

OCEANIA TASMANIA PTY LTD  
Mine Design Report – Allison's Pit  
Comstock Mine, Zeehan – West Tasmania

HZ00017/01-AD  
November 2005



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November 2005

OCEANIA Tasmania Pty Ltd  
Level 3, 65 Murray Street  
Hobart Tasmania 7000

Attention: Mr Paul Heath

Dear Sir,

**RE: Allison's Revised Pit Design, Nov 2005**

This document presents our report for the above project carried out at the Comstock Mine, Trial-Harbour Road Zeehan and describes the findings of a pit redesign by Coffey Geosciences Pty Ltd (Coffey) based on a resource update produced by SMG Consultants (SMG). If you have any queries relating to this report please do not hesitate to contact the undersigned.

**For and on behalf of**  
**COFFEY GEOSCIENCES PTY LTD**

**IAN REEVES**  
**STATE MANAGER (TAS)**



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## 1. INTRODUCTION

Coffey Geosciences Pty Ltd (Coffey) was commissioned in November 2005, by Mr Paul Heath of Oceania Tasmania Pty Ltd (Oceania) to conduct a revision of a pit shell for reserve definition for the Allison's Lode as part of the Comstock Operations near Zeehan in Western Tasmania.

The work incorporates and utilises resource definition work recently completed by SMG whereby a geological block model and JORC compliant Resource Statement was prepared. The revised pit may form the basis of a JORC compliant ore reserve statement at some stage in the future once further studies and a technically achievable mine plan is prepared for reserve derivation. A review of the Resource Statement indicates the confidence and classification of the defined resource and a potential reserve.

Waste rock from the Allison's Pit will also be categorised in terms of Lithology as this relates to its Potential Acid Forming (PAF) characteristics. An estimate of tonnage and material type for both ore and waste from within the revised pit design shall also be tabulated.

It is proposed to outline the current Trial Harbour Road route in relation to the proposed pit and to delineate a possible diversion of the roadway around the north-west (NW) corner of the pit.

The reader should note the use of the word ore in this report does not imply Coffey have conducted an ore reserve estimate. The report presents information related to a potential open pit mine on the resource defined by SMG consulting. The open pit mine proposed by Coffey herein may ultimately be sufficient to include in an ore reserve estimate however the level of work undertaken at this stage by Coffey is insufficient for the generation of an ore reserve estimate from the SMG Resource Statement.

## 2. REVISED PIT DESIGN

Given SMG's block model data and digital solid models of the resource and associated lithology a new pit was designed along similar lines to that conducted in a review and design exercise by Coffey in early 2002. (report Z13095/01) SMG's digital JORC compliant resource model has allowed the design of an open pit more likely to reflect the mining outline required to generate an ore reserve estimate than was produced in earlier work. The following parameters were used to define the framework of the design.

- Maximum bench height of 12m
- Access Ramp grade of 10%
- Minimum berm with of 4m (at 283 and 293 mRL)
- Single width ramp at ~ 13m.
- Maximum batter slope of 65 deg (below 283 mRL)
- Minimum batter slope of 45 deg (above 283 mRL to surf. Int.)
- Pit base with ~20 m consistent with ore width and adequate working space requirements.
- Pit base at 271 mRL and maximum ramp elev. of approx 289 mRL.

Pit design was conducted using Surpac Vision 5.0m software mine design and block model modules.

A view of the current pit excavation and an interpretation of lithological boundaries are shown in Figure 2.1.

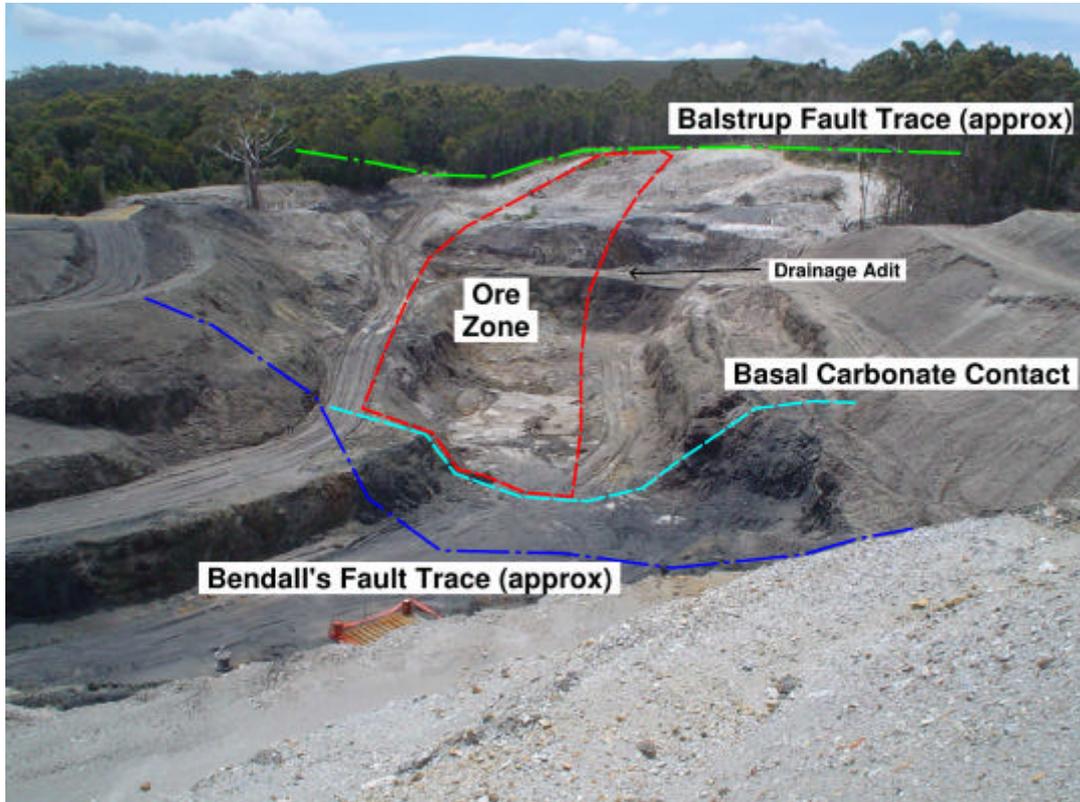


Figure 2.1 Allison's Open Pit (Looking North)

### 3. RESOURCE ESTIMATION

The block model *Comstockv3.mdl* as supplied by SMG contained a solid model of the mineralisation and associated DTM's of weathering and carbonate surface boundaries. The final pit design file *pitdes271\_v3.str* was intersected with the above model to report total pit volume, ore tonnage and waste volumes. An estimate of Zn%, Pb% and Ag (g/t) grades were also generated on 2m flitch's. Details of all lithology and ore tonnages by 2m elevation interval are shown in the Table 3.1.

Table 3.1 Allison's Pit Inventory and Ore Resource Tonnage

Elevation	TOTAL	Talc/ Dolomite		Phyllite		ORE		Zn	Pb	Ag	Avg. StripR
		Volume	Tonnes	Volume	Tonnes	Volume	Tonnes	%	%	g/t	(t/bcm)
299.0-301.0	4,688	4,688	9,564		-						
297.0-299.0	10,231	10,231	20,871		-						
295.0-297.0	12,800	12,800	26,112		-						
293.0-295.0	15,850	15,850	32,334		-						
291.0-293.0	13,619	13,272	27,075		-	347	1,145	2.56	0.92	23.8	0.09
289.0-291.0	12,500	11,500	23,460		-	1,000	3,300	5	1.28	28.5	0.29
287.0-289.0	12,509	10,775	21,981		-	1,734	5,723	5.68	1.43	30.2	0.53
285.0-287.0	13,663	11,338	23,130		-	2,325	7,673	5.55	1.52	30.8	0.68
283.0-285.0	13,400	10,775	21,981		-	2,625	8,663	5.48	1.53	30.4	0.80
281.0-283.0	10,269	7,335	14,963		-	2,934	9,683	5.55	1.53	30.9	1.32
279.0-281.0	9,306	6,012	12,264		-	3,294	10,869	5.04	1.25	24.4	1.81
277.0-279.0	9,744	5,797	11,826	34	92	3,913	12,911	4.76	1.03	20.1	2.21
275.0-277.0	10,813	5,675	11,577	138	374	5,000	16,500	5.13	1.08	22.8	2.84
273.0-275.0	8,925	3,237	6,603	2,025	5,488	3,663	12,086	4.51	1	21.3	2.30
271.0-273.0	7,753	3,312	6,756	2,719	7,368	1,722	5,682	3.6	0.81	17.4	0.94
269.0-271.0	3,681	1,668	3,403	1,475	3,997	538	1,774	2.58	0.58	13	0.56
<b>Grand Total</b>	<b>169,751</b>	<b>134,265</b>	<b>273,901</b>	<b>6,391</b>	<b>17,320</b>	<b>29,095</b>	<b>96,009</b>	<b>4.96</b>	<b>1.2</b>	<b>24.7</b>	<b>0.68</b>

