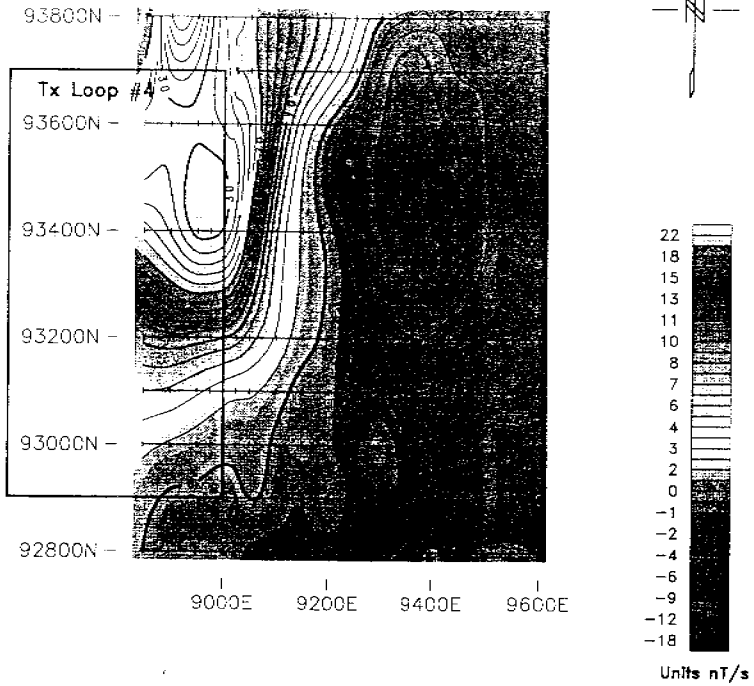
Outer-Rim Exploration Services



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(metres)

Homestake Gold Aust Ltd.

Francis Creek

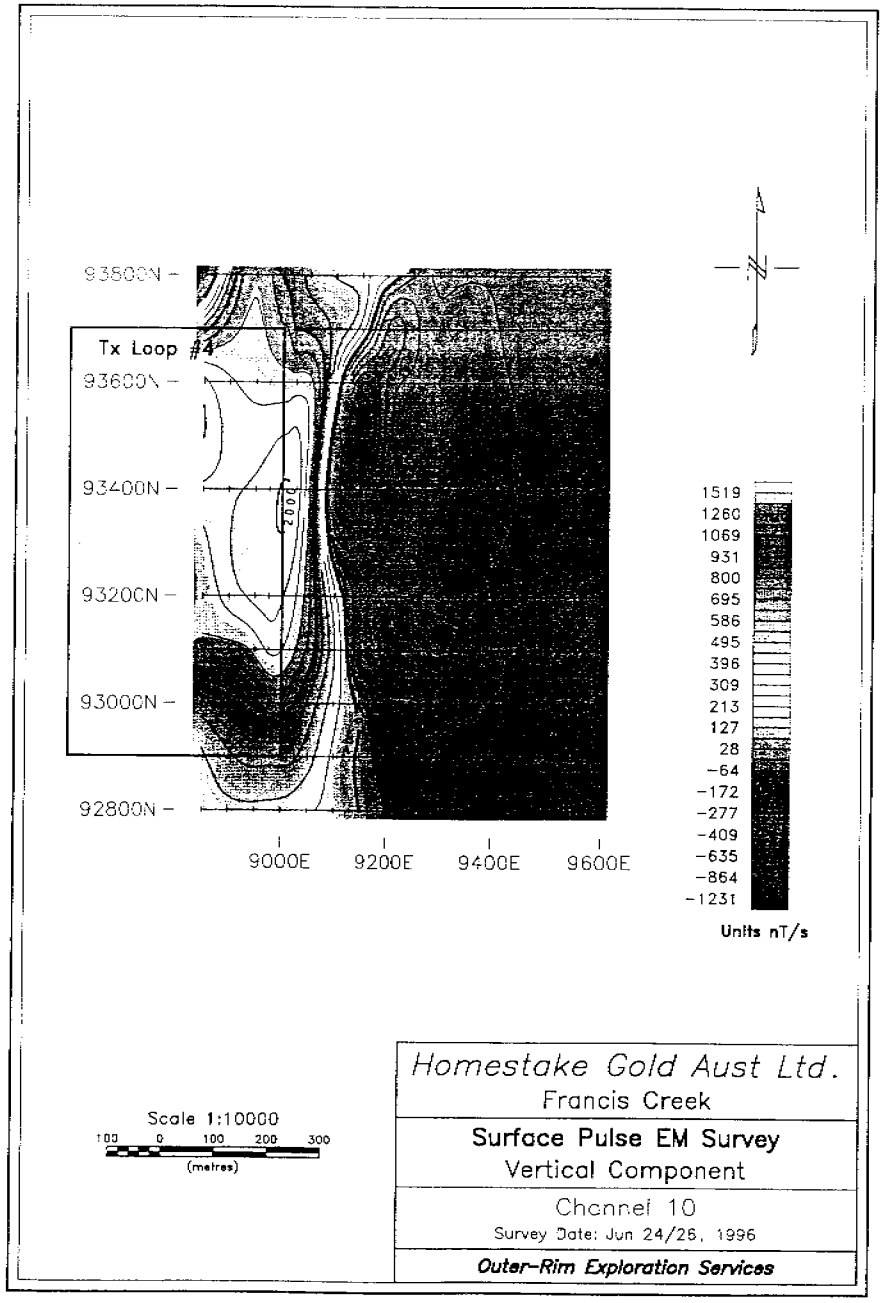
Surface Pulse EM Survey

Vertical Component

Channel 30

Survey Date: Jun 24/26, 1996

Outer-Rim Exploration Services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93400N
93200N
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9000E
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9600E
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127
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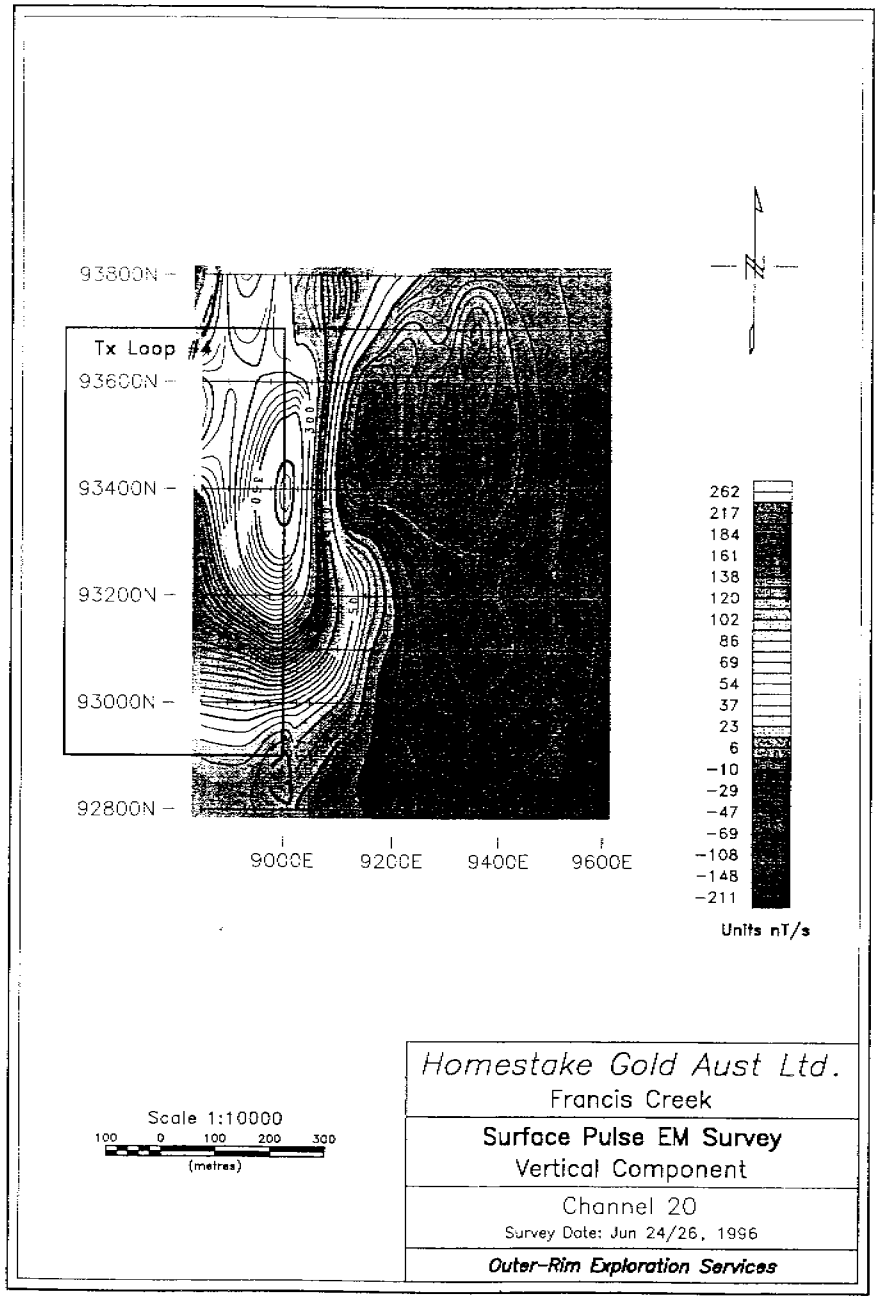
-64
-172
-277
-409
-635
-864
-1231
Units nT/s
Scale 1:10000
100 0 100 200 300
(metres)
Homestake Gold Aust Ltd.
Francis Creek
Surface Pulse EM Survey
Vertical Component
Channel 10
Survey Date: Jun 24/26, 1996
Outer-Rim Exploration Services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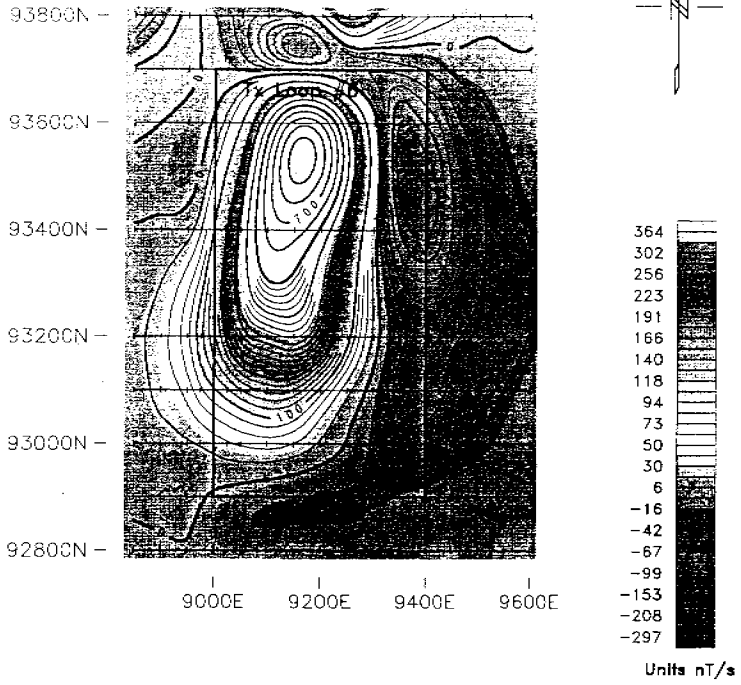
-10
-29
-47
-69
-108
-148
-211
Units nT/s
Scale 1:10000
100 0 100 200 300
(metres)
Homestake Gold Aust Ltd.
Francis Creek
Surface Pulse EM Survey
Vertical Component
Channel 20
Survey Date: Jun 24/26, 1996
Outer-Rim Exploration Services



Scale 1:10000

100 0 100 200 300

(metres)

Homestake Gold Aust Ltd.

Francis Creek

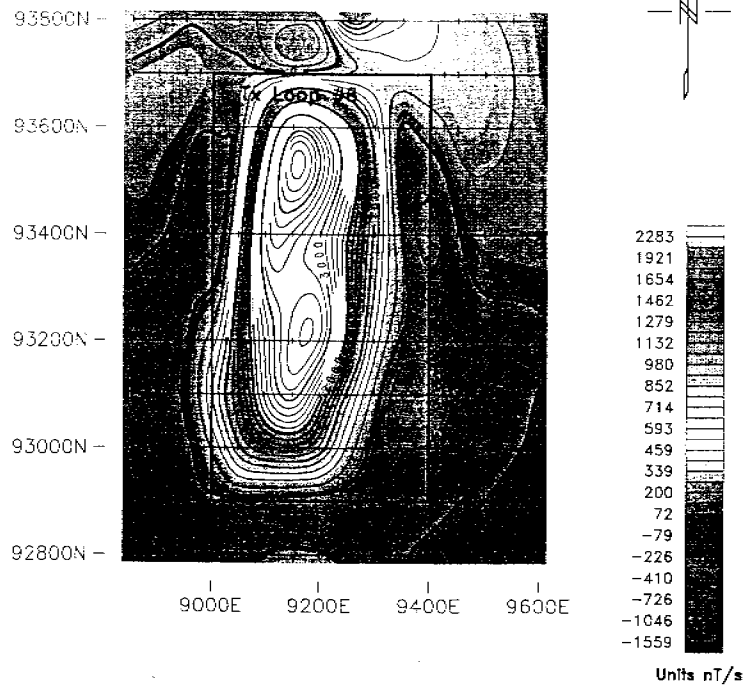
Surface Pulse EM Survey

Vertical Component

Channel 20

Survey Date: Jun 27/30, 1996

Outer-Rim Exploration Services



Scale 1:10000

100 0 100 200 300

(metres)

Homestake Gold Aust Ltd.

