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Comstock Conceptual Mine Plan
Zeehan, West Coast, Tasmania

Z13050/1.AE
January 2000



Z13050/1.AE Wayne Trenning

January 2000
Oceania Pty Ltd
Level 3 65 Murray St
HOBART TASMANIA 7000

Attention: Mr David Tanner

Dear Sir,

RE: Comstock Conceptual Mine Plan

This letter presents our report on a draft Conceptual Mine Plan proposed for the Comstock Mine at Zeehan, on the West Coast of Tasmania.

If you have any questions related to this report or we can be of further assistance, please do not hesitate to contact the undersigned.

For and on behalf of

COFFEY GEOSCIENCES PTY LTD


DAN O'TOOLE

ASSOCIATE ENGINEER


WAYNE TRENNING

SENIOR ENGINEER



Coffey

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1. INTRODUCTION

At the request of Mr Dave Tanner of Oceania Pty Ltd (Oceania) Coffey Geosciences Pty Ltd (Coffey) were asked to provide a Conceptual Mine Plan (CMP) for the Comstock Mine site near Zeehan on the West Coast of Tasmania. The CMP is an addition to the Development Proposal and Environmental Management Plan (DPEMP) produced by SEMF Holdings Pty Ltd (SEMF).

The aim of this CMP is to be a valuable addition to the SEMF DPEMP and to help facilitate environmental approval for the proposed expanded mining operation and processing plant at Comstock. The level of engineering within the CMP is limited to that required to prepare the DPEMP at a conceptual level. That is, a level whereby notional or indicative assessments may be made, and used as inputs to any risk assessment or management planning that may take place. The CMP does not provide assessments or recommendations at the definitive feasibility level.

The scope of the CMP as outlined in Coffey's proposal Z13050/1.AA dated 8-11-2000 contained the following:

- Comprehensive data review and collation of historical data to identify useful information
- Identification of potential areas of mining
- An estimate of waste volumes generated by implementation of the mine plan
- Conceptual mine location and design
- Conceptual waste dump location and design
- Assessment of pit backfill options

2. DATA REVIEW AND COLLATION

Coffey considered that this task was important for the overall completion of the CMP. Significant time was spent both at Coffey's Hobart office and the Oceania Hobart office by staff of both companies in an attempt to collect and collate as much data as possible. The objectives of this exercise were:

- To create a well understood data resource for current and future reference
- To minimise risk by ensuring that any recommendations and conclusions were based on documented results and/or assumptions

A list of the documents collected as a base for the CMP is shown below in Table 1. In addition to this list was an electronic database of drill-holes supplied by Western Metals. Summary details of the database are shown in Appendix 1.



Table 1 – Data Collated and Collected for CMP by Coffey from Oceania

AUTHOR	MEDIA	TITLE
Western Metals	Report	Comstock Project Final Report, January 2000, Volume 1 of 2
Western Metals	Report	Comstock Ground EM/Downhole EM Interpretation Report
Western Metals	Report	Comstock Project Final Report, January 2000, Volume 2 of 2
Western Metals	CD	Comstock (Zeehan) Project Final Report
TG Summons	Report	Ag-Pb-Zn Mineralisation, The Comstock Group of Veins
JM Knight	Report	Comstock Silver-Lead-Zinc Prospect November 1997
AH Blissett	Report	Geological Survey Explanatory Report 1962
Parry Kostoglou	Report	A Selective Archaeological Survey of the Comstock Mine Lease
Paul Heath	Report	Comstock Silver Lead Zinc Mine, Ore Assay Report, Allison's Lode
Findlay & Brown	Report	The 10th Legion Thrust, Zeehan District: Distribution, Interpretation and Regional and Economic Significance
Simon Tear	Report	Aspects of the Mineral Lodes on the Comstock Prospect, Zeehan. Zeehan Zinc Drill Holes SY021 & SY022
RGC Exploration	Report	A Summary Review of the Zeehan (Sylvester) Project
Western Metals	Map	Property Evaluation Comstock Project, Bass Resources & Western Metals, Drill Holes
RGC Exploration	Map	Sylvester Grid EL 42/87, Geological Interpretation
RGC Exploration	Map	Zeehan Project EL 42/87, Mineralisation in the Comstock -Tenth Legion Area
Zeehan Zinc	Diagram	Comstock Mine, Allison's Decline, Typical Section, Scale 1:200

3. GEOLOGICAL MODELS AND POTENTIAL AREAS OF MINING

3.1 Allison's Lode

Coffey had previously constructed a conceptual model for the potential down dip mineralisation envelope in the Allison's Lode Decline. This was the basis of the model constructed for the Allison's Lode portion of the CMP, and in particular the inferred continuation of the Allison's Lode mineralisation north to the Balstrup Fault.