#### 4. VISUALISATIONS

The following images depict views of the pit design and extracts of the block model showing modelled ore distribution and Zn% grade (Figures 4.1 and 4.2)

Figure 4.1 Ore Block Distribution (Looking East)

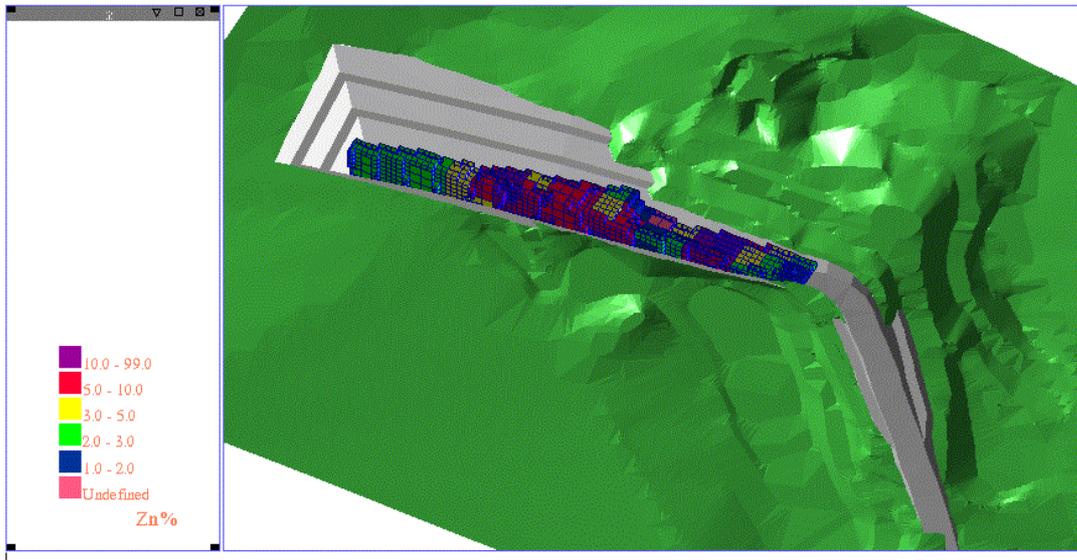


Figure 4.2 Ore Block Distribution (Looking West)

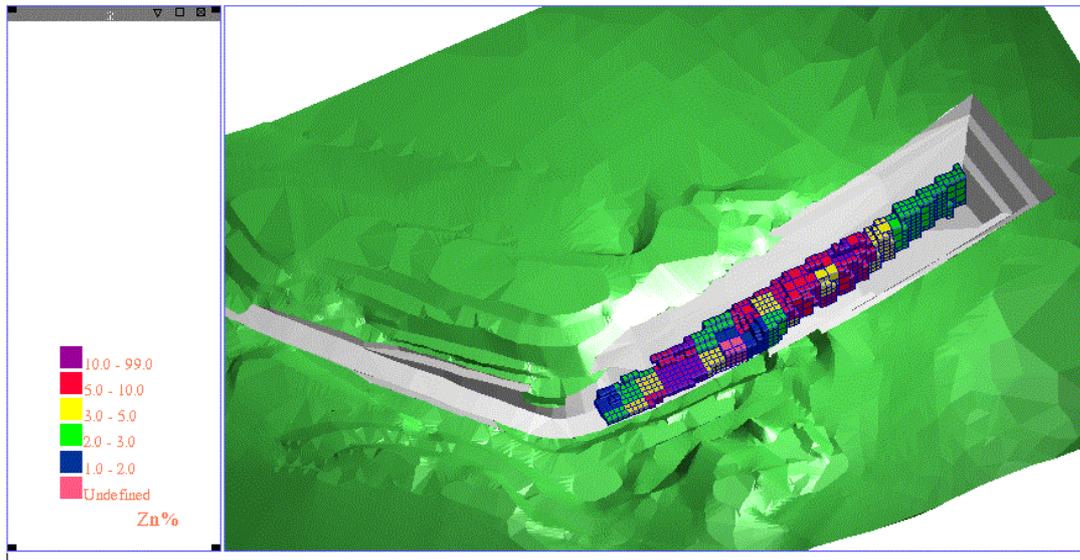


Figure 4.3 Total Material Ore/Waste Block Distribution (Looking North)

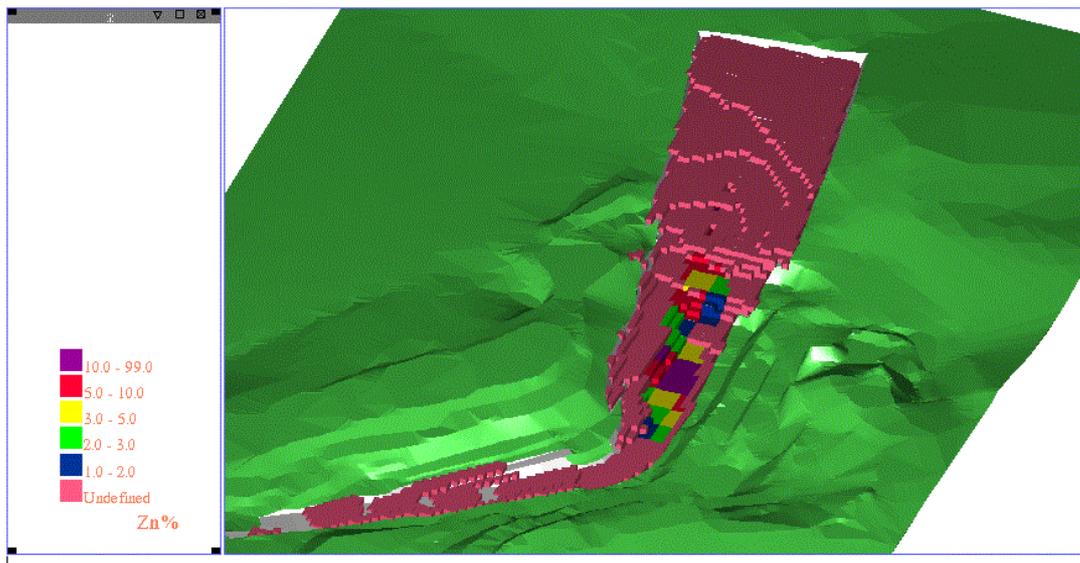
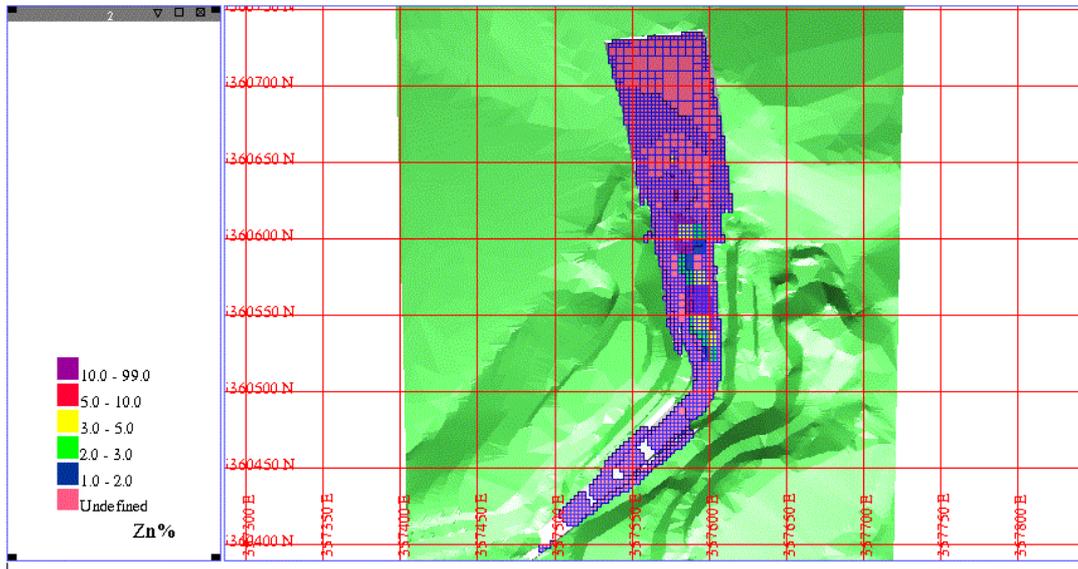


Figure 4.4 Total Material Ore/Waste Block Distribution (Plan View)



Appendix A contains Cross Sectional views of the open pit showing ore block outlines, weathered and carbonate (phyllite) boundary zones, post mined topography and the open pit design outline. The sections extend from 5360520 N to 5360700 N in 20m increments.