Francis Creek

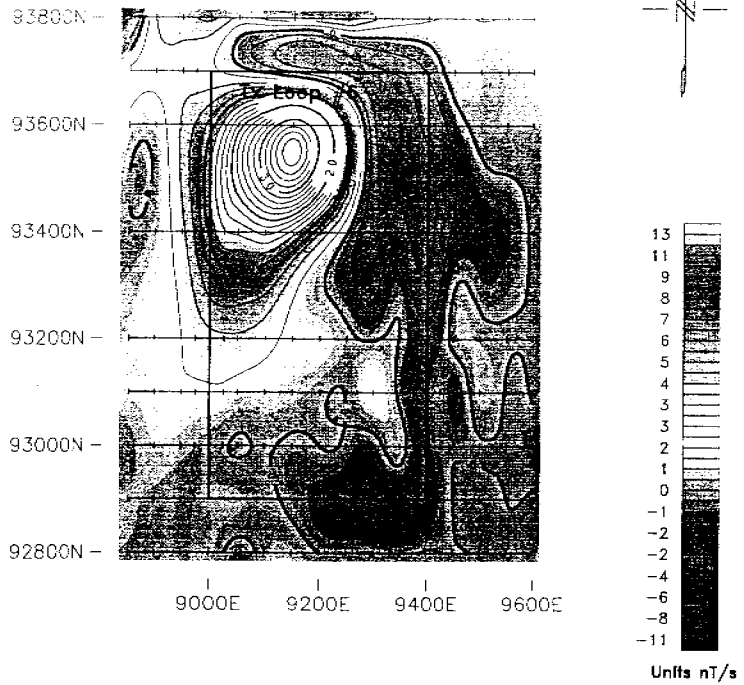
Surface Pulse EM Survey

Vertical Component

Channel 10

Survey Date: Jun 27/30, 1996

Outer-Rim Exploration Services



Scale 1:10000

100 0 100 200 300

(metres)

Homestake Gold Aust Ltd.

Francis Creek

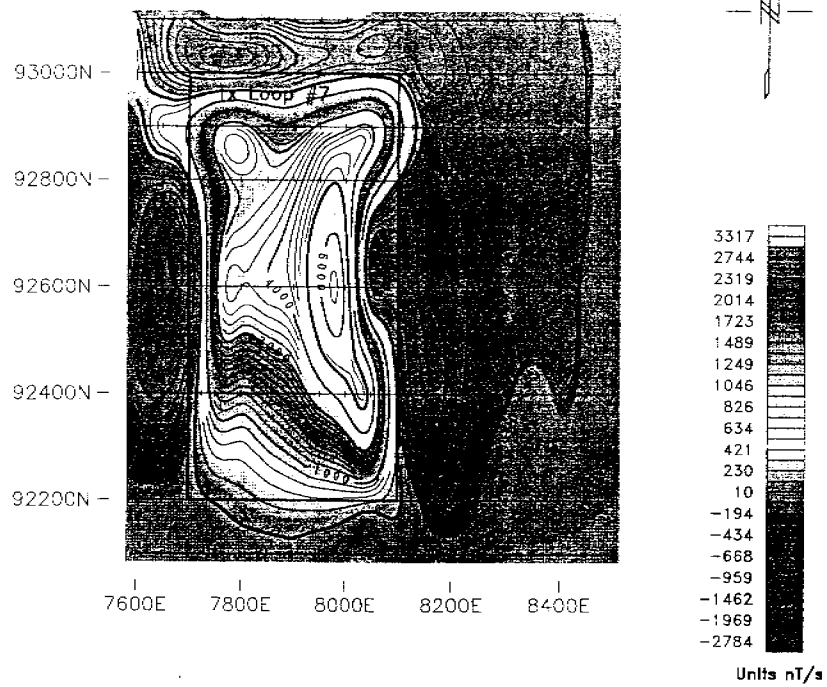
Surface Pulse EM Survey

Vertical Component

Channel 30

Survey Date: Jun 27/30, 1996

Outer-Rim Exploration Services



Scale 1:10000

100 0 100 200 300

(metres)

Homestake Gold Aust Ltd.

Francis Creek

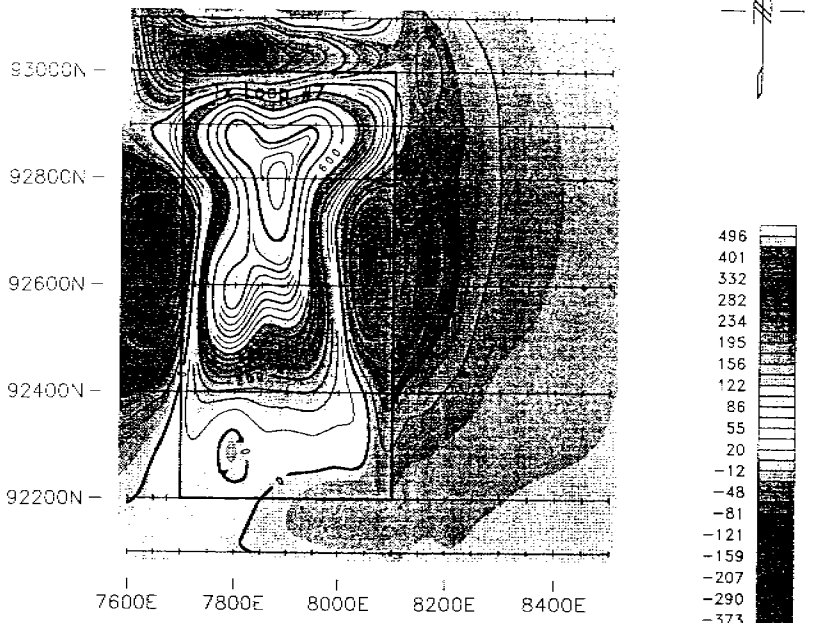
Surface Pulse EM Survey

Vertical Component

Channel 10

Survey Date: Jun 18/20, 1996

Outer-Rim Exploration Services



Scale 1:10000

100 0 100 200 300

(metres)

Homestake Gold Aust Ltd.

Francis Creek

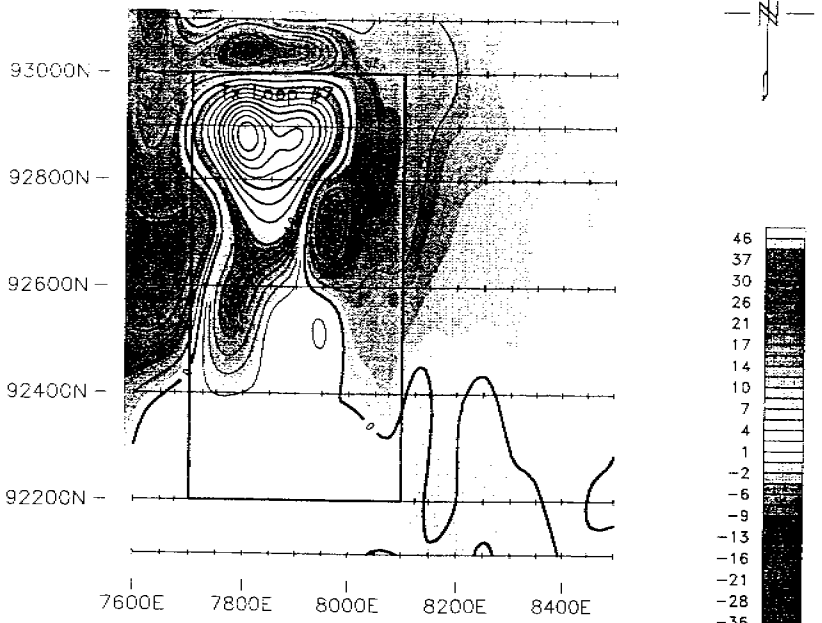
Surface Pulse EM Survey

Vertical Component

Channel 20

Survey Date: Jun 18/20, 1996

Outer-Rim Exploration Services



Scale 1:10000

100 0 100 200 300

(metres)

Homestake Gold Aust Ltd.

Francis Creek

Surface Pulse EM Survey

Vertical Component

Channel 30

Survey Date: Jun 18/20, 1996

Outer-Rim Exploration Services

APPENDIX 4

Geological Logs and Assay Results Sheets - FCRC001-002

EXPLOREMIN PTY LTD - DRILL HOLE LOG

drilog01.dot

Drill Hole: FCRC-001
Tenement: EL 8313
Prospect: Francis Ck
Map Ref:

AMG/Grid E: 6966E
AMG/Grid N: 9135ON
RL Collar: 190
Client: Homestake

Azimuth: 265 T/M/G
Inclination: -60
Total Depth: 81
Casing: 3m pvc.

Commenced: 26/9/96
Completed: 26/9/96
Hole Size: 5½"
Sample Type: 2m comp

Sheet: 1 of 4
Logged by: KL-P
Drillers: Gordon
Drill Type: Warman 650

From	To	SampNo	Lithology	Colour	Texture	Major Minerals	Minor Minerals	Trace Minerals	Comments
0	1		Granite	Orange	Coarse	Quartz	Clay		Weathered
1	2	001 0-2	"	"	"	"	Feldspar, clay		"
2	3		"	"	"	"	"	Hornblende	"
3	4	001 2-4	"	Pink	"	" Feldspar	Hornblende		Fresh
4	5		"	"	"	" "	"		"
5	6	001 4-6	"	"	"	" "	"		"
6	7		"	"	"	" "	"		"
7	8	001 6-8	"	"	"	" "	"		"
8	9		"	"	"	" "	"		"
9	10	001 8-10	"	Pink/Green	"	" "	Sericite/Hornblende	pyrite	Altered
10	11		"	" "	"	" "	" "	"	"
11	12	001 10-12	"	" "	"	" "	Hornblende	Sericite	partially altered
12	13		"	Pink	"	" "	"		Fresh
13	14	001 12-14	"	"	"	" "	"		"
14	15		"	"	"	" "	"		"
15	16	001 14-16	"	"	"	" "	"		"
16	17		"	"	"	" "	"		"
17	18	001 16-18	"	"	"	" "	"		"
18	19		"	"	"	" "	"		"
19	20	001 18-20	"	"	"	" "	"		"
20	21		"	Pink/Green	"	" "	"	Sericite	Partially altered
21	22	001 20-22	"	" "	"	" "	"	"	" "
22	23		"	Green	"	" "	Sericite	pyrite, Apy?	Altered
23	24	001 22-24	"	"	"	" "	"	" "	"

EXPLOREMIN PTY LTD - DRILL HOLE LOG

drilog01.dot

Drill Hole: FCRC-001 | AMG/Grid E: 6966 | Azimuth: 265 (MAG) | Commenced: 26/9/96 | Sheet: 2 of 4
Tenement: EL 8313 | AMG/Grid N: 91350 | Inclination: -60 | Completed: 26/9/96 | Logged by: KC-P
Prospect: Francis Ck | RL Collar: 190 | Total Depth: 81 | Hole Size: 3½" | Drillers: Gordon
Map Ref: | Client: Homestake | Casing: 3m PVC | Sample Type: 2m comp | Drill Type: Warman 650

From	To	SampNo	Lithology	Colour	Texture	Major Minerals	Minor Minerals	Trace Minerals	Comments
24	25		Granite	Green	Coarse	Quartz, Feldspar	Sericite	pyrite, mscarb	Altered
25	26	001 24-26	"	"	"	" "	"	" "	"
26	27		"	"	"	" "	"	" "	"
27	28	001 26-28	"	Pink/Green	"	" "	Hornblende	Sericite, pyrite	partially altered
28	29		"	" "	"	" "	"	" "	" "
29	30	001 28-30	"	Green	"	" "	Sericite	Hornblende, pyrite	Altered
30	31		"	"	"	" "	"	" "	"
31	32	001 30-32	"	Pink/Green	"	" "	Hornblend	Sericite	partially altered
32	33		"	" "	"	" "	"	"	" "
33	34	001 32-34	"	Pink	"	" "	"		Fresh
34	35		"	"	"	" "	"		"
35	36	001 34-36	"	"	"	" "	"		"
36	37		"	"	"	" "	"		"
37	38	001 36-38	"	"	"	" "	"		"
38	39		"	"	"	" "	"		"
39	40	001 38-40	"	"	"	" "	"	Sericite	"
40	41		"	"	"	" "	"		"
41	42	001 40-42	"	"	"	" "	"		"
42	43		"	"	"	" "	"		"
43	44	001 42-44	"	Pink/Green	"	" "	" Sericite		Partially altered
44	45		"	" "	"	" "	" "		" "
45	46	001 44-46	"	Pink	"	" "	"		Fresh
46	47		"	"	"	" "	"		"
47	48	001 46-48	"	"	"	" "	"		"

