Extract from conditions of Hauraki District Council Resource Consent RC-15735 (Trio), as pertaining to Dewatering and Settlement:

Dewatering and Settlement Monitoring Plan

14. Within 2 months of the exercise of this consent, the consent holder shall prepare, and submit to the Council for its written approval, a Dewatering and Settlement Monitoring Plan. The purpose of this Plan is to monitor and assess the effects of the activities on land settlement and the groundwater hydraulic regime, and also to detail the contingency measures that will be actioned should groundwater or surface settlement triggers be exceeded.

    The Plan shall, as a minimum, provide an overall description of the groundwater and settlement monitoring system and the measures to be adopted, including contingency measures, to meet the objectives of the groundwater and settlement management system, as proposed in the consent application. The monitoring regime shall be designed to assess the effects of:

    (i) dewatering on the regional groundwater system; and
    (ii) dewatering on settlement.

    Final details of the monitoring locations are to be agreed with the Council. The Plan shall also provide trigger limits that will initiate the implementation of contingency mitigation and/or monitoring measures and shall detail any linkages with the Martha pit operation.

    The exercise of this consent shall be in accordance with the Plan as approved by the Council. The Plan shall be reviewed and updated as necessary by the consent holder. Any updated Plan shall be promptly forwarded to the Council for written approval and following approval, the updated Plan shall be implemented in place of the previous version.

    In the event of any conflict or inconsistency between the conditions of this consent and the provisions of the Dewatering and Settlement Monitoring Plan, then the conditions of this consent shall prevail.

Dewatering and Settlement Monitoring Report

15. The consent holder shall provide to the Council an annual Dewatering and Settlement Monitoring Report. The Report shall, as a minimum, provide the following information:
    (i) The volume of groundwater abstracted;
    (ii) The data from monitoring undertaken during the previous year, including groundwater contour plans (derived from the data) in respect of the piezometer network;
    (iii) An interpretation and analysis of the monitoring data, in particular any change in the groundwater profile over the previous year, predictions of future impacts that may arise as a result of any trends that have been identified including review of the predicted post closure effects based on actual monitoring data, and what contingency actions, if any, the consent holder proposes to take in response to those predictions. This analysis shall be undertaken by a party appropriately experienced and qualified to assess the information;
    (iv) Any contingency actions that may have been taken during the year; and
    (v) Comment on compliance with condition 14 of this consent including any reasons for non-compliance or difficulties in achieving conformance with the conditions of consent.

The report shall be forwarded in a form acceptable to the Council.

Monitoring – Tilt

16. In the event that a tilt greater than 1 in 1000 occurs between any two network monitoring locations installed in accordance with the De-watering and Settlement Monitoring Plan required pursuant to condition 14 of this consent, or there is a significant variance from the predicted settlement rates, the consent holder shall notify the Hauraki District and Waikato Regional Councils in writing, within 20 working days of receiving the results of the monitoring. The consent holder shall then:
    (i) Explain the cause of the non-conformance,
    (ii) Agree with the Councils on the appropriate settlement contingency measures to be implemented as described,
    (iii) Implement settlement contingency measures as appropriate,
    (iv) Advise the Councils on the steps the consent holder proposes to take in order to prevent any further occurrence of the situation.

Extract from conditions of Waikato Regional Council Resource Consents for Trio – 121416, 121417, 121418, 121446, and 121447, pertaining to Dewatering and Settlement:

SCHEDULE ONE – GENERAL CONDITIONS

Resource Consents **121416, 121417, 121418, 121446, and 121447** are subject to the following general conditions, which are applicable to all consents.

Dewatering and Settlement Monitoring Plan

5 Prior to exercise of this consent, the consent holder shall prepare, and submit to the Council for its written approval, a Dewatering and Settlement Monitoring Plan. The purpose of this Plan is to monitor and assess the effects of the activities on land settlement and the groundwater hydraulic regime, and also to detail the contingency measures that will be actioned should groundwater or surface settlement triggers be exceeded.

The Plan shall, as a minimum, provide an overall description of the groundwater and settlement monitoring system and the measures to be adopted, including contingency measures, to meet the objectives of the groundwater and settlement management system, as proposed in the consent application. The monitoring regime shall be designed to assess the effects of:

(i) dewatering on the regional groundwater system; and
(ii) dewatering on settlement, and
(iii) the discharge of degraded quality water from the backfilled and flooded workings on groundwater quality.

Final details of the monitoring locations are to be agreed with the Council. The Plan shall also provide trigger limits that will initiate the implementation of contingency mitigation and/or monitoring measures and shall detail any linkages with the Martha pit operation.

The exercise of this consent shall be in accordance with the Plan as approved by the Council. The Plan shall be reviewed and updated as necessary by the consent holder. Any updated Plan shall be promptly forwarded to the Council for written approval and following approval, the updated Plan shall be implemented in place of the previous version.

In the event of any conflict or inconsistency between the conditions of this consent and the provisions of the Dewatering and Settlement Monitoring Plan, then the conditions of this consent shall prevail.

Dewatering and Settlement Monitoring Report

6. The consent holder shall provide to the Councils an annual Dewatering and Settlement Monitoring Report. The Report shall, as a minimum, provide the following information:

(i) The volume of groundwater abstracted;
(ii) The data from monitoring undertaken during the previous year, including groundwater contour plans (derived from the data) in respect of the piezometer network;
(iii) An interpretation and analysis of the monitoring data, in particular any change in the groundwater profile over the previous year, predictions of future impacts that may arise as a result of any trends that have been identified including review of the predicted post closure effects based on actual monitoring data, and what contingency actions, if any, the consent holder proposes to take in response to those predictions. This analysis shall be undertaken by a party appropriately experienced and qualified to assess the information;
(iv) Any contingency actions that may have been taken during the year; and
(v) Comment on compliance with condition 5 of this schedule including any reasons for non-compliance or difficulties in achieving conformance with the conditions of consent.

The report shall be forwarded in a form acceptable to the Council.

Monitoring – Tilt

7. In the event that a tilt greater than 1 in 1000 occurs between any two network monitoring locations installed in accordance with the De-watering and Settlement Monitoring Plan required pursuant to condition 5 of this schedule, and such tilt is caused by the de-watering and/or there is a significant variance from the predicted settlement rates, the consent holder shall notify the

Councils in writing, within 20 working days of receiving the results of the monitoring. The consent holder shall then engage in a process with the Councils:

(i) explain the cause of the non-conformance,

(ii) agree with the Councils on the appropriate settlement contingency measures to be implemented as described,

(iii) implement settlement contingency measures as appropriate,

(iv) advise the Councils on the steps the consent holder proposes to take in order to prevent any further occurrence of the situation.

Extract from conditions of Mining Licence 32 2388, pertaining to Dewatering and Settlement:

Dewatering

11. (a) The licensee shall prepare a Dewatering and Settlement Monitoring Plan. The purpose of this Plan is to monitor and assess the effects of dewatering associated with the extended project on land settlement and the effects of the mining activities on the subsurface hydraulic regime. The Dewatering and Settlement Monitoring Plan shall address at least the following:

    (i) An overall description of the groundwater and settlement monitoring system and the measures to be adopted to meet the objectives of the groundwater and settlement monitoring system.

    (ii) Details of the piezometer network proposed to monitor the effects of pit dewatering on the aquifers under Waihi township.

    Any monitoring bores additional to the existing piezometer network shall be installed and operational prior to the commencement of the extended project.

    (iii) Details of the settlement monitoring network proposed to monitor the extended zone which has been, or is likely to be, affected by settlement caused by mine dewatering.

    Any settlement monitoring network locations additional to the existing monitoring locations shall be installed and operational prior to the commencement of the extended project.

    (iv) Details of the survey of facilities in the Waihi township considered by the licensee to be potentially "at risk" of damage from ground settlement caused by mine dewatering. The survey to be completed shall include collection of information about the facility's location, the nature of construction materials, the nature of sensitive equipment that might be potentially "at risk", and the sensitivity of this equipment to ground settlement caused by mine dewatering and/or tilt.

    This survey shall be completed prior to the commencement of the extended project.

    (v) A settlement contingency plan to include mitigation measures to be implemented in the event that ground settlement caused by mine dewatering induces a tilt that exceeds 1 in 1000 between any two network monitoring locations spaced no less than 25 metres apart. The settlement contingency plan shall particularly address those facilities identified by the licensee as being potentially "at risk" of damage from ground settlement caused by mine dewatering.

    (vi) A dewatering contingency plan that describes the steps the licensee shall implement in the event that dewatering results in adverse impacts on affected aquifer systems and associated groundwater supplies used for domestic, stock or other purposes.

    In detailing the monitoring programmes the licensee shall provide information on the monitoring methods proposed, the parameters to be monitored, and the calibration and maintenance of monitoring equipment.

    In the event of any conflict or inconsistency between these conditions and the provisions of the Dewatering and Settlement Monitoring Plan, these conditions shall prevail.

    (b) The Dewatering and Settlement Monitoring Plan shall be submitted to the Minister for approval at least one month prior to the commencement of the extended project. The licensee shall review and update (as necessary) the Plan and shall provide promptly such updated Plan to the Minister annually for approval.

    (c) If in the opinion of the Minister the dewatering adversely affects land or facilities, then the licensee shall at its own cost be responsible for reinstating the facilities to an equivalent standard to the reasonable satisfaction of the Minister.

    (d) The licensee shall measure and record the daily volume of water abstracted from the pit.

    (e) The licensee shall undertake monthly water level monitoring of the piezometer network in accordance with the Dewatering and Settlement Monitoring Plan.

    (f) The licensee shall monitor ground settlement at a minimum of six monthly intervals in accordance with the Dewatering and Settlement Monitoring Plan.

    (g) In the event that a tilt greater than 1 in 1000 occurs between any two network monitoring locations spaced no less than 25 metres apart, and such tilt is caused by mine dewatering, or there is a significant variance from the predicted settlement rates described in the

evidence of Dr Semple (Table 5, Figure 8 dated 13 November) the licensee shall notify the Minister, in writing, within 20 working days of receiving the results of the monitoring. The licensee shall then:

- Explain the cause of the non-conformance;
- Agree with the Minister on the appropriate settlement contingency measures to be implemented as described;
- Implement settlement contingency measures as appropriate;
- Advise the Minister on the steps the licensee proposes to take in order to prevent any further occurrence of the situation.

(h) The licensee shall provide to the Minister an annual dewatering and settlement monitoring report. The report shall include at least the following information:

- The data from monitoring undertaken during the previous year including ground water contour plans (derived from the data) in respect of the piezometer network;
- Identification of any environmentally important trends in settlement and dewatering behaviour;
- Interpretation and analysis of any change in groundwater profile over the previous year, any contingency actions that may have been taken during the year, predictions of future impacts on other bore users that may arise as a result of any trends that have been identified, and what contingency actions, if any, the licensee proposes to take in response to those predictions;
- A comparison of the settlement survey data with that predicted in Table 5 and Figure 8 (dated 13 November 1997 by Dr Semple of Woodward Clyde (NZ) Ltd);
- Comment on compliance with this condition;
- A summary and analysis of complaints relevant to this condition;
- Any reasons for non-compliance or difficulties in achieving conformance with this condition;
- Any works that have been undertaken to improve environmental performance or that are proposed to be undertaken in the forthcoming year to improve environmental performance in relation to activities permitted by this condition;
- The report shall be forwarded in a format acceptable to the Minister.

Extract from conditions of Hauraki District Council Resource Consent 202.2012 (Correnso), as pertaining to Dewatering and Settlement:

Dewatering and Settlement Monitoring Plan

27 The objectives of the groundwater and settlement management system shall be to ensure that dewatering operations do not give rise to surface instability and differential settlement beyond that authorised by this consent.

28 Within 2 months of the exercise of this consent, the consent holder shall prepare, and submit to the Council for its written approval, a Dewatering and Settlement Monitoring Plan. The purpose of this Plan is to monitor and assess the effects of the activities on land settlement and the groundwater hydraulic regime, and also to detail the contingency measures that will be actioned should groundwater or surface settlement triggers be exceeded.

29 The Plan shall, as a minimum, provide an overall description of the groundwater and settlement monitoring system and the measures to be adopted, including contingency measures, to meet the objectives of the groundwater and settlement management system set out in Condition 27. The monitoring regime shall be designed to assess the effects of:

a) Dewatering on the regional groundwater system; and

b) Dewatering on settlement.

30 Monitoring locations are to provide appropriate resolution of groundwater levels and surface tilt relative to the scale of surface infrastructure, particularly in the areas above and adjacent to the mining activities provided for in this consent. Final details are to be agreed with the Council. The Plan shall also provide settlement trigger limits that will initiate the implementation of contingency mitigation and/or monitoring measures and shall detail any linkages with the Martha pit operation.

31 The exercise of this consent shall be in accordance with the Plan as approved by the Council. The Plan shall be reviewed and updated as necessary by the consent holder. Any updated Plan shall be promptly forwarded to the Council for written approval and following approval, the updated Plan shall be implemented in place of the previous version.

32 In the event that a tilt greater than 1 in 1000 occurs between any two network monitoring locations installed in accordance with the Dewatering and Settlement Monitoring Plan required pursuant to Condition 28 of this consent, or there is a significant variance from the predicted settlement rates, the consent holder shall notify the Hauraki District and Waikato Regional Councils in writing, within 20 working days of receiving the results of the monitoring. The consent holder shall then:

a) Explain the cause of the non-conformance;

b) Propose appropriate settlement contingency measures to the Councils and the timing of implementation thereof by the consent holder;

c) Implement settlement contingency measures as appropriate within the agreed time limit;

d) Advise the Councils on the steps the consent holder proposes to take in order to prevent any further occurrence of the situation.

33 The consent holder shall as a matter of urgency, advise the Council of any significant anomalies identified by the regular (monthly) reading of groundwater levels in the piezometer network. Such advice is to include an explanation of the anomalous results and actions proposed to address any issues identified. This report is to be provided to the Council within 10 working days of the anomalous results being identified.

A “significant anomaly” is defined as 15m or more offset occurring in piezometer recordings over a 1 month period.

34 In the event of any conflict or inconsistency between the conditions of this consent and the provisions of the Dewatering and Settlement Monitoring Plan, then the conditions of this consent shall prevail.

Advice notes:

1. The Dewatering and Settlement Monitoring Plan shall be consistent with the Dewatering and Settlement Monitoring Plan prepared as a condition of the ground dewatering consent (RC 124860) granted by the Waikato Regional Council.

2. The monitoring undertaken in terms of the Dewatering and Settlement Monitoring Plan may need to be continued for a period beyond the term of this consent depending on recharge of the groundwater following cessation of underground mining activities and the filling of the Martha Pit.

Dewatering and Settlement Monitoring Report

35 The consent holder shall provide to the Council an annual Dewatering and Settlement Monitoring Report. The Report shall, as a minimum, provide the following information:

a) The volume of groundwater abstracted;

b) The data from monitoring undertaken during the previous year, including groundwater contour plans (derived from the data) in respect of the piezometer network;

c) An interpretation and analysis of the monitoring data, in particular any change in the groundwater profile over the previous year, predictions of future impacts that may arise as a result of any trends that have been identified including review of the predicted post closure effects based on actual monitoring data, and what contingency actions, if any, the consent holder proposes to take in response to those predictions. This analysis shall be undertaken by a party appropriately experienced and qualified to assess the information;

d) Any contingency actions that may have been taken during the year; and

e) Comment on compliance with Conditions 27 to 34 of this consent including any reasons for non-compliance or difficulties in achieving conformance with the conditions of consent.

The report shall be forwarded in a form acceptable to the Council.

Advice note:

The Dewatering and Settlement Monitoring Report shall be consistent with the Dewatering and Settlement Monitoring Report prepared as a condition of the ground dewatering consent (RC 124860) granted by the Waikato Regional Council.

Extract from conditions of Waikato Regional Council Resource Consent 124860 (Correnso), pertaining to Dewatering and Settlement:

Monitoring - Abstraction Volume

4. The consent holder shall monitor the volume of water abstracted on a weekly basis and shall report this to the Waikato Regional Council on a quarterly basis.

Dewatering and Settlement Monitoring Plan

5. Prior to the exercise of this consent, the consent holder shall prepare, and submit to the Council for its written approval, a Dewatering and Settlement Monitoring Plan. The purpose of this Plan is to monitor and assess the effects of the activities on land settlement and the groundwater hydraulic regime, and also to detail the contingency measures that will be actioned should groundwater or surface settlement triggers be exceeded.

   The Plan shall, as a minimum, provide an overall description of the groundwater and settlement monitoring system and the measures to be adopted, including contingency measures, to meet the objectives of the groundwater and settlement management system, as proposed in the consent application. The monitoring regime shall be designed to assess the effects of:

   (i) dewatering on the regional groundwater system; and
   (ii) dewatering on settlement; and
   (iii) the discharge of degraded quality water from the backfilled and flooded workings on groundwater quality.

   Monitoring locations are to provide appropriate resolution of surface tilt relative to the scale of surface infrastructure and final details are to be agreed with the Councils. The Plan shall also provide trigger limits that will initiate the implementation of contingency mitigation and/or monitoring measures and shall detail any linkages with the Martha pit operation.

   The exercise of this consent shall be in accordance with the Plan as approved by the Council. The Plan shall be reviewed and updated as necessary by the consent holder. Such updated Plans shall relate to the Correnso Mine or to any new mine within Area L. Any updated Plan shall be promptly forwarded to the Council for written approval and following approval, the updated Plan shall be implemented in place of the previous version.

   In the event of any conflict or inconsistency between the conditions of this consent and the provisions of the Dewatering and Settlement Monitoring Plan, then the conditions of this consent shall prevail.

Dewatering and Settlement Monitoring Report

6. The consent holder shall provide to the Councils an annual Dewatering and Settlement Monitoring Report. The Report shall, as a minimum, provide the following information:
   (i) The volume of groundwater abstracted;
   (ii) The data from monitoring undertaken during the previous year, including groundwater contour plans (derived from the data) in respect of the piezometer network;
   (iii) An interpretation and analysis of the monitoring data, in particular any change in the groundwater profile over the previous year, predictions of future impacts that may arise as a result of any trends that have been identified including review of the predicted post closure effects based on actual monitoring data, and what contingency actions, if any, the consent holder proposes to take in response to those predictions. This analysis shall be undertaken by a party appropriately experienced and qualified to assess the information;
   (iv) Any contingency actions that may have been taken during the year; and
   (v) Comment on compliance with condition 5 of this consent including any reasons for non-compliance or difficulties in achieving conformance with the conditions of consent.

   The report shall be forwarded in a form acceptable to the Councils.

Monitoring - Tilt

7. In the event that a tilt greater than 1 in 1000 occurs between any two network monitoring locations installed in accordance with the Dewatering and Settlement Monitoring Plan required pursuant to condition 5 of this consent, and such tilt is caused by the de-watering and/or there is a significant variance from the predicted settlement rates, the consent holder shall notify the Councils in writing, within 20 working days of receiving the results of the monitoring. The consent holder shall then engage in a process with the Councils:
   (i) explain the cause of the non-conformance,

(ii) Propose appropriate settlement contingency measures for discussion with Councils and agree with the Councils on the appropriate settlement contingency measures and the timing for their implementation as described,

(iii) implement agreed settlement contingency measures as appropriate within the agreed time limit,

(iv) advise the Councils on the steps the consent holder proposes to take in order to prevent any further occurrence of the situation.

Monitoring – Water Quality

8. The consent holder shall monitor throughout the period of operation, the chemistry of the groundwater, pit run-off and pit discharge water abstracted from the open pit. The monitoring data is to be used to correlate these inflows with pit lake water quality predictions, and to provide a database for input into the closure plans. The sampling parameters and frequencies shall be described in the Martha Extended Project dewatering consent (unless agreed otherwise with the Waikato Regional Council) with the results forwarded to the Waikato Regional Council on an annual basis.

Other Water Users

9. If, in the opinion of the Waikato Regional Council, the exercise of this consent adversely affects stock, domestic or other water supplies, then the consent holder shall, at its own cost, be responsible for providing to the owner of those water supplies an alternative equivalent water supply, to the satisfaction of Waikato Regional Council. The consent holder shall be responsible for making an alternative water supply available within 12 hours of being directed to do so by the Waikato Regional Council.

Extract from conditions of Waikato Regional Council Resource Consent 124861 (Correnso), pertaining to Dewatering and Settlement:

Groundwater Monitoring

5. Piezometers shall be installed at sites to be approved by the Waikato Regional Council for the purpose of monitoring changes in groundwater arising from the exercise of this consent. The groundwater monitoring system shall be detailed in the dewatering and Settlement Monitoring Plan, prepared pursuant to condition 5 of consent number 124860.

Extract from common conditions of Hauraki District Council and Waikato Regional Council Resource Consent for Project Martha (202.2018), as pertaining to Dewatering and Settlement:

Dewatering and Settlement Monitoring Plan

14. The objectives of the groundwater and settlement management system shall be to ensure that dewatering operations do not give rise to surface instability and differential settlement beyond that authorised by this consent.