Views of the Allison's Open Pit design and its proximity to the site of the Trial-Harbour Road is also shown in Appendix A.

## 5. POTENTIAL ACID PRODUCTION

An estimate of phyllite waste material categorised as PAF (potentially acid forming) was also produced to show material below the talc-dolomite host rock. Independent testing of the acid producing potential of the talc-dolomite host rock outside the ore zone suggest either a Non-Acid forming (NAF) or uncertain potential is applicable as opposed to the ore zone and carbonate materials whereby a PAF classification is assigned. Given the relatively small volumes of phyllite (carbonate) material in relation to total waste (host rock) it is likely that an efficient encapsulation or containment program can be adopted to eliminate effects of acid leaching. It is probable the acid producing effects of sulphide within the ore will be treated as part of the processing and tailings management program. It is important to isolate potential carbonate rock mass production during both design and mining activities so that an effective management plan can be enacted to minimise impact. It would be prudent to continue modelling carbonate boundary location (through more drilling/sampling) and testing of non-carbonate host rock material to better classify and understand its NAF potential.

## **6. TRIAL-HARBOUR ROAD DIVERSION**

As shown in a plan view of the site, the current Trial Harbour Road running to the west of the project area will intersect the NW corner of the proposed pit. It is proposed to divert the road further to the west by approximately 30m from the closest pit crest, at the NW corner to allow a buffer for adequate fencing and stand-off provisions. The roadway will require a maximum translation of 85m from its current location. The diversion required will be approximately 360m in total length and reform the roadway to a width of 5m. It is unclear if services or other infrastructure will require relocation.

## **7. CONCLUSIONS**

Coffey Mining estimates that the revised Allison's pit contains approximately 96,000 tonnes of ore within the mineralised envelope. Future conversion into a JORC compliant Ore Reserve will require further validation of associated 'Modifying Factors' referred to in the JORC Code (2004). These factors typically include various mining, metallurgical, economic, marketing, legal, environmental, social and governmental considerations.

The revised Allison's Pit contains approximately 141,000 bcm of waste of which ~6,400 bcm (17kt) is classified as a PAF Phyllite material. This material will require some form of treatment or encapsulation during stockpiling to counter its PAF propensity. Details of its storage and handling are yet to be finalised.

The revised Allison's Pit does not give consideration to future mining sequences or potential at the Comstock Operations. To avoid delays in future mining, a review of the overall mining strategy is recommended which would also include an assessment of impacts from the revised Allison's pit operations.

**For and on behalf of**

**COFFEY GEOSCIENCES PTY LTD**

**IAN REEVES**

**STATE MANAGER (TAS)**

**References**

Allison's Pit Redesign Coffey Geosciences Z13095/01, March 2002

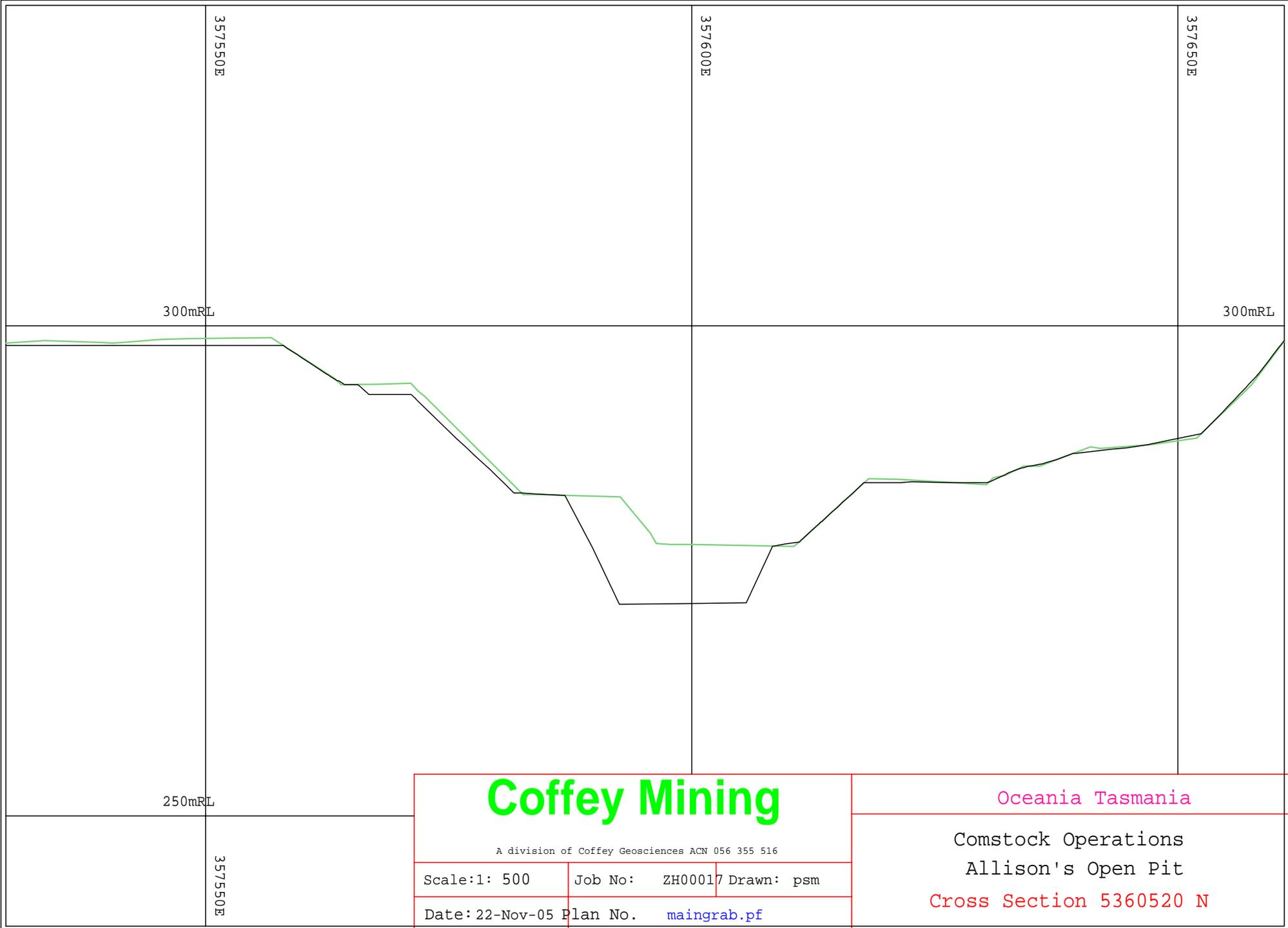
Block Model Report for the Allison's Lode, SMG Consultants, November 2005

Acid Mine Drainage Status.....Waste Rock Dump, Oceania Tasmania, December 2003

APPENDIX A

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maingrab.pf



# Coffey Mining

A division of Coffey Geosciences ACN 056 355 516

Scale: 1: 500

Job No: ZH00017

Drawn: psm

Date: 22-Nov-05

Plan No. [maingrab.pf](#)