EXPLOREMIN PTY LTD - DRILL HOLE LOG

drilog01.dot

Drill Hole: FCRC-001 | AMG/Grid E: 6966 | Azimuth: 265 X/M/B | Commenced: 26/9/96 | Sheet: 3 of 4
Tenement: EL 8313 | AMG/Grid N: 91350 | Inclination: -60 | Completed: 26/9/96 | Logged by: KLF
Prospect: Francis Ck | RL Collar: 190 | Total Depth: 81 | Hole Size: 3½" | Drillers: Gaden
Map Ref: | Client: Homestake | Casing: 3m PVC | Sample Type: 2m Comp | Drill Type: Warman 650

From	To	SampNo	Lithology	Colour	Texture	Major Minerals	Minor Minerals	Trace Minerals	Comments
48	49		Granite	Pink	Coarse	Quartz, Feldspar	Hornblende		Fresh.
49	50	001 48-50	"	"	"	" "	"		"
50	51		"	"	"	" "	"		"
51	52	001 50-52	"	"	"	" "	"		"
52	53		"	"	"	" "	"		"
53	54	001 52-54	"	"	"	" "	"		"
54	55		"	"	"	" "	"		"
55	56	001 54-56	"	"	"	" "	"		"
56	57		"	"	"	" "	"		"
57	58	001 56-58	"	"	"	" "	"		"
58	59		"	"	"	" "	"		"
59	60	001 58-60	"	"	"	" "	"		"
60	61		"	"	"	" "	"		"
61	62	001 60-62	"	"	"	" "	"		"
62	63		"	"	"	" "	"		"
63	64	001 62-64	"	Pink/Green	"	" "	Hornblende/Biotite		Patchy altered.
64	65		"	" "	"	" "	" "		"
65	66	001 64-66	"	" "	"	" "	" "		"
66	67		"	Pink	"	" "	"		Fresh
67	68	001 66-68	"	"	"	" "	"		"
68	69		"	"	"	" "	"		"
69	70	001 68-70	"	"	"	" "	"		"
70	71		"	"	"	" "	"		"
71	72	001 70-72	"	"	"	" "	"		"

EXPLOREMIN PTY LTD - DRILL HOLE LOG

drilog01.dot

Drill Hole: FCRC-001 | AMG/Grid E: 6966 | Azimuth: 265 TMG | Commenced: 26/9/96 | Sheet: 4 of 4
Tenement: EL 8313 | AMG/Grid N: 91350 | Inclination: -60 | Completed: 26/9/96 | Logged by: KLP
Prospect: Francis Ck | RL Collar: 190 | Total Depth: 81 | Hole Size: 3½" | Drillers: Gosden
Map Ref: | Client: Homestake | Casing: 3m PVC | Sample Type: 2m Comp | Drill Type: Ingersoll 650

From	To	SampNo	Lithology	Colour	Texture	Major Minerals	Minor Minerals	Trace Minerals	Comments
72	73		Granite	Green	Coarse	Quartz, Feldspar	Sericite, Hornblende	Pyrite	Altered
73	74	001 72-74	"	"	"	" "	" "	"	"
74	75		"	Pink	"	" "	" "		Fresh
75	76	001 74-76	"	"	"	" "	"		"
76	77		"	"	"	" "	"		"
77	78	001 76-78	"	"	"	" "	"		"
78	79		"	"	"	" "	"		"
79	80	001 78-80	"	"	"	" "	"		"
80	81	001 80-81	"	"	"	" "	"		"

EXPLOREMIN PTY LTD - DRILL HOLE LOG

drilog01.dot

Drill Hole: FCRL-002 | AMG/Grid E: 7263 | Azimuth: 265 AMG | Commenced: 26/9/96 | Sheet: 1 of 4
Tenement: EL 8313 | AMG/Grid N: 9172ON | Inclination: -60 | Completed: 26/9/96 | Logged by: KL-P
Prospect: Francis Ck | RL Collar: 200 | Total Depth: 80 | Hole Size: 5½" | Drillers: Gordon
Map Ref: | Client: Homestake. | Casing: 2m PVC | Sample Type: 2m comp | Drill Type: Warman 650

From	To	SampNo	Lithology	Colour	Texture	Major Minerals	Minor Minerals	Trace Minerals	Comments
0	1		Granite	Pink	Coarse	Quartz	Feldspar	Biotite/Hornblende?	Fresh
1	2	002 0-2	"	"	"	"	"	" "	"
2	3		"	"	"	" Feldspar	Hornblende?		"
3	4	002 2-4	"	Orange	"	" "	"	Clay	"
4	5		"	Pink/orange	"	" "	" ?		"
5	6	002 4-6	"	Pink	"	" "	"		"
6	7		"	"	"	" "	"	clay	Partially clay altered feldspar
7	8	002 6-8	"	"	"	" "	"		Fresh
8	9		"	"	"	" "	"		"
9	10	002 8-10	"	"	"	" "	"		Trace green alteration of feldspar
10	11		"	"	"	" "	"		Fresh
11	12	002 10-12	"	"	"	" "	Hornblende, sericite	pyrite	" Altered
12	13		"	Pink/green	"	" "	" Sericite, pyrite		" "
13	14	002 12-14	"	" "	"	" "	" "	Apy??	" "
14	15		"	" "	"	" "	Sericite, hornblende	pyrite	" "
15	16	002 14-16	"	"	"	" "	Hornblende		"
16	17	16-18	"	"	"	" "	"		"
17	18	002 16-18	"	Green/pink	"	" "	Sericite, hornblende	pyrite, biotite	Altered.
18	19	1	"	Pink/green	"	" "	"	Sericite, pyrite	Weakly altered.
19	20	002 18-20	"	"	"	" "	"		Fresh
20	21		"	"	"	" "	"		"
21	22	002 20-22	"	"	"	" " Hornblende			"
22	23		"	Green/grey	"	" "	Sericite, hornblende	pyrite, Apy?	Altered.
23	24	002 22-24	"	Pink	"	" "	"		weakly altered.

EXPLOREMIN PTY LTD - DRILL HOLE LOG

drilog01.dot

Drill Hole: FCRC -002 | AMG/Grid E: 7263 | Azimuth: 265 T/M/G | Commenced: 26/9/96 | Sheet: 2 of 4
Tenement: EL 8313 | AMG/Grid N: 91720 | Inclination: -60 | Completed: 26/9/96 | Logged by: KL-P
Prospect: Francis Ck | RL Collar: 200 | Total Depth: 80 | Hole Size: 5½" | Drillers: Gideon
Map Ref: | Client: Homestake | Casing: 2m NC | Sample Type: 2m Comp | Drill Type: Warman 650

From	To	SampNo	Lithology	Colour	Texture	Major Minerals	Minor Minerals	Trace Minerals	Comments
24	25		Granite	Green	Coarse	Quartz, Feld, Sericite	Hornblende	pyrite	Altered
25	26	002 24-26	"	Pink	"	" "	"		Fresh.
26	27		"	"	"	" "	"		"
27	28	002 26-28	"	"	"	" "	"		"
28	29		"	"	"	" "	"		"
29	30	002 28-30	"	"	"	" "	"		"
30	31		"	"	"	" "	"		"
31	32	002 30-32	"	Pink/Green	"	" "Sericite	"	pyrite	Altered.
32	33		"	"	"	" "	"	Sericite	weakly altered.
33	34	002 32-34	"	"	"	" "	"		Fresh.
34	35		"	"	"	" "	"		"
35	36	002 34-36	"	"	"	" "	"		"
36	37		"	"	"	" "	"		"
37	38	002 36-38	"	"	"	" "	"	Sericite	"
38	39		"	"	"	" "	"		"
39	40	002 38-40	"	"	"	" "	"		"
40	41		"	Green	"	" Sericite		pyrite	Altered.
41	42	002 40-42	"	Green/pink	"	" Feld	Sericite	"	"
42	43		"	" "	"	" Feldspar	"	"	"
43	44	002 42-44	"	"	"	" "	Hornblende		Fresh.
44	45		"	"	"	" "	"		"
45	46	002 44-46	"	"	"	" "	"		"
46	47		"	Pink/Green	"	" "	Sericite "	pyrite	Partially Altered
47	48	002 46-48	"	"	"	" "	"	Sericite	weakly altered.

EXPLOREMIN PTY LTD - DRILL HOLE LOG

drilog01.dot

Drill Hole: FCRC-002 | AMG/Grid E: 7263 | Azimuth: 265 X/MIG | Commenced: 26/9/96 | Sheet: 3 of 4
Tenement: EL 8313 | AMG/Grid N: 9170 | Inclination: -60 | Completed: 26/9/96 | Logged by: KL-T
Prospect: Francis Ck | RL Collar: 200 | Total Depth: 80 | Hole Size: 5½" | Drillers: Gordon
Map Ref: | Client: Homestake | Casing: 2m NC | Sample Type: 2m Comp | Drill Type: Warman 650

From	To	SampNo	Lithology	Colour	Texture	Major Minerals	Minor Minerals	Trace Minerals	Comments
48	49		Granite	Pink/Green	Coarse	Quartz, Feldspar	Sericite, Hornblende	pyrite	Partially altered
49	50	002 48-50	"	pink	"	" "	"	sericite	Fresh
50	51		"	"	"	" "	"		"
51	52	002 50-52	"	"	"	" "	"		"
52	53		"	"	"	" "	"		"
53	54	002 52-54	"	"	"	" "	"		"
54	55		"	"	"	" "	"		"
55	56	002 54-56	"	"	"	" "	"	sericite	very weakly altered
56	57		"	"	"	" "		hornblende	fresh
57	58	002 56-58	"	"	"	" "		" sericite	weakly altered
58	59		"	"	"	" " hornblende	sericite	pyrite	"
59	60	002 58-60	"	"	"	" " "	hornblende	sericite	very weakly altered
60	61		"	"	"	" "	"	"	weakly altered
61	62	002 60-62	"	green	"	" sericite	" feld		altered
62	63		"	pink	"	" feld.	hornblende	sericite	fresh
63	64	002 62-64	"	pink	"	" "	"	"	very weakly altered
64	65		"	" black	"	" " hornblende		sericite	" to fresh
65	66	002 64-66	"	"	"	" "	hornblende	"	fresh
66	67		"	"	"	" "	"		"
67	68	002 66-68	"	"	"	" "	"	sericite	"
68	69		"	"	"	" "	"	"	"
69	70	002 68-70	"	"	"	" "	"	"	"
70	71		"	"	"	" "	"		"
71	72	002 70-72	"	"	"	" "	"	sericite	"

EXPLOREMIN PTY LTD - DRILL HOLE LOG

drilog01.dot

Drill Hole: FCRC-002
Tenement: EL 8313
Prospect: Francis Ck
Map Ref:

AMG/Grid E: 7263
AMG/Grid N: 9720
RL Collar: 200
Client: Homestake

Azimuth: +265 ~~MM~~
Inclination: -60
Total Depth: 80
Casing: 2m pvc

Commenced: 26/9/96
Completed: 26/9/96
Hole Size: 5½"
Sample Type: 2m comp

Sheet: 4 of 4
Logged by: ISL-P
Drillers: Gadens
Drill Type: Warman 650

From	To	SampNo	Lithology	Colour	Texture	Major Minerals	Minor Minerals	Trace Minerals	Comments
72	73		granite	pink/green	coarse	qtz, feld, ser	hornblende		altered
73	74	002 72-74	"	pink	"	" "	"		fresh
74	75	~~002~~	"	"	"	" "	"	sericite	"
75	76	002 74-76	"	"	"	" " hornblende			fresh
76	77		"	"	"	" " "		←	"
77	78	002 76-78	"	"	"	" "	hornblende		"
~~78~~	79		"	"	"	" "	"		"
79	80	002 78-80	"	"	"	" "	"		"

ASSAYCORP

Report Code: ..... AC 32453
Samples Received: 27/09/96
Number of Samples: 81

Homestake Gold of Australia Ltd.
P.O.Box 7189 Cloisters Sq.
Perth WA 6850

Reference: 10094
Project: .....
Cost Code: .....