Coffey constructed an extended mineralised envelope truncated by the Balstrup Fault in the north, and truncated at depth at 264 RL. These constraints were based on a geological assessment provided by Behre Dolbear (Ref.1). The volume of the mineralised envelope contained within an extended pit and constrained as above is approximately 33,000 m³. Assuming an SG of 3.81 (Ref.2) the tonnage available in the Allison's Lode mineralised envelope, excluding tonnage already excavated, is approximately 125,000t. This figure assumes that the decline/pit geometry parameters remain constant as outlined (Ref. 2) as mining progresses north. Plans and diagrams showing this assumed mineralised extent are included as Figures 2 - 3.



3.2 Balstrup Fault

3.2.1 Surface Model

Coffey have developed a conceptual model for possible Balstrup Fault mineralisation that may be accessible using surface mining techniques as shown in Figures 4. The model assumes that mineralisation along the Balstrup Faults will be present for the extent of the fault at a nominal width 1-15m. Coffey have assumed this to be the case, but make no judgement as to the real continuity, or depth or width extent, of available mineralisation. Assuming that mineralisation is available to 264mRL, Coffey have developed a conceptual model of the Comstock Lode with the characteristics shown in Table 2.

Table 2 –Parameters for Conceptual Balstrup Fault Surface Model

Strike Length	Dip	Dip Direction	Width	Depth
370m	70°	010°	1-15m	264mRL

3.2.2 Underground Model

The underground geological model for the Balstrup fault was developed after interrogation of the database provided. The database contained data for 20 diamond drill holes, most of which had as their target some portion of the Balstrup Fault. Interrogation of the data showed that holes drilled at a later date than others, and designed to test continuity of mineralisation along the fault, had in some cases shown that the mineralisation was not continuous along strike. Coffey's conceptual model chose that area of the inferred mineralised zones that was continuous along strike and bounded and intersected by zinc intersections downhole.

A plan view of the diamond drill holes is shown in Figure 5. The underground geological model for the Balstrup Fault has a strike length of approximately 600m, from 357200E to 357800, and a dip and dip direction of 70°/015°. The model is interpreted to extend from approximately 200m RL to -100m RL. This describes mineralisation that begins approximately 100m below ground surface. The drill holes that delineate the extent of the modelled volume are shown in Fig 6.

The surface representing the mineralised fault zone is interpreted to be approximately 3m wide (true width) and has a planar surface area of approximately 195,000m². The volume of the mineralised zone for the geological model is therefore approximately 585,000m³. Assuming an SG of 3.81, the Balstrup Fault underground conceptual model represents some 2,220,000 tonnes of mineralised material. Coffey base the above figures on data and assumptions supplied by Oceania and other third parties. The estimates above do not represent a Resource or a Reserve as defined by the Australasian Code for Reporting of Identified Mineral Resources and Ore Reserves (The JORC Code).

3.3 Comstock Lode

The Comstock Lode is undefined by the drill-hole data supplied by Oceania. However historical and anecdotal evidence indicates that there may be mineralisation available for surface mining along the strike of this lode. Coffey have assumed this to be the case, but make no judgement as to the real continuity, or depth or width extent, of available mineralisation. Assuming that mineralisation is available to 264 RL, Coffey have developed a geological model of the Comstock Lode with the characteristics shown in Table 3.



Table 3 –Parameters for Comstock Lode Conceptual Surface Model

Strike Length	Dip	Dip Direction	Width	Depth
350m	70°	010°	1-15m	264RL

4. SURFACE WASTE VOLUME ESTIMATES

4.1 Allison's Lode

The surface and spatial data available for the Allison's Lode mining area is detailed enough to allow for nominal estimates of waste to be calculated, based on the following assumptions:

- Mineralisation is continuous as modelled to the Balstrup fault in the north
- Overall pit slope is 50 degrees
- The natural surface is as provided by Northern Survey Services (16-11-2000)

Using these assumptions the volume of waste excavated to access Allison's Lode mineralisation can be calculated by subtracting the volume of the mineralisation envelope in the pit model from the volume of the planned pit as constrained by the current mining surface. Waste and mineralised volume estimates are shown in Tables 4-5.

4.2 Balstrup Fault

4.2.1 Surface Model

The geological model adopted for mineralisation calculations for the Balstrup Fault assumes that

- the fault is continuously mineralised along its lateral extent and to a depth of 264RL
- the fault has a constant thickness of unknown dimension
- the lode thickness is 15m as asserted by Oceania

4.2.2 Underground Model

Mining the underground mineralisation on the Balstrup Fault would generate a volume of waste approximately equal to the volume of the mineralised envelope plus swell and some mining dilution minus a figure accounting for mining recovery. A nominal volume can be calculated using the parameters below:

- Mining Recovery is 80%
- Mining Dilution is 20%
- Swell is 30%

(Volume of Mineralisation *Recovery + Mining Dilution) *Swell

$$= (585000*0.8+585000*0.2)*1.3 = 760,500 \text{ m}^3$$



4.3 Comstock Lode

The geological model adopted for mineralisation calculations for the Comstock Lode assumes that

- the lode is continuously mineralised along its lateral extent and to a depth of 264mRL
- the lode has a constant thickness of unknown dimension
- the lode thickness is 15m as asserted by Oceania

Table 4 – Estimates of Waste Volumes for Surface Excavations (m³)