15. Two months prior to dewatering below 700 m RL (mine datum), the consent holder shall prepare, and submit to the Councils for their certification, a Dewatering and Settlement Monitoring Plan. The purpose of the Dewatering and Settlement Monitoring Plan is to monitor and assess the effects of the activities on land settlement and the groundwater hydraulic regime, and also to detail the contingency measures that will be actioned should groundwater or surface settlement triggers be exceeded.

16. The Plan shall, as a minimum, provide an overall description of the groundwater and settlement monitoring system and the measures to be adopted, including contingency measures, to meet the objectives of the groundwater and settlement management system set out in Condition 14 of this schedule. The monitoring regime shall be designed to assess the effects of:

    a) Dewatering on the regional groundwater system; and
    b) Dewatering on settlement.

17. Monitoring locations are to provide appropriate resolution of mine inflows and pumping, groundwater levels (both for shallow and deep aquifers) and ground surface tilt relative to the scale of surface infrastructure, throughout the area within the maximum extent of the groundwater cone of depression and particularly in the areas above and adjacent to the mining activities provided for in this consent. Final details are to be agreed with the Councils, but are to include additional piezometers and extensometers located along the line of upper level workings in the Rex Orebody. The Dewatering and Settlement Monitoring Plan shall also provide groundwater and settlement trigger limits that will initiate the implementation of contingency mitigation and / or monitoring measures and shall detail any linkages with the operation of the Martha Pit and Martha Underground Mine.

18. The exercise of this consent shall be in accordance with the Dewatering and Settlement Monitoring Plan as certified by the Councils. The Dewatering and Settlement Monitoring Plan shall be reviewed and updated as necessary by the consent holder. Any updated Dewatering and Settlement Monitoring Plan shall be promptly forwarded to the Councils for certification, and following this process, the updated plan shall be implemented in place of the previous version.

19. In the event that a tilt greater than 1 in 1,000 occurs between any two network monitoring locations installed in accordance with the Dewatering and Settlement Monitoring Plan required pursuant to Condition 15 of this schedule, or there is a significant variance from the predicted settlement rates, the consent holder shall notify the Councils in writing within 20 working days of receiving the results of the monitoring. The consent holder shall then:

    a. Explain the cause of the non-conformance;
    b. Propose appropriate settlement contingency measures to the Councils and the timing of implementation thereof by the consent holder;
    c. Implement settlement contingency measures as appropriate within the agreed time limit; and
    d. Advise the Councils on the steps the consent holder proposes to take in order to prevent any further occurrence of the situation.

20. The consent holder shall as a matter of urgency, advise the Councils of any significant anomalies identified by the regular reading of groundwater levels in the piezometer network. Such advice is to include an explanation of the anomalous results and actions proposed to address any issues identified. This report is to be provided to the Councils within 10 working days of the anomalous results being identified.

21. A “significant anomaly” is defined as a drop in groundwater level greater than the seasonal variation in piezometers within the alluvium and younger volcanic rocks and a drop of 15 m or more in the recordings from piezometers tapping the upper 50 m of Andesite over a one month period.

22. In the event of any conflict or inconsistency between the conditions of this consent and the provisions of the Dewatering and Settlement Monitoring Plan, then the conditions of this consent shall prevail.

Advice Note:
The monitoring undertaken in terms of the Dewatering and Settlement Monitoring Plan may need to be continued for a period beyond the term of this consent depending on recharge of the groundwater following cessation of underground mining activities and filling of the Martha Pit.

Dewatering and Settlement Monitoring Report

23. The consent holder shall provide to the Councils (within one month of an agreed anniversary date) an annual Dewatering and Settlement Monitoring Report. The report shall, as a minimum, provide the following information:

a) The volume of groundwater abstracted;
b) The data from monitoring undertaken during the previous year, including groundwater contour plans (derived from the data) in respect of the piezometer network;
c) An interpretation and analysis of the monitoring data, in particular any change in the groundwater profile over the previous year, predictions of the future impacts that may arise as a result of any trends that have been identified including review of the predicted post closure effects based on actual monitoring data, and what contingency actions, if any, the consent holder proposes to take in response to those predictions, this analysis shall be undertaken by a party appropriately experienced and qualified to assess the information;
d) Any contingency actions that may have been taken during the year; and
e) Comment on compliance with Conditions 14 to 21 of this schedule including any reasons for non-compliance or difficulties in achieving conformance with the conditions of consent.
f) The report shall be forwarded in a form acceptable to the Councils.

Appendix B Surveyor Reports

MEMORANDUM

TO: **SHANE REYNOLDS**

FROM: **BRUCE MORRISON**

DATE: **26TH JUNE 2025**

SUBJECT: **GROUND SETTLEMENT MONITORING -MAY 2025**

Introduction

This report outlines the results from the May 2025 Ground Settlement Monitoring Survey.

Field Method

The settlement monitoring marks were levelled during May and June 2025, for OceanaGold by myself utilising a surveyor Jason Kerr, and an experienced *Kauri Gold* assistant under my supervision.
Equipment used for this 'May 2025' event was a LEICA LS15 0.3 electronic digital level (SN 710477) paired with the LEICA 3 section 4.05 metre fibreglass bar coded GKNL4F staff. A field calibration check was carried out by myself before commencing this event and the check result was satisfactory.
A summary of the above framework 'misclosures' for the last thirty-eight events is tabulated below.

Event	West –East misclose (mm)	North –South misclose (mm)
	AP2 > 34BE > AP1	34BE > AP6
May 2007	+2.4	+6.4
Nov 2007	+2.7	+3.1
May 2008	+13.2	+4.0
Nov 2008	-8.1	+7.3
May2009	+8.8	+3.7
Nov 2009	-5.8	+2.0
May 2010	-8.1	+4.3
Nov 2010	-0.6	+6.4
May 2011	+2.0	+2.7
Nov 2011	+6.9	+6.5
May 2012	+4.1	+6.7
Nov 2012	+23.3	+5.3
May 2013	+2.7	+9.5
Nov 2013	-0.9	+4.5
May 2014	-1.1	+11.5
Nov 2014	-2.6	+7.0
May 2015	+1.6	+6.3
Nov 2015	-8.0	+10.3
May 2016	+9.2	+12.2
	AP20 No 2 >AP2 > 34BE > AP1	34BE > AP6
Nov 2016	+14.2	+3.6
	AP19 >AP2 > 34BE > AP1	34BE > AP6
May 2017	+1.0	+0.4
Nov 2017	-10.2	-0.5
May 2018	+6.4	+4.0
Nov 2018	-11.1	+3.6
	AP19 >AP2 > 34BE > AP1>BUH5	34BE > AP6
May 2019	See page 2	See page 2
	AP19 >AP2 > 34BE > AP1>BUH5	34BE > AP6
May 2019	-7.9	-6.9
	AP19 >AP2 > 34BE > AP1>BUH5	34BE > AP24A> 34BE

Nov 2019	+0.3	-1.3
	AP19 >AP2 > 34BE > AP1>BUH5	34BE > AP24A> C1
May 2020	-5.5	-1.7
Nov 2020	-3.2	-2.5
May2021	-38.7	-9.2
Nov 2021	-0.8	+1.7
May2022	+10.6	+2.3
Nov2022	+30.7	+9.7
May 2023	+14.1	+10.7
Nov 2023	+14.4	+10.2
May 2024	+13.3	+4.9
Nov 2024	+17	+1
May 2025	+4	+6

Extending Levelling

This levelling event included LINZ benchmarks AP2, AP20 No 2, AP19, (to the west of Waihi), AP1 and BUH5 (to the east of Waihi). AP24 a.k.a control mark AP6 (south of Waihi) and AP25 have been lost to road works. AP24A and C1 have been established as a replacement for the lost AP6 control mark in this vicinity. AP2 and AP20 No 2 have now been 'unfixed' and AP19 is the fixed benchmark west of Waihi. The 'fixed' elevation value for AP19 was deduced from LINZ data comparing the relative levels of AP19, AP2, AP20 No2, and AP24 dating back to the year 1990. East of Waihi, AP1 is now 'unfixed, and there has never been any LINZ data for this mark although AP1 appears to be constructed to the same specifications as AP19 and AP26. The R.L. for the 'new' fixed eastern control mark (BUH5) was the mean value from two close values (relative to AP19) levelled in May 2021 and Nov 2021.

Photographs

The order of levelling of the monitoring points has now been fixed. This has been achieved by photographing all of the settlement points and placing them in 22 albums –generally in the order the points are to be levelled. This will achieve repeatable error distribution and should therefore give better results. I believe **all** the marks now have accurate GPS fixes. In the future, this should make the task of locating these marks easier if the marks are covered over by re-seal etc, or quickly confirm if the marks have definitely been 'lost' to street maintenance etc.

I recommend continuing these 'maintenance' details before or during the next levelling event.

Adjustments

Disturbed marks BM20 and 2.44 are excluded from the settlement contouring- as are marks F18, F20, and F24. All the above marks are excluded from the settlement contouring. Mark 1PA was again missed owing to a road gravel heap over it. New marks 21JB and F14D have been established. Mark 2.31B has been lost or missed owing to a residential development. Mark 2.33 has been lost owing to a borrow pit excavation for the residential development.

Results

Two A1 plans are attached -one (T20250625B) is colour coded by seven zones as identified in the 'Settlement and Groundwater Monitoring Plan. The original Zone boundaries and 'trigger' settlement values have been modified to match *Engineering Geology Ltd* Drawing No. 8332-Fig 16.

The second A1 plan "Total Settlement Contours" (T20250625A) shows the contours (in 20 millimetre intervals) deduced from the settlement marks. The locations of these settlement marks are shown with black 'stars'.

The first A1 plan "Total Settlement Values" (T20250625B) shows the location, station I.D., and total settlement value in millimetres for each mark.

The Settlement and Groundwater Monitoring Plan identifies gradients steeper than 1:1000 to be cause for concern. BM20 has been a large mover in the past and has been identified in past surveys as being placed on shrinking material. There are no buildings in this area anymore. I understand (from Mark Halloran) BM20A was placed near BM20 with a 'foot' bedded in firm ground. Significant differential settlement (1:110) is now occurring between BM20A and BM20 –sufficient to decide to omit BM20 from the settlement 'contour' calculation.

The total settlement contours represent the total negative (–ve) movement (or settlement) around Waihi since monitoring began.

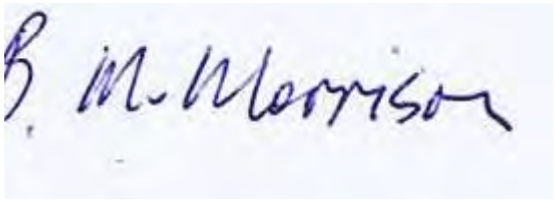
The closest contours (omitting disturbed marks) are between marks 20AC and BM20A. The distance between these marks using GPS measurements, calculates at 126.706 metres, and show 0.1931 metres of relative vertical movement to give a gradient of 1:656. The distance between marks BM20A and 20D using GPS measurements, calculates at 137.047 metres, and shows 0.1678 metres of relative vertical movement to give a

gradient of 1:816. The distance between marks 20C and BM20A, when checked by GPS measurements, calculates at 126.865 metres, and show 0.1328 metres of relative vertical movement to give a gradient of 1:955.
Some cracks are visible in the sealed pavements in this area of closest contours.

Table 1 (pages 3 -11) lists all the marks used for this settlement levelling event with the marks sorted first by Zone and then by settlement value. Marks that record 'exceedences' in terms of zone predictions (for Martha (2019) are highlighted with colour and have comments attached. All marks that 'exceeded' in Table 1 were analysed further and field inspections were conducted where required.

The comments included below attempt to explain the probable reason for 'excess' movement. The comments are *Dist'd* for BM20 in Zone 6. For Zone 4, 5 of the 6 marks are near Zone 5. For Zone 3, 4 of the 6 marks are located near Zone 4 or Zone 5. For Zone 2, 13 of the 14 marks are located near Zone 3 or Zone 4. For Zone 1, 2.44 is *Dist'd,* 4 of 11 other marks are located near Zone 2,Zone 3, or Zone 5.

The 'Favona' marks were installed for monitoring the effects of dewatering in the original underground mine area. The underlying original 'Martha' zone was Zone 3 but the Favona marks were never given zone exceedence parameters in terms of the original Martha zones. The Favona marks all report significant settlement. Note marks F18, F20, and F24 are tentatively labelled as 'Dist'd' and not used for contouring the settlement.
The five extra 'Favona' settlement marks are again shown on the plan. These are FP1, BLOCK-S, BLOCK-N, TRIG 22, and TRIG 24. The settlements for these marks have generally been deduced relative to original reduced levels measured around the year 1987 –although FP1 (at the Favona portal) was established about the year 2000. The underlying zone for the Favona marks is now Zone 5 Martha (2019).
I understand that Time-History plots for all survey marks grouped by zone will be produced by other persons in accordance with the "Settlement and Groundwater Monitoring Plan 31 July 2005"



Bruce Morrison
Registered Professional Surveyor

Table 1. Total Movement

	Zone	station i.d.	SURVEY DATE	X	Y	TOTAL Z	SETTLEMENT May-25	Comments
1	Zone7	BM19B	1/05/2025	2117.17	1244.355	35.509	-0.357	
1	Zone7	19BB	1/05/2025	2191.56	1292.022	35.504	-0.3538	
1	Zone7	17CB	1/05/2025	2014.23	1201.01	35.441	-0.3326	
3	Zone6	BM20	1/05/2025	2342.50	1476.25	35.557	-0.4238	Dist'd
1	Zone6	BM20A	1/05/2025	2345.50	1484.901	35.736	-0.3412	
1	Zone6	19CB	1/05/2025	2296.71	1381.4	34.897	-0.3329	
1	Zone6	17BB	1/05/2025	1919.52	1160.787	37.327	-0.304	
1	Zone6	17AB	1/05/2025	1841.32	1104.80	36.852	-0.2633	
1	Zone6	34GC	1/05/2025	2211.33	1119.517	32.117	-0.2348	
1	Zone6	2.04B	1/05/2025	1893.21	968.34	29.064	-0.2268	
1	Zone6	2.10	1/05/2025	2143.92	950.39	30.267	-0.2019	
1	Zone6	18EE	1/05/2025	1750.73	809.328	23.42	-0.2014	
1	Zone6	18C	1/05/2025	1494.95	767.193	27.455	-0.1999	

1	Zone6	18IB	1/05/2025	1611.19	784.79	25.818	-0.1974
1	Zone6	34AD	1/05/2025	1470.88	886.92	29.75	-0.1968
1	Zone6	34BE	1/05/2025	1732.56	931.603	28.312	-0.1947
1	Zone6	34H	1/05/2025	2233.59	970.561	32.154	-0.1931
1	Zone6	10BC	1/05/2025	1560.13	1062.92	38.084	-0.1836
1	Zone6	34CB	1/05/2025	1967.74	983.202	30.023	-0.1835
1	Zone6	BM34	1/05/2025	1528.38	903.297	30.304	-0.1791
1	Zone6	34FC	1/05/2025	2120.79	587.931	19.032	-0.174
1	Zone6	BM17A	1/05/2025	1724.44	1088.919	40.017	-0.1712
1	Zone6	11AC	1/05/2025	1308.26	859.512	29.327	-0.1699
1	Zone6	10AB	1/05/2025	1430.61	1036.998	34.986	-0.167
1	Zone6	2.08B	1/05/2025	2289.75	782.64	24.526	-0.1604
1	Zone6	18AB	1/05/2025	1632.39	667.73	22.132	-0.1594
1	Zone6	2.11C	1/05/2025	2292.35	896.99	26.607	-0.1567
1	Zone6	1.28B	1/05/2025	1987.03	447.706	12.094	-0.1509
1	Zone6	2.09C	1/05/2025	2228.35	868.63	28.634	-0.1499
1	Zone6	34I	1/05/2025	2229.55	765.534	28.457	-0.1412
1	Zone6	2.06	1/05/2025	2351.95	334.473	11.275	-0.1267
1	Zone5	20C	1/05/2025	2450.61	1413.86	36.299	-0.2084
1	Zone5	21DC	1/05/2025	2573.96	1304.152	37.748	-0.1917
1	Zone5	A10B	1/05/2025	1298.62	1049.614	30.676	-0.1908
1	Zone5	20E	1/05/2025	2535.65	1542.672	37.071	-0.1898
1	Zone5	25D	1/05/2025	2547.05	1248.02	36.852	-0.1888
1	Zone5	16BC	1/05/2025	1252.81	1336.473	39.441	-0.1865
1	Zone5	25A	1/05/2025	2505.13	1203.768	35.924	-0.1858
1	Zone5	25E	1/05/2025	2472.35	1162.013	34.759	-0.1845
1	Zone5	BM25	1/05/2025	2424.91	1100.253	33.467	-0.1811
1	Zone5	BM16	1/05/2025	1418.09	1218.03	46.415	-0.1794
1	Zone5	21O	1/05/2025	2527.37	1356.342	35.997	-0.1788
1	Zone5	10DC	1/05/2025	1279.04	1198.326	35.289	-0.1761
1	Zone5	20D	1/05/2025	2482.07	1473.478	36.544	-0.1734
1	Zone5	21N	1/05/2025	2623.25	1342.435	38.279	-0.17
1	Zone5	2.41	1/05/2025	3296.32	685.398	46.247	-0.1694
1	Zone5	25G	1/05/2025	2594.60	1149.415	37.576	-0.1685
1	Zone5	25CB	1/05/2025	2615.91	1190.496	38.284	-0.1673
1	Zone5	25F	1/05/2025	2542.53	1116.24	35.986	-0.1669
1	Zone5	25H	1/05/2025	2648.48	1232.956	38.909	-0.1667
1	Zone5	10CB	1/05/2025	1222.46	1025.855	29.768	-0.1641
1	Zone5	24L	1/05/2025	2761.67	1181.326	39.316	-0.1622
1	Zone5	18FB	1/05/2025	1794.53	557.104	15.942	-0.1595
1	Zone5	12CE	1/05/2025	1499.92	543.077	20.976	-0.1594
1	Zone5	13AC	1/05/2025	1751.98	327.376	18.586	-0.1589

1	Zone5	2.03	1/05/2025	1930.08	745.943	22.585	-0.1584
1	Zone5	25B	1/05/2025	2497.67	1105.828	34.819	-0.158
1	Zone5	BM12	1/05/2025	1370.27	607.735	23.949	-0.1577
1	Zone5	34EB	1/05/2025	2073.93	705.952	24.632	-0.1556
1	Zone5	18G	1/05/2025	1669.05	554.60	18.468	-0.1548
1	Zone5	25I	1/05/2025	2537.20	1045.036	34.678	-0.1547
1	Zone5	18B	1/05/2025	1510.36	650.578	23.553	-0.154
1	Zone5	24DC	1/05/2025	2718.29	1323.127	39.628	-0.1528
1	Zone5	21C	1/05/2025	2651.57	1389.816	38.46	-0.1522
1	Zone5	24AC	1/05/2025	2743.58	1218.9	40.084	-0.1514
1	Zone5	2A	1/05/2025	1069.03	1111.858	23.792	-0.1508
1	Zone5	24F	1/05/2025	2772.80	1257.274	40.123	-0.1507
1	Zone5	1.28A	1/05/2025	1888.26	505.887	13.205	-0.1505
1	Zone5	24E	1/05/2025	2758.43	1303.234	40.358	-0.1501
1	Zone5	34D	1/05/2025	2038.90	783.431	25.336	-0.1501
1	Zone5	22F	1/05/2025	2815.91	1325.407	40.228	-0.1495
1	Zone5	BM24	1/05/2025	2794.55	1279.361	40.394	-0.1491
1	Zone5	BM18	1/05/2025	1771.96	674.528	19.422	-0.1484
1	Zone5	20AC	1/05/2025	2461.04	1536.905	37.011	-0.1481
1	Zone5	24G	1/05/2025	2705.96	1170.464	39.795	-0.1478
1	Zone5	13BC	1/05/2025	1850.36	246.587	13.714	-0.147
1	Zone5	24K	1/05/2025	2783.89	1387.719	40.611	-0.1469
1	Zone5	15A	1/05/2025	1204.79	818.863	28.763	-0.1457
1	Zone5	21EB	1/05/2025	2799.95	1429.087	41.628	-0.1456
1	Zone5	12DC	1/05/2025	1596.95	435.491	19.96	-0.1455
1	Zone5	18HC	1/05/2025	1821.52	466.47	14.883	-0.1449
1	Zone5	12AC	1/05/2025	1388.32	488.888	19.041	-0.1441
1	Zone5	24B	1/05/2025	2667.67	1126.399	39.378	-0.1433
1	Zone5	24H	1/05/2025	2630.70	1072.279	36.151	-0.1428
1	Zone5	24J	1/05/2025	2749.39	1365.756	40.23	-0.1411
1	Zone5	20BB	1/05/2025	2533.26	1622.291	37.87	-0.1411
1	Zone5	AP22A	1/05/2025	1868.44	188.57	12.398	-0.1410
1	Zone5	15BC	1/05/2025	1169.90	708.855	26.325	-0.1399
1	Zone5	11BB	1/05/2025	1348.57	710.573	26.921	-0.1379
1	Zone5	21M	1/05/2025	2694.90	1439.648	39.178	-0.1375
1	Zone5	1.10B	1/05/2025	1597.98	284.28	16.777	-0.1372
1	Zone5	BM13	1/05/2025	1426.61	269.34	13.568	-0.1371
1	Zone5	20F	1/05/2025	2605.79	1575.98	37.565	-0.1366
1	Zone5	4DB	1/05/2025	1033.26	1550.66	32.242	-0.1358
1	Zone5	12BC	1/05/2025	1405.27	368.295	14.913	-0.1347
1	Zone5	BM21	1/05/2025	2654.80	1515.397	39.421	-0.1324
1	Zone5	21K	1/05/2025	2681.11	1572.207	39.996	-0.1293
1	Zone5	21BC	1/05/2025	2719.27	1477.799	41.266	-0.1289
1	Zone5	2.17A	1/05/2025	3085.76	555.866	36.901	-0.1285
1	Zone5	4B	1/05/2025	1021.54	1448.629	31.247	-0.1274
1	Zone5	2BC	1/05/2025	970.20	1241.898	30.38	-0.126