Assaycorp Pty Ltd
A.C.N. 052 982 911
174 Ward St
Pine Creek NT 0847
Ph (08) 8976 1262
Fax (08) 8976 1310

Report Distribution
J.Stewart
J.Goulevitch

Sample Preparation:

Assay Data:

Analysis	Analytical Technique	Precision & Accuracy	Detection Limit	Data Units
Au	FA50	Acc. ± 15%	0.01	ppm
Au(R)	FA50	Acc. ± 15%	0.01	ppm
As	AAS/MA-3	Prec. ± 10%	1	ppm

FCRC 1, 2

Report Comment:

Authorisation: Ray Wooldridge
Report Dated: 11/10/96

ASSAYCORP

ASSAY CODE: AC 32453 Page 2 of 4

Sample	Au (ppm)	Au(R) (ppm)	As (ppm)
FCRC1 50-52	<0.01		5
FCRC1 52-54	<0.01		14
FCRC1 54-56	<0.01		9
FCRC1 56-58	<0.01		8
FCRC1 58-60	<0.01		7
FCRC1 60-62	<0.01		8
FCRC1 62-64	0.02	0.01	150
FCRC1 64-66	<0.01		74
FCRC1 66-68	<0.01		9
FCRC1 68-70	<0.01		73
FCRC1 70-72	<0.01		22
FCRC1 72-74	0.06		1300
FCRC1 74-76	0.12		590
FCRC1 76-78	<0.01		62
FCRC1 78-80	0.02		34
FCRC1 80-81	<0.01	<0.01	16
FCRC2 0-2	<0.01		15
FCRC2 2-4	<0.01	<0.01	4
FCRC2 4-6	<0.01		4
FCRC2 6-8	<0.01		8
FCRC2 8-10	0.02		3
FCRC2 10-12	<0.01		42
FCRC2 12-14	0.05		210
FCRC2 14-16	0.07		460
FCRC2 16-18	0.56	0.39	100

ASSAYCORP

ASSAY CODE: AC 32453 Page 1 of 4

Sample	Au (ppm)	Au(R) (ppm)	As (ppm)
FCRC1 0-2	<0.01		32
FCRC1 2-4	0.12		33
FCRC1 4-6	0.02		16
FCRC1 6-8	0.05		45
FCRC1 8-10	0.03		160
FCRC1 10-12	<0.01		140
FCRC1 12-14	<0.01		14
FCRC1 14-16	<0.01		14
FCRC1 16-18	<0.01	<0.01	16
FCRC1 18-20	0.03		13
FCRC1 20-22	<0.01		61
FCRC1 22-24	0.12		480
FCRC1 24-26	0.08		290
FCRC1 26-28	0.04		71
FCRC1 28-30	0.04	0.03	720
FCRC1 30-32	0.19		2800
FCRC1 32-34	0.02		69
FCRC1 34-36	<0.01		66
FCRC1 36-38	<0.01		17
FCRC1 38-40	<0.01		12
FCRC1 40-42	<0.01		6
FCRC1 42-44	<0.01		5
FCRC1 44-46	<0.01		9
FCRC1 46-48	<0.01	<0.01	20
FCRC1 48-50	<0.01		10

ASSAYCORP

ASSAY CODE: AC 32453

Sample	Au (ppm)	Au(R) (ppm)	As (ppm)
FCRC2 68-70	<0.01		5
FCRC2 70-72	<0.01		4
FCRC2 72-74	<0.01		40
FCRC2 74-76	<0.01		18
FCRC2 76-78	<0.01	<0.01	10
FCRC2 78-80	<0.01		18

ASSAYCORP

ASSAY CODE: AC 32453

Sample	Au (ppm)	Au(R) (ppm)	As (ppm)
FCRC2 18-20	<0.01		15
FCRC2 20-22	<0.01		3
FCRC2 22-24	0.04		190
FCRC2 24-26	0.04		340
FCRC2 26-28	<0.01	<0.01	14
FCRC2 28-30	<0.01		7
FCRC2 30-32	<0.01		26
FCRC2 32-34	<0.01		42
FCRC2 34-36	<0.01		6
FCRC2 36-38	<0.01		4
FCRC2 38-40	<0.01	0.02	15
FCRC2 40-42	0.24	0.20	200
FCRC2 42-44	0.07		23
FCRC2 44-46	<0.01		8
FCRC2 46-48	0.05		52
FCRC2 48-50	<0.01		35
FCRC2 50-52	<0.01		8
FCRC2 52-54	<0.01		2
FCRC2 54-56	<0.01		16
FCRC2 56-58	<0.01		23
FCRC2 58-60	<0.01		32
FCRC2 60-62	<0.01		23
FCRC2 62-64	0.13		29
FCRC2 64-66	0.09		12
FCRC2 66-68	<0.01	<0.01	11

APPENDIX 5

Geological Logs, Magnetic Susceptibility Log
and Assay Results Sheets FCDH008

EXPLOREMIN PTY LTD - DRILL HOLE LOG

drilog01.dot

Drill Hole: FCDH-008 | AMG/Grid E: 7904 | Azimuth: N.I ~~TMG~~ | Commenced: 24/10/96 | Sheet: 1 of 3
Tenement: EL 8313 | AMG/Grid N: 92400 | Inclination: -90 | Completed: 25/10/96 | Logged by: K L-P
Prospect: FRANCIS CK STH | RL Collar: 250 | Total Depth: 51/192.0 | Hole Size: 3½" | Drillers: Graden
Map Ref: | Client: Homestake | Casing: 3m PVC | Sample Type: 2m Comp | Drill Type: Warman 650

From	To	SampNo	Lithology	Colour	Texture	Major Minerals	Minor Minerals	Trace Minerals	Comments
0	1		Mudstone	Brown/Grey	Fine		Clay	Haematite	Weathered Chlorite.
1	2	008 0-2	"	Grey Brown	"		Clay	graphite "	"
2	3		"	" "	"		"	" "	" Chlorite.
3	4	008 2-4	"	" "	"			" "	"
4	5		"	Grey	"			Haematite, Muscovite	"
5	6	008 4-6	"	"	"			"	"
6	7		"	"	"			"	"
7	8	008 6-8	Siltstone	Brown/orange	"			"	"
8	9		"	" "	"			"	"
9	10	008 8-10	"	" "	"			"	"
10	11		"	" "	"		Clay	" Muscovite	"
11	12	008 10-12	"	" "	"			" "	"
12	13		"	" "	"			"	"
13	14	008 12-14	"	" "	"	Clay		"	"
14	15		"	" "	"	"		"	"
15	16	008 14-16	"	" "	"	"		"	" Minor Rock.
16	17		"	" "	"			"	"
17	18	008 16-18	"	" "	"		Quartz	"	"
18	19		"	Grey "	"		"	"	"
19	20	008 18-20	"	" "	"			" quartz	" Minor Rock
20	21		"	Pink/grey	Mixed		Clay	"	"
21	22	008 20-22	"	Orange/pink/grey	Fine		"	"	"
22	23		"	grey/orange	"			" Clay	"
23	24	008 22-24	Mudstone	" brown	"			" graphite	"

EXPLOREMIN PTY LTD - DRILL HOLE LOG

drilog01.dot

Drill Hole: FCDH -008 | AMG/Grid E: 7904 | Azimuth: N.I ~~TMG~~ | Commenced: 24/10/96 | Sheet: 2 of 3
Tenement: EL 8313 | AMG/Grid N: 92400 | Inclination: -90 | Completed: 25/10/96 | Logged by: KL-P
Prospect: Francis Ck Sth | RL Collar: 250 | Total Depth: 51 | Hole Size: 5½" | Drillers: Gadon
Map Ref: | Client: Homestake | Casing: 3m PVC | Sample Type: 2m Comp | Drill Type: Warman 650

From	To	SampNo	Lithology	Colour	Texture	Major Minerals	Minor Minerals	Trace Minerals	Comments
24	25		Mudstone	Brown	Fine		Clay	Haematite	Weathered
25	26	008 24-26	Silt Stone	Grey	"			"	" (Biotite?)
26	27		"	Brown	"	Clay		"	" Minor Rock
27	28	008 26-28	Sandstone	Wht/Pink	Medium	Quartz (Sand)			"
28	29		"	"	"	" (Sand)			"
29	30	008 28-30	Silt Stone	Grey brown	Fine		Clay	Haematite/Mica	"
30	31		"	" "	"		"	"	"
31	32	008 30-32	"	Brn grey	"	Clay		"	" Mica Rock
32	33		"	" "	"		Clay	" Mica	"
33	34	008 32-34	"	grey	"		"	" "	"
34	35		"	"	"		"	"	"
35	36	008 34-36	"	"	"		Mica	"	"
36	37		"	"	"		"		"
37	38	008 36-39	"	"	"		"	Haematite	"
38	39		"	"	"			" Mica	"
39	40	008 39-40	"	"	"		Mica	"	"
40	41		"	"	"		"	"	"
41	42	008 40-42	"	"	"		"	"	"
42	43		"	"	"			" Mica	"
43	44	008 42-44	"	"	"			Pyrite "	Partially weathered
44	45		"	"	"			"	" "
45	46	008 44-46	"	"	Medium			Mica, Haematite	" "
46	47		"	"	"			" Pyrite	Fresh (Hard)
47	48	008 46-48	"	"	Fine				" "

EXPLOREMIN PTY LTD - DRILL HOLE LOG

drilog01.dot

Drill Hole: FCDH-008
Tenement: EL 8312
Prospect: Francis Ck SH
Map Ref:

AMG/Grid E: 7904
AMG/Grid N: 92400
RL Collar: 259
Client: Homestake

Azimuth: N.I ~~TMG~~
Inclination: -90
Total Depth: 51
Casing: 3m PVC

Commenced: 24/10/96
Completed: 25/10/96
Hole Size: 3½
Sample Type: 2m Comp

Sheet: 3 of 3
Logged by: KLP
Drillers: Graden
Drill Type: Warman 650

From	To	SampNo	Lithology	Colour	Texture	Major Minerals	Minor Minerals	Trace Minerals	Comments
48	49		Siltstone	Grey	Fine (mottled)			Pyrite	Fresh Very hard
49	50	008 48-50	"	"	"			"	" " "
50	51	008 50-51	"	"	"			"	" " "
			EOH						

EXPLOREMIN PTY LTD - DIAMOND DRILL HOLE LOG

drilog05.dot

Drill Hole: FCDH-008	AMG/Grid E: 7904	Azimuth: N.1 T/M/G	Commenced: 25/10/96	Sheet: 1 of 6
Tenement: EL 8313	AMG/Grid N: 92400	Inclination: -90	Completed: 29/10/96	Logged by: KC-P
Prospect: Francis Ck South	RL Collar: 250	Total Depth: 192	Hole Size: NQ	Drillers: Gnden
Map Ref:	Client: Homestake	Casing: 51	Sample Type: 1/2 Core	Drill Type: Warman 650
Hole Survs - Depth/Incln/Azim	0 / -90 / N.1	27 / -88 / Inrod	51 / -84 / Inrod	/ /

From	To	Geological Description	Graph Log	Mineralisation Fe-S-O (est %) ΣS/O	py/po	hem/mgt	bdd	diss' mn	patc hes	Alteration/Metamorphism (est %) cbt	sillic	tour	chl	bi	ser/mus	actin	gnt	cord	andl	Apy	Vns qtz/cbt/S	Depth	Struc	α	β
0	51	RC Pre-collar																							
51	73.3	Mudstone / Siltstone		4	3:1			2	2	Tr								20	5		0:0:1	55	S_0	58	
		A well bedded grey mudstone with																				65	S_0	50	
		smaller beds of pale grey siltstone																				65	S_1	35	
		Metamorphic spotting is very common																				73	S_0	48	
		with dark cordierite spots to 4mm																							
		and white spots of poorly formed																							
		chiastolite. The chiastolites are																							
		generally 2mm in size but in																							
		discrete zones they grow to																							
		1cm diameter. Pyrite occurs through-																							
		out the interval as thin veins																							
		and patches. Minor amounts																							
		of fine pyrrhotite occur in the																							
		darker mudstone beds. Patches of																							
		pyrite are often elongated																							
		defining a S_1 cleavage direction.																							
		Fractures are typically sharp and																							
		commonly coated with an off white																							
		clay-carbonate and pyrite filling.																							
73.3	76.15	Granite.		1	1:1				1				Tr		Tr			2	1			73.3	Contact	49°	
		A pale pink fine grain granite																				76.15	Contact	20°	
		with an overprint of grey.																							

EXPLOREMIN PTY LTD - DIAMOND DRILL HOLE LOG

drilog05.dot

Drill Hole: FCDH-008	AMG/Grid E: 7904	Azimuth: N.1 T/M/G	Commenced: 25/10/96	Sheet: 2 of 6	
Tenement: EL 8313	AMG/Grid N: 92400	Inclination: -90	Completed: 29/10/96	Logged by: KF	
Prospect: Francis Ck SH	RL Collar: 250	Total Depth: 192	Hole Size: NQ	Drillers: Gator	
Map Ref:	Client: Homestake	Casing: 51	Sample Type: ½ Core	Drill Type: Warman 650	
Hole Survs - Depth/Incln/Azim	81 / -82 / 065	/ /	/ /	/ /	

From	To	Geological Description	Graph Log	Mineralisation Fe-S-O (est %) ΣS/O	py/po	hem/mgt	bdd	diss' mn	patc hes	Alteration/Metamorphism (est %) cbt	sillic	tour	chl	bi	ser/mus	actin	gnt	cord	andl	Apy	Vns qtz/cbt/S	Depth	Struc	α	β
		The rock consists of fine pink feldspar and pale grey, translucent quartz with minor amounts of hornblende partially altered to biotite. Thin grey veinlets of muscovite and pyrite occurs. Pyrrhotite occurs as isolated patches to 3mms. In restricted patches a pale green-yellow sericite occurs. Fractures are typically lined with dark chlorite and pyrite. Both the upper and lower contacts are conformable with bedding, sill. At 77.7mbc a small block of host sediment is incorporated (Xeno.lith). This contains coarse cordierite and poorly formed chiastolite/andalusite																							
76.15	83.45	Mudstone. A dark grey weakly graphitic mudstone with abundant white spots and streaks of well formed andalusite. Andalusite crystals occur to 1.5cm long. Pyrrhotite is by far the dominant		15	1:10		10		5	Tr			Tr						20			77.5	So	45	