Excavation Volumes	Stage 1	Stage 2	Stage 3	Stage 4	Total
	244763	597875	216777	379495	1438910

Table 5 – Estimates of Mineralised Volumes for Surface Excavations (Tonnes)

Mineralised Width	Stage 1	Stage 2	Stage 3	Stage 4	Total
15.0	126991	855478	469544	694087	2146101

33w 222w 122w 180w 557w = 10.7 years

Table 6 – Estimated Stripping Ratios for Surface Excavations (m³/t)

Mineralised Width	Stage 1	Stage 2	Stage 3	Stage 4	Total
15.0	1.66	0.70	0.46	0.55	0.67

5. CONCEPTUAL MINE LOCATION AND DESIGN

Coffey have developed a conceptual mine plan based on the parameters above. The plan calls for mining

- Allison's Lode (surface),
- Balstrup Fault (surface),
- Comstock Lode (surface)
- and the Balstrup Fault (underground) if necessary.

Figures 7-10 show the overall mine plan developed using the mining geometry parameters already quoted. Table 7 shows the conceptual design parameters used in the pit designs.



- Conduct in-fill drilling on the Allison's Lode to confirm the northern and depth extents of the mineralisation
- Conduct costeaning on the Balstrup Faults in an attempt to identify potential mineralised zones amenable to surface mining
- Conduct in-fill drilling on the Comstock Lode to confirm the lateral and depth extents of the mineralisation

In providing this Conceptual Mine Plan, Coffey make no judgement as to the existence or otherwise of mineralisation at the Comstock site. Tonnages and volumes have been calculated on a purely notional basis, assuming continuity of sparsely located data over large areas. These areas may not in fact be zones of continuous mineralisation, and are represented here as such for the purpose of conceptualising possible approaches to mining at the site.

We trust that this report fulfils your current requirements. Should you have any queries regarding the information contained in this report, please do not hesitate to contact the undersigned.

For and on behalf of

COFFEY GEOSCIENCES PTY LTD

DAN O'TOOLE

ASSOCIATE ENGINEER

WAYNE TRENNING

SENIOR ENGINEER

ENC: IMPORTANT INFORMATION ABOUT YOUR COFFEY REPORT. (2 PAGES)

REFERENCES

1

Simon Tear, Aspects of the Mineral Lodes on the Comstock Prospect, Zeehan, West Tasmania, June 2000