1	Zone5	BM9B	1/05/2025	1220.25	1523.285	34.743	-0.1144	
1	Zone5	30C	1/05/2025	2573.54	1675.395	38.44	-0.1139	
1	Zone5	7CB	1/05/2025	1161.74	1597.63	30.605	-0.1108	
1	Zone5	AP3	1/05/2025	918.94	1140.585	26.06	-0.1103	
1	Zone5	26F	1/05/2025	1392.77	1680.261	43.853	-0.0869	
1	Zone5	26R	1/05/2025	1905.59	1927.165	71.355	-0.0802	
1	Zone5	26PB	1/05/2025	1834.84	1893.106	67.943	-0.0796	
1	Zone5	26Q	1/05/2025	1963.00	1982.711	73.672	-0.0791	
1	Zone4	23C	1/05/2025	2856.14	1068.014	37.544	-0.2221	Nr Zone 5
1	Zone4	23AB	1/05/2025	3145.42	1078.732	37.187	-0.1848	?
1	Zone4	2.24	1/05/2025	2885.91	1215.469	41.276	-0.171	Nr Zone 5
1	Zone4	22C	1/05/2025	2846.39	1352.544	40.309	-0.1703	Nr Zone 5
1	Zone4	BANK1	1/05/2025	2866.21	1023.248	37.79	-0.1643	Nr Zone 5
1	Zone4	23D	1/05/2025	2861.42	1154.885	38.853	-0.1639	Nr Zone 5
1	Zone4	2.25	1/05/2025	2874.51	1097.261	37.977	-0.1582	
1	Zone4	MATAURA1	1/05/2025	2831.84	1250.806	41.063	-0.1568	
1	Zone4	22GB	1/05/2025	2862.88	1387.968	40.839	-0.1552	
1	Zone4	23B	1/05/2025	2856.49	949.794	38.745	-0.1551	
1	Zone4	2.14A	1/05/2025	2853.28	838.669	41.313	-0.1546	
1	Zone4	23E	1/05/2025	2774.82	972.514	37.708	-0.1535	
1	Zone4	2.19B	1/05/2025	3270.21	916.063	38.557	-0.1519	
1	Zone4	BARRY1	1/05/2025	3047.74	926.576	38.114	-0.1508	
1	Zone4	MORTON	1/05/2025	2975.42	1231.913	40.712	-0.1477	
1	Zone4	BARRY3	1/05/2025	3176.85	895.991	37.685	-0.1456	
1	Zone4	2.18	1/05/2025	3218.04	712.756	44.542	-0.1447	
1	Zone4	23F	1/05/2025	2700.77	968.793	36.653	-0.1446	
1	Zone4	BARRY2B	1/05/2025	2937.67	943.59	38.553	-0.1443	
1	Zone4	2.13	1/05/2025	2725.42	874.951	47.212	-0.1439	
1	Zone4	BARRY4B	1/05/2025	3320.16	912.693	38.887	-0.1436	
1	Zone4	BARRY5	1/05/2025	3397.59	904.647	40.99	-0.1424	
1	Zone4	2HB	1/05/2025	1078.24	886.85	24.383	-0.1423	
1	Zone4	BARRY6	1/05/2025	3432.52	904.356	42.475	-0.1423	
1	Zone4	1.11B	1/05/2025	1675.83	133.622	9.021	-0.142	
1	Zone4	22E	1/05/2025	3055.20	1231.504	40.782	-0.1415	
1	Zone4	22BC	1/05/2025	2916.75	1435.773	42.103	-0.1388	
1	Zone4	BM23	1/05/2025	3107.42	921.049	38.089	-0.1381	
1	Zone4	2.20	1/05/2025	3467.69	904.56	43.783	-0.1381	
1	Zone4	2.23	1/05/2025	3560.02	1212.795	36.635	-0.1375	
1	Zone4	STAFORD	1/05/2025	3139.86	998.179	37.317	-0.1372	
1	Zone4	22H	1/05/2025	2869.25	1441.796	41.62	-0.1368	
1	Zone4	2.16	1/05/2025	3007.62	739.64	33.592	-0.1358	
1	Zone4	22I	1/05/2025	2918.98	1461.367	41.914	-0.1352	
1	Zone4	22M	1/05/2025	2973.44	1434.656	41.671	-0.135	
1	Zone4	2.15	1/05/2025	2918.94	723.52	38.362	-0.1349	
1	Zone4	21P	1/05/2025	2849.17	1456.9	41.851	-0.1323	
1	Zone4	AP100	1/05/2025	1893.80	81.273	11.776	-0.1318	
1	Zone4	22L	1/05/2025	3047.70	1499.876	40.992	-0.1297	

1	Zone4	BM2	1/05/2025	915.74	1091.799	24.821	-0.1295
1	Zone4	1.05	1/05/2025	1176.96	473.454	21.81	-0.1294
1	Zone4	GW	1/05/2025	3128.83	1140.936	38.54	-0.1294
1	Zone4	2.22	1/05/2025	3339.13	1206.603	40.349	-0.1288
1	Zone4	22A	1/05/2025	3003.28	1429.771	41.644	-0.1287
1	Zone4	CUBA	1/05/2025	3224.32	1079.177	35.825	-0.1282
1	Zone4	BARRY7	1/05/2025	3518.87	901.897	43.612	-0.1271
1	Zone4	BARRY8	1/05/2025	3592.28	871.451	37.934	-0.1263
1	Zone4	22D	1/05/2025	3100.02	1335.441	41.45	-0.1261
1	Zone4	22J	1/05/2025	2944.47	1489.763	42.425	-0.1247
1	Zone4	21FB	1/05/2025	2861.65	1512.211	42.648	-0.1223
1	Zone4	21AC	1/05/2025	2716.64	1617.767	39.689	-0.12
1	Zone4	1.26	1/05/2025	1926.81	30.053	15.087	-0.1198
1	Zone4	15C	1/05/2025	1156.82	571.077	24.202	-0.1196
1	Zone4	26BE	1/05/2025	1408.78	1800.553	38.807	-0.1191
1	Zone4	21L	1/05/2025	2806.79	1575.074	43.085	-0.1188
1	Zone4	2.29B	1/05/2025	2953.39	1548.172	42.588	-0.1188
1	Zone4	2GB	1/05/2025	922.38	967.661	22.667	-0.1185
1	Zone4	1.06	1/05/2025	1159.34	302.262	17.214	-0.1171
1	Zone4	BM22	1/05/2025	3115.79	1442.952	40.618	-0.1162
1	Zone4	27KB	1/05/2025	2320.23	2120.206	63.33	-0.1156
1	Zone4	2.27	1/05/2025	3379.40	1371.481	37.756	-0.1146
1	Zone4	21Q	1/05/2025	2899.60	1571.317	43.126	-0.1112
1	Zone4	26CE	1/05/2025	1377.77	1711.891	40.593	-0.1106
1	Zone4	21I	1/05/2025	2854.70	1668.793	41.642	-0.1105
1	Zone4	22KB	1/05/2025	2981.80	1603.49	42.85	-0.1067
1	Zone4	30BB	1/05/2025	2604.86	1726.496	41.549	-0.1059
1	Zone4	BM15	1/05/2025	976.94	783.004	20.513	-0.1035
1	Zone4	SM822	1/05/2025	2512.91	1841.132	41.455	-0.1031
1	Zone4	1.09B	1/05/2025	1344.14	117.48	9.922	-0.1031
1	Zone4	21GC	1/05/2025	2901.12	1614.054	43.444	-0.1028
1	Zone4	27N	1/05/2025	2179.57	2075.985	71.913	-0.0976
1	Zone4	2.30B	1/05/2025	3000.35	1672.941	43.171	-0.0966
1	Zone4	27E	1/05/2025	2494.09	2171.622	50.342	-0.0962
1	Zone4	21HC	1/05/2025	2916.84	1728.842	42.882	-0.094
1	Zone4	7BB	1/05/2025	1105.69	1689.902	35.934	-0.0933
1	Zone4	4.08	1/05/2025	2350.64	2022.324	73.214	-0.0931
1	Zone4	3.01	1/05/2025	1291.95	1690.334	37.291	-0.0885
1	Zone4	4.07	1/05/2025	2554.47	2079.237	45.047	-0.0861
1	Zone4	3.04B	1/05/2025	1123.76	1821.498	39.279	-0.0859
1	Zone4	26AE	1/05/2025	1432.47	1883.479	37.547	-0.0858
1	Zone4	26H	1/05/2025	1452.90	1729.593	49.955	-0.0838
1	Zone4	27H	1/05/2025	2413.27	2149.757	57.027	-0.0835
1	Zone4	4.05	1/05/2025	2809.68	1897.682	40.619	-0.0824
1	Zone4	27J	1/05/2025	2344.14	2136.138	62.134	-0.0819
1	Zone4	26JB	1/05/2025	1495.71	1756.55	53.723	-0.0794
1	Zone4	26MB	1/05/2025	1593.46	1750.66	58.964	-0.0791

1	Zone4	BM30	1/05/2025	2715.36	1996.207	44.085	-0.0786	
1	Zone4	3.02	1/05/2025	1344.87	1837.735	34.939	-0.0782	
1	Zone4	3.09	1/05/2025	1618.51	1870.174	51.915	-0.077	
1	Zone4	27F	1/05/2025	2466.48	2164.026	52.32	-0.0749	
1	Zone4	30AB	1/05/2025	2685.64	1898.443	46.235	-0.0736	
1	Zone4	3.11A	1/05/2025	1786.17	1929.216	62.15	-0.0721	
1	Zone4	27DC	1/05/2025	2541.24	2190.709	48.19	-0.0695	
1	Zone4	3.10A	1/05/2025	1689.03	1978.29	53.435	-0.0694	
1	Zone4	27AB	1/05/2025	2009.08	2064.334	73.482	-0.0686	
1	Zone4	BM26	1/05/2025	1542.45	1837.805	45.4185	-0.0676	
1	Zone4	27L	1/05/2025	2280.24	2115.405	65.841	-0.0669	
1	Zone4	1.12B	1/05/2025	794.14	-73.011	11.038	-0.0667	
1	Zone4	3.13	1/05/2025	1744.89	2097.492	53.759	-0.0656	
1	Zone4	27O	1/05/2025	2101.57	2042.821	75.027	-0.0635	
1	Zone4	26OB	1/05/2025	1706.93	1812.27	67.178	-0.0568	
1	Zone4	3.6A	1/05/2025	1526.28	2015.74	38.916	-0.0496	
3	Zone4	21JB	1/05/2025	2772.20	1687.21	39.936	new mark	
3	Zone4	2.31B	1/05/2025	3201.23	1637.289	missed	missed	
1	Zone3	2CE	1/05/2025	774.75	1313.191	34.605	-0.1209	Nr Zone 5
1	Zone3	14DB	1/05/2025	876.99	411.215	15.144	-0.1098	Nr Zone 4
1	Zone3	2.34	1/05/2025	3452.45	1683.502	37.706	-0.1073	Nr 2.33
1	Zone3	1.25	1/05/2025	2175.94	-129.105	20.048	-0.098	Nr Zone 4
1	Zone3	2.36	1/05/2025	3433.14	1534.879	35.919	-0.0962	Nr Zone 4
1	Zone3	A33C	1/05/2025	456.03	1219.226	35.844	-0.0959	Nr 2CE
1	Zone3	1.07	1/05/2025	924.43	267.487	12.489	-0.0946	
1	Zone3	2.40B	1/05/2025	3572.85	1526.452	33.146	-0.0941	
1	Zone3	2FC	1/05/2025	720.33	843.055	23.913	-0.0935	
1	Zone3	4EC	1/05/2025	782.01	1687.78	41.117	-0.0927	
1	Zone3	4.02	1/05/2025	2797.90	2143.571	45.758	-0.0911	
1	Zone3	15DB	1/05/2025	917.56	466.148	15.589	-0.091	
1	Zone3	14EA	1/05/2025	808.56	504.723	17.078	-0.0908	
1	Zone3	4A	1/05/2025	815.01	1494.154	40.684	-0.0884	
1	Zone3	2DA	1/05/2025	682.15	1189.579	35.801	-0.0876	
1	Zone3	BM31	1/05/2025	2967.04	1873.475	43.279	-0.0865	
1	Zone3	31BC	1/05/2025	3159.33	1954.857	45.496	-0.0865	
1	Zone3	14CB	1/05/2025	759.10	389.766	18.81	-0.0858	
1	Zone3	4.03B	1/05/2025	2794.90	2044.783	43.797	-0.0839	
1	Zone3	1.08	1/05/2025	1052.91	107.171	16.515	-0.0838	
1	Zone3	14BC	1/05/2025	535.45	340.672	20.902	-0.0835	
1	Zone3	4.04	1/05/2025	2662.60	2131.765	45.914	-0.0812	
1	Zone3	2EB	1/05/2025	689.02	1054.621	29.251	-0.081	
1	Zone3	1.21A	1/05/2025	1939.94	-325.504	19.649	-0.0807	
1	Zone3	4.01C	1/05/2025	2891.78	2113.146	47.298	-0.0801	
1	Zone3	31AC	1/05/2025	3059.04	1910.629	44.063	-0.0795	
1	Zone3	14FB	1/05/2025	705.60	649.144	20.14	-0.0794	
1	Zone3	1.22	1/05/2025	1510.00	-249.925	15.854	-0.0788	
1	Zone3	29DB	1/05/2025	2996.63	2106.664	47.803	-0.0759	

1	Zone3	3.25	1/05/2025	3116.90	2107.056	49.808	-0.0734	
1	Zone3	3.24B	1/05/2025	3012.46	2251.58	51.991	-0.0645	
1	Zone3	29CE	1/05/2025	2891.84	2285.59	51.567	-0.0626	
1	Zone3	29AC	1/05/2025	2641.62	2218.071	48.514	-0.0619	
1	Zone3	29B	1/05/2025	2772.84	2242.217	49.999	-0.0477	
3	Zone3	2.33	1/05/2025	3294.51	1691.952	lost	lost	borrow pit
1	Zone2	1K	1/05/2025	511.74	957.17	29.588	-0.0810	Nr Zone3
1	Zone2	7AC	1/05/2025	994.54	1781.823	43.516	-0.0759	Nr Zone 4
1	Zone2	3.14	1/05/2025	1752.75	2214.323	48.751	-0.0756	Nr Zone 4
1	Zone2	3.03	1/05/2025	1134.46	1917.237	39.341	-0.0739	Nr Zone 4
1	Zone2	33F	1/05/2025	347.95	1511.678	42.035	-0.0735	Nr 33E
1	Zone2	BM4	1/05/2025	689.21	1555.547	42.269	-0.0717	Nr Zone 3
1	Zone2	1JB	1/05/2025	604.79	822.761	26.4	-0.0702	Nr Zone 3
1	Zone2	4FB	1/05/2025	562.51	1370.97	39.363	-0.0701	Nr Zone 3
1	Zone2	3.12	1/05/2025	1599.68	2152.41	40.258	-0.0698	Nr Zone 4
1	Zone2	BM7	1/05/2025	1057.32	1843.069	44.108	-0.0684	Nr Zone 4
1	Zone2	1.04	1/05/2025	795.98	129.359	12.791	-0.0679	Nr Zone 3
1	Zone2	1C	1/05/2025	421.48	1098.886	34.782	-0.0666	Nr Zone 3
1	Zone2	33A	1/05/2025	338.15	1303.893	36.712	-0.0666	Nr Zone 3
1	Zone2	33E	1/05/2025	437.71	1437.524	40.98	-0.0663	Nr Zone 3
1	Zone2	BM14	1/05/2025	718.16	485.955	19.824	-0.0636	
1	Zone2	1B	1/05/2025	337.50	1062.935	33.995	-0.0622	
1	Zone2	3.07	1/05/2025	1362.08	2096.818	48.037	-0.0622	
1	Zone2	1I	1/05/2025	468.34	761.23	27.267	-0.0620	
1	Zone2	6A	1/05/2025	946.43	1928.115	47.507	-0.061	
1	Zone2	33DB	1/05/2025	265.40	1714.719	46.358	-0.0604	
1	Zone2	BM6	1/05/2025	881.86	1837.081	46.225	-0.0586	
1	Zone2	14AC	1/05/2025	515.17	457.622	24.015	-0.0581	
1	Zone2	5C	1/05/2025	705.43	1754.71	45.159	-0.058	
1	Zone2	33GA	1/05/2025	415.95	1621.638	45.345	-0.0555	
1	Zone2	1HC	1/05/2025	299.70	702.8	27.036	-0.0549	
1	Zone2	1FB	1/05/2025	210.46	850.78	29.823	-0.0545	
1	Zone2	1EB	1/05/2025	388.60	912.09	30.425	-0.0539	
1	Zone2	3.15	1/05/2025	1696.24	2315.821	39.095	-0.053	
1	Zone2	1O	1/05/2025	-271.35	814.183	22.705	-0.0527	
1	Zone2	1A	1/05/2025	249.92	1026.38	33.324	-0.0517	
1	Zone2	BM29	1/05/2025	2608.80	2400.756	55.958	-0.0504	
1	Zone2	33C	1/05/2025	222.53	1621.241	44.398	-0.0501	
1	Zone2	3.22A	1/05/2025	2891.15	2398.649	56.655	-0.0497	
1	Zone2	1GB	1/05/2025	-2.87	769.742	29.285	-0.0497	
1	Zone2	1ME	1/05/2025	-155.40	879.887	26.094	-0.0492	
1	Zone2	33B	1/05/2025	156.88	1430.804	34.404	-0.049	
1	Zone2	BM1	1/05/2025	152.75	994.869	32.767	-0.0476	
1	Zone2	1.03B	1/05/2025	365.55	323.37	19.378	-0.0472	
1	Zone2	1.02D	1/05/2025	85.42	283.3	18.651	-0.047	
1	Zone2	5AC	1/05/2025	470.30	1688.454	47.031	-0.0468	
1	Zone2	3.05	1/05/2025	966.29	1990.771	47.186	-0.0464	

1	Zone2	1.01	1/05/2025	56.47	604.075	25.442	-0.0449	
1	Zone2	BM5	1/05/2025	325.93	1806.47	47.803	-0.0424	
1	Zone2	1RA	1/05/2025	-579.06	750.356	16.727	-0.0408	
1	Zone2	AP2	1/05/2025	-1276.40	954.13	5.763	-0.033	
1	Zone2	1.14	1/05/2025	496.74	-535.095	8.437	-0.0326	
1	Zone2	1.16	1/05/2025	1552.97	-1086.27	18.355	-0.023	
3	Zone2	1PA	1/05/2025	-351.51	787.24	missed	missed	
3	Zone1	2.44	1/05/2025	2734.64	421.025	27.234	-0.5947	Dist'd
1	Zone1	2.05	1/05/2025	2535.68	272.682	20.76	-0.1201	Nr Zone 5
1	Zone1	31NE	1/05/2025	4349.43	1927.421	33.325	-0.1036	Nr river
1	Zone1	31FC	1/05/2025	3614.22	1954.151	43.399	-0.1031	Nr 31DD
1	Zone1	31LC	1/05/2025	4168.53	1862.106	32.065	-0.1026	Nr river
1	Zone1	2.35	1/05/2025	3609.80	1652.681	34.089	-0.0967	Nr Zone 3
1	Zone1	31HC	1/05/2025	3810.83	1924.654	40.303	-0.0925	Nr 31FC
1	Zone1	31JD	1/05/2025	4005.65	1911.423	35.53	-0.0905	Nr 31HC
1	Zone1	31DD	1/05/2025	3400.43	1989.833	46.676	-0.0839	Nr Zone 3
1	Zone1	31PC	1/05/2025	4393.52	1991.662	37.705	-0.0777	Nr 31NE
1	Zone1	31QC	1/05/2025	4417.71	2035.374	39.602	-0.0737	Nr 31PC
1	Zone1	28AE	1/05/2025	2128.26	2448.76	85.9065	-0.0698	Nr Zone 2
1	Zone1	3.21	1/05/2025	2585.77	2493.375	64.923	-0.0532	
1	Zone1	3.30	1/05/2025	3296.29	2235.94	50.3695	-0.0532	
1	Zone1	1.20B	1/05/2025	1995.49	-664.093	22.021	-0.0515	
1	Zone1	3.16	1/05/2025	2195.60	2563.077	95.603	-0.0494	
1	Zone1	1.24	1/05/2025	2225.16	-613.228	16.685	-0.0486	
1	Zone1	1.23	1/05/2025	1013.01	-440.769	13.26	-0.0486	
1	Zone1	3.26B	1/05/2025	3200.09	2347.92	55.408	-0.0465	
1	Zone1	AP2A	1/05/2025	-766.18	738.506	12.305	-0.0447	
1	Zone1	1.13	1/05/2025	591.36	-310.797	7.049	-0.0435	
1	Zone1	AP1A	1/05/2025	4557.10	2288.33	42.457	-0.0430	
1	Zone1	3.23	1/05/2025	3035.80	2453.651	59.615	-0.0426	
1	Zone1	3.29	1/05/2025	3662.64	2323.53	44.91	-0.0405	
1	Zone1	AP1	1/05/2025	4486.29	2137.008	41.353	-0.0395	
1	Zone1	3.27B	1/05/2025	3148.37	2510.53	60.273	-0.0386	
1	Zone1	1.27B	1/05/2025	1401.56	-701.57	15.3245	-0.0366	
1	Zone1	1UA	1/05/2025	-914.75	759.054	8.72	-0.0346	
1	Zone1	AP24A	1/05/2025	2114.57	-1292.93	28.045	-0.0302	
1	Zone1	1.17B	1/05/2025	2082.20	-1093.92	25.575	-0.0286	
1	Zone1	1.15	1/05/2025	923.35	-995.413	14.346	-0.026	
1	Zone1	AP20No2	1/05/2025	-2303.63	731.69	20.183	-0.0222	
1	Zone1	BM28/2	1/05/2025	2282.46	2770.684	101.885	-0.0007	
1	Zone1	AP19	1/05/2025	-3242.58	480.68	-6.5213	0	control
1	Zone1	BUH5	1/05/2025	5480.15	2780.649	52.7029	0	control
1	Zone1	C1	1/05/2025	2183.23	-1759.33	32.8139	0	control
1	Favona	F18	1/05/2025	3423.83	648.3	39.941	-0.3904	
1	Favona	F20	1/05/2025	3411.70	665.722	40.873	-0.3311	
1	Favona	F21	1/05/2025	3405.99	671.998	40.717	-0.2963	
1	Favona	F17B	1/05/2025	3405.48	613.912	43.944	-0.2955	