EXPLOREMIN PTY LTD - DIAMOND DRILL HOLE LOG

drilog05.dot

Drill Hole: FCDH-008	AMG/Grid E: 7504	Azimuth: N/T T/M/G	Commenced: 25/10/96	Sheet: 3 of 6
Tenement: EL 843	AMG/Grid N: 92400	Inclination: -90	Completed: 29/10/96	Logged by: KLP
Prospect: Francis Ck Stk	RL Collar: 250	Total Depth: 192	Hole Size: NQ	Drillers: Gryder
Map Ref:	Client: Homestake	Casing: 5T	Sample Type: ½ Core	Drill Type: Warman 650
Hole Surys - Depth/Incln/Azim	/ /	/ /	/ /	/ /

From	To	Geological Description	Graph Log	Mineralisation Fe-S-O (est %) ΣS/O	py/po	hem/mgt	bdd	diss' mn	pats hes	Alteration/Metamorphism (est %) cbt	sillic	tour	chl	bi	ser/mus	actin	gnt	cord	andl	Apy	Vns qtz/cbt/S	Depth	Struc	α	β
		sulfide and occurs as very fine dessemination in discrete bands and as small patchy to 1-2 mm. Pyrite occurs in veins to 1mm and on some fracture faces. Fractures also contain some pale white carbonate-clay and lesser dark chlorite. Above 78 mbc the ~~core~~ mudstone is interbedded with thin grey siltstone beds. Below 78 mbc the mudstone is massive.																							
83.45	87.3	Granite. A medium grained pink granite which has been partially altered to include pale grey-yellow sericite and dark chlorite. The interval starts with 1.5m of highly fractured and altered core which consists of clay altered feldspars, quartz and a pervasive dark black chlorite. Pyrite occurs on most fracture faces. From 84.5 mbc the core becomes less fractured and altered. The less altered core contains		1	1:1				1				2		Tr							83.45	Contact	42		

EXPLOREMIN PTY LTD - DIAMOND DRILL HOLE LOG

drilog05.dot

Drill Hole: FCDH-008	AMG/Grid E: 7504	Azimuth: N.I T/M/G	Commenced: 25/10/96	Sheet: 4 of 6
Tenement: EL 8313	AMG/Grid N: 92400	Inclination: -90	Completed: 29/10/96	Logged by: KLP
Prospect: Francis Ck Sth	RL Collar: 250	Total Depth: ~~51~~ 192	Hole Size: NQ	Drillers: Easden
Map Ref:	Client: Homestake	Casing: 51	Sample Type: 1/2 Core	Drill Type: Warman 650
Hole Survs - Depth/Incln/Azim	/ /	/ /	/ /	/ /

From	To	Geological Description	Graph Log	Mineralisation Fe-S-O (est %) ΣS/O	py/po	hem/mgt	bdd	diss'mn	patches	Alteration/Metamorphism (est %) cbt	silic	tour	chl	bi	ser/mus	actin	gnt	cord	andl	Apy	Vns qtz/cbt/S	Depth	Struc	α	β
		small patches of glossy green sericite and muscovite. Pyrrhotite occurs as small isolated patches to 5mm.	+ +																						
87.3	97.1	Mudstone. A black graphitic mudstone with abundant spots and streaks of white andalusite. Occasional thin grey siltstone beds occur. Pyrrhotite occurs as fine disseminations within discrete zones 30-50cm thick. Pyrite occurs on some fracture faces and in discrete (5cm) alteration zones near fractures, (91.65m). Fractures are typically lined with pyrite, dark chlorite and iron rich carbonate-clays.	- - -	15	1:10		10	2	3				Tr						20			92.3	So	75	
97.1	99.0	Granite. A narrow interval of pale pink granite. The granite is medium grained and partially altered with feldspars breaking to clays. Pale green-yellow minerals (sericite) occur in discrete patches and	+ +	Tr	1:1				Tr				Tr		Tr										

EXPLOREMIN PTY LTD - DIAMOND DRILL HOLE LOG

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Drill Hole: FCDH-008	AMG/Grid E: 7904	Azimuth: 061 T/M/G	Commenced: 25/10/96	Sheet: 5 of 6
Tenement: EL 8313	AMG/Grid N: 92400	Inclination: -90	Completed: 29/10/96	Logged by: KLT
Prospect: Francis Ck SH	RL Collar: 250	Total Depth: 192	Hole Size: NQ	Drillers: Graden
Map Ref:	Client: Homestake	Casing: 51	Sample Type: ½ Core	Drill Type: Warman 650
Hole Survs - Depth/Incln/Azim	111.0 / -82 / 085°	/ /	/ /	/ /

From	To	Geological Description	Graph Log	Mineralisation Fe-S-O (est %) ΣS/O	py/po	hem/mgt	bdd	diss' mn	patc hes	Alteration/Metamorphism (est %) cbt	sllic	tour	chl	bi	ser/mus	actin	gnt	cord	andl	Apy	Vns qtz/cbt/S	Depth	Struc	α	β
		near fractures. Sulfides are rare and consist of very minor pyrite near and on some fractures. Two small (<1mm) pyrrhotite spots were located. The last 30cm of the interval are fine grained and deep pink. The quartz is clear and sound sized.	+ + + + + + + + + +																						
99.0	128.9	Mudstone. An interval of grey weakly graphitic mudstone. The unit is fairly massive with only minor lighter grey siltstone beds. From 99 to 102m the core contains dark cordierite spots and abundant pyrrhotite as fine dissemination in discrete beds. ~~From~~ Andalusite is a minor constituent. From 102 to 106.4 Andalusite is abundant as fine needles and spots. Cordierite is a minor accessory and pyrrhotite occurs as fine dissemination in discrete beds. From 106.4 to 128.9 andalusite is less common and																							
				99	to	110																			
				8	1:10		5	2	1									5	10			101.1	So	80	
				110	to	128.9																			
				4	1:2		2		2	Tr								15	2			120.1	So	45	
																						125.2	So	30	
																						128.9	Contact	25	

EXPLOREMIN PTY LTD - DIAMOND DRILL HOLE LOG

drilog05.dot

Drill Hole: FCDH-008	AMG/Grid E: 7904	Azimuth: N.I T/M/G	Commenced: 25/10/96	Sheet: 6 of 6	
Tenement: EL 8313	AMG/Grid N: 92400	Inclination: -90	Completed: 29/10/96	Logged by: KL-P	
Prospect: Francis Ck Sth	RL Collar: 250	Total Depth: 192	Hole Size: NQ	Drillers: Gryden	
Map Ref:	Client: Homestake	Casing: 51	Sample Type: ½ Core	Drill Type: Warman 650	
Hole Survs - Depth/Incln/Azim	138.0 / -81 / 090	162.0 / -80.5 / 091°	/	/	

From	To	Geological Description	Graph Log	Mineralisation Fe-S-O (est %) ΣS/O	py/po	hem/mgt	bdd	diss' mn	patc hes	Alteration/Metamorphism (est %) cbt	silic	tour	chl	bi	ser/mus	actin	gnt	cord	andl	Apy	Vns qtz/cbt/S	Depth	Struc	α	β
		pale grey pastelly formed cordierite spots become very common. The amount of pyrrhotite present also slowly decrease through this interval. From 125.1 to 128.9, zone of intense andalusite alteration become common these bands up to 40cm thick consist of over 50% andalusite. From 128.5 msc thin interbeds of marble developed.																							
188.9	192.0	Marble. A broad interval of white and grey marble with very common stylolites. The grey zones ghost bedding and although broken and bent are approximately the same angle to the C.A. as the stylolites. Pyrite occurs as very minor spots to 1cm. The stylolites are commonly black (chlorite) they are non-magnetic. The last metre of core recovered contains coarse calcite crystals. From 192.0msc to 198 plus msc is a cave. No recovery. EOH		Tr	1:0			1	99.9			Tr										188.2	So ?	25		
																						157.0	So	36	
																						173.0	So	28	
	EOH																								

EXPLOREMIN PTY LTD
CORE RECOVERY, RQD, FRACTURE COUNT

Drill Hole: FCDH-008	AMG/Grid E: 7504	Azimuth: N.1 T/M/G	Commenced: 25/10/96	Sheet: 1 of 5
Tenement: EL 8313	AMG/Grid N: 92400	Inclination: -90	Completed: 29/10/96	Logged by: KLT
Prospect: Francis Clk SAL	RL Collar: 250	Total Depth: 192	Hole Size: NQ	Drillers: Geodem.

From	To	Interval	Recov'd	Length in Sticks >10 cm	No of Open Fractures	No of Strongly Healed Fractures	No of Weakly Healed Fractures	No of open Fractures with slick coat	Comments
51	52	1	100	85	7	2	4	0	
52	53	1	100	90	5	2	0	0	
53	54	1	100	90	4	1	0	0	
54	55	1	100	100	1	0	0	0	
55	56	1	100	100	3	2	0	0	
56	57	1	100	100	2	1	0	0	
57	58	1	100	100	2	0	0	0	
58	59	1	100	100	3	1	0	0	
59	60	1	100	90	4	0	0	0	
60	61	1	100	100	3	0	0	0	
61	62	1	100	100	2	2	1	1	
62	63	1	100	100	4	1	0	0	
63	64	1	100	90	3	0	0	0	
64	65	1	100	100	2	0	0	0	
65	66	1	100	100	2	0	0	0	
66	67	1	100	100	3	2	3	0	
67	68	1	100	90	5	1	2	0	
68	69	1	100	100	4	2	6	0	
69	70	1	100	100	1	2	5	0	
70	71	1	100	100	4	4	2	0	
71	72	1	100	90	5	3	3	0	
72	73	1	100	60	10	2	1	2	
73	74	1	100	85	6	4	0	0	
74	75	1	100	100	4	5	0	0	
75	76	1	100	90	7	5	1	0	
76	77	1	100	100	2	1	0	0	
77	78	1	100	90	4	2	0	0	
78	79	1	100	100	2	3	1	1	
79	80	1	100	80	6	2	0	1	
80	81	1	100	100	3	2	0	0	

EXPLOREMIN PTY LTD
CORE RECOVERY, RQD, FRACTURE COUNT

Drill Hole: FCDH-008	AMG/Grid E: 7904	Azimuth: N.1 T/M/G	Commenced: 25/10/96	Sheet: 2 of 5
Tenement: EL 8313	AMG/Grid N: 92400	Inclination: -90	Completed: 29/10/96	Logged by: ICT
Prospect: Franco Ck Sth	RL Collar: 250	Total Depth: 192	Hole Size: NQ	Drillers: Graden

From	To	Interval	Recov'd	Length in Sticks >10 cm	No of Open Fractures	No of Strongly Healed Fractures	No of Weakly Healed Fractures	No of open Fractures with slick coat	Comments
81	82	1	100	90	5	3	0	0	
82	83	1	100	100	1	4	0	0	
83	84	1	100	35	>10	2	0	>10	
84	85	1	100	30	>10	1	0	>10	
85	86	1	100	60	9	4	1	0	
86	87	1	100	75	10	1	0	0	
87	88	1	100	75	5	1	0	0	
88	89	1	100	100	2	0	0	0	
89	90	1	100	100	4	1	0	0	
90	91	1	100	80	4	1	0	0	
91	92	1	100	100	1	1	1	0	
92	93	1	100	100	1	0	0	0	
93	94	1	100	100	2	0	0	0	
94	95	1	100	90	4	2	0	0	
95	96	1	100	100	2	0	0	0	
96	97	1	100	100	3	0	0	0	
97	98	1	100	100	2	1	0	0	
98	99	1	100	80	7	1	0	0	
99	100	1	100	100	3	2	0	0	
100	101	1	100	100	2	2	0	0	
101	102	1	100	100	1	1	0	0	
102	103	1	100	90	4	3	0	0	
103	104	1	100	80	4	1	0	1	
104	105	1	100	85	6	2	0	0	
105	106	1	100	90	6	2	0	0	
106	107	1	100	90	6	3	0	0	
107	108	1	100	85	5	1	2	1	
108	109	1	100	80	7	1	0	1	
109	110	1	100	90	5	3	0	2	
110	111	1	100	60	9	1	0	5	

EXPLOREMIN PTY LTD
CORE RECOVERY, RQD, FRACTURE COUNT

Drill Hole: FCDH-008	AMG/Grid E: 7904	Azimuth: N.I T/M/G	Commenced: 25/10/96	Sheet: 3 of 5
Tenement: EL 8317	AMG/Grid N: 92400	Inclination: -90	Completed: 29/10/96	Logged by: KLP
Prospect: Frances Ck SH	RL Collar: 250	Total Depth: 192	Hole Size: NQ	Drillers: Gryden