2

Coffey Geosciences, Allison's Pit Decline, June 2000

ACN 066 335 516

Geotechnical | **Resources** | Environmental | Technical | Project Management

LOCATION PLAN
Zeehan Township
West Coast, Tasmania

LOCATION PLAN
Zeehan Township
West Coast, Tasmania

FIGURE 1

job no: Z13050/1

figure2a.pf

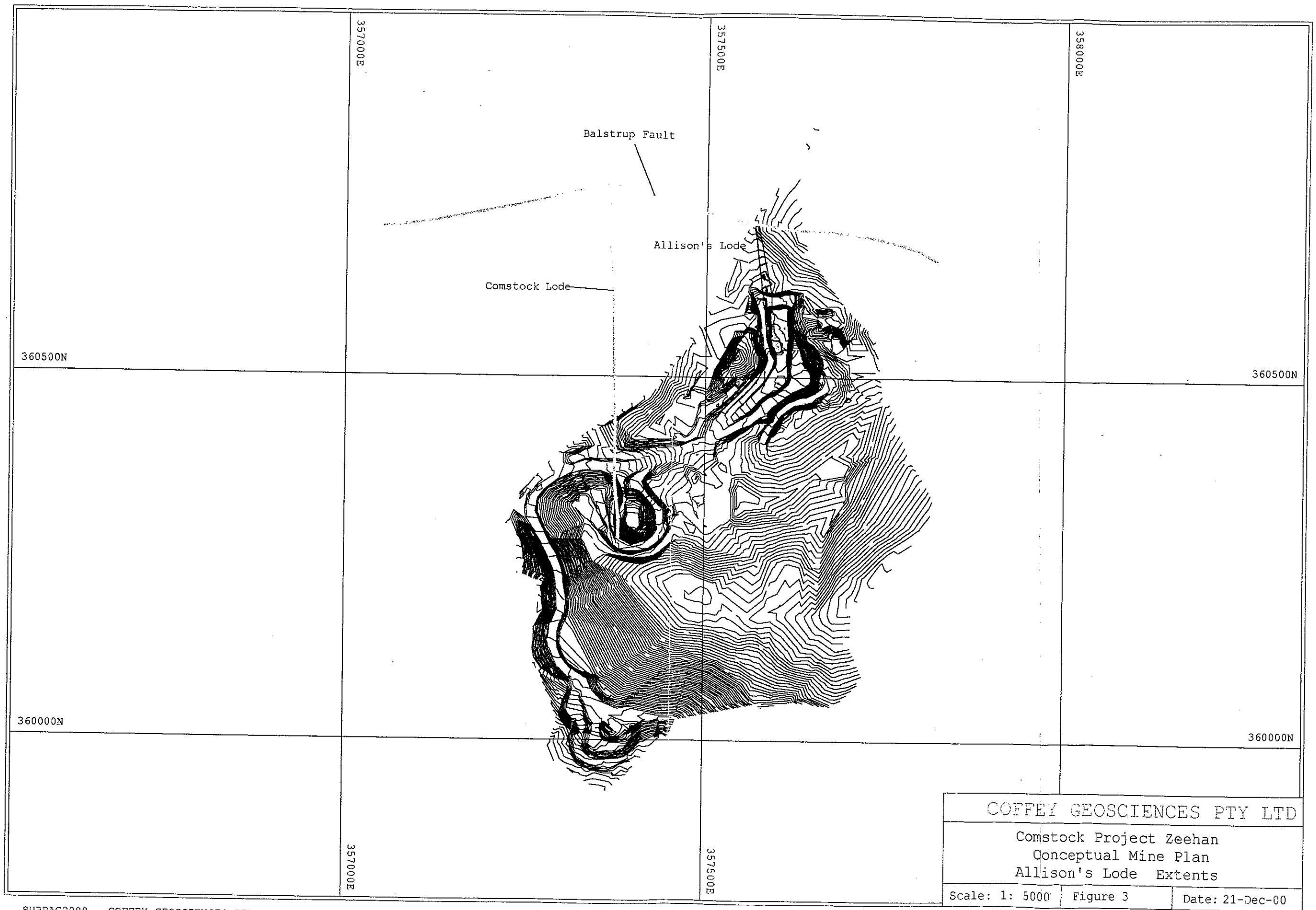
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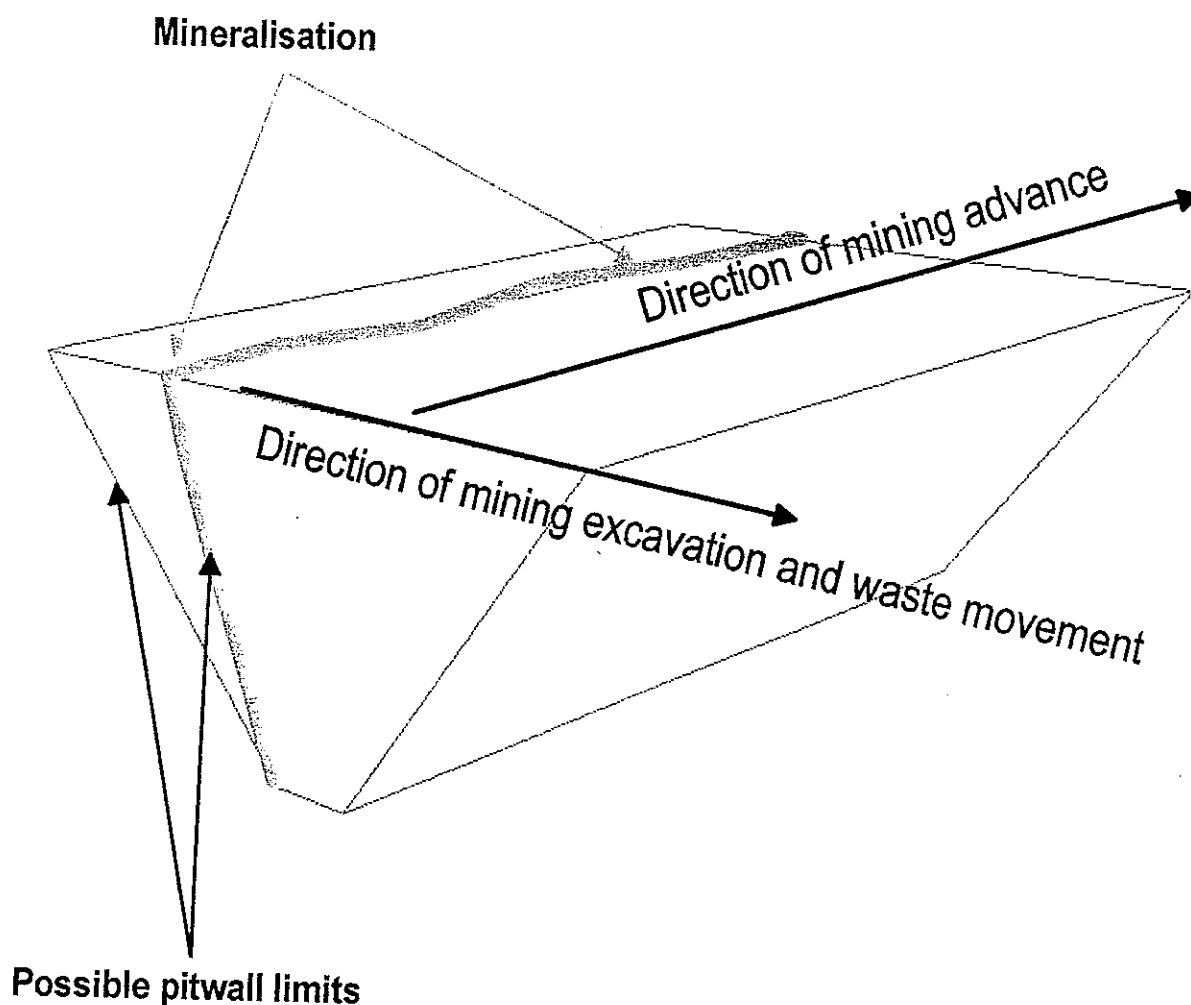


figure3b.pf

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Approved	WRT
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Scale	NTS