Oceania Tasmania

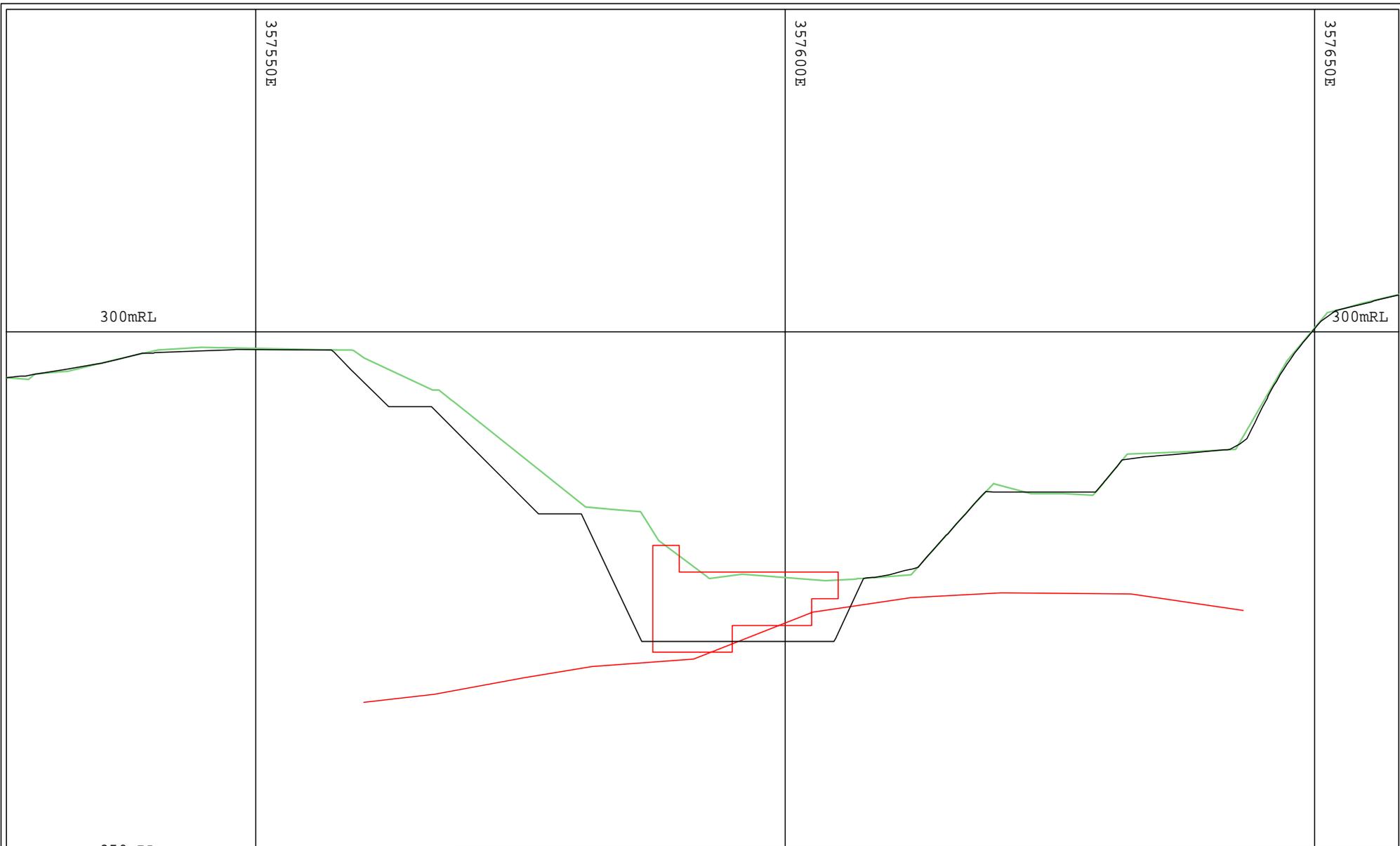
Comstock Operations

Allison's Open Pit

Cross Section 5360520 N

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mainprac.pf



# Coffey Mining

A division of Coffey Geosciences ACN 056 335 516

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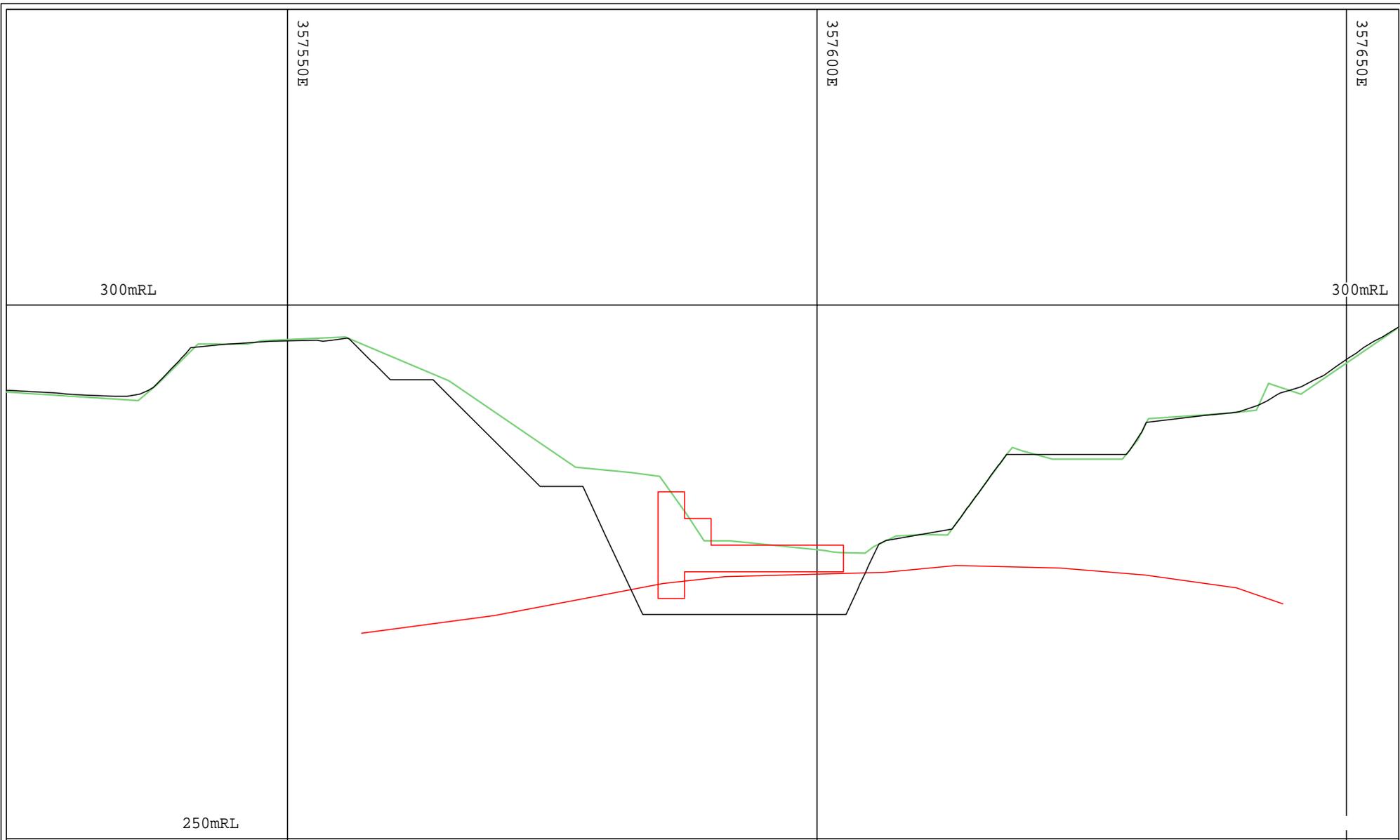
Oceania Tasmania