From	To	Interval	Recov'd	Length in Sticks >10 cm	No of Open Fractures	No of Strongly Healed Fractures	No of Weakly Healed Fractures	No of open + Fractures with slick coat	Comments
111	112	1	100	85	5	2	0	2	*
112	113	1	100	80	6	3	0	3	
113	114	1	100	95	7	0	0	4	
114	115	1	100	95	5	1	0	2	
115	116	1	100	95	5	2	0	2	
116	117	1	100	70	7	2	0	4	
117	118	1	100	95	4	10	1	9	
118	119	1	100	95	6	2	0	1	
119	120	1	100	90	5	1	0	0	
120	121	1	100	70	6	1	0	1	
121	122	1	100	100	4	1	0	0	*
122	123	1	100	100	3	4	0	0	
123	124	1	100	100	3	3	1	2	
124	125	1	100	90	5	3	0	3	
125	126	1	100	100	2	4	0	0	
126	127	1	100	100	3	2	1	0	
127	128	1	100	90	5	2	4	2	
128	129	1	100	100	3	3	0	1	
129	130	1	100	90	5	1	0	3	
130	131	1	100	100	3	0	1	1	
131	132	1	100	90	6	0	0	0	
132	133	1	100	75	6	0	0	0	
133	134	1	100	85	5	0	0	1	
134	135	1	100	100	2	0	0	0	
135	136	1	100	90	5	0	0	1	
136	137	1	100	100	2	0	0	1	
137	138	1	100	95	3	0	0	0	
138	139	1	100	100	3	0	0	0	
139	140	1	100	100	3	0	0	0	
140	141	1	100	90	2	0	0	1	

EXPLOREMIN PTY LTD
CORE RECOVERY, RQD, FRACTURE COUNT

Drill Hole: FCDH-008	AMG/Grid E: 7904	Azimuth: N.I T/M/G	Commenced: 25/10/96	Sheet: 4 of 5
Tenement: EL 8313	AMG/Grid N: 92400	Inclination: -90	Completed: 29/10/96	Logged by: KL-P
Prospect: Francis Ck Stk	RL Collar: 250	Total Depth: 192	Hole Size: NQ	Drillers: Golden

From	To	Interval	Recov'd	Length in Sticks >10 cm	No of Open Fractures	No of Strongly Healed Fractures	No of Weakly Healed Fractures	No of open • Fractures with slick coat	Comments
141	142	1	100	~~100~~ 90	5	0	0	0	
142	143	1	100	100	4	0	0	0	
143	144	1	100	100	5	0	0	0	
144	145	1	100	100	3	0	0	0	
145	146	1	100	100	4	0	0	0	
146	147	1	100	100	1	0	0	0	
147	148	1	100	85	5	0	0	0	
148	149	1	100	100	2	0	0	0	
149	150	1	100	100	4	0	0	0	
150	151	1	100	100	2	0	0	0	
151	152	1	100	100	4	0	0	0	
152	153	1	100	100	1	0	0	0	
153	154	1	100	100	4	0	0	0	
154	155	1	100	90	3	0	0	0	
155	156	1	100	100	1	0	0	0	
156	157	1	100	100	3	0	0	0	
157	158	1	100	100	2	0	0	0	
158	159	1	100	100	2	0	0	0	
159	160	1	100	100	1	0	0	0	
160	161	1	90	90	2	0	0	0	
161	162	1	100	100	2	0	0	0	
162	163	1	100	100	1	0	0	0	
163	164	1	100	100	3	0	0	0	
164	165	1	100	95	7	0	0	0	
165	166	1	100	100	3	0	0	0	
166	167	1	100	95	5	0	0	0	
167	168	1	100	100	3	0	0	1	
168	169	1	100	95	5	0	0	0	
169	170	1	100	95	4	0	0	0	
170	171	1	100	100	2	0	0	0	

EXPLOREMIN PTY LTD
CORE RECOVERY, RQD, FRACTURE COUNT

Drill Hole: ECDH-008	AMG/Grid E: 7904	Azimuth: N.I T/M/G	Commenced: 25/10/96	Sheet: 5 of 5
Tenement: EL 8313	AMG/Grid N: 92400	Inclination: -90	Completed: 29/10/96	Logged by: KLP
Prospect: Francis Ck SH	RL Collar: 250	Total Depth: 192	Hole Size: NQ	Drillers: Gaden.

From	To	Interval	Recov'd	Length in Sticks >10 cm	No of Open Fractures	No of Strongly Healed Fractures	No of Weakly Healed Fractures	No of open Fractures with slick coat	Comments
171	172	1	100	100	4	0	0	0	
172	173	1	100	100	3	0	0	0	
173	174	1	100	95	5	0	0	0	
174	175	1	100	60	5	0	0	0	Fractured // to core for 40 cm.
175	176	1	100	90	5	0	0	0	
176	177	1	100	95	3	0	0	0	
177	178	1	100	100	3	0	0	0	
178	179	1	100	100	3	0	0	0	
179	180	1	100	100	2	0	0	0	
180	181	1	100	80	10	0	0	1	
181	182	1	100	95	4	0	0	1	
182	183	1	100	100	3	0	0	0	
183	184	1	100	100	2	0	0	0	
184	185	1	100	100	3	0	0	0	
185	186	1	100	90	6	0	0	0	
186	187	1	100	100	4	0	0	0	
187	188	1	100	100	3	0	0	0	
188	189	1	100	100	3	0	0	0	
189	190	1	100	100	4	0	1	1	
190	191	1	80	40	>10	0	0	0	
191	192	1	N.I	Cave	No	Recovery			Rods lowered to 198 mbs no rock encountered.
~~195~~	EOH.								

ASSAYCORP

Report Code: .... AC 33198
Samples Received: 28/10/96
Number of Samples: 26

Homestake Gold of Australia Ltd.
P.O.Box 7189 Cloisters Sq.
Perth WA 6850

Reference: ....
Project: ....
Cost Code: ....

Assaycorp Pty Ltd
A.C.N. 052 982 911
174 Ward St
Pine Creek NT 0847
Ph (08) 8976 1262
Fax (08) 8976 1310

Report Distribution
J.Goulevitch
J.Stewart

Sample Preparation:

Assay Data:

Analysis	Analytical Technique	Precision & Accuracy	Detection Limit	Data Units
Au	FA50	Acc. ± 15%	0.01	ppm
Au(R)	FA50	Acc. ± 15%	0.01	ppm
As	AAS/MA-3	Prec. ± 10%	1	ppm

FCDH008
Precollar.

Report Comment:

Authorisation: Ray Wooldridge
Report Dated: 31/10/96

ASSAYCORP

ASSAY CODE: AC 33198 Page 1 of 2

Sample	Au (ppm)	Au(R) (ppm)	As (ppm)
FC008 0-2	<0.01	<0.01	47
FC008 2-4	<0.01		26
FC008 4-6	<0.01		26
FC008 6-8	0.02		29
FC008 8-10	<0.01		61
FC008 10-12	0.02		120
FC008 12-14	0.03		130
FC008 14-16	<0.01		15
FC008 16-18	<0.01		27
FC008 18-20	<0.01	<0.01	40
FC008 20-22	<0.01		20
FC008 22-24	<0.01		56
FC008 24-26	<0.01		130
FC008 26-28	0.02		84
FC008 28-30	<0.01		32
FC008 30-32	<0.01		19
FC008 32-34	<0.01	<0.01	29
FC008 34-36	<0.01		26
FC008 36-38	<0.01		17
FC008 38-40	<0.01		18
FC008 40-42	<0.01		18
FC008 42-44	<0.01		18
FC008 44-46	<0.01		22
FC008 46-48	<0.01		18
FC008 48-50	<0.01		23

ASSAYCORP

ASSAY CODE: AC 33198 Page 2 of 2

Sample	Au (ppm)	Au(R) (ppm)	As (ppm)
FC008 50-51	<0.01	<0.01	11

ASSAYCORP

Report Code: ..... AC 33560
Samples Received: 08/11/96
Number of Samples: 23

Homestake Gold of Australia Ltd.
P.O.Box 7189 Cloisters Sq.
Perth WA 6850

Reference: 15944
Project: .....
Cost Code: .....

Assaycorp Pty Ltd
A.C.N. 052 982 911
174 Ward St
PINE CREEK NT 0847
Ph (08) 8976 1262
Fax (08) 8976 1310

Report Distribution
J.Goulevitch
J.Stewart

Sample Preparation:

Assay Data:

Analysis	Analytical Technique	Precision & Accuracy	Detection Limit	Data Units
Au	FA50	Acc. ± 15%	0.01	ppm
Au(R)	FA50	Acc. ± 15%	0.01	ppm
As	AAS/MA-3	Prec. ± 10%	1	ppm

FCDH008
53-128m

Report Comment:

Authorisation: Ray Wooldridge
Report Dated: 13/11/96

ASSAYCORP

ASSAY CODE: AC 33560

Sample	Au (ppm)	Au(R) (ppm)	As (ppm)
FCDH 008 53-54	<0.01	<0.01	5
FCDH 008 56-57	<0.01		2
FCDH 008 59-60	<0.01		4
FCDH 008 62-63	<0.01		11
FCDH 008 65-66	<0.01		4
FCDH 008 68-69	<0.01		9
FCDH 008 71-72	<0.01	<0.01	5
FCDH 008 77-78	<0.01		2
FCDH 008 80-81	<0.01		5
FCDH 008 82-83	<0.01		7
FCDH 008 88-89	<0.01		3
FCDH 008 91-92	<0.01		4
FCDH 008 94-95	<0.01		4
FCDH 008 100-101	<0.01		5
FCDH 008 103-104	<0.01		3
FCDH 008 106-107	<0.01		6
FCDH 008 109-110	<0.01		3
FCDH 008 112-113	<0.01		4
FCDH 008 115-116	<0.01	<0.01	8
FCDH 008 118-119	<0.01		7
FCDH 008 121-122	<0.01		7
FCDH 008 124-125	<0.01		5
FCDH 008 127-128	<0.01	<0.01	6

ASSAYCORP

Report Code: ..... AC 33562
Samples Received: 08/11/96
Number of Samples: 1

Homestake Gold of Australia Ltd.
P.O.Box 7189 Cloisters Sq.
Perth WA 6850

Reference: 15943
Project: .....
Cost Code: .....

Assaycorp Pty Ltd
A.C.N. 052 982 911
174 Ward St
Pine Creek NT 0847
Ph (08) 8976 1282
Fax (08) 8976 1310

Report Distribution
J.Goulevitch
J.Stewart

Sample Preparation:

Assay Data:

Analysis	Analytical Technique	Precision & Accuracy	Detection Limit	Data Units
Mg	CCA	Prec. ± 5%	0.01	percent
Ca	ICP-OES	Prec. ± 10%	0.01	percent
Fe	ICP-OES	Prec. ± 10%	0.01	percent
Al	ICP-OES	Prec. ± 10%	0.01	percent
Si	ICP-OES	Prec. ± 10%	0.01	percent
INSOL	CCA	Prec. ± 5%	0.01	percent
RSI	CCA	Prec. ± 10%	0.1	mL
S	ICP-OES	Prec. ± 10%	10	ppm
As	ICP-MS	Prec. ± 10%	1	ppm
Cd	ICP-MS	Prec. ± 10%	0.1	ppm
Sb	ICP-MS	Prec. ± 10%	0.1	ppm
Mn	ICP-OES	Prec. ± 10%	10	ppm

FCDH008
Carbonate Rock

Report Comment:

Authorisation: Ray Wooldridge
Report Dated: 26/11/96

ASSAYCORP

ASSAY CODE: AC 33562

Sample	Mg (%)	Ca (%)	Fe (%)	Al (%)	Si (%)	INSOL (%)	RSI (mL)
FCDH008 135-190	12.56	21.75	1.42	0.14	0.04	0.94	25.0

= Dolomite (Slightly anhedritic)

ASSAYCORP

ASSAY CODE: AC 33562

Sample	S (ppm)	As (ppm)	Cd (ppm)	Sb (ppm)	Mn (ppm)
FCDH008 135-190	30	<1	0.1	0.1	3140

MAGNETIC SUSCEPTIBILITY

Fend 15

424	6	0
425	10	48
426		
↓		
472	0	0
473		
↓		
496	0	0
EOH		

FCDH-008

51 – 129 3 per mtr
129 – 192 at 6 per mtr

FCDH-008

51	2	6	58	159	115
51.3	17	19	58.3	233	151
51.6	5	7	58.6	315	200
52	13	15	59	380	263
52.3	24	32	59.3	240	129
52.6	22	31	59.6	90	30
53	39	50	60	180	75
53.3	56	57	60.3	15	5
53.6	57	62	60.6	117	57
54	0	0	61	270	113
54.3	0	0	61.3	631	233
54.6	0	0	61.6	208	74
55	0	0	62	~~308~~ 438	215
55.3	0	0	62.3	567	311
55.6	0	0	62.6	571	360
56	0	0	63	40	12
56.3	0	0	63.3	1870	560
56.6	0	0	63.6	1150	290
57	38	2	64	370	216
57.3	38	7	64.3	420	280
57.6	119	51	64.6	398	104