1	Favona	F24	1/05/2025	3388.13	690.846	40.599	-0.2889
1	Favona	F22	1/05/2025	3399.79	678.393	40.663	-0.2734
1	Favona	F15C	1/05/2025	3297.17	585.319	57.304	-0.2125
1	Favona	BLOCK-S	1/05/2025	3295.82	124.324	24.804	-0.208
1	Favona	F16B	1/05/2025	3367.38	578.696	46.361	-0.205
1	Favona	F26	1/05/2025	3374.47	705.541	40.567	-0.1989
1	Favona	BLOCK-N	1/05/2025	3336.45	215.694	24.273	-0.19
1	Favona	F10B	1/05/2025	3176.88	446.75	49.241	-0.1871
1	Favona	F12C	1/05/2025	3207.32	503.824	53.472	-0.1808
1	Favona	F34C	1/05/2025	3339.49	849.569	40.161	-0.1795
1	Favona	F28B	1/05/2025	3365.21	727.17	40.488	-0.1717
1	Favona	F30B	1/05/2025	3359.36	748.26	40.676	-0.1615
1	Favona	F08A	1/05/2025	3126.97	430.49	42.718	-0.1595
1	Favona	F32B	1/05/2025	3348.78	769.103	40.842	-0.15
1	Favona	F35B	1/05/2025	3336.68	896.063	39.751	-0.1462
1	Favona	F06	1/05/2025	3107.08	445.21	40.473	-0.1448
1	Favona	ITXCIVB	1/05/2025	2943.85	542.17	32.585	-0.1377
1	Favona	F02	1/05/2025	3097.60	490	38.175	-0.1357
1	Favona	F05	1/05/2025	3104.66	455.54	39.434	-0.1351
1	Favona	FP1	1/05/2025	3004.15	131.25	45.389	-0.12
1	Favona	TRIG 24	1/05/2025	3260.76	-615.678	25.663	-0.067
1	Favona	TRIG 22	1/05/2025	3681.97	89.358	26.128	-0.062
3	Favona	F14D	1/05/2025	3274.74	552.64	60.659	new mark

MEMORANDUM

TO: **SHANE REYNOLDS**

FROM: **BRUCE MORRISON**

DATE: **23RD FEBRUARY 2026**

SUBJECT: **GROUND SETTLEMENT MONITORING -NOVEMBER 2025**

Introduction

This report outlines the results from the November 2025 Ground Settlement Monitoring Survey.

Field Method

The settlement monitoring marks were levelled during November and December 2025, for OceanaGold under my supervision -utilising three different instrument surveyor operators, f(rom SEAM SPATIAL), and two different field assistants.

Equipment used for this 'November 2025' event was a LEICA LS15 0.3 electronic digital level (SN 710477) paired with the LEICA 3 section 4.05 metre fibreglass bar coded GKNL4F staff. A calibration check was carried out by the LEICA supplier before commencing this event.

A summary of the above framework 'misclosures' for the last thirty-nine events is tabulated below.

Event	West –East misclose (mm)	North –South misclose (mm)
	AP2 > 34BE > AP1	34BE > AP6
May 2007	+2.4	+6.4
Nov 2007	+2.7	+3.1
May 2008	+13.2	+4.0
Nov 2008	-8.1	+7.3
May2009	+8.8	+3.7
Nov 2009	-5.8	+2.0
May 2010	-8.1	+4.3
Nov 2010	-0.6	+6.4
May 2011	+2.0	+2.7
Nov 2011	+6.9	+6.5
May 2012	+4.1	+6.7
Nov 2012	+23.3	+5.3
May 2013	+2.7	+9.5
Nov 2013	-0.9	+4.5
May 2014	-1.1	+11.5
Nov 2014	-2.6	+7.0
May 2015	+1.6	+6.3
Nov 2015	-8.0	+10.3
May 2016	+9.2	+12.2
	AP20 No 2 >AP2 > 34BE > AP1	34BE > AP6
Nov 2016	+14.2	+3.6
	AP19 >AP2 > 34BE > AP1	34BE > AP6
May 2017	+1.0	+0.4
Nov 2017	-10.2	-0.5
May 2018	+6.4	+4.0
Nov 2018	-11.1	+3.6
	AP19 >AP2 > 34BE > AP1>BUH5	34BE > AP6
May 2019	See page 2	See page 2
	AP19 >AP2 > 34BE > AP1>BUH5	34BE > AP6
May 2019	-7.9	-6.9

	AP19 >AP2 > 34BE > AP1>BUH5	34BE > AP24A> 34BE
Nov 2019	+0.3	-1.3
	AP19 >AP2 > 34BE > AP1>BUH5	34BE > AP24A> C1
May 2020	-5.5	-1.7
Nov 2020	-3.2	-2.5
May2021	-38.7	-9.2
Nov 2021	-0.8	+1.7
May2022	+10.6	+2.3
Nov2022	+30.7	+9.7
May 2023	+14.1	+10.7
Nov 2023	+14.4	+10.2
May 2024	+13.3	+4.9
Nov 2024	+17	+1
May 2025	+4	+6
Nov 2025	+29.0	+3

Extending Levelling

This levelling event included LINZ benchmarks AP2, AP20 No 2, AP19, (to the west of Waihi), AP1 and BUH5 (to the east of Waihi). AP24 a.k.a control mark AP6 (south of Waihi) and AP25 have been lost to road works. AP24A and C1 have been established as a replacement for the lost AP6 control mark in this vicinity. AP2 and AP20 No 2 have now been 'unfixed' and AP19 is the fixed benchmark west of Waihi. The 'fixed' elevation value for AP19 was deduced from LINZ data comparing the relative levels of AP19, AP2, AP20 No2, and AP24 dating back to the year 1990. East of Waihi, AP1 is now 'unfixed, and there has never been any LINZ data for this mark although AP1 appears to be constructed to the same specifications as AP19 and AP26. The R.L. for the 'new' fixed eastern control mark (BUH5) was the mean value from two close values (relative to AP19) levelled in May 2021 and Nov 2021.
A feature of this event was the instruction to infill and extend the levelling by 34 new marks. Of the 34 marks 28 have been installed and levelled, 2 have been installed but not yet levelled, and 4 have not yet been installed nor levelled.

Photographs

The order of levelling of the monitoring points has now been fixed. This has been achieved by photographing all of the settlement points and placing them in 22 albums –generally in the order the points are to be levelled. This will achieve repeatable error distribution and should therefore give better results. I believe **all** the marks now have accurate GPS fixes. In the future, this should make the task of locating these marks easier if the marks are covered over by re-seal etc, or quickly confirm if the marks have definitely been 'lost' to street maintenance etc.

I recommend continuing these 'maintenance' details before or during the next levelling event.

Adjustments

Disturbed marks BM20 and 2.44 are excluded from the settlement contouring- as are marks F18, F20, and F24. All the above marks are excluded from the settlement contouring. Mark 1PA was again missed owing to a road gravel heap over it. Marks Marks 21JB and F14D have had 'previous histories' deduced. Mark 2.31B has been lost or missed owing to a residential development. Mark 2.36 may have been disturbed owing to residential development. Marks 2.03, 34D, and SM822 were 'missed'.

Results

Two A1 plans are attached -one (T20260213A) is colour coded by seven zones as identified in the 'Settlement and Groundwater Monitoring Plan. The original Zone boundaries and 'trigger' settlement values have been modified to match *Engineering Geology Ltd* Drawing No. 8332-Fig 16.

The second A1 plan "Total Settlement Contours" (T20260213B) shows the contours (in 20 millimetre intervals) deduced from the settlement marks. The locations of these settlement marks are shown with black 'stars'.

The first A1 plan "Total Settlement Values" (T20260213A) shows the location, station I.D., and total settlement value in millimetres for each mark.
The Settlement and Groundwater Monitoring Plan identifies gradients steeper than 1:1000 to be cause for concern. BM20 has been a large mover in the past and has been identified in past surveys as being placed on shrinking material. There are no buildings in this area anymore. I understand (from Mark Halloran) BM20A was

placed near BM20 with a 'foot' bedded in firm ground. Significant differential settlement (1:109) is now occurring between BM20A and BM20 –sufficient to decide to omit BM20 from the settlement 'contour' calculation.
The total settlement contours represent the total negative (–ve) movement (or settlement) around Waihi since monitoring began.
The closest contours (omitting disturbed marks) are between marks 20AC and BM20A. The distance between these marks using GPS measurements, calculates at 126.706 metres, and show 0.1971 metres of relative vertical movement to give a gradient of 1:643. The distance between marks BM20A and 20D using GPS measurements, calculates at 137.047 metres, and shows 0.1788 metres of relative vertical movement to give a gradient of 1:766. The distance between marks 20C and BM20A, when checked by GPS measurements, calculates at 126.865 metres, and show 0.1448 metres of relative vertical movement to give a gradient of 1:876.
Some cracks are visible in the sealed pavements in this area of closest contours.

Table 1 (pages 3 -11) lists all the marks used for this settlement levelling event with the marks sorted first by Zone and then by settlement value. Marks that record 'exceedences' in terms of zone predictions (for Martha (2019) are highlighted with colour and have comments attached. All marks that 'exceeded' in Table 1 were analysed further and field inspections were conducted where required.

The comments included below attempt to explain the probable reason for 'excess' movement. The comments are *Dist'd* for BM20 in Zone 6 and the two other marks are near Zone 7. For Zone 4, 8 of the 9 marks are near Zone 5. For Zone 3, mark 2.36 may be disturbed and the other 19 marks are located near Zone 4 or Zone 5. For Zone 2, 20 of the other 27 marks are located near Zone 3 or Zone 4. For Zone 1, 2.44 is *Dist'd,* and 13 of the 18 other marks are located near Zone 2, or Zone 3.

The 'Favona' marks were installed for monitoring the effects of dewatering in the original underground mine area. The underlying original 'Martha' zone was Zone 3 but the Favona marks were never given zone exceedence parameters in terms of the original Martha zones. The Favona marks all report significant settlement. Note marks F18, F20, and F24 are tentatively labelled as 'Dist'd' and not used for contouring the settlement. Favona marks F27B, F28B, F29B, F30B, F31B and F32B have been lost owing to the construction of a large contractor's yard.
The five extra 'Favona' settlement marks are again shown on the plan. These are FP1, BLOCK-S, BLOCK-N, TRIG 22, and TRIG 24. The settlements for these marks have generally been deduced relative to original reduced levels measured around the year 1987 –although FP1 (at the Favona portal) was established about the year 2000. The underlying zone for the Favona marks is now Zone 5 Martha (2019).
I understand that Time-History plots for all survey marks grouped by zone will be produced by other persons in accordance with the "Settlement and Groundwater Monitoring Plan 31 July 2005"

Bruce Morrison
Registered Professional Surveyor

Table 1. Total Movement

Zone	station i.d.	SURVEY DATE	X	Y	TOTAL Z	SETTLEMENT Nov-25	Comments
Zone7	19BB	1/11/2025	2191.56	1292.02	35.488	-0.3698	
Zone7	BM19B	1/11/2025	2117.17	1244.355	35.504	-0.362	
Zone7	17CB	1/11/2025	2014.23	1201.01	35.435	-0.3386	
Zone6	BM20	1/11/2025	2342.50	1476.25	35.54	-0.4408	Dist'd
Zone6	BM20A	1/11/2025	2345.50	1484.90	35.72	-0.3572	Nr Zone 7
Zone6	19CB	1/11/2025	2296.71	1381.40	34.879	-0.3509	Nr Zone 7
Zone6	17BB	1/11/2025	1919.52	1160.79	37.313	-0.3180	

Zone6	17AB	1/11/2025	1841.32	1104.80	36.843	-0.2723
Zone6	34GC	1/11/2025	2211.325	1119.517	32.114	-0.2378
Zone6	2.04B	1/11/2025	1893.21	968.34	29.06	-0.2308
Zone6	R05	1/11/2025	1833.86	959.98	28.542	-0.221
Zone6	R04	1/11/2025	1777.69	939.42	28.195	-0.211
Zone6	R06	1/11/2025	1927.48	994.19	29.601	-0.209
Zone6	2.10	1/11/2025	2143.92	950.39	30.264	-0.2049
Zone6	18EE	1/11/2025	1750.73	809.33	23.417	-0.2044
Zone6	18C	1/11/2025	1494.95	767.19	27.452	-0.2029
Zone6	34AD	1/11/2025	1470.88	886.92	29.744	-0.2028
Zone6	34BE	1/11/2025	1732.56	931.60	28.307	-0.1997
Zone6	18IB	1/11/2025	1611.19	784.79	25.816	-0.1994
Zone6	R02	1/11/2025	1686.32	920.99	Jan-00	-0.197
Zone6	10BC	1/11/2025	1560.13	1062.92	38.072	-0.1956
Zone6	R03	1/11/2025	1737.89	986.34	30.274	-0.195
Zone6	34H	1/11/2025	2233.59	970.56	32.154	-0.1931
Zone6	R01	1/11/2025	1636.96	912.74	29.274	-0.193
Zone6	BM17A	1/11/2025	1724.44	1088.92	40.002	-0.1862
Zone6	34CB	1/11/2025	1967.74	983.20	30.022	-0.1845
Zone6	BM34	1/11/2025	1528.38	903.30	30.299	-0.1841
Zone6	10AB	1/11/2025	1430.61	1037.00	34.975	-0.1780
Zone6	34FC	1/11/2025	2120.79	587.93	19.029	-0.1770
Zone6	11AC	1/11/2025	1308.26	859.512	29.32	-0.1769
Zone6	2.08B	1/11/2025	2289.75	782.64	24.524	-0.1624
Zone6	18AB	1/11/2025	1632.39	667.73	22.131	-0.1604
Zone6	2.11C	1/11/2025	2292.35	896.99	26.606	-0.1577
Zone6	1.28B	1/11/2025	1987.03	447.71	12.088	-0.1569
Zone6	2.09C	1/11/2025	2228.35	868.63	28.633	-0.1509
Zone6	34I	1/11/2025	2229.55	765.53	28.453	-0.1452
Zone6	2.06	1/11/2025	2351.95	334.47	11.273	-0.1287
Zone5	20C	1/11/2025	2450.61	1413.86	36.295	-0.2124
Zone5	16BC	1/11/2025	1252.81	1336.47	39.426	-0.2015
Zone5	A10B	1/11/2025	1298.62	1049.61	30.666	-0.2008
Zone5	BM16	1/11/2025	1418.09	1218.03	46.395	-0.1994
Zone5	20E	1/11/2025	2535.65	1542.67	37.064	-0.1968
Zone5	21DC	1/11/2025	2573.96	1304.15	37.743	-0.1967
Zone5	25D	1/11/2025	2547.05	1248.02	36.846	-0.1948
Zone5	25A	1/11/2025	2505.13	1203.768	35.918	-0.1918
Zone5	10DC	1/11/2025	1279.04	1198.33	35.276	-0.1891
Zone5	25E	1/11/2025	2472.35	1162.013	34.755	-0.1885
Zone5	21O	1/11/2025	2527.37	1356.34	35.99	-0.1858
Zone5	BM25	1/11/2025	2424.91	1100.25	33.464	-0.1841
Zone5	20D	1/11/2025	2482.07	1473.48	36.539	-0.1784
Zone5	21N	1/11/2025	2623.25	1342.44	38.273	-0.176
Zone5	25G	1/11/2025	2594.60	1149.42	37.57	-0.1745
Zone5	10CB	1/11/2025	1222.46	1025.86	29.758	-0.1741
Zone5	25CB	1/11/2025	2615.91	1190.50	38.278	-0.1733

Zone5	25H	1/11/2025	2648.48	1232.96	38.903	-0.1727
Zone5	2.41	1/11/2025	3296.32	685.398	46.245	-0.1714
Zone5	25F	1/11/2025	2542.53	1116.24	35.982	-0.1709
Zone5	24L	1/11/2025	2761.67	1181.33	39.308	-0.1702
Zone5	34EB	1/11/2025	2073.93	705.95	24.625	-0.1626
Zone5	18FB	1/11/2025	1794.53	557.10	15.939	-0.1625
Zone5	12CE	1/11/2025	1499.92	543.08	20.973	-0.1624
Zone5	BM12	1/11/2025	1370.27	607.74	23.946	-0.1607
Zone5	20AC	1/11/2025	2461.04	1536.91	36.999	-0.1601
Zone5	24DC	1/11/2025	2718.29	1323.127	39.621	-0.1598
Zone5	25B	1/11/2025	2497.67	1105.828	34.818	-0.1590
Zone5	21C	1/11/2025	2651.57	1389.82	38.454	-0.1582
Zone5	2A	1/11/2025	1069.03	1111.86	23.785	-0.1578
Zone5	13AC	1/11/2025	1751.98	327.376	18.588	-0.1569
Zone5	25I	1/11/2025	2537.20	1045.04	34.676	-0.1567
Zone5	1.28A	1/11/2025	1888.26	505.89	13.199	-0.1565
Zone5	24K	1/11/2025	2783.89	1387.72	40.602	-0.1559
Zone5	18B	1/11/2025	1510.36	650.58	23.552	-0.1550
Zone5	22F	1/11/2025	2815.91	1325.41	40.223	-0.1545
Zone5	18G	1/11/2025	1669.05	554.602	18.469	-0.1538
Zone5	21EB	1/11/2025	2799.95	1429.09	41.62	-0.1536
Zone5	24AC	1/11/2025	2743.58	1218.9	40.082	-0.1534
Zone5	20BB	1/11/2025	2533.26	1622.291	37.858	-0.1531
Zone5	BM18	1/11/2025	1771.96	674.528	19.418	-0.1524
Zone5	BM24	1/11/2025	2794.55	1279.36	40.391	-0.1521
Zone5	24E	1/11/2025	2758.43	1303.23	40.356	-0.1521
Zone5	24F	1/11/2025	2772.80	1257.27	40.122	-0.1517
Zone5	24G	1/11/2025	2705.96	1170.46	39.792	-0.1508
Zone5	15A	1/11/2025	1204.79	818.86	28.759	-0.1497
Zone5	13BC	1/11/2025	1850.36	246.59	13.712	-0.1490
Zone5	24J	1/11/2025	2749.39	1365.76	40.223	-0.1481
Zone5	18HC	1/11/2025	1821.52	466.47	14.88	-0.1479
Zone5	24H	1/11/2025	2630.70	1072.28	36.147	-0.1468
Zone5	12DC	1/11/2025	1596.95	435.491	19.959	-0.1465
Zone5	12AC	1/11/2025	1388.32	488.89	19.039	-0.1461
Zone5	20F	1/11/2025	2605.79	1575.98	37.556	-0.1456
Zone5	4DB	1/11/2025	1033.26	1550.66	32.233	-0.1448
Zone5	21M	1/11/2025	2694.90	1439.65	39.171	-0.1445
Zone5	24B	1/11/2025	2667.67	1126.40	39.377	-0.1443
Zone5	15BC	1/11/2025	1169.90	708.855	26.323	-0.1419
Zone5	11BB	1/11/2025	1348.57	710.57	26.919	-0.1399
Zone5	BM21	1/11/2025	2654.80	1515.40	39.415	-0.1384
Zone5	BM13	1/11/2025	1426.61	269.34	13.567	-0.1381
Zone5	21K	1/11/2025	2681.11	1572.21	39.989	-0.1363
Zone5	1.10B	1/11/2025	1597.98	284.28	16.778	-0.1362
Zone5	21BC	1/11/2025	2719.27	1477.799	41.259	-0.1359
Zone5	4B	1/11/2025	1021.54	1448.63	31.239	-0.1354