Comstock Conceptual Mine Plan
Mining Method

FIGURE 4

job no: Z13050/1



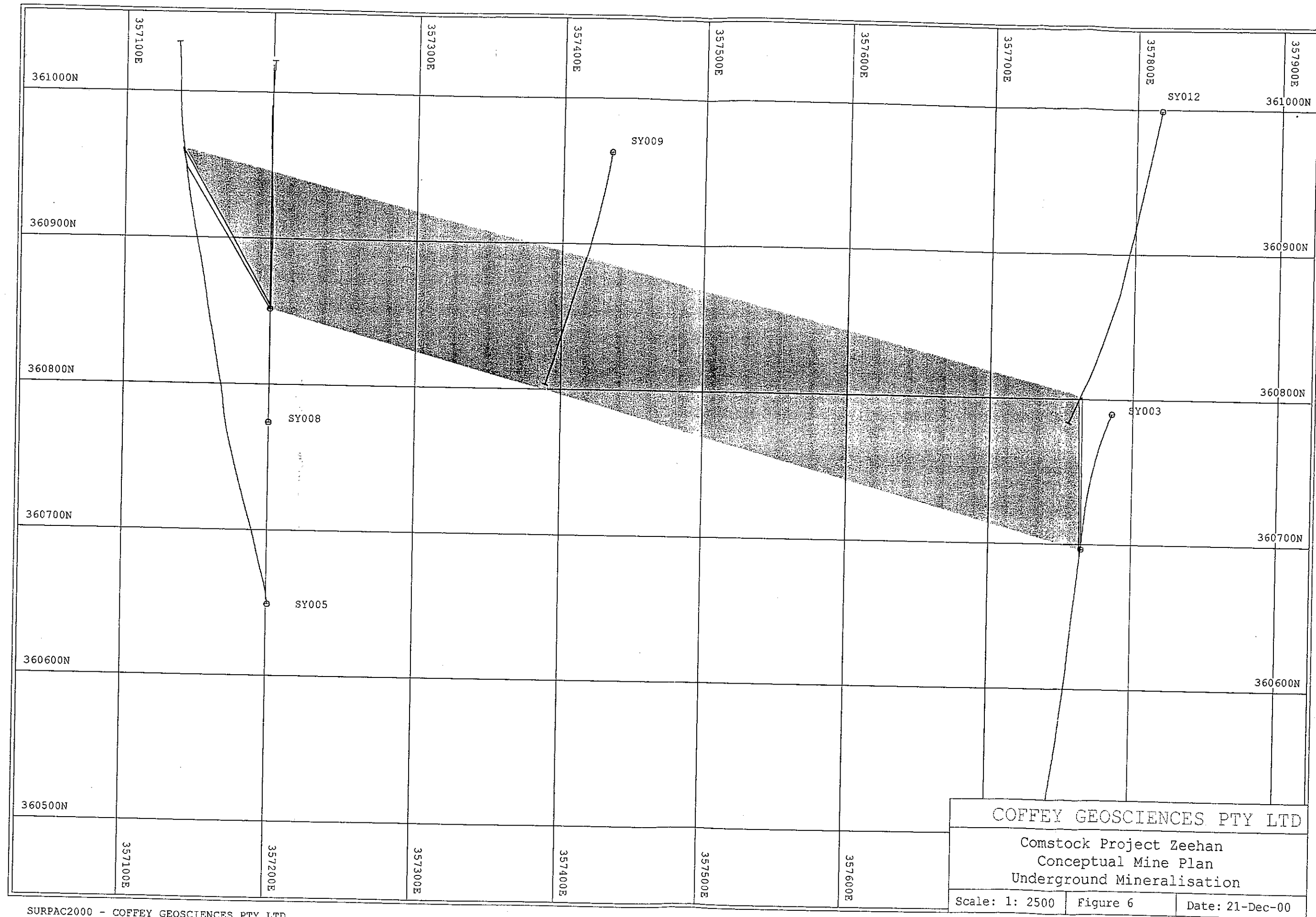
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