Comstock Operations

Allison's Open Pit

Cross Section 5360540 N

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**Coffey Mining**

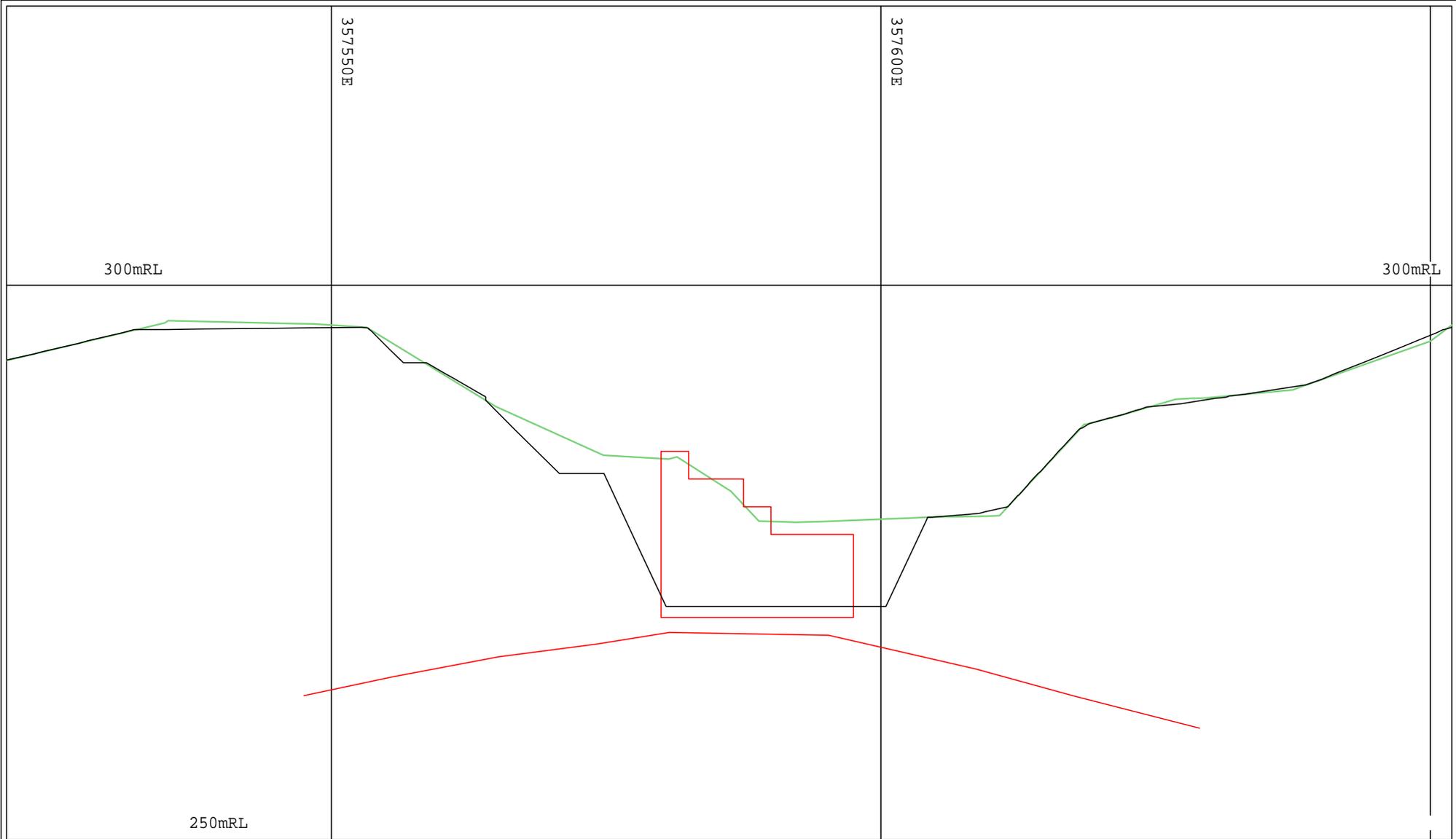
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Oceania Tasmania

Comstock Operations  
Allison's Open Pit

Cross Section 5360560 N



**Coffey Mining**

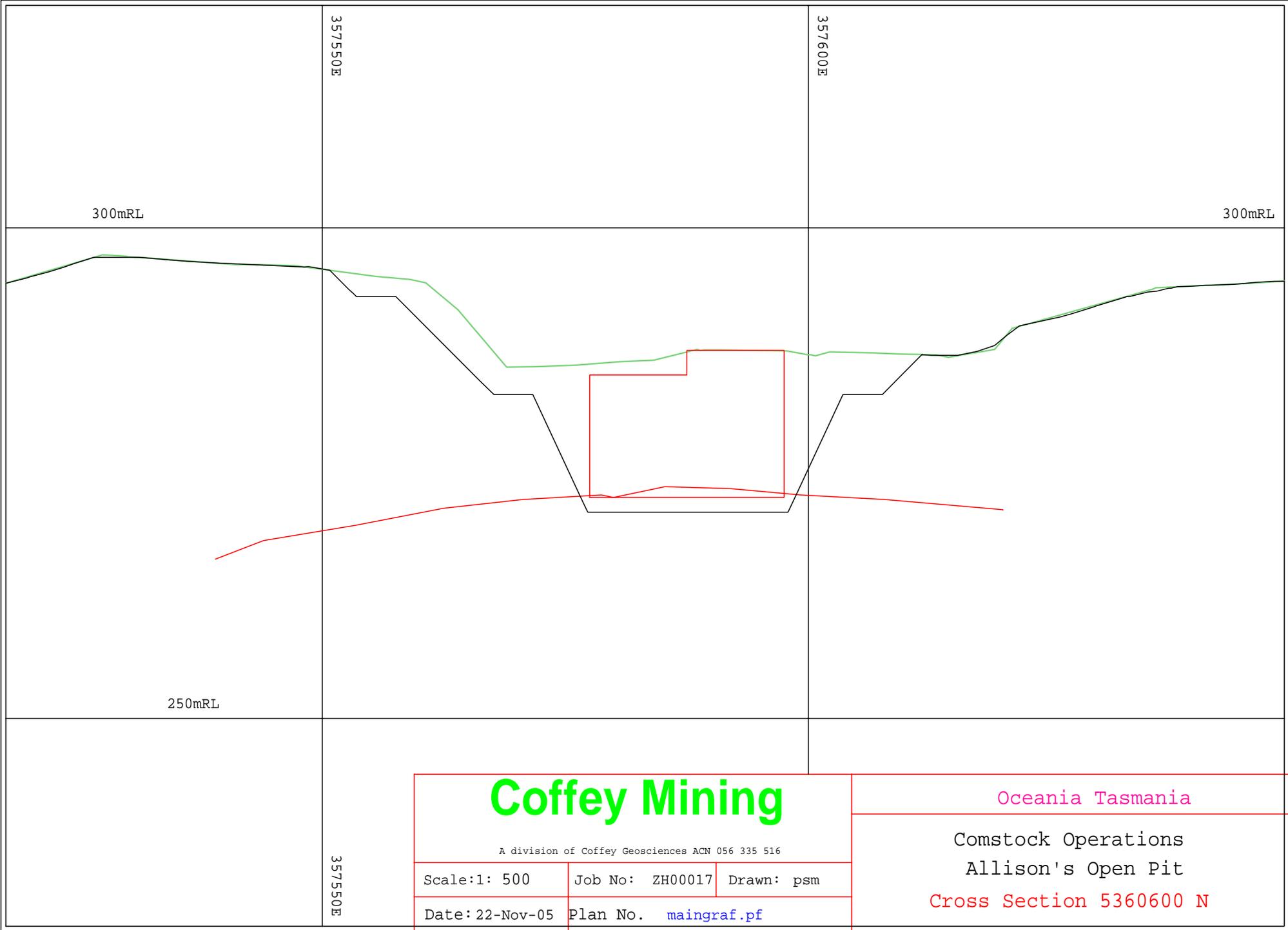
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Oceania Tasmania