Zone5	12BC	1/11/2025	1405.27	368.30	14.913	-0.1347	
Zone5	2BC	1/11/2025	970.20	1241.90	30.372	-0.1340	
Zone5	AP22A	1/11/2025	1868.44	188.57	12.406	-0.1330	
Zone5	30C	1/11/2025	2573.54	1675.40	38.427	-0.1269	
Zone5	BM9B	1/11/2025	1220.25	1523.29	34.731	-0.1264	
Zone5	2.17A	1/11/2025	3085.76	555.866	36.904	-0.1255	
Zone5	7CB	1/11/2025	1161.74	1597.63	30.592	-0.1238	
Zone5	AP3	1/11/2025	918.94	1140.585	26.052	-0.1183	
Zone5	26F	1/11/2025	1392.77	1680.26	43.841	-0.0989	
Zone5	26R	1/11/2025	1905.59	1927.17	71.341	-0.0942	
Zone5	26Q	1/11/2025	1963.00	1982.71	73.657	-0.0941	
Zone5	26PB	1/11/2025	1834.84	1893.11	67.929	-0.0936	
Zone5	34D	1/11/2025	2038.90	783.43	missed	missed	
Zone5	2.03	1/11/2025	1930.08	745.943	missed	missed	
Zone4	23C	1/11/2025	2856.14	1068.01	37.536	-0.2301	Nr zone 5
Zone4	23AB	1/11/2025	3145.42	1078.73	37.184	-0.1878	?
Zone4	2.24	1/11/2025	2885.91	1215.47	41.267	-0.1800	Nr Zone 5
Zone4	22C	1/11/2025	2846.39	1352.54	40.304	-0.1753	Nr Zone 5
Zone4	23D	1/11/2025	2861.42	1154.89	38.845	-0.1719	Nr Zone 5
Zone4	BANK1	1/11/2025	2866.21	1023.25	37.785	-0.1693	Nr Zone 5
Zone4	MATAURA1	1/11/2025	2831.84	1250.806	41.053	-0.1668	Nr Zone 5
Zone4	2.25	1/11/2025	2874.51	1097.261	37.969	-0.1662	Nr Zone 5
Zone4	22GB	1/11/2025	2862.88	1387.97	40.833	-0.1612	Nr Zone 5
Zone4	23B	1/11/2025	2856.49	949.794	38.741	-0.1591	
Zone4	23E	1/11/2025	2774.82	972.51	37.703	-0.1585	
Zone4	MORTON	1/11/2025	2975.42	1231.91	40.704	-0.1557	
Zone4	2.14A	1/11/2025	2853.28	838.67	41.313	-0.1546	
Zone4	2.19B	1/11/2025	3270.21	916.063	38.556	-0.1529	
Zone4	BARRY1	1/11/2025	3047.74	926.58	38.112	-0.1528	
Zone4	2.13	1/11/2025	2725.42	874.95	47.205	-0.1509	
Zone4	23F	1/11/2025	2700.77	968.79	36.647	-0.1506	
Zone4	2HB	1/11/2025	1078.24	886.85	24.377	-0.1483	
Zone4	22E	1/11/2025	3055.20	1231.50	40.776	-0.1475	
Zone4	22BC	1/11/2025	2916.75	1435.773	42.095	-0.1468	
Zone4	BARRY3	1/11/2025	3176.85	895.99	37.684	-0.1466	
Zone4	2.18	1/11/2025	3218.04	712.76	44.541	-0.1457	
Zone4	BARRY4B	1/11/2025	3320.16	912.69	38.885	-0.1456	
Zone4	BARRY5	1/11/2025	3397.59	904.65	40.988	-0.1444	
Zone4	BARRY6	1/11/2025	3432.52	904.36	42.473	-0.1443	
Zone4	BARRY2B	1/11/2025	2937.67	943.59	38.553	-0.1443	
Zone4	22H	1/11/2025	2869.25	1441.80	41.613	-0.1438	
Zone4	21P	1/11/2025	2849.17	1456.90	41.84	-0.1433	
Zone4	22I	1/11/2025	2918.98	1461.37	41.906	-0.1432	
Zone4	2.23	1/11/2025	3560.02	1212.80	36.63	-0.1425	
Zone4	22M	1/11/2025	2973.44	1434.66	41.664	-0.142	
Zone4	2.20	1/11/2025	3467.69	904.56	43.781	-0.1401	

Zone4	STAFORD	1/11/2025	3139.86	998.18	37.315	-0.1392
Zone4	BM23	1/11/2025	3107.42	921.05	38.088	-0.1391
Zone4	1.11B	1/11/2025	1675.83	133.62	9.026	-0.1370
Zone4	22L	1/11/2025	3047.70	1499.88	40.985	-0.1367
Zone4	BM2	1/11/2025	915.74	1091.80	24.814	-0.1365
Zone4	22A	1/11/2025	3003.28	1429.77	41.638	-0.1347
Zone4	GW	1/11/2025	3128.83	1140.94	38.535	-0.1344
Zone4	22D	1/11/2025	3100.02	1335.44	41.442	-0.1341
Zone4	22J	1/11/2025	2944.47	1489.76	42.416	-0.1337
Zone4	2.22	1/11/2025	3339.13	1206.60	40.345	-0.1328
Zone4	AP100	1/11/2025	1893.80	81.27	11.775	-0.1328
Zone4	2.16	1/11/2025	3007.62	739.64	33.595	-0.1328
Zone4	CUBA	1/11/2025	3224.32	1079.18	35.821	-0.1322
Zone4	2.15	1/11/2025	2918.94	723.52	38.365	-0.1319
Zone4	27KB	1/11/2025	2320.23	2120.21	63.314	-0.1316
Zone4	21FB	1/11/2025	2861.65	1512.211	42.639	-0.1313
Zone4	26BE	1/11/2025	1408.78	1800.55	38.795	-0.1311
Zone4	BARRY7	1/11/2025	3518.87	901.90	43.61	-0.1291
Zone4	1.05	1/11/2025	1176.96	473.45	21.811	-0.1284
Zone4	21AC	1/11/2025	2716.64	1617.77	39.681	-0.1280
Zone4	21L	1/11/2025	2806.79	1575.07	43.076	-0.1278
Zone4	BARRY8	1/11/2025	3592.28	871.45	37.933	-0.1273
Zone4	21JB	1/11/2025	2772.20	1687.21	39.929	-0.1270
Zone4	2.29B	1/11/2025	2953.39	1548.17	42.58	-0.1268
Zone4	2GB	1/11/2025	922.38	967.66	22.661	-0.1245
Zone4	BM22	1/11/2025	3115.79	1442.95	40.61	-0.1242
Zone4	2.27	1/11/2025	3379.40	1371.481	37.748	-0.1226
Zone4	26CE	1/11/2025	1377.77	1711.89	40.582	-0.1216
Zone4	1.26	1/11/2025	1926.81	30.05	15.086	-0.1208
Zone4	21Q	1/11/2025	2899.60	1571.32	43.117	-0.1202
Zone4	30BB	1/11/2025	2604.862	1726.496	41.535	-0.1199
Zone4	15C	1/11/2025	1156.82	571.077	24.202	-0.1196
Zone4	21I	1/11/2025	2854.70	1668.79	41.634	-0.1185
Zone4	22KB	1/11/2025	2981.80	1603.49	42.84	-0.1167
Zone4	1.06	1/11/2025	1159.34	302.26	17.217	-0.1141
Zone4	27N	1/11/2025	2179.57	2075.99	71.897	-0.1136
Zone4	BM15	1/11/2025	976.94	783.00	20.504	-0.1125
Zone4	21GC	1/11/2025	2901.12	1614.05	43.435	-0.1118
Zone4	27E	1/11/2025	2494.09	2171.62	50.327	-0.1112
Zone4	4.08	1/11/2025	2350.64	2022.32	73.198	-0.1091
Zone4	2.30B	1/11/2025	3000.35	1672.94	43.161	-0.1066
Zone4	7BB	1/11/2025	1105.69	1689.90	35.922	-0.1053
Zone4	21HC	1/11/2025	2916.84	1728.84	42.872	-0.1040
Zone4	4.07	1/11/2025	2554.47	2079.24	45.032	-0.1011
Zone4	3.04B	1/11/2025	1123.76	1821.50	39.264	-0.1009
Zone4	1.09B	1/11/2025	1344.14	117.48	9.925	-0.1001
Zone4	27H	1/11/2025	2413.27	2149.76	57.011	-0.0995

Zone4	3.01	1/11/2025	1291.95	1690.33	37.281	-0.0985
Zone4	4.05	1/11/2025	2809.68	1897.68	40.603	-0.0984
Zone4	27J	1/11/2025	2344.14	2136.14	62.118	-0.0979
Zone4	26H	1/11/2025	1452.90	1729.593	49.945	-0.0938
Zone4	27I	1/11/2025	2385.10	2141.94	59.514	-0.0934
Zone4	BM30	1/11/2025	2715.36	1996.21	44.072	-0.0916
Zone4	26MB	1/11/2025	1593.46	1750.663	58.952	-0.0911
Zone4	27F	1/11/2025	2466.48	2164.03	52.305	-0.0899
Zone4	26JB	1/11/2025	1495.71	1756.55	53.713	-0.0894
Zone4	3.02	1/11/2025	1344.87	1837.74	34.928	-0.0892
Zone4	30AB	1/11/2025	2685.644	1898.443	46.221	-0.0876
Zone4	3.11A	1/11/2025	1786.167	1929.216	62.135	-0.0871
Zone4	27AB	1/11/2025	2009.08	2064.33	73.466	-0.0846
Zone4	27DC	1/11/2025	2541.24	2190.71	48.175	-0.0845
Zone4	26AE	1/11/2025	1432.47	1883.48	37.549	-0.0838
Zone4	3.10A	1/11/2025	1689.033	1978.29	53.421	-0.0834
Zone4	27L	1/11/2025	2280.24	2115.41	65.825	-0.0829
Zone4	27O	1/11/2025	2101.57	2042.82	75.01	-0.0805
Zone4	3.09	1/11/2025	1618.51	1870.17	51.91	-0.08
Zone4	3.13	1/11/2025	1744.893	2097.492	53.749	-0.0756
Zone4	1.12B	1/11/2025	794.14	-73.01	11.031	-0.0737
Zone4	BM26	1/11/2025	1542.45	1837.81	45.4145	-0.0716
Zone4	26OB	1/11/2025	1706.93	1812.27	67.165	-0.0698
Zone4	3.6A	1/11/2025	1526.278	2015.739	38.905	-0.0606
Zone4	2.45	1/11/2025	2993.27	773.43	33.555	new mark
Zone4	2.46	1/11/2025	2968.25	823.00	34.513	new mark
Zone4	2.47	1/11/2025	3042.69	802.94	33.815	new mark
Zone4	2.48	1/11/2025	3130.42	799.22	38.539	new mark
Zone4	2.49	1/11/2025	3177.25	799.42	38.659	new mark
Zone4	2.5	1/11/2025	3267.86	806.47	40.345	new mark
Zone4	2.51	1/11/2025	3271.32	850.79	39.452	new mark
Zone4	2.52	1/11/2025	3201.61	1224.78	41.459	new mark
Zone4	2.53	1/11/2025	3416.83	996.76	37.366	new mark
Zone4	2.54	1/11/2025	3408.48	1129.77	39.514	new mark
Zone4	2.55	1/11/2025	3643.23	959.38	35.063	new mark
Zone4	2.58	1/11/2025	3383.11	1224.99	40.181	new mark
Zone4	2.59	1/11/2025	3446.82	1221.06	39.231	new mark
Zone4	2.60	1/11/2025	3497.66	1210.97	38.429	new mark
Zone4	2.61	1/11/2025	3643.82	1195.11	34.582	new mark
Zone4	2.62	1/11/2025	3742.14	1113.78	33.674	new mark
Zone4	2.63	1/11/2025	3699.97	1176.30	33.241	new mark
Zone4	2.64	1/11/2025	3719.60	1286.34	32.843	new mark
Zone4	2.65	1/11/2025	3807.19	1316.99	34.626	new mark
Zone4	2.67	1/11/2025	3479.31	1354.68	1	new mark
Zone4	2.68	1/11/2025	3431.47	1370.86	1	new mark
Zone4	SM822	1/11/2025	2512.91	1841.13	1	missed

Zone4	2.31B	1/11/2025	3201.23	1637.289	missed	missed	
Zone3	2.36	1/11/2025	3433.14	1534.879	35.851	-0.1642	Dist'd?
Zone3	2CE	1/11/2025	774.75	1313.19	34.597	-0.1289	Nr Zone 5
Zone3	14DB	1/11/2025	876.99	411.22	15.132	-0.1218	Nr Zone 4
Zone3	2.34	1/11/2025	3452.45	1683.502	37.7	-0.1133	Nr Zone 4
Zone3	A33C	1/11/2025	456.03	1219.23	35.829	-0.1109	Nr Zone 5
Zone3	2FC	1/11/2025	720.33	843.06	23.9	-0.1065	Nr Zone 4
Zone3	4.02	1/11/2025	2797.90	2143.57	45.743	-0.1061	Nr Zone 4
Zone3	4EC	1/11/2025	782.01	1687.78	41.104	-0.1057	Nr Zone 5
Zone3	2.40B	1/11/2025	3572.85	1526.45	33.137	-0.1031	Nr Zone 4
Zone3	1.07	1/11/2025	924.43	267.487	12.481	-0.1026	Nr Zone 4
Zone3	4A	1/11/2025	815.01	1494.15	40.67	-0.1024	Nr Zone 5
Zone3	15DB	1/11/2025	917.56	466.15	15.578	-0.1020	Nr Zone 4
Zone3	14EA	1/11/2025	808.56	504.72	17.067	-0.1018	Nr Zone 4
Zone3	2DA	1/11/2025	682.15	1189.58	35.787	-0.1016	Nr Zone 5
Zone3	1.25	1/11/2025	2175.94	-129.11	20.046	-0.1000	Nr Zone 4
Zone3	4.03B	1/11/2025	2794.90	2044.78	43.781	-0.0999	Nr Zone 4
Zone3	31BC	1/11/2025	3159.33	1954.86	45.485	-0.0975	Nr Zone 4
Zone3	14CB	1/11/2025	759.10	389.766	18.799	\-0.0968	Nr Zone 4
Zone3	4.04	1/11/2025	2662.60	2131.77	45.9	-0.0952	Nr Zone 4
Zone3	4.01C	1/11/2025	2891.78	2113.15	47.283	-0.0951	Nr Zone 4
Zone3	2EB	1/11/2025	689.02	1054.62	29.238	-0.0940	
Zone3	14BC	1/11/2025	535.45	340.672	20.893	-0.0925	
Zone3	BM31	1/11/2025	2967.04	1873.48	43.274	-0.0915	
Zone3	14FB	1/11/2025	705.60	649.144	20.128	-0.0914	
Zone3	3.25	1/11/2025	3116.901	2107.056	49.791	-0.0904	
Zone3	29DB	1/11/2025	2996.63	2106.66	47.789	-0.0899	
Zone3	31AC	1/11/2025	3059.04	1910.629	44.053	-0.0895	
Zone3	1.21A	1/11/2025	1939.94	-325.50	19.643	-0.0867	
Zone3	1.08	1/11/2025	1052.91	107.171	16.517	-0.0818	
Zone3	1.22	1/11/2025	1510.00	-249.93	15.852	-0.0808	
Zone3	3.24B	1/11/2025	3012.460	2251.58	51.975	-0.0805	
Zone3	29AC	1/11/2025	2641.62	2218.07	48.498	-0.0779	
Zone3	29CE	1/11/2025	2891.84	2285.59	51.553	-0.0766	
Zone3	29B	1/11/2025	2772.84	2242.22	49.984	-0.0627	
Zone3	2.56	1/11/2025	3755.54	784.96	31.668	new mark	
Zone2	1K	1/11/2025	511.74	957.174	29.574	-0.0950	Nr Zone 3
Zone2	3.03	1/11/2025	1134.46	1917.24	39.324	-0.0909	Nr Zone 4
Zone2	7AC	1/11/2025	994.54	1781.82	43.502	-0.0899	Nr Zone 3
Zone2	BM4	1/11/2025	689.21	1555.55	42.254	-0.0867	Nr Zone 3
Zone2	33F	1/11/2025	347.95	1511.68	42.022	-0.0865	Nr 4FB
Zone2	BM7	1/11/2025	1057.32	1843.07	44.09	-0.0864	Nr Zone 4
Zone2	3.14	1/11/2025	1752.749	2214.323	48.741	-0.0856	Nr Zone 4
Zone2	4FB	1/11/2025	562.51	1370.97	39.35	-0.0831	Nr Zone 3
Zone2	1JB	1/11/2025	604.79	822.76	26.388	-0.0822	Nr Zone 3
Zone2	6A	1/11/2025	946.43	1928.12	47.486	-0.0820	Nr Zone 4
Zone2	33E	1/11/2025	437.71	1437.52	40.965	-0.0813	Nr 4FB

Zone2	33A	1/11/2025	338.15	1303.89	36.698	-0.0806	Nr Zone 3
Zone2	1C	1/11/2025	421.48	1098.89	34.768	-0.0806	Nr Zone 3
Zone2	3.12	1/11/2025	1599.675	2152.411	40.2475	-0.0803	Nr Zone 4
Zone2	1.04	1/11/2025	795.98	129.36	12.782	-0.0769	Nr Zone 3
Zone2	1B	1/11/2025	337.50	1062.94	33.981	-0.0762	Nr Zone 3
Zone2	1I	1/11/2025	468.34	761.23	27.254	-0.0750	Nr Zone 3
Zone2	BM14	1/11/2025	718.16	485.96	19.813	-0.0746	Nr Zone 3
Zone2	33DB	1/11/2025	265.40	1714.72	46.345	-0.0734	Nr 33F
Zone2	3.07	1/11/2025	1362.08	2096.82	48.026	-0.0732	Nr Zone 4
Zone2	BM6	1/11/2025	881.86	1837.08	46.211	-0.0726	Nr Zone 3
Zone2	33GA	1/11/2025	415.95	1621.64	45.328	-0.0725	Nr 33F
Zone2	5C	1/11/2025	705.43	1754.71	45.148	-0.0690	Nr Zone 3
Zone2	1FB	1/11/2025	210.46	850.779	29.811	-0.0665	Nr 1JB
Zone2	1HC	1/11/2025	299.70	702.8	27.025	-0.0659	Nr 1I
Zone2	1A	1/11/2025	249.92	1026.38	33.31	-0.0657	Nr 1B
Zone2	BM29	1/11/2025	2608.80	2400.76	55.943	-0.0654	Nr Zone 3
Zone2	1EB	1/11/2025	388.60	912.09	30.414	-0.0649	
Zone2	3.22A	1/11/2025	2891.146	2398.649	56.64	-0.0647	
Zone2	3.05	1/11/2025	966.29	1990.77	47.168	-0.0644	
Zone2	14AC	1/11/2025	515.17	457.622	24.01	-0.0631	
Zone2	3.15	1/11/2025	1696.238	2315.821	39.085	-0.063	
Zone2	1GB	1/11/2025	-2.87	769.74	29.272	-0.0627	
Zone2	1O	1/11/2025	-271.35	814.18	22.695	-0.0627	
Zone2	BM1	1/11/2025	152.75	994.869	32.753	-0.0616	
Zone2	5AC	1/11/2025	470.30	1688.45	47.017	-0.0608	
Zone2	1ME	1/11/2025	-155.40	879.887	26.083	-0.0602	
Zone2	33B	1/11/2025	156.88	1430.80	34.393	-0.0600	
Zone2	BM5	1/11/2025	325.93	1806.47	47.787	-0.0584	
Zone2	33C	1/11/2025	222.53	1621.24	44.391	-0.0571	
Zone2	1.01	1/11/2025	56.47	604.08	25.43	-0.0569	
Zone2	1.03B	1/11/2025	365.55	323.37	19.371	-0.0542	
Zone2	1.02D	1/11/2025	85.42	283.30	18.644	-0.0540	
Zone2	1RA	1/11/2025	-579.06	750.356	16.72	-0.0478	
Zone2	AP2	1/11/2025	-1276.40	954.13	5.761	-0.0350	
Zone2	1.14	1/11/2025	496.74	-535.095	8.435	-0.0346	
Zone2	1.16	1/11/2025	1552.97	-1086.266	18.352	-0.026	
Zone2	1PA	1/11/2025	-351.51	787.24	missed	missed	
Zone1	2.44	1/11/2025	2734.64	421.03	27.238	-0.5907	Dist'd
Zone1	2.05	1/11/2025	2535.68	272.68	20.759	-0.1211	Nr Zone 3
Zone1	31FC	1/11/2025	3614.22	1954.15	43.399	-0.1031	Nr Zone 3
Zone1	2.35	1/11/2025	3609.80	1652.681	34.084	-0.1017	Nr Zone 3
Zone1	31NE	1/11/2025	4349.43	1927.42	33.328	-0.1006	?
Zone1	31LC	1/11/2025	4168.53	1862.11	32.068	-0.0996	Nr Zone 3
Zone1	31DD	1/11/2025	3400.43	1989.83	46.666	-0.0939	Nr Zone 3
Zone1	31HC	1/11/2025	3810.83	1924.65	40.302	-0.0935	Nr Zone 3
Zone1	28AE	1/11/2025	2128.26	2448.76	85.89	-0.0863	Nr Zone 2