FCDH-008

65	600	220	72	117	350
65.3	756	413	72.3	760	220
65.6	380	272	72.6	318	134
66	230	180	73	221	150
66.3	370	120	73.3	45	36
66.6	1260	613	73.6	25	25
67	520	360	74	40	40
67.3	460	313	74.3	51	38
67.6	970	450	74.6	400	89
68	630	410	75	180	90
68.3	1300	750	75.3	98	34
68.6	1700	1000	75.6	50	31
69	1420	570	76	23	15
69.3	330	180	76.3	1700	800
69.6	170	89	76.6	1014	490
70	600	340	77	250	87
70.3	260	208	77.3	48	46
70.6	570	384	77.6	440	120
71	1014	240	78	7209	685
71.3	770	250	78.3	800	360
71.6	155	50	78.6	1315	670
			85.6	~~89~~ 126	80
79	1500	900	86	~~86~~ 0	0
79.3	1483	835	86.3	~~68~~ 7	8
79.6	2274	1008	86.6	92	45
80	1920	511	87	31	0
80.3	1373	1106	87.3	900	350
80.6	1271	681	88.6	480	310
81	2425	1671	88.0	584	280
81.3	2255	1380	88.3	702	521
81.6	1200	750	88.6	850	480
82	1120	650	89.0	321	270
82.3	1530	1050	89.3	607	424
82.6	678	413	89.6	705	650
83	1074	620	80.0	619	484
83.3	173	97	90.3	326	280
83.6	23	16	90.6	750	610
84	16	11	91.0	270	158
84.3	22	22	91.3	778	674
84.6	11	11	91.6	350	196
85	5	3	92	501	455
85.3	40	15	92.3	520	470
			92.6	~~350~~ 74	350

FCDH008

93	440	414	100.0	3	2
93.3	601	506	100.6	14	15
93.6	370	244	101.0	210	117
94	294	272	101.3	288	280
94.3	345	292	101.6	260	194
94.6	280	220	102.0	430	318
95	335	280	102.3	330	260
95.3	180	155	102.6	470	433
95.6	560	460	103.0	445	270
96.0	560	380	103.3	450	387
96.3	246	64	103.6	1050	886
96.6	219	124	104.0	630	580
97.0	730	538	104.3	470	692
97.3	5	3	104.6	750	588
97.6	3	3	105.0	167	91
98.0	6	6	105.3	280	162
98.3	12	7	105.6	440	325
98.6	3	3	106.0	350	279
99.0	79	24	106.3	75	64
99.3	350	182	106.6	550	409
99.6	175	69	107.0	186	68
100	540	300	107.3	35	31

107.6	3	2	116	0	0
108.0	50	31	117	0	0
108.3	0	0	118	0	0
108.6	7	5	119	10	5
109	16	12	120	18	7
109.3	1182	354	121	11	6
109.6	999	654	122	24	19
110	7	3	123	32	28
110.3	0	0	124	50	46
110.6	0	0	125	57	46
111	0	0	126	81	71
111.3	0	0	127	1	0
111.6	0	0	128	0	0
112	0	0	129	11	7
112.3	0	0	130	0	0
112.6	0	0	131	0	0
113.0	0	0	132	0	0
113.3	0	0	133	0	0
113.6	0	0	134	3	0
114.0	3	3	135	1	0
115	1	1	136	19	17

FCDH008

137	0	0	159	0	0
138	0	0	160	0	0
139	11	7	161	6	2
140	16	15	162	0	0
141	0	0	163	0	0
142	0	0	164	0	0
143	0	0	165	0	0
144	7	6	166	0	0
145	0	0	167	0	0
146	0	0	168	7	4
147	0	0	169	3	1
148	9	4	170	0	0
149	3	1	171	0	0
150	0	0	172	0	0
151	0	0	173	0	0
152	0	0	174	0	0
153	0	0	175	0	0
154	0	0	176	0	0
155	0	0	177	0	0
156	4	2	178	0	0
157	0	0	179	6	1
158	0	0	180	0	0

181	0	0
182	0	0
183	0	0
184	0	0
185	0	0
186	4	1
187	0	0
188	0	0
189	0	0
190	3	0
191	0	0
192	0	0

EOH

NB! low values returned to zero after instrument re-calibrated.

FRANCIS CREEK

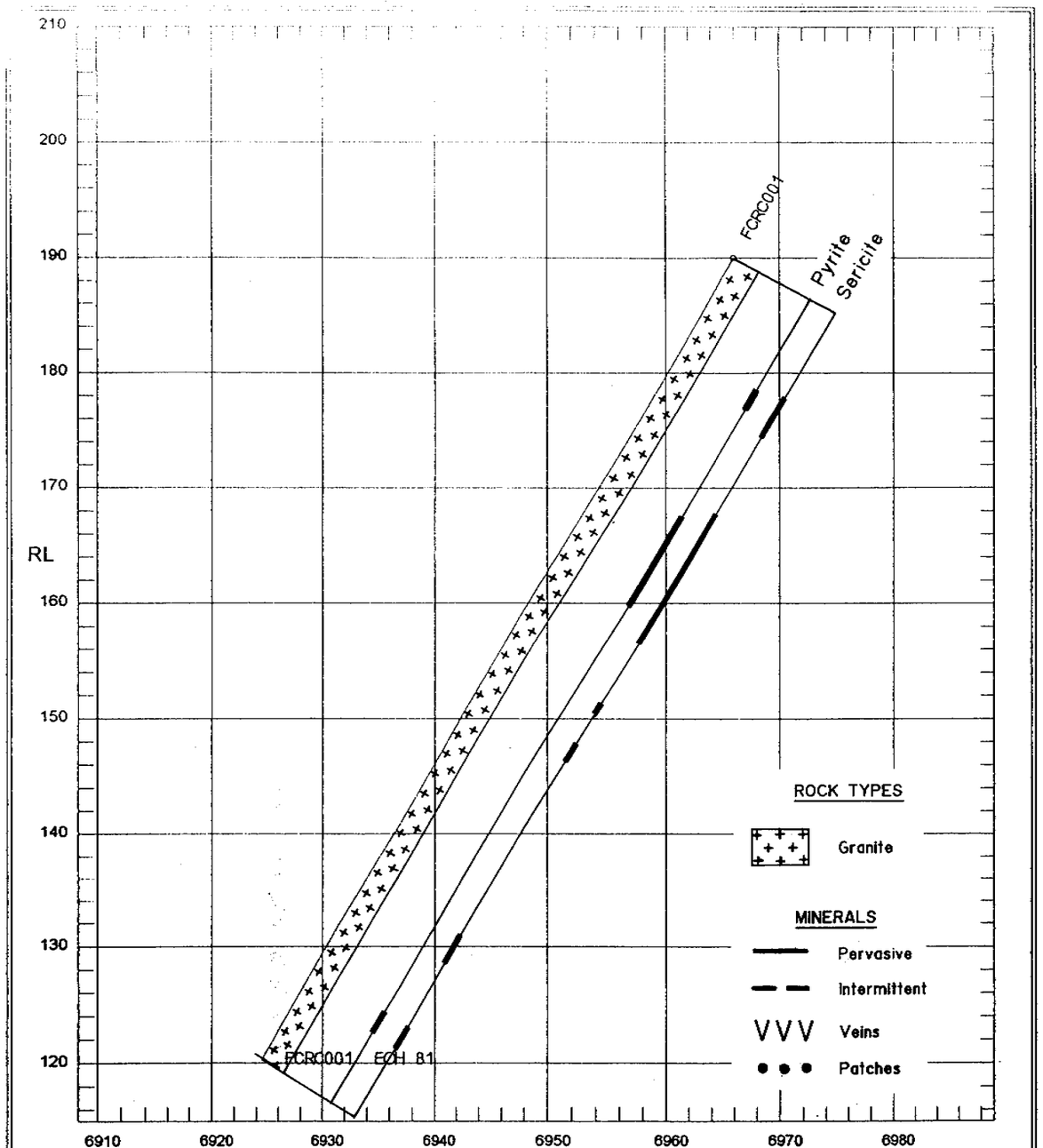
EL 8313 and 9625

1:5000 Scale Grid = AMG 358° N

Geological Mapping Fact Map

KL-A/SO 07/96

PLAN 1



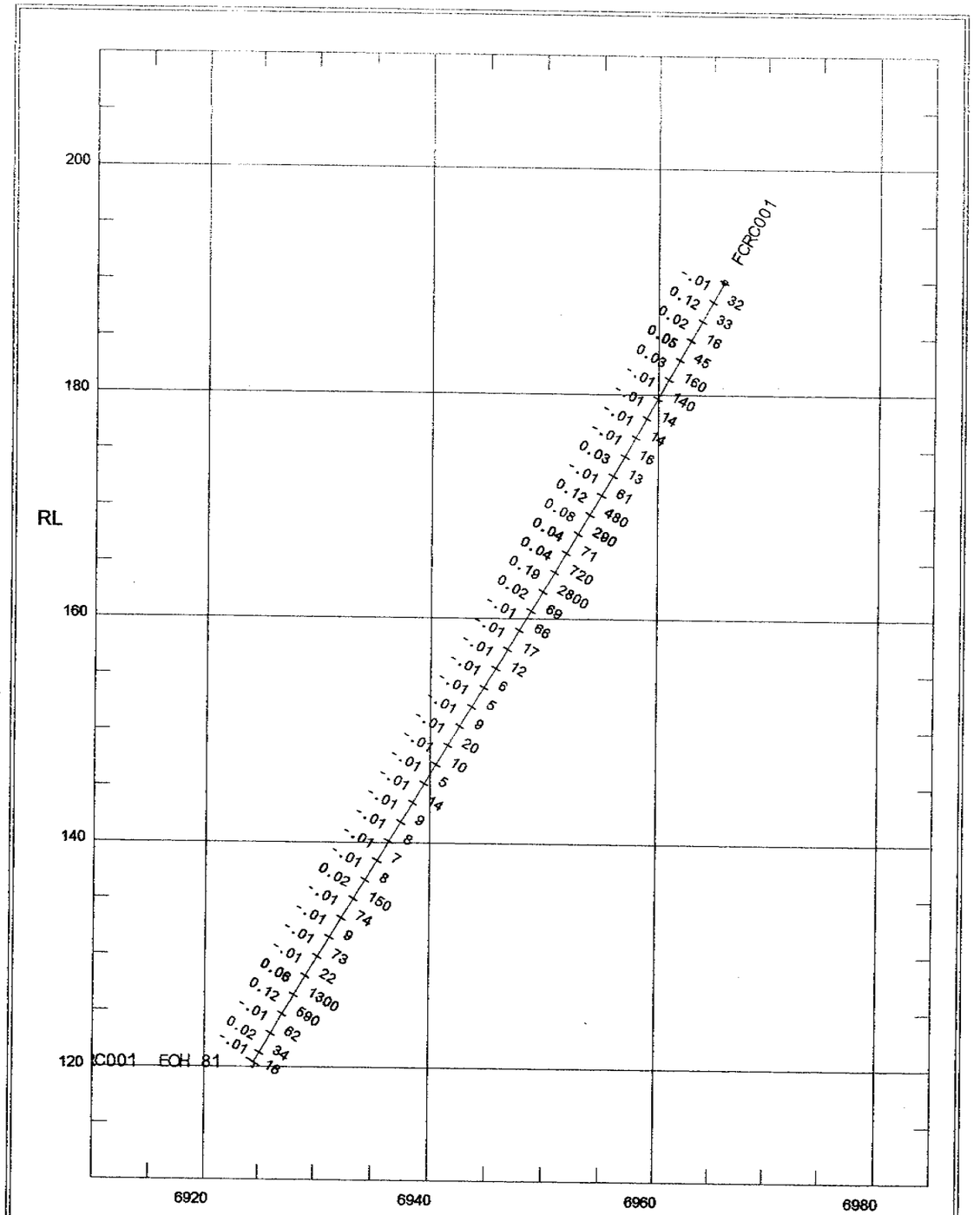
E

EXPLOREMIN PTY LTD

INTERDEX

Scale 1: 500

CLIENT: HOMESTAKE GOLD AUSTRALIA		
EL8313 FRANCES CK STH		
FCRC001 GEOLOGY		
91350N SECTION		
GEO: K. L-P	SCALE 1:500	REPORT:
DRAWN:	DATE : 30-10-1996	PLAN: 2A