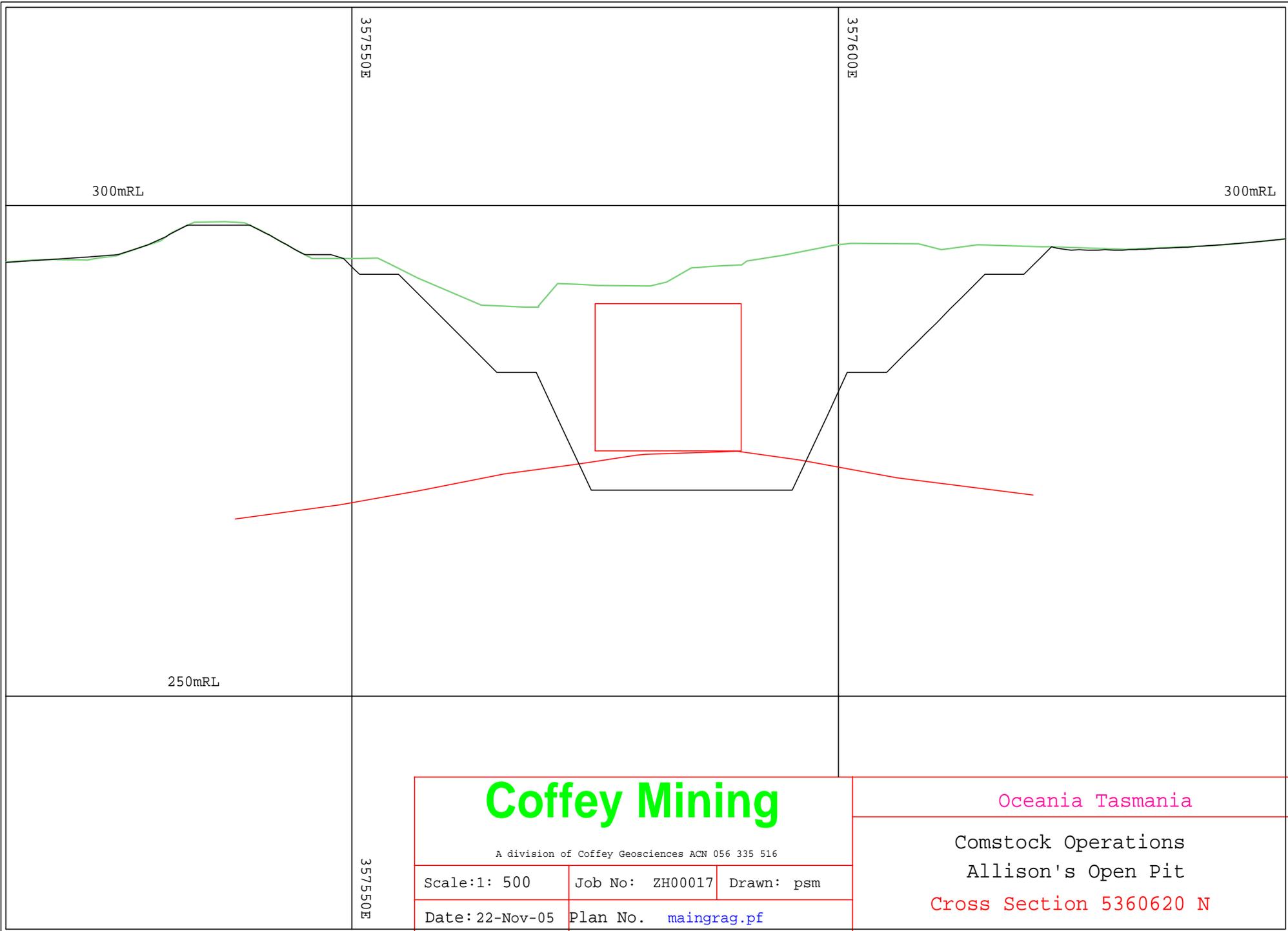
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Allison's Open Pit  
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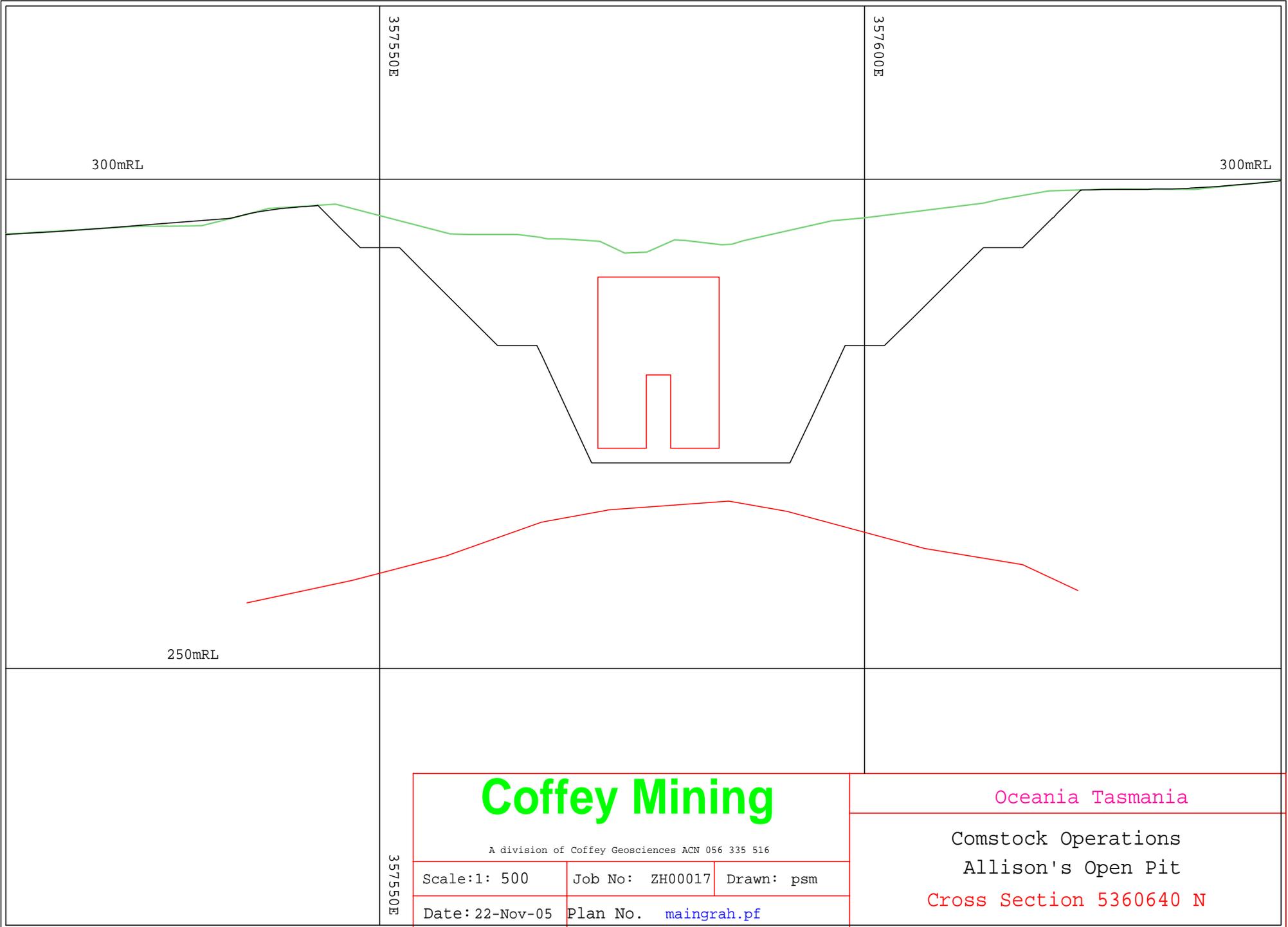
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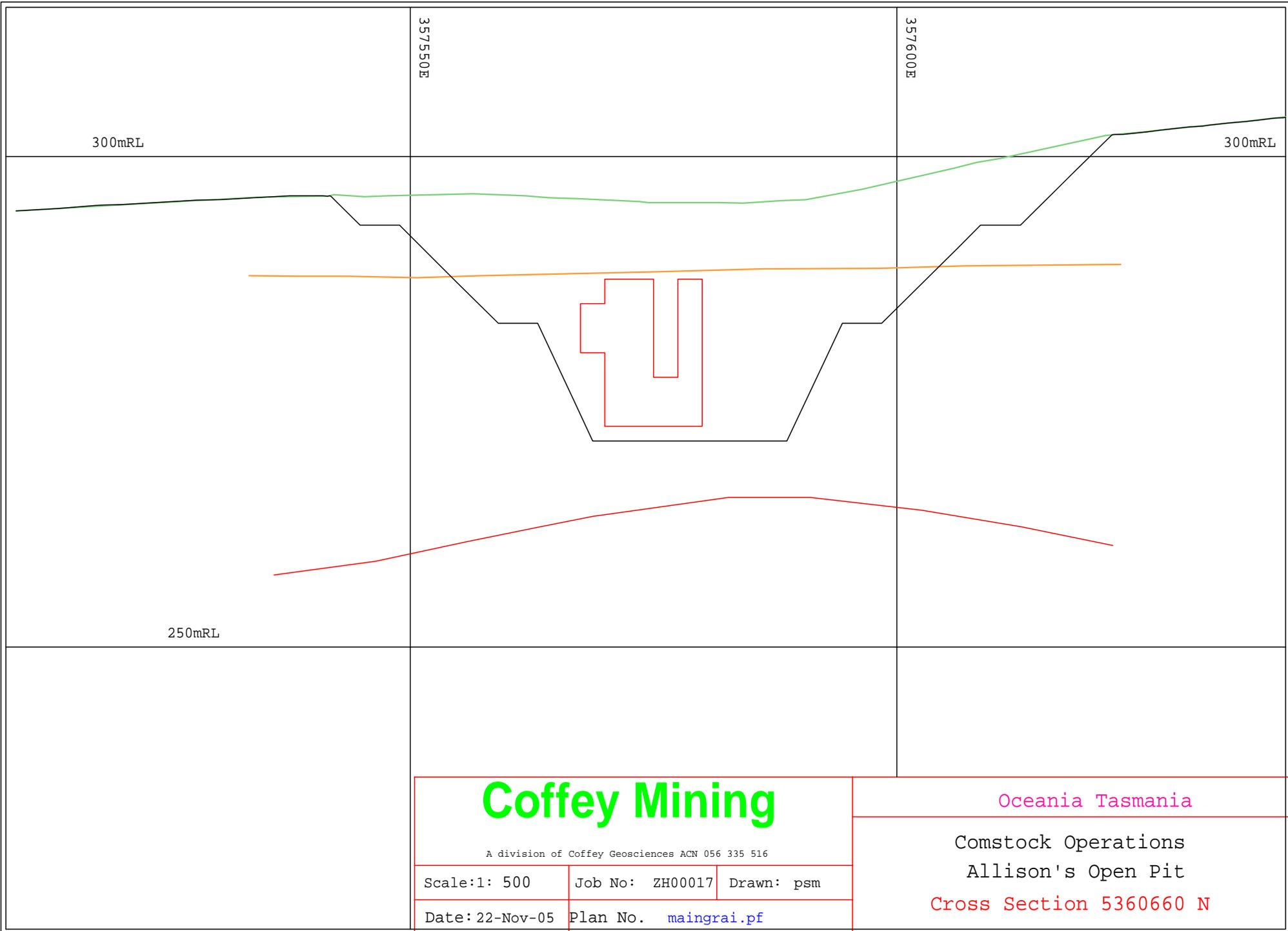
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# Coffey Mining