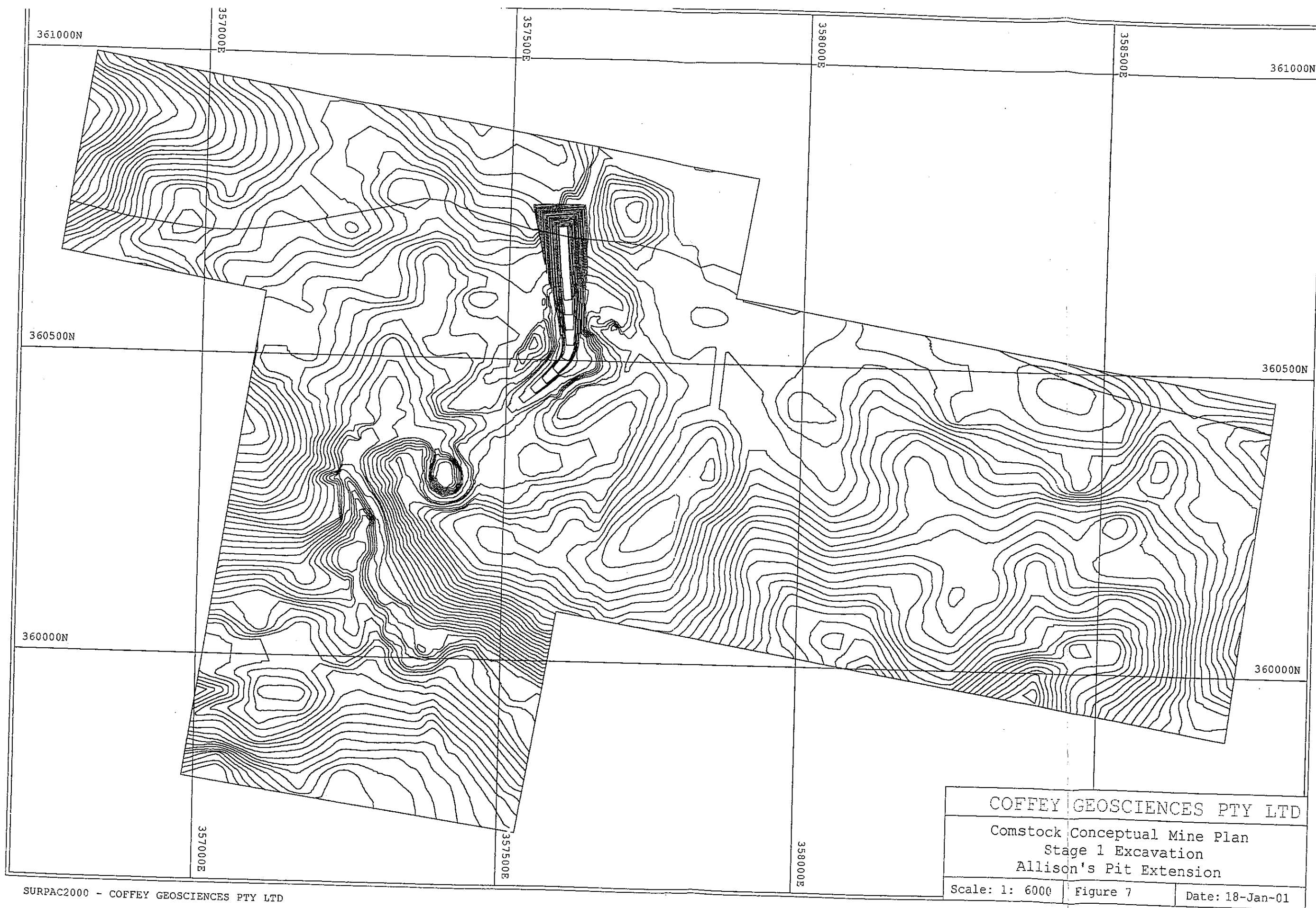
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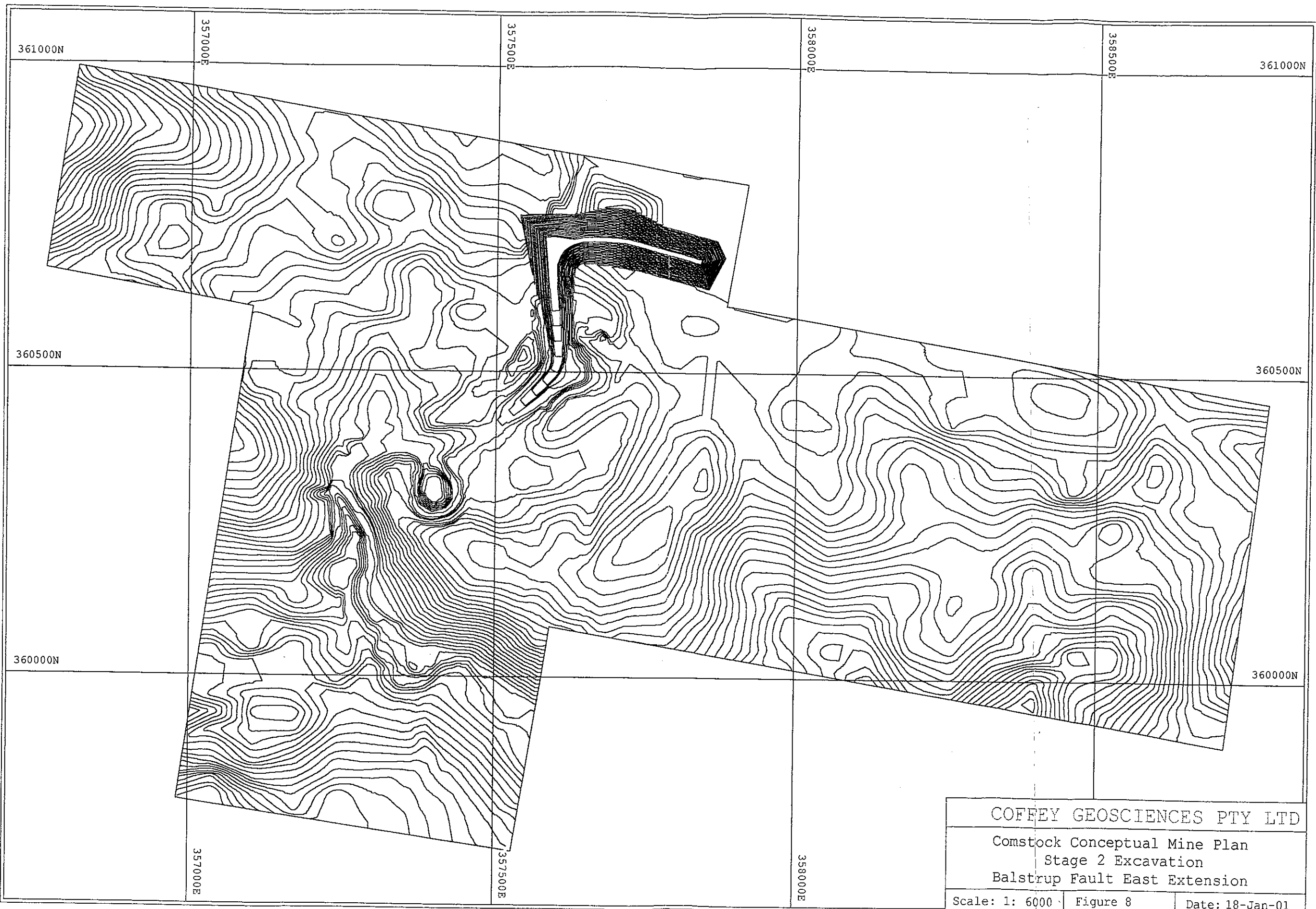