Zone1	31JD	1/11/2025	4005.65	1911.42	35.535	-0.0855	Nr Zone 3
Zone1	31PC	1/11/2025	4393.52	1991.66	37.709	-0.0737	?
Zone1	31QC	1/11/2025	4417.71	2035.37	39.605	-0.0707	?
Zone1	3.30	1/11/2025	3296.292	2235.94	50.353	-0.0697	Nr Zone 2
Zone1	3.21	1/11/2025	2585.773	2493.375	64.909	-0.0672	Nr Zone 2
Zone1	3.16	1/11/2025	2195.599	2563.077	95.587	-0.0654	Nr Zone 2
Zone1	3.26B	1/11/2025	3200.091	2347.92	55.393	-0.0615	?
Zone1	3.29	1/11/2025	3662.643	2323.533	44.891	-0.0595	?
Zone1	3.23	1/11/2025	3035.796	2453.651	59.6	-0.0576	Nr Zone 2
Zone1	3.27B	1/11/2025	3148.367	2510.53	60.256	-0.0556	Nr Zone 2
Zone1	1.23	1/11/2025	1013.01	-440.77	13.258	-0.0506	
Zone1	1.20B	1/11/2025	1995.49	-664.09	22.022	-0.0505	
Zone1	AP2A	1/11/2025	-766.18	738.506	12.301	-0.0487	
Zone1	1.24	1/11/2025	2225.16	-613.23	16.686	-0.0476	
Zone1	1.13	1/11/2025	591.36	-310.80	7.046	-0.0465	
Zone1	AP1A	1/11/2025	4557.10	2288.33	42.46	-0.0400	
Zone1	1UA	1/11/2025	-914.75	759.05	8.717	-0.0376	
Zone1	1.27B	1/11/2025	1401.56	-701.57	15.3235	-0.0376	
Zone1	AP1	1/11/2025	4486.29	2137.01	41.356	-0.0365	
Zone1	AP20No2	1/11/2025	-2303.63	731.69	20.174	-0.0312	
Zone1	1.17B	1/11/2025	2082.20	-1093.92	25.573	-0.0306	
Zone1	AP24A	1/11/2025	2114.57	-1292.93	28.045	-0.0302	
Zone1	1.15	1/11/2025	923.35	-995.41	14.344	-0.0280	
Zone1	BM28/2	1/11/2025	2282.46	2770.68	101.866	-0.0197	
Zone1	AP19	1/11/2025	-3242.58	480.68	-6.5213	0.0000	
Zone1	BUH5	1/11/2025	5480.15	2780.649	52.7029	0.0000	
Zone1	C1	1/11/2025	2183.23	-1759.33	32.8139	0.0000	
Zone1	2.57	1/11/2025	3925.03	533.26	19.749	new mark	
Zone1	2.66	1/11/2025	4009.31	1391.10	31.147	new mark	
Zone1	3.31	1/11/2025	3546.00	2287.00	1	new mark	
Zone1	3.32	1/11/2025	3623.45	2302.00	1	new mark	
Zone1	3.33	1/11/2025	3721.00	2321.00	1	new mark	
Zone1	3.34	1/11/2025	3822.00	2338.00	1	new mark	
Zone1	3.35	1/11/2025	3406.80	3406.80	60.171	new mark	
Zone1	3.36	1/11/2025	4987.65	2935.31	39.477	new mark	
Zone1	3.37	1/11/2025	4618.94	3182.69	61.498	new mark	
Zone1	3.38	1/11/2025	4289.55	3510.71	83.852	new mark	
Zone1	3.39	1/11/2025	5092.01	3340.38	60.195	new mark	
Zone1	3.40	1/11/2025	5073.69	3918.17	74.385	new mark	
Zone1	3.41	1/11/2025	4994.58	2639.60	44.677	new mark	
Favona	F18	1/11/2025	3423.83	648.30	39.94	-0.3914	Dist'd?
Favona	F20	1/11/2025	3411.70	665.72	40.872	-0.3321	
Favona	F17B	1/11/2025	3405.48	613.912	43.942	-0.2975	Dist'd?
Favona	F21	1/11/2025	3405.99	672.00	40.716	-0.2973	
Favona	F24	1/11/2025	3388.13	690.85	40.599	-0.2889	Dist'd?
Favona	F22	1/11/2025	3399.79	678.39	40.662	-0.2744	
Favona	F15C	1/11/2025	3297.17	585.319	57.297	-0.2195	

Favona	F16B	1/11/2025	3367.38	578.70	46.359	-0.2070
Favona	BLOCK-S	1/11/2025	3295.82	124.32	24.809	-0.2030
Favona	F26	1/11/2025	3374.47	705.541	40.568	-0.1979
Favona	F12C	1/11/2025	3207.32	503.82	53.465	-0.1878
Favona	BLOCK-N	1/11/2025	3336.45	215.694	24.276	-0.1870
Favona	F10B	1/11/2025	3176.88	446.75	49.244	-0.1841
Favona	F34C	1/11/2025	3339.49	849.57	40.159	-0.1815
Favona	F14D	1/11/2025	3274.74	552.64	60.651	-0.1774
Favona	F08A	1/11/2025	3126.97	430.49	42.72	-0.1575
Favona	F35B	1/11/2025	3336.68	896.06	39.749	-0.1482
Favona	F06	1/11/2025	3107.08	445.21	40.475	-0.1428
Favona	ITXCIVB	1/11/2025	2943.85	542.17	32.588	-0.1347
Favona	F02	1/11/2025	3097.60	490	38.177	-0.1337
Favona	FP1	1/11/2025	3004.15	131.25	45.39	-0.1190
Favona	TRIG 24	1/11/2025	3260.76	-615.68	25.666	-0.0640
Favona	TRIG 22	1/11/2025	3681.97	89.36	26.131	-0.0590

Appendix C Plans of Settlement Marks & Contours

MARTHA MINE OPEN PIT

STATE HIGHWAY 2

STATE HIGHWAY 25

WHARREY RD

UNION HILL

GLADSTONE HILL

WAIHI BEACH ROAD

STATE HIGHWAY 2

Zone	Martha (2019) mm
Settlement Zone 1	55
Settlement Zone 2	65
Settlement Zone 3	95
Settlement Zone 4	160
Settlement Zone 5	260
Settlement Zone 6	340
Settlement Zone 7	540

SETTLEMENT MONITORING MARK

NEW or LOST or MISSED or DISTURBED MARK

OCEANAGOLD WAIHI

TOTAL SETTLEMENT VALUES

Settlement in millimetres

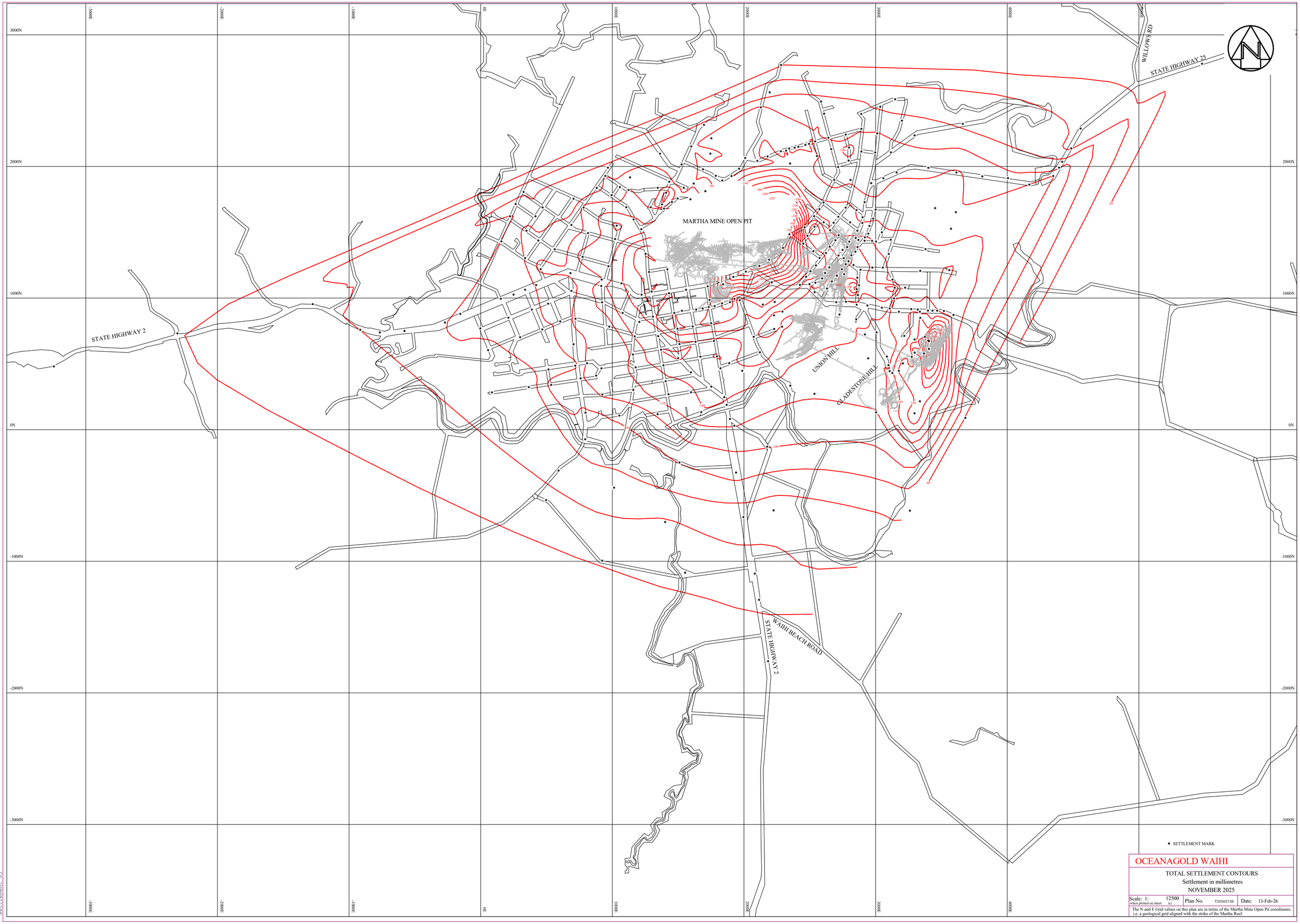
NOVEMBER 2025

Scale: 1: 9000 when plotted on sheet A1 | Plan No. T20260213A | Date: 13-Feb-26

The N and E Grid values on this plan are in terms of the Martha Mine Open Pit coordinates. i.e. a geological grid aligned with the strike of the Martha Reef.

settlement 02

SURPAC - GEOVIA -prepared by B.M. Morrison



OCEANAGOLD WAIHI

TOTAL SETTLEMENT CONTOURS
Settlement in millimetres
NOVEMBER 2025

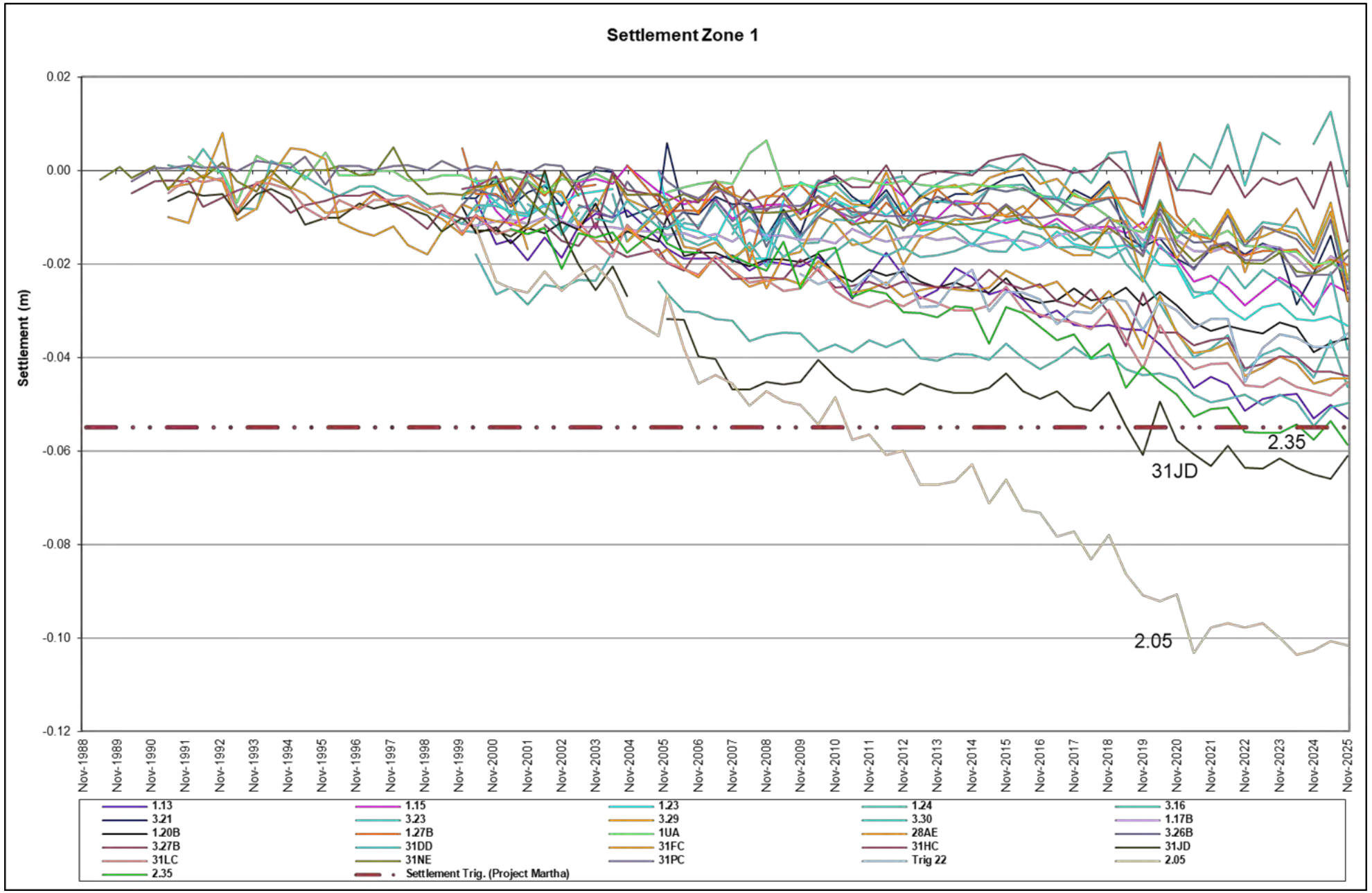
Scale: 1: 12500 when plotted on sheet A1	Plan No. T20260213B	Date: 13-Feb-26

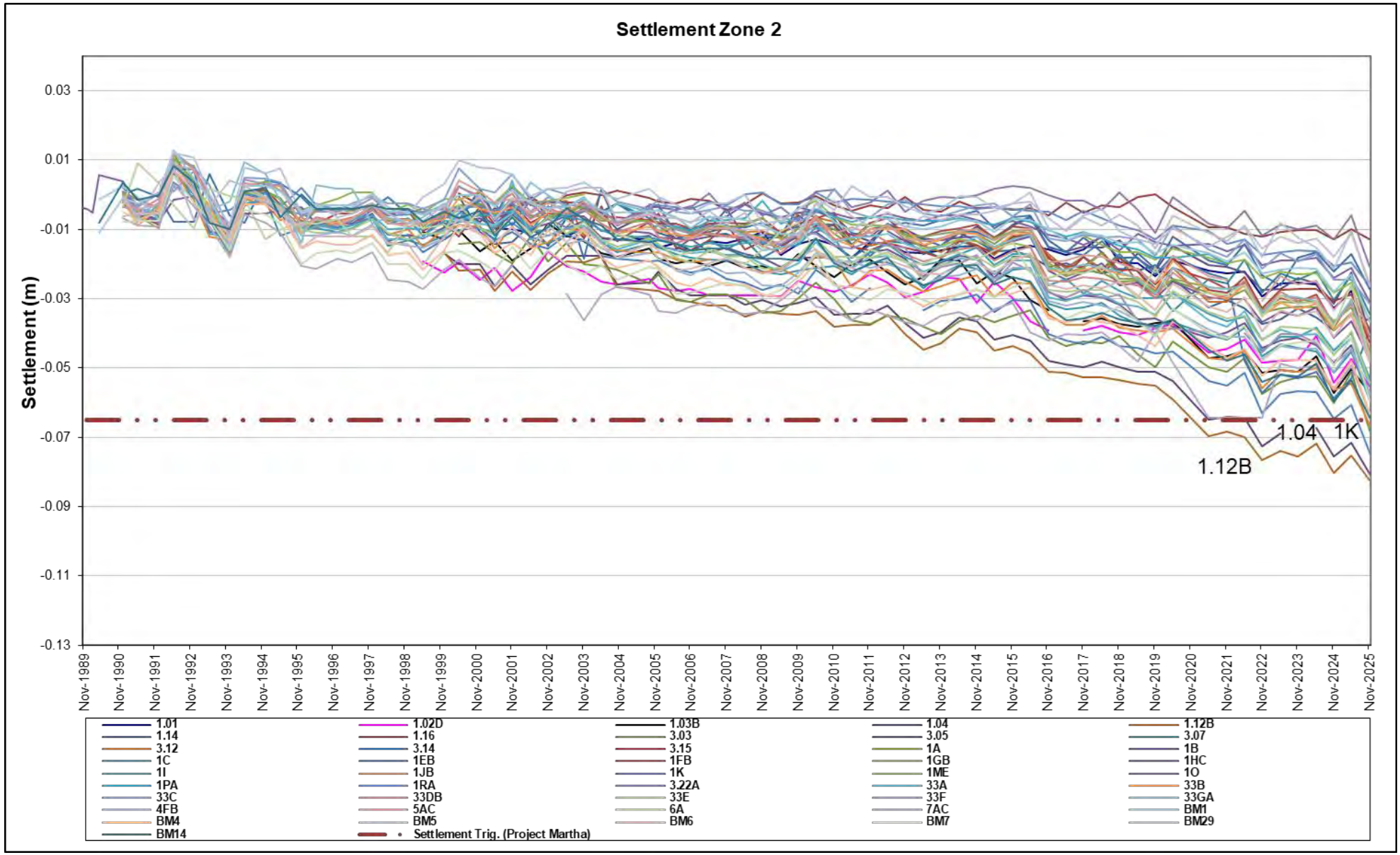
The N and E Grid values on this plan are in terms of the Martha Mine Open Pit coordinates. i.e. a geological grid aligned with the strike of the Martha Reef.

settlement 03

SURPAC - GEOVIA -prepared by B.M. Morrison

Appendix D Trend Plots of Settlement Zones


Settlement Zone 1
Settlement (m)
0.02
0.00
-0.02
-0.04
-0.06
-0.08
-0.10
-0.12
Nov-1988
Nov-1989
Nov-1990
Nov-1991
Nov-1992
Nov-1993
Nov-1994
Nov-1995
Nov-1996
Nov-1997
Nov-1998
Nov-1999
Nov-2000
Nov-2001
Nov-2002
Nov-2003
Nov-2004
Nov-2005
Nov-2006
Nov-2007
Nov-2008
Nov-2009
Nov-2010
Nov-2011
Nov-2012
Nov-2013
Nov-2014
Nov-2015
Nov-2016
Nov-2017
Nov-2018
Nov-2019
Nov-2020
Nov-2021
Nov-2022
Nov-2023
Nov-2024
Nov-2025
2.35
31JD
2.05
1.13
1.15
1.23
1.24
3.16
3.21
3.23
3.29
3.30
1.17B
1.20B
1.27B
1UA
28AE
3.26B
3.27B
31DD
31FC
31HC
31JD
31LC
31NE
31PC
Trig 22
2.05
2.35
Settlement Trig. (Project Martha)