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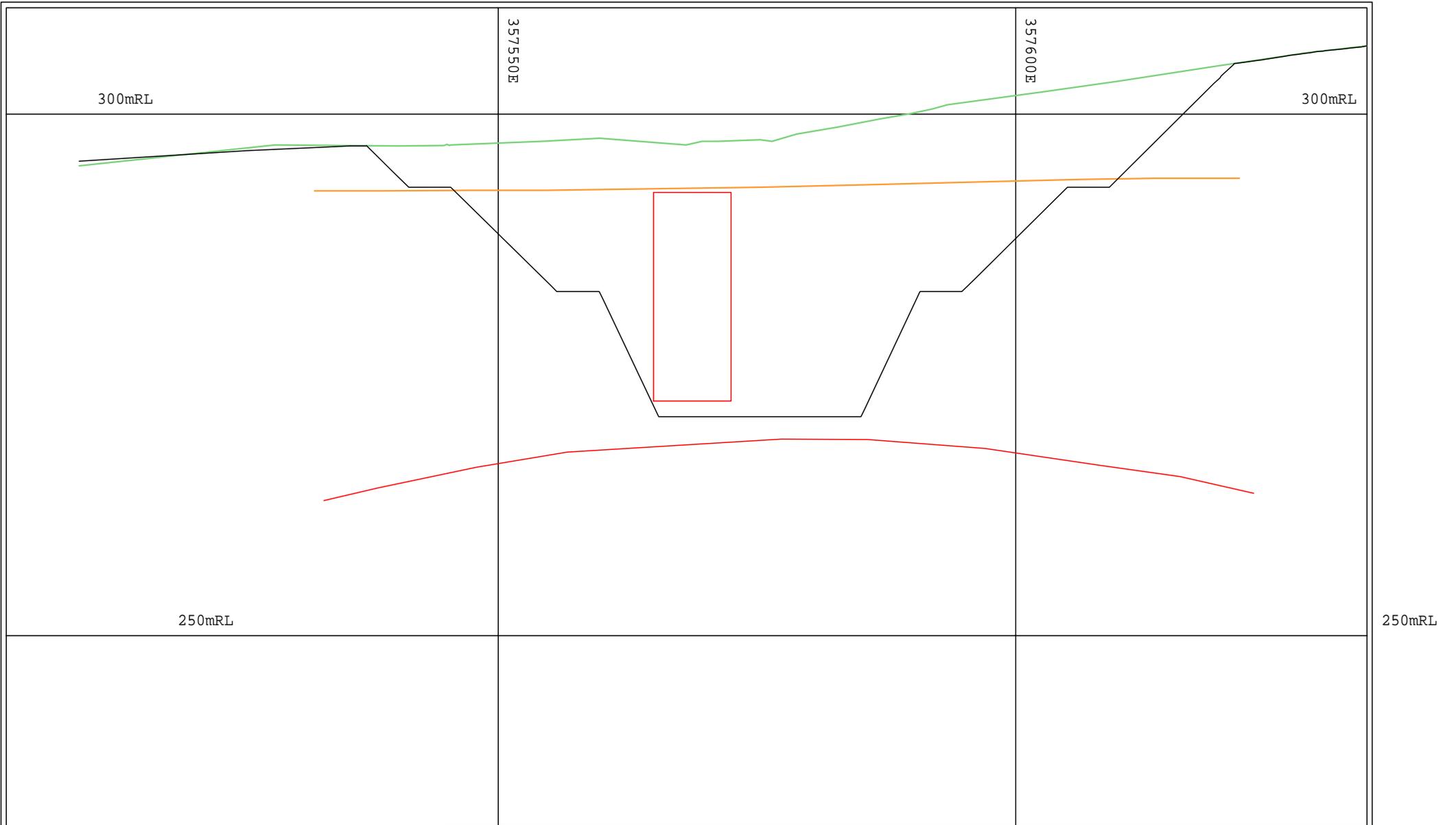
Comstock Operations

Allison's Open Pit

Cross Section 5360660 N

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# Coffey Mining

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Date: 22-Nov-05

Plan No. [maingraj.pf](#)

Oceania Tasmania

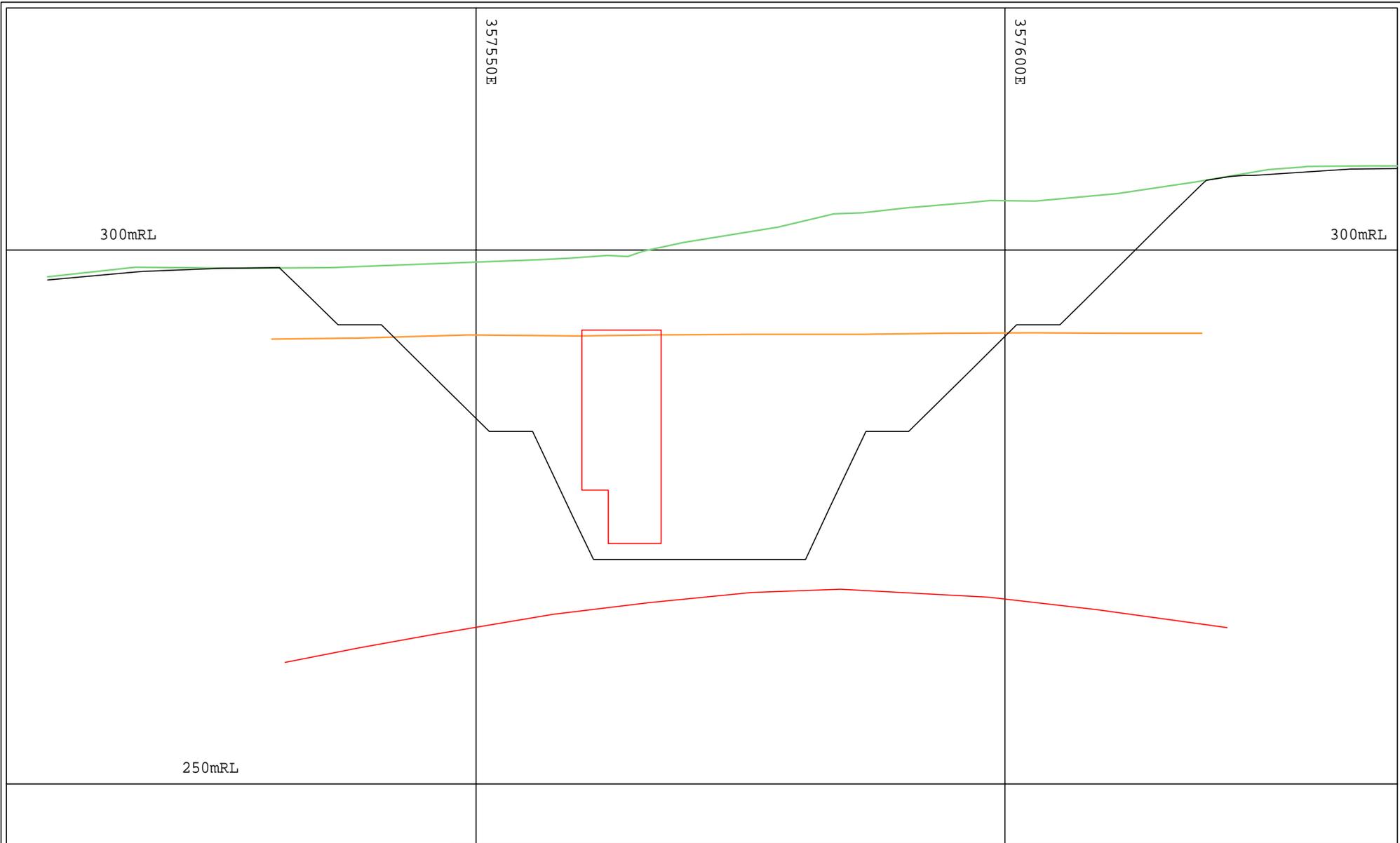
Comstock Operations

Allison's Open Pit

Cross Section 5360680 N

maingraj.pf

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# Coffey Mining

A division of Coffey Geosciences ACN 056 335 516

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Drawn: psm

Date: 22-Nov-05

Plan No. [mainrak.pf](#)