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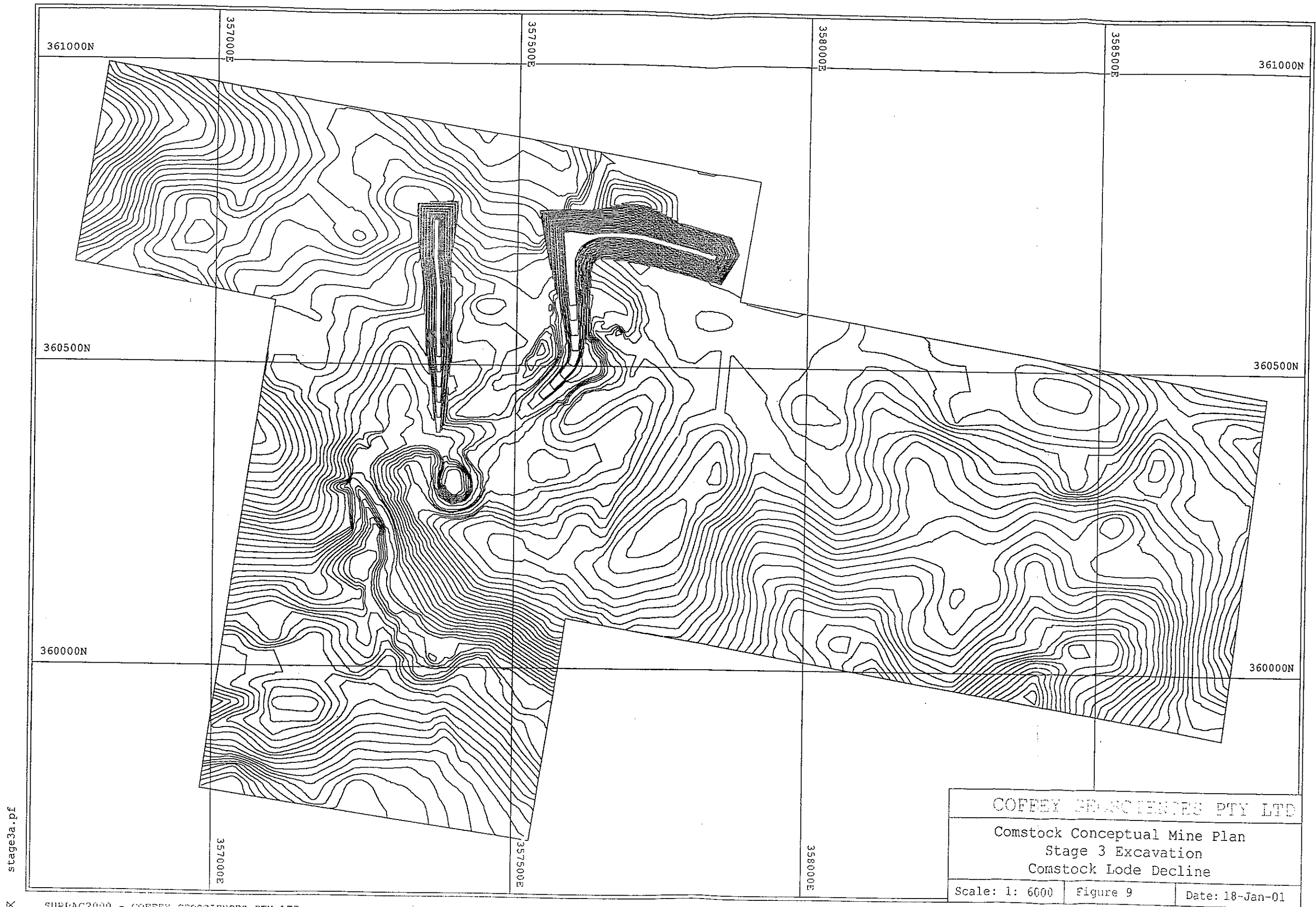
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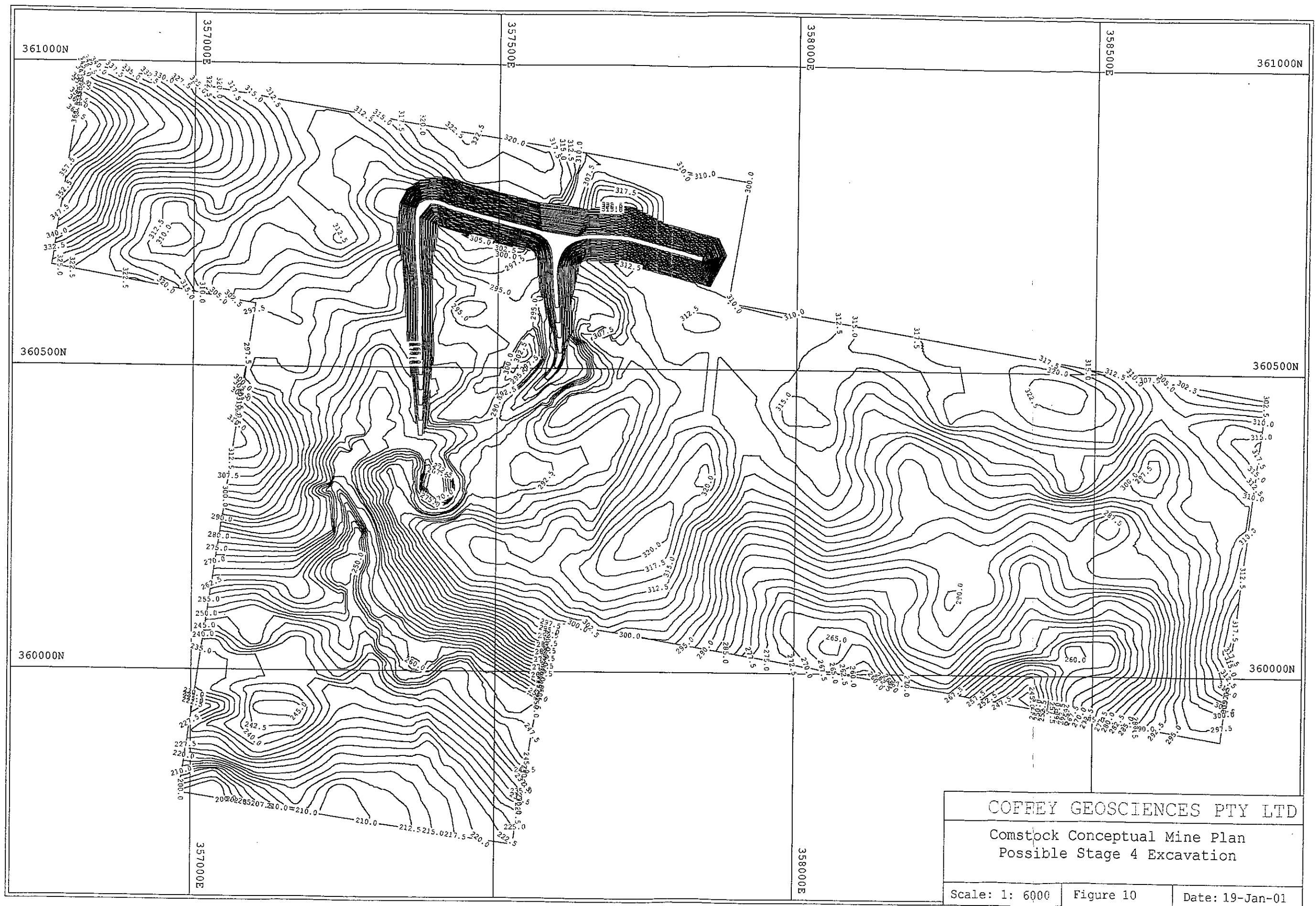
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stage4b.pf

figure1b.pf

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