Settlement Zone 2
Settlement (m)
0.03
0.01
-0.01
-0.03
-0.05
-0.07
-0.09
-0.11
-0.13
Nov-1989
Nov-1990
Nov-1991
Nov-1992
Nov-1993
Nov-1994
Nov-1995
Nov-1996
Nov-1997
Nov-1998
Nov-1999
Nov-2000
Nov-2001
Nov-2002
Nov-2003
Nov-2004
Nov-2005
Nov-2006
Nov-2007
Nov-2008
Nov-2009
Nov-2010
Nov-2011
Nov-2012
Nov-2013
Nov-2014
Nov-2015
Nov-2016
Nov-2017
Nov-2018
Nov-2019
Nov-2020
Nov-2021
Nov-2022
Nov-2023
Nov-2024
Nov-2025
1.04
1K
1.12B
1.01
1.02D
1.03B
1.04
1.12B
1.14
1.16
3.03
3.05
3.07
3.12
3.14
3.15
1A
1B
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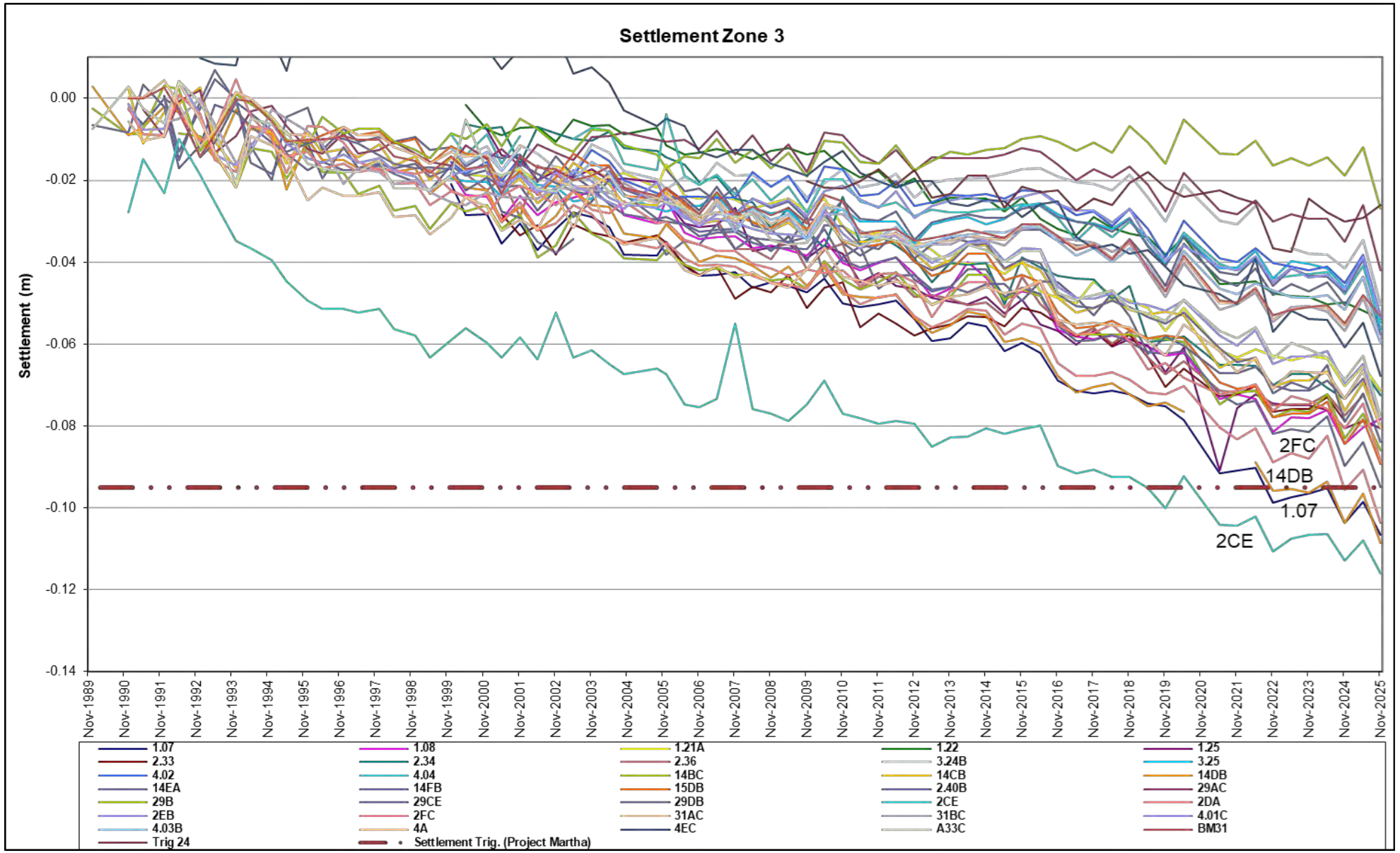
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29DB
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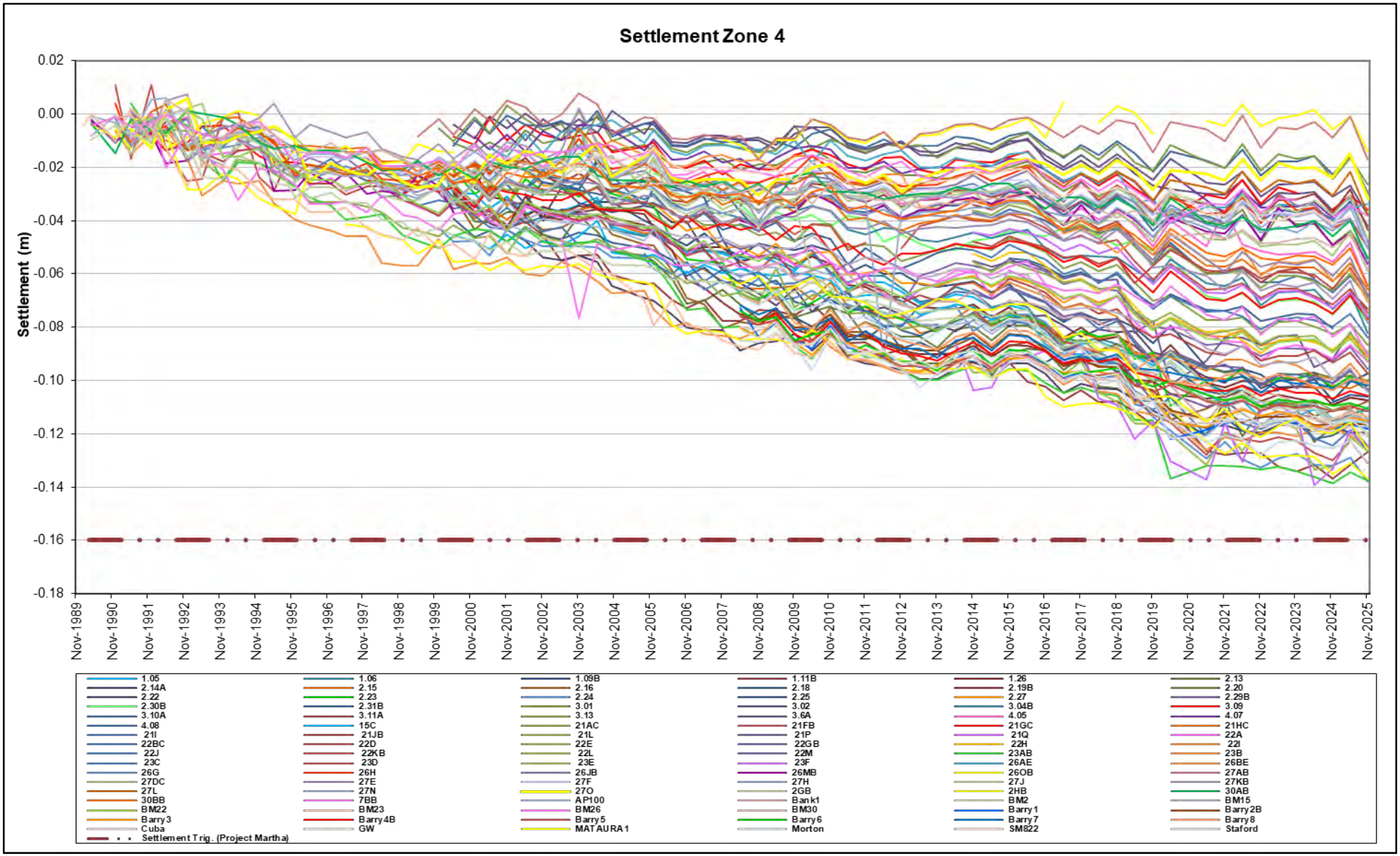
Settlement Trig. (Project Martha)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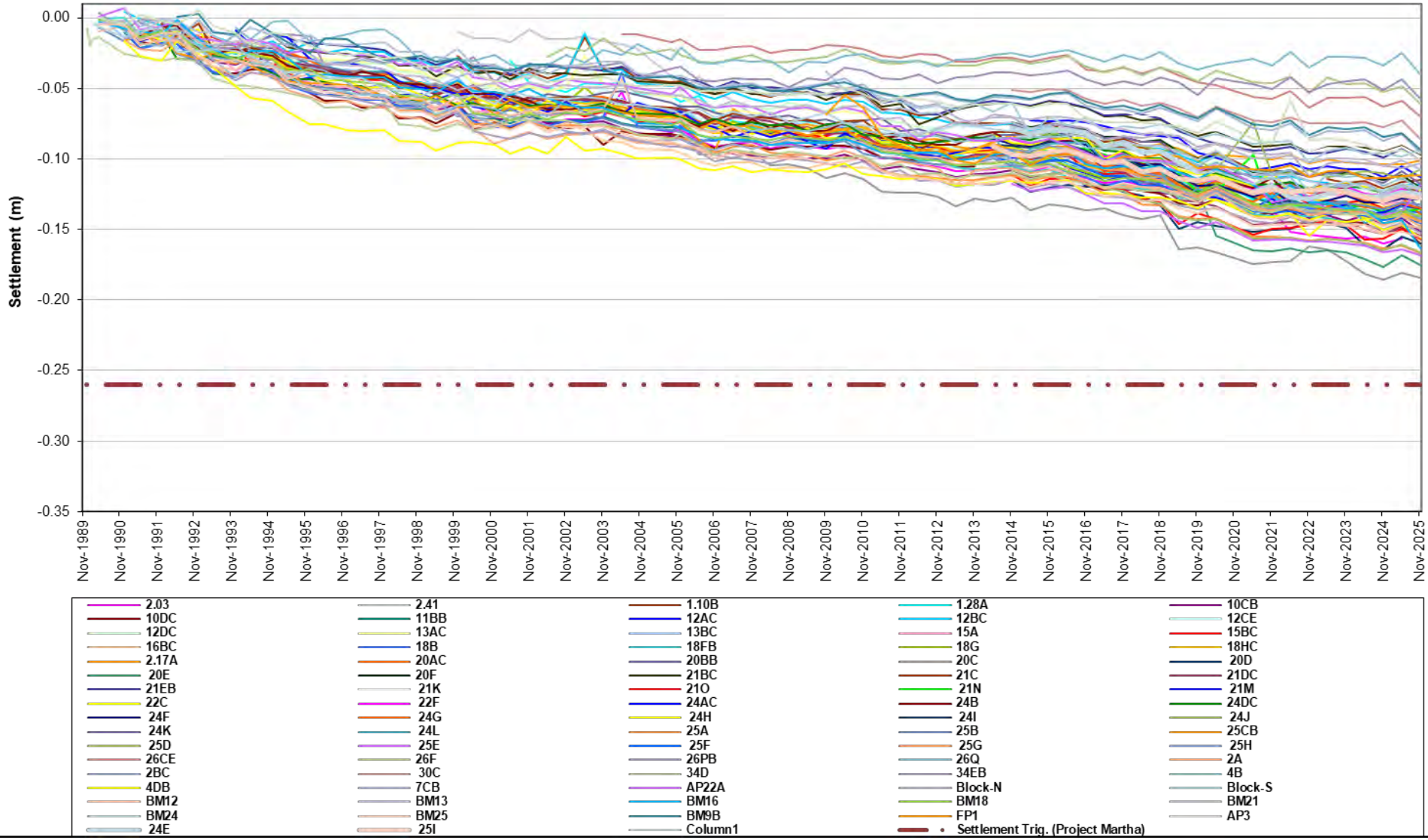

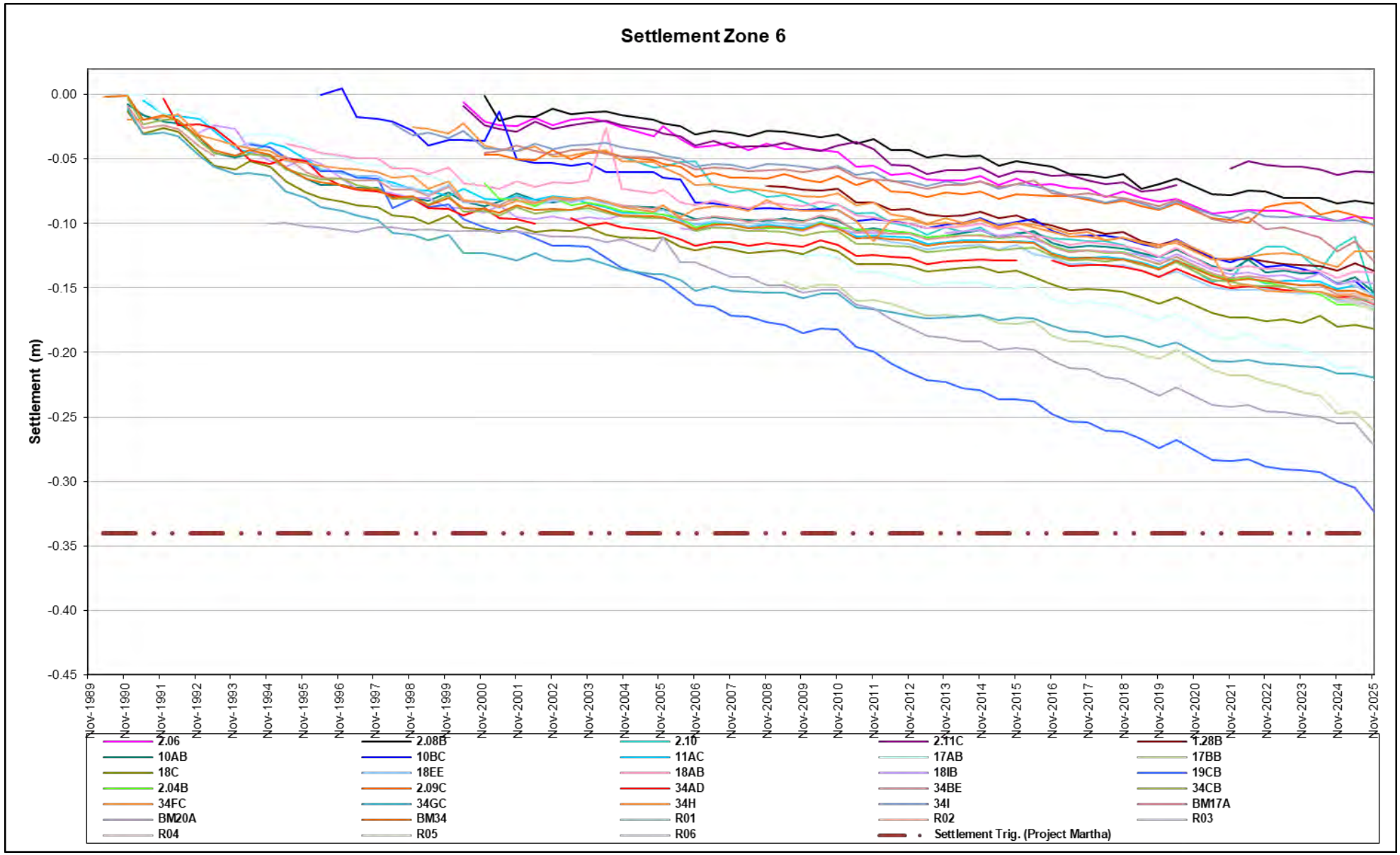
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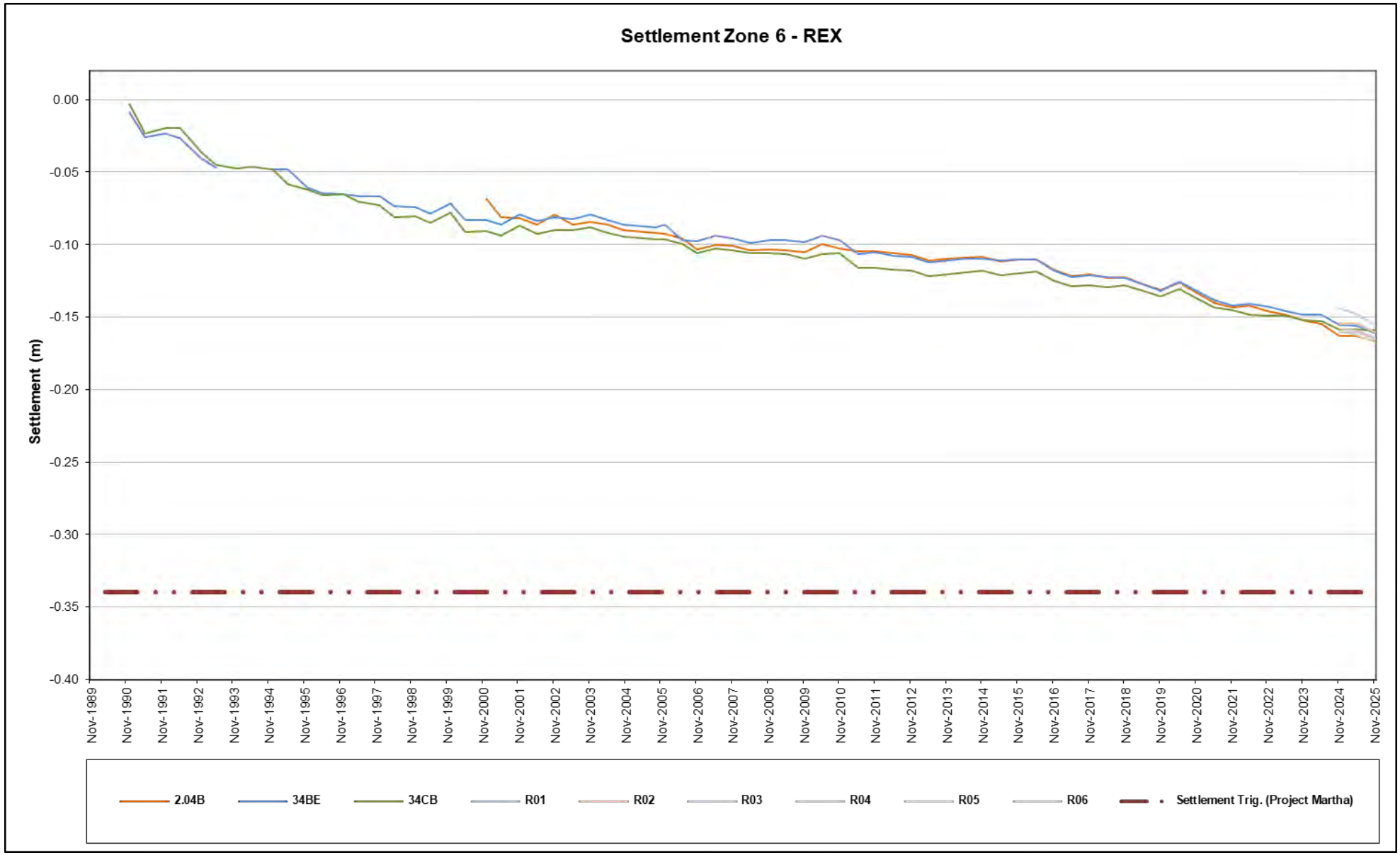
Settlement Trig. (Project Martha)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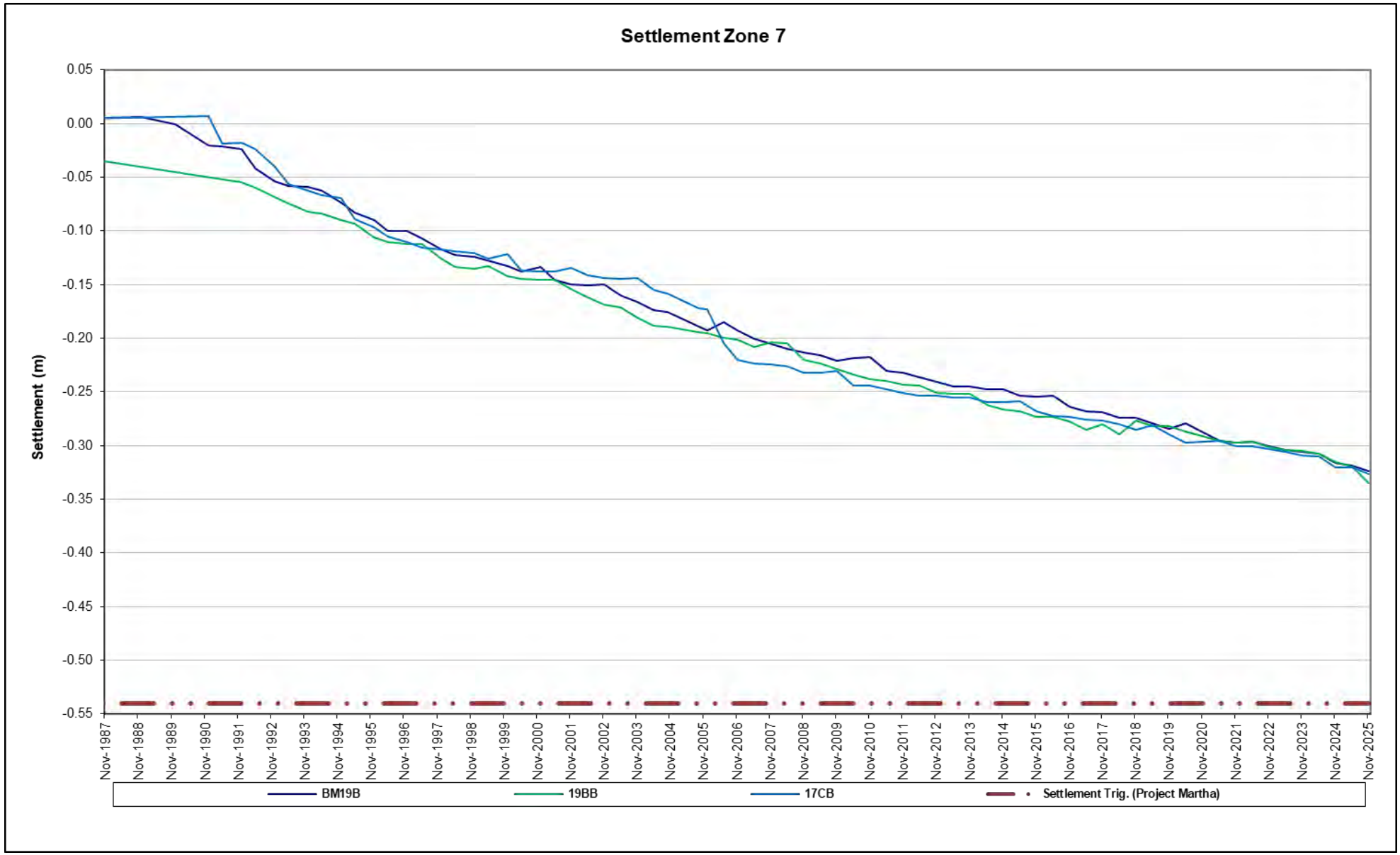
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Settlement Trig. (Project Martha)