Oceania Tasmania

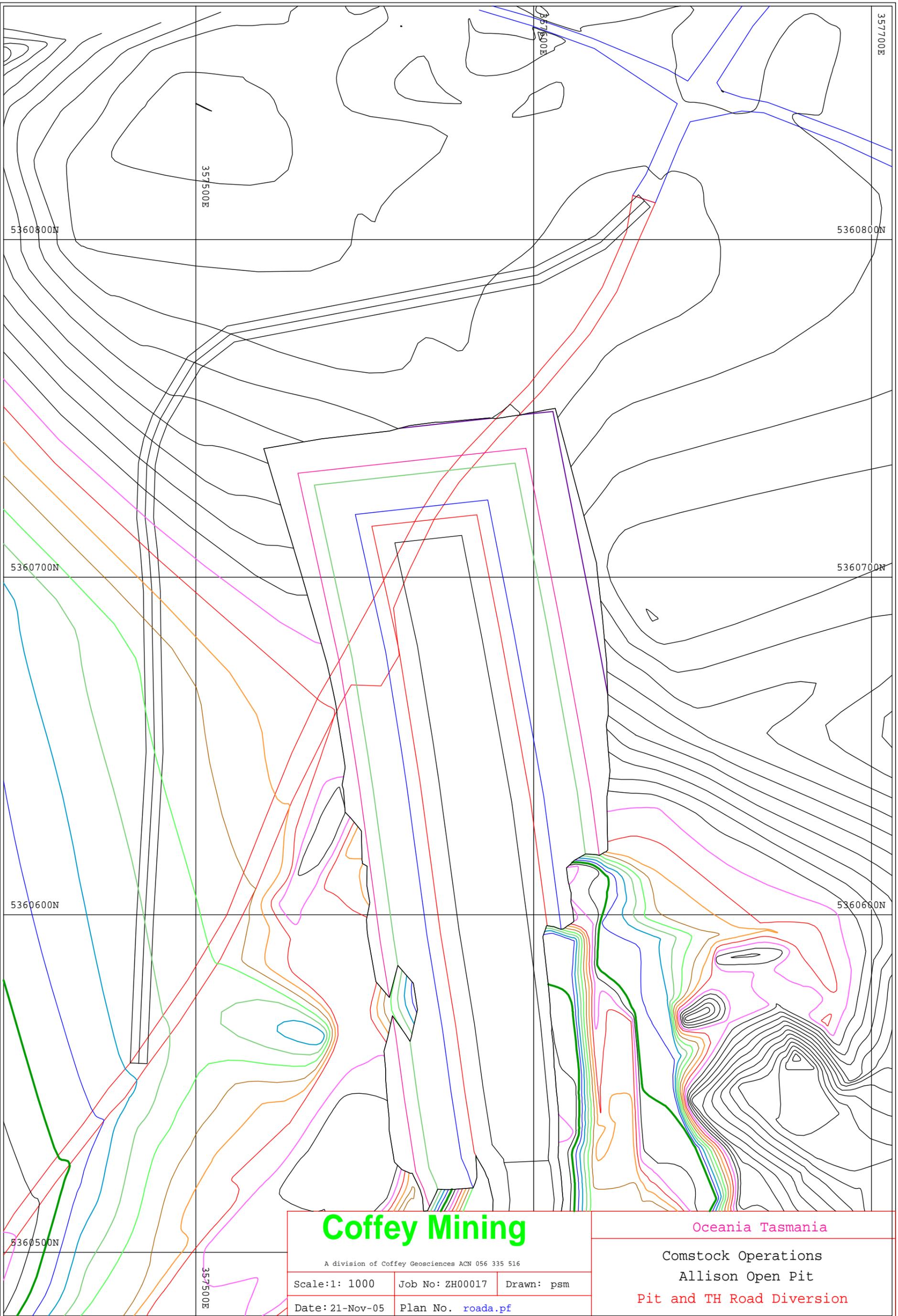
Comstock Operations

Allison's Open Pit

Cross Section 5360700 N

mainrak.pf

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# Coffey Mining

A division of Coffey Geosciences ACN 056 335 516

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Date: 21-Nov-05    Plan No. [roada.pf](#)

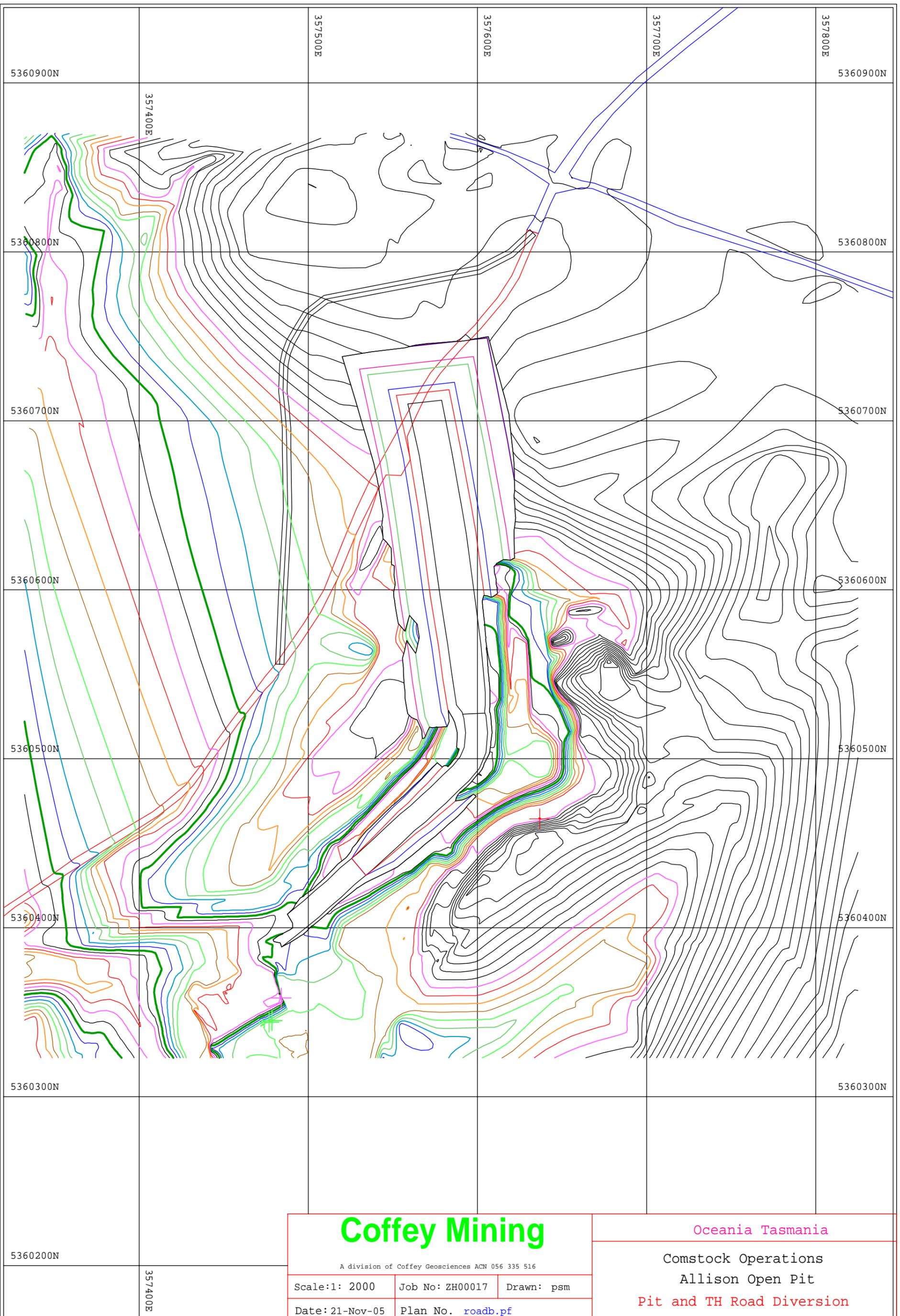
Oceania Tasmania

Comstock Operations

Allison Open Pit

Pit and TH Road Diversion

roada.pf



# Coffey Mining

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Date: 21-Nov-05    Plan No. [roadb.pf](#)

Oceania Tasmania

Comstock Operations

Allison Open Pit

Pit and TH Road Diversion

roadb.pf