E

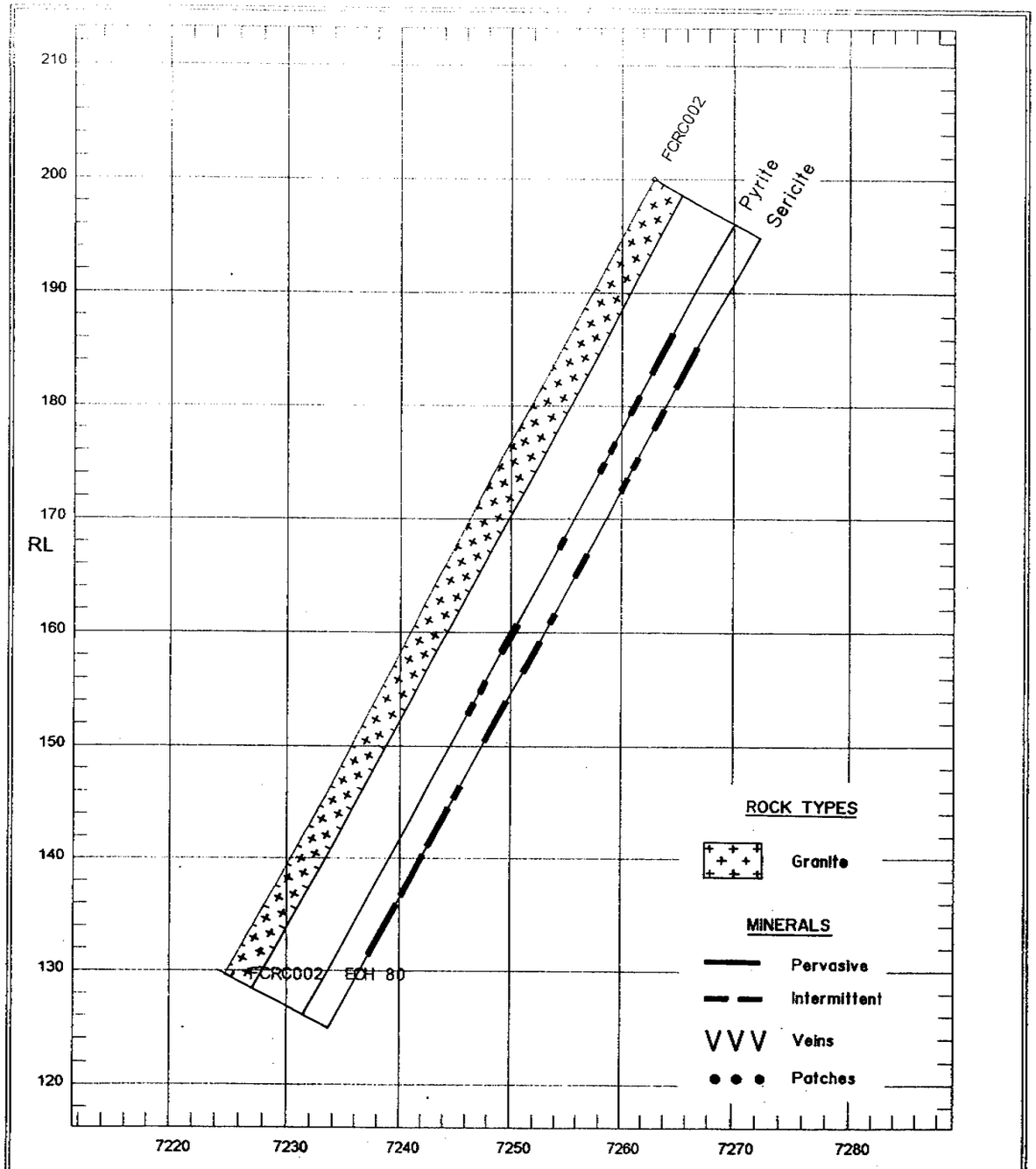
EXPLOREMIN PTY LTD

INTERDEX

DRILL HOLE LEGEND
LHS Posting : AU PPM
RHS Posting : AS PPM

Scale 1: 500

CLIENT: HOMESTAKE GOLD AUSTRALIA		
EL8313 FRANCES CK STH		
FCRC001 ASSAYS		
91350N SECTION		
GEO: JG	SCALE 1:500	REPORT:
DRAWN:	DATE : 05-11-1996	PLAN: 2B



EXPLOREMIN PTY LTD

INTERDEX

Scale 1: 500

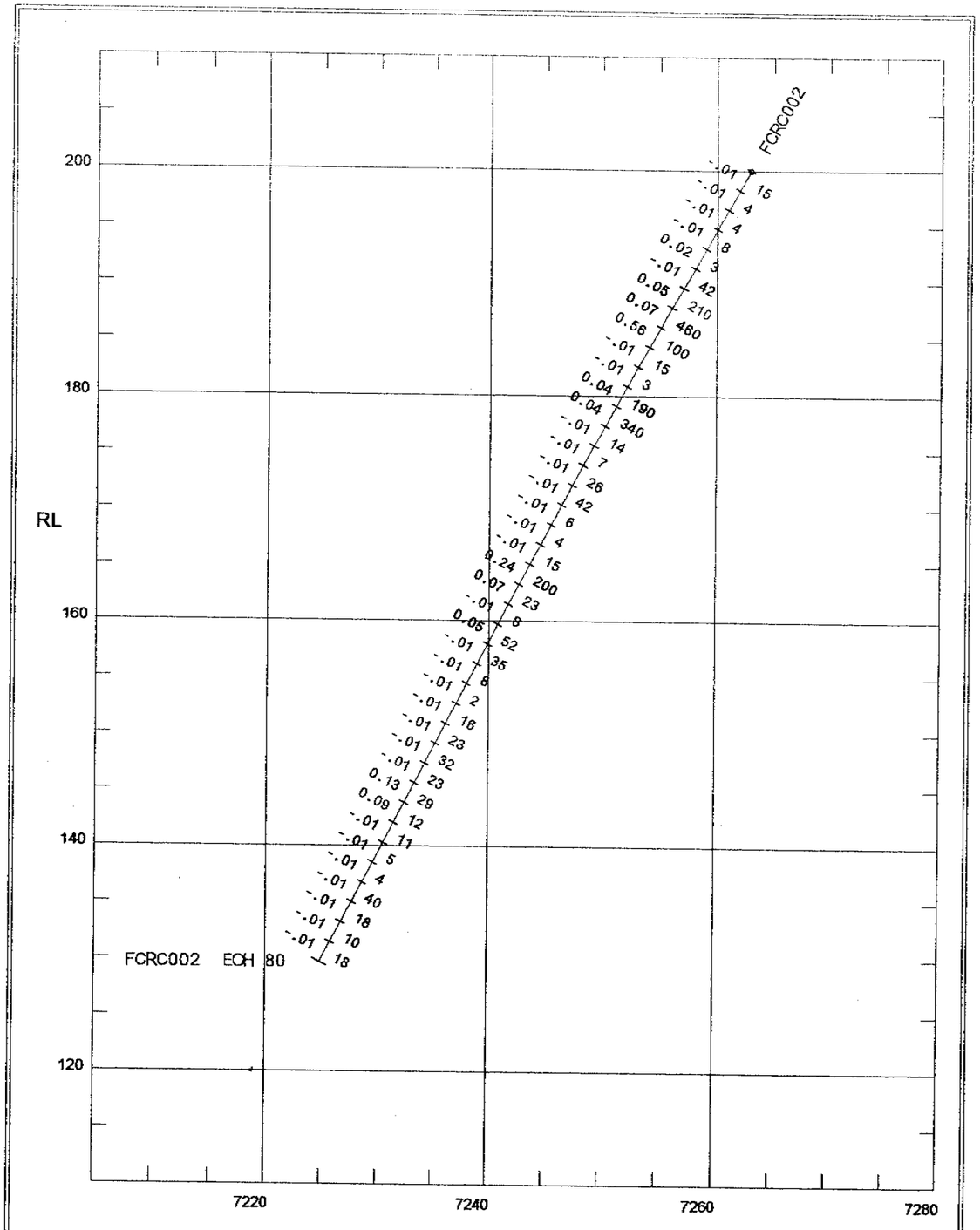
CLIENT: HOMESTAKE GOLD AUSTRALIA

EL8313 FRANCES CK STH

FCRC002 GEOLOGY

91720N SECTION

GEO: K. L-P	SCALE 1:500	REPORT:
DRAWN:	DATE : 30-10-1998	PLAN: 3A



EXPLOREMIN PTY LTD

INTERDEX

DRILL HOLE LEGEND
LHS Posting : AU PPM
RHS Posting : AS PPM

Scale 1: 500

CLIENT: HOMESTAKE GOLD AUSTRALIA

EL8313 FRANCES CK STH

FCRC002 ASSAYS

91720N SECTION

GEO: JG	SCALE 1:500	REPORT:
DRAWN:	DATE : 05-11-1996	PLAN: 3B

RL

7850 7900 7950 8000

250 200 150 100 50

Andalusite
Cordierite
Carbon
Pyrrhotite
Pyrite

FCDH008

Grey to black graphitic mudstone with abundant coarse chiastolites.

Weathered grey siltstone.

Black graphitic mudstone.
Grey siltstone.
White coarse sandstone.

Partially weathered grey siltstone.

50 RC Pre-collar

Grey mudstone with light grey siltstone beds common. Abundant cordierite spotting and some small poorly formed chiastolites. Pyrite occurs throughout and pyrrhotite in discrete zones.

Pink partially altered granite.

Black weakly graphitic mudstone with abundant Andalusite and pyrrhotite in discrete beds.

Pink Granite.

Black graphitic mudstone with abundant andalusite and pyrrhotite in discrete beds to 30cm thick.

100 Granite with some pale green sericite.

A black mildly graphitic mudstone with occasional grey siltstone beds. Cordierite and andalusite are common. Pyrrhotite occurs in discrete beds and pyrite as thin veins and patches.

150

A white-grey Marble with abundant skyolites and minor small patches of pyrite.

ROCK TYPES

- Mudstone
- Siltstone
- Sandstone
- Limestone/Marble
- Granite

MINERALS

- Pervasive
- Intermittent
- VVV Veins
- • • Patches
- So to Core Axis

E

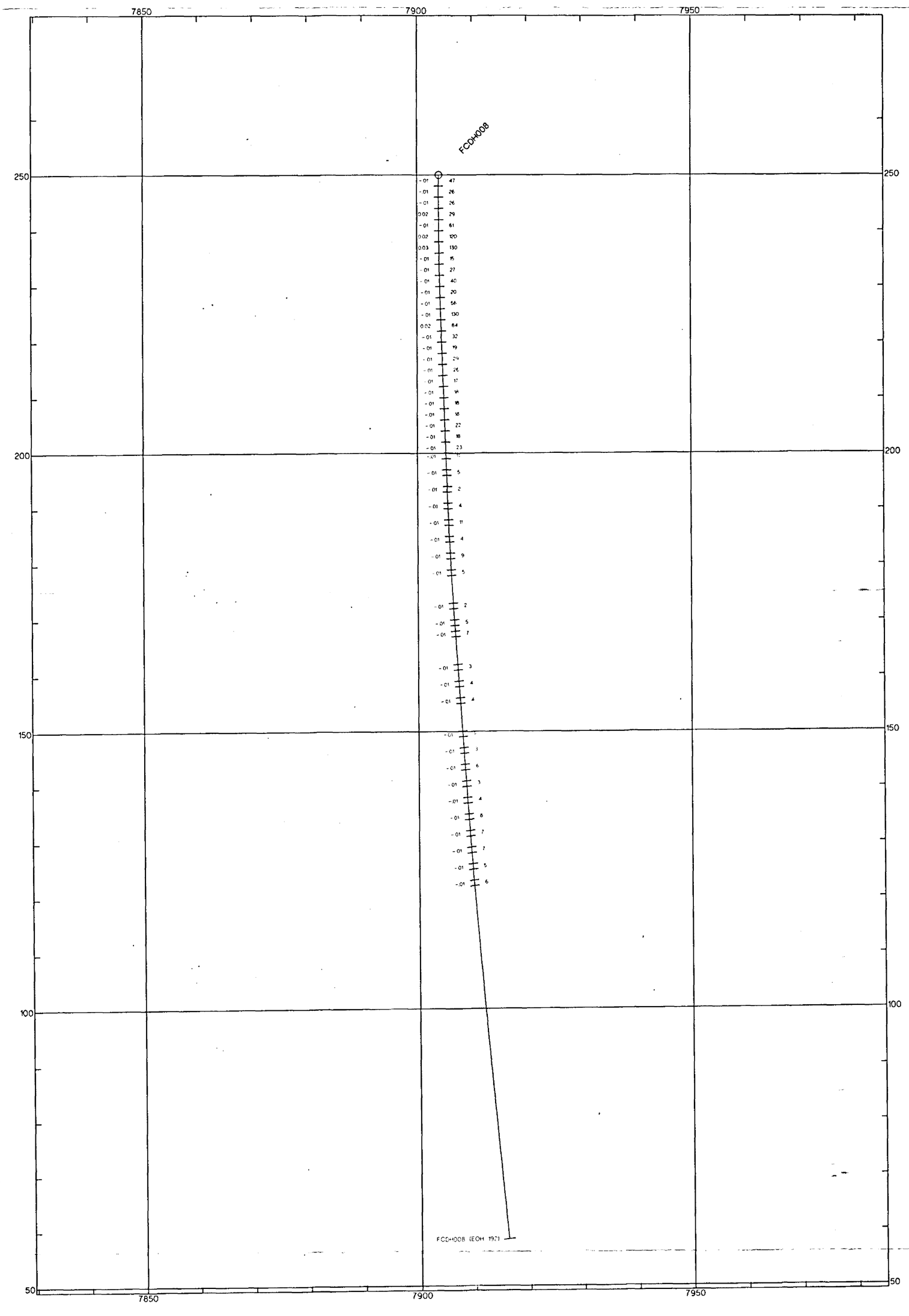
HK 079 924

EXPLOREMIN PTY LTD

INTERDEX

Scale 1:500

CLIENT: HOMESTAKE GOLD AUSTRALIA		
EL8313 FRANCES CK STH FCDH008 GEOLOGY 92400 SECTION		
GEO: K. L-P	SCALE 1:500	REPORT:
DRAWN:	DATE : 30-10-1996	PLAN: 4



RL

E

EXPLOREMIN PTY LTD

INTERDEX

Scale 1:500

DRILL HOLE LEGEND

LHS Posting : AU PPM

RHS Posting : AS PPM

CLIENT: HOMESTAKE GOLD AUSTRALIA

EL8313 FRANCES CREEK

FCHD008 ASSAY PROFILE

LHS Au ppm RHS As ppm

GEO: JG	SCALE 1:500	REPORT:
DRAWN:	DATE : 18-11-1996	PLAN: 5