Appendix E Water Quality Results 2025

Date	Data Point	FLS Comments	FLS EC (mS/m)	FLS pH	FLS Temp	Acidity (pH 3.7)	Alk-Bicarb	Alk-T	AlA	AlS	SbA	SbS	AsA	AsS	Bicarb	CdA	CdS	CaSO	Cl	CrA
6/01/2025 13:00	Underground Dewatering	high sediment , black/blue particles in sample water (possibly plastic)	302	7.4	27.7	1	137	138	4.1	0.013	0.0036	0.0037	0.044	0.006	167	0.0021	0.00132	560	13	0.0129
17/02/2025 10:10	Underground Dewatering		304	6.5	24.8	1	57	57	8.4	0.04	0.0024	0.0016	0.012	0.002	69	0.004	0.0036	500	15	0.0145
4/03/2025 0:00	800 PC1	Samples sent but cancelled because pumps not running																		
4/03/2025 0:00	800 PC2	Samples sent but cancelled because pumps not running																		
5/03/2025 13:45	Underground Dewatering		304	7.8	29.1	1	167	168	3.7	0.017	0.0057	0.0032	0.04	0.003	200	0.0034	0.0021	500	15	0.0131
1/04/2025 12:45	Underground Dewatering		320	7.7	28.5	1	154	155	0.94	0.028	0.0038	0.0036	0.012	0.005	188	0.00118	0.00102	590	15	0.0041
19/05/2025 10:30	Underground Dewatering		291	7.1	26.4	1	132	132	3	0.025	0.0028	0.0028	0.013	0.002	161	0.0082	0.007	540	14	0.0073
4/06/2025 11:15	Underground Dewatering		290	8.3	24.9	1	280	290	7.3	0.023	0.0031	0.003	0.031	0.002	350	0.0057	0.00147	560	14	0.0171
18/06/2025 12:00	800 PC1	Cant obtain sample due to water being lower than pump,s therefore pumps not running																		
18/06/2025 12:00	800 PC2	Cant obtain sample due to water being lower than pump,s therefore pumps not running																		
18/06/2025 12:00	Favona 800 sump	Cant obtain sample due to water being lower than pump,s therefore pumps not running																		
2/07/2025 11:00	Underground Dewatering	high sediment	283	7.9	25.7	1	360	370	19.7	0.08	0.0073	0.005	0.04	0.005	440	0.0069	0.00053	540	14	0.038
3/08/2025 11:30	Underground Dewatering		286	7.4	23.6	1	270	270	8	0.015	0.0059	0.0044	0.023	0.0015	330	0.044	0.028	530	9	0.0162
18/09/2025 12:30	Underground Dewatering	temp could be sun on black pipe	277	7.9	26.9	1	136	137	10.2	0.034	0.0055	0.0047	0.046	0.005	166	0.0092	0.0017	510	13	0.023
1/10/2025 10:00	Underground Dewatering	cloudy high sediment	287	7.0	26.5	1	137	137	11.1	0.045	0.0033	0.0031	0.043	0.002	167	0.0076	0.0047	490	13	0.0156
4/11/2025 13:45	Underground Dewatering	black pipe may influence temp	275	7.1	33	1	105	105	0.21	0.011	0.0027	0.0026	0.006	0.005	128	0.0036	0.0036	450	7.7	0.002
9/12/2025 12:40	Underground Dewatering		302	6.8	29.2	1	109	109	13.5	0.043	0.0034	0.0027	0.04	0.001	133	0.0104	0.0083	550	10	0.0181

Date	Data Point	CrS	Cr6col	CoA	CoS	CuA	CuS	CNTOT	EC (mS/m)	F-	NH3	Hard	FeA	FeS	PbA	PbS	MgSO	MnA	MnS	HgS	HgT	NiA	NiS	NO3-N	NOxN	NO2-N	NH4N	pH	PTO	KSO	SeA	SeS
6/01/2025 13:00	Underground Dewatering	0.0012	0.0014	0.0184	0.0126	0.031	0.001	0.004	296	0.41	0.0052	1940	5.6	0.04	0.145	0.0005	132	10.4	9.4	8.00E-05	0.00028	0.038	0.027	4	4.8	0.77	0.91	7.4	0.113	12.9	0.0016	0.0016
17/02/2025 10:10	Underground Dewatering	0.001	0.001	0.071	0.068	0.097	0.0142	0.005	278	0.22	0.00091	1730	8.7	0.06	0.113	0.0007	119	16.1	15.1	8.00E-05	0.00018	0.174	0.174	22	22	0.34	1.05	6.6	0.22	11.1	0.0023	0.0017
4/03/2025 0:00	800 PC1																															
4/03/2025 0:00	800 PC2																															
5/03/2025 13:45	Underground Dewatering	0.001	0.001	0.034	0.0182	0.051	0.0014	0.002	301	0.35	0.038	1710	5.6	0.04	0.176	0.0005	114	14	9.3	8.00E-05	0.00035	0.058	0.039	4.7	5.1	0.37	2.1	7.9	0.45	12.6	0.0023	0.0022
1/04/2025 12:45	Underground Dewatering	0.001	0.001	0.0145	0.0125	0.0139	0.001	0.002	292	0.4	0.0048	1980	1.57	0.04	0.035	0.0002	124	9.1	8.4	8.00E-05	8.00E-05	0.021	0.0178	3.9	4.4	0.55	0.41	7.7	0.148	13.2	0.0024	0.0029
19/05/2025 10:30	Underground Dewatering	0.0012	0.001	0.054	0.051	0.061	0.028	0.019	281	0.44	0.0044	1840	3	0.04	0.079	0.0006	119	11.2	10.5	8.00E-05	0.00016	0.136	0.132	8.4	9	0.57	0.91	7.3	0.28	11.9	0.0018	0.0015
4/06/2025 11:15	Underground Dewatering	0.0039	0.0018	0.042	0.0184	0.067	0.001	0.002	271	0.36	0.037	1870	7.9	0.04	0.116	0.0002	118	10.5	7.6	8.00E-05	0.00032	0.103	0.053	5.9	6.4	0.54	0.62	8.4	0.55	11.9	0.002	0.0018
18/06/2025 12:00	800 PC1																															
18/06/2025 12:00	800 PC2																															
18/06/2025 12:00	Favona 800 sump																															
2/07/2025 11:00	Underground Dewatering	0.0029	0.001	0.064	0.0107	0.133	0.0013	0.002	270	0.25	0.029	1790	15.7	0.04	0.26	0.0002	109	14.7	6.4	8.00E-05	0.00084	0.143	0.032	9.6	10.4	0.83	1	8.1	1.67	12.2	0.0054	0.0017
3/08/2025 11:30	Underground Dewatering	0.0019	0.0022	0.118	0.094	0.31	0.0063	0.005	265	0.47	0.039	1730	6.6	0.02	0.174	0.00042	97	17.3	14.2	8.00E-05	0.00045	0.27	0.22	12.3	12.7	0.4	4.6	7.6	0.58	11.1	0.0028	0.0017
18/09/2025 12:30	Underground Dewatering	0.0038	0.002	0.051	0.022	0.082	0.0019	0.002	266	5.4	0.02	1700	10.5	0.02	0.171	0.0001	101	12.2	8.1	8.00E-05	0.00039	0.127	0.066	6	6.4	0.39	0.85	8.0	0.144	11.5	0.0019	0.0013
1/10/2025 10:00	Underground Dewatering	0.001	0.001	0.067	0.056	0.067	0.0022	0.002	266	0.88	0.0028	1670	12.5	0.05	0.117	0.0002	108	11.6	10.2	8.00E-05	0.0003	0.136	0.11	3.6	3.9	0.22	0.57	7.3	0.22	10.3	0.0016	0.0013
4/11/2025 13:45	Underground Dewatering	0.0019	0.002	0.0191	0.0191	0.0039	0.0019	0.002	261	0.43	0.00175	1500	0.25	0.04	0.0026	0.0002	91	7.4	7.1	8.00E-05	8.00E-05	0.052	0.052	4.7	4.9	0.2	0.186	7.6	0.009	11.1	0.0014	0.0015
9/12/2025 12:40	Underground Dewatering	0.0005	0.001	0.085	0.068	0.148	0.0045	0.002	286	0.5	0.0046	1900	10.7	0.08	0.21	0.00018	129	13.9	13.3	8.00E-05	0.00036	0.199	0.164	7.7	7.9	0.24	1.6	7.1	0.7	13.3	0.002	0.0014

Date	Data Point	Sl	AgA	AgS	NaSO	SO4	Sum Anion	Sum Cation	TiA	TiS	TKN	TSS	UA	US	CNWAD	ZnA	ZnS
6/01/2025 13:00	Underground Dewatering	35	0.0002	0.0002	52	2000	45	42	0.00049	0.00036	1.92	2400	0.00027	0.00013	0.003	0.85	0.38
17/02/2025 10:10	Underground Dewatering	34	0.0002	0.0002	44	1780	40	37	0.00061	0.00052	1.6	710	0.0004	0.00023	0.005	1.34	1.03
4/03/2025 0:00	800 PC1																
4/03/2025 0:00	800 PC2																
5/03/2025 13:45	Underground Dewatering	32	0.0002	0.0002	52	1850	43	37	0.00072	0.00038	4.4	1340	0.00025	0.00013	0.002	1.2	0.43
1/04/2025 12:45	Underground Dewatering	29	0.0002	0.0002	61	1940	44	43	0.00038	0.00034	1.13	470	0.00014	0.00011	0.002	0.42	0.26
19/05/2025 10:30	Underground Dewatering	35	0.0002	0.0002	45	1770	41	39	0.00066	0.00062	1.23	750	0.00026	0.0002	0.015	4.6	3.4
4/06/2025 11:15	Underground Dewatering	28	0.0002	0.0002	47	1780	44	40	0.00063	0.00043	1.41	1670	0.00044	0.00018	0.002	3.7	0.199
18/06/2025 12:00	800 PC1																
18/06/2025 12:00	800 PC2																
18/06/2025 12:00	Favona 800 sump																
2/07/2025 11:00	Underground Dewatering	25	0.0002	0.0002	45	1680	44	38	0.00143	0.00043	3.3	5000	0.00118	0.00026	0.002	3.4	0.064
3/08/2025 11:30	Underground Dewatering	31	0.0002	0.0001	43	1690	42	38	0.00156	0.00116	5	570	0.00068	0.00027	0.002	19.2	10.3
18/09/2025 12:30	Underground Dewatering	30	0.0002	0.0001	47	1590	37	37	0.00091	0.00056	1.96	3100	0.00056	0.00022	0.002	4.1	0.3
1/10/2025 10:00	Underground Dewatering	33	0.0002	0.0002	45	1630	37	36	0.00089	0.00059	1.28	2500	0.00047	0.00024	0.002	3.4	1.82
4/11/2025 13:45	Underground Dewatering	35	0.0002	0.0002	46	1590	36	33	0.00052	0.00048	4.8	22	0.00015	0.00015	0.002	1.34	1.27
9/12/2025 12:40	Underground Dewatering	33	0.0001	0.0001	49	1820	41	41	0.00093	0.00069	2.1	1420	0.00041	0.00019	0.002	4.2	2.8

Appendix F Conceptual Hydrogeologic Sections

Conceptual Hydrogeologic Sections – 25.3.2026

At the request of the independent peer review panel for OGL's Waihi gold mining operation, the following presents three conceptual hydrogeologic sections at key locations though Waihi. Figures 1 and 2 show the section locations relative to the interpreted groundwater flow systems. It has been proposed that these sections are updated and included in the annual dewatering and settlement compliance report. Figures 3 to 8 below show the details of the sections and a brief discussion is provided for each.

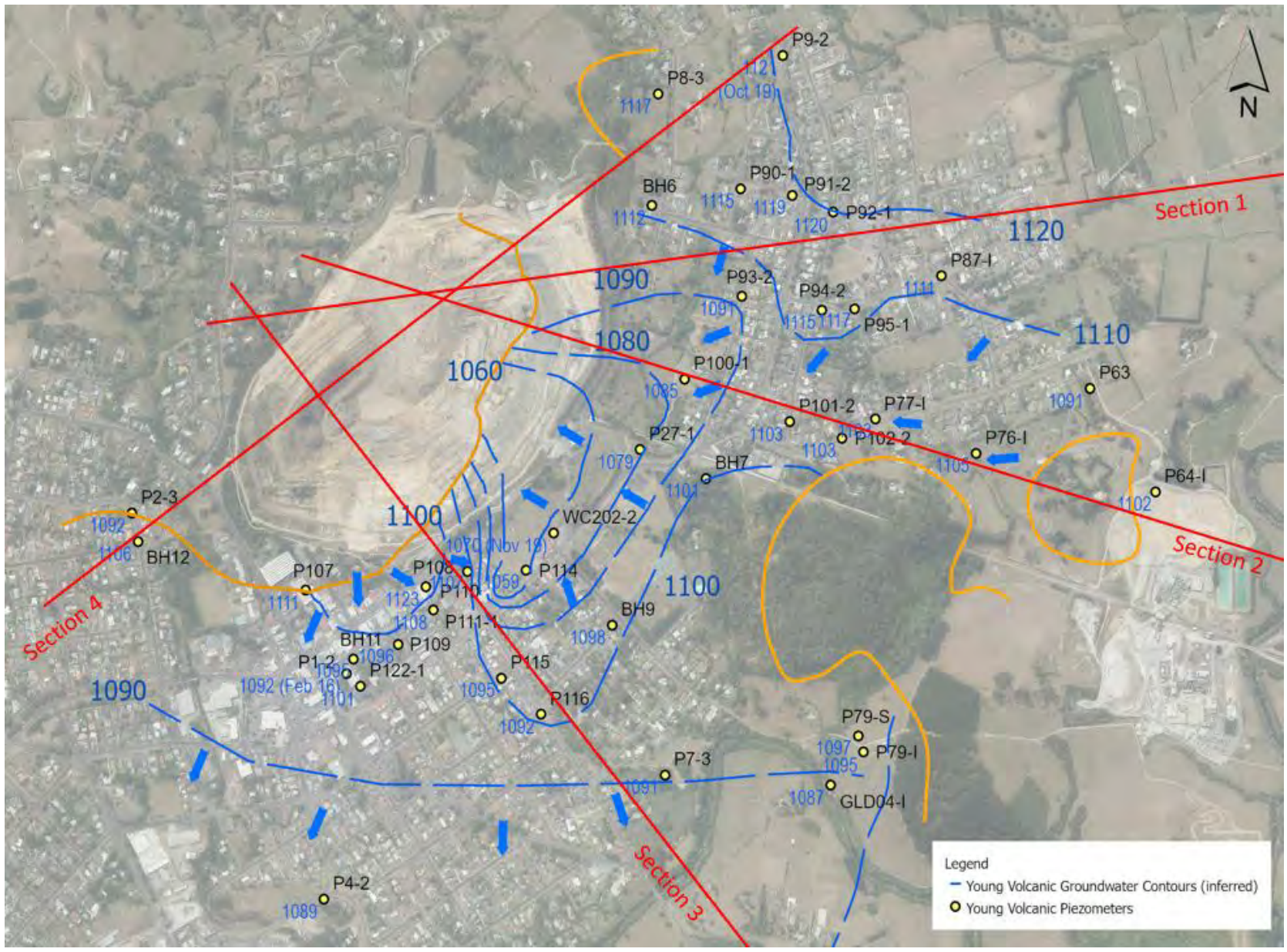

Figure 1 **Section Line Locations Relative to Young Volcanics Interpreted Piezometric Surface**

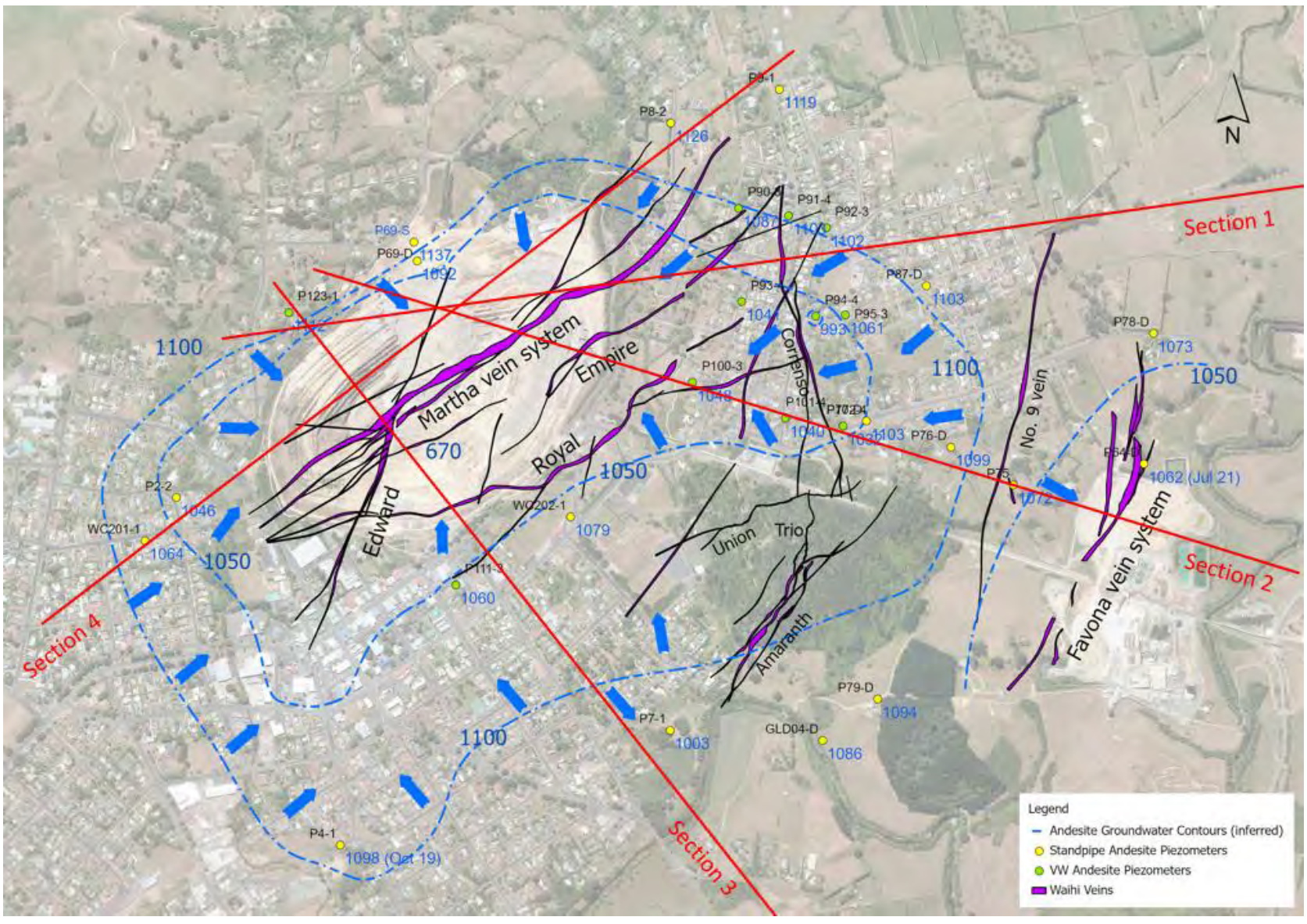

Figure 2 **Section Line Locations Relative to Andesite Interpreted Piezometric Surface**

Section 1 - P90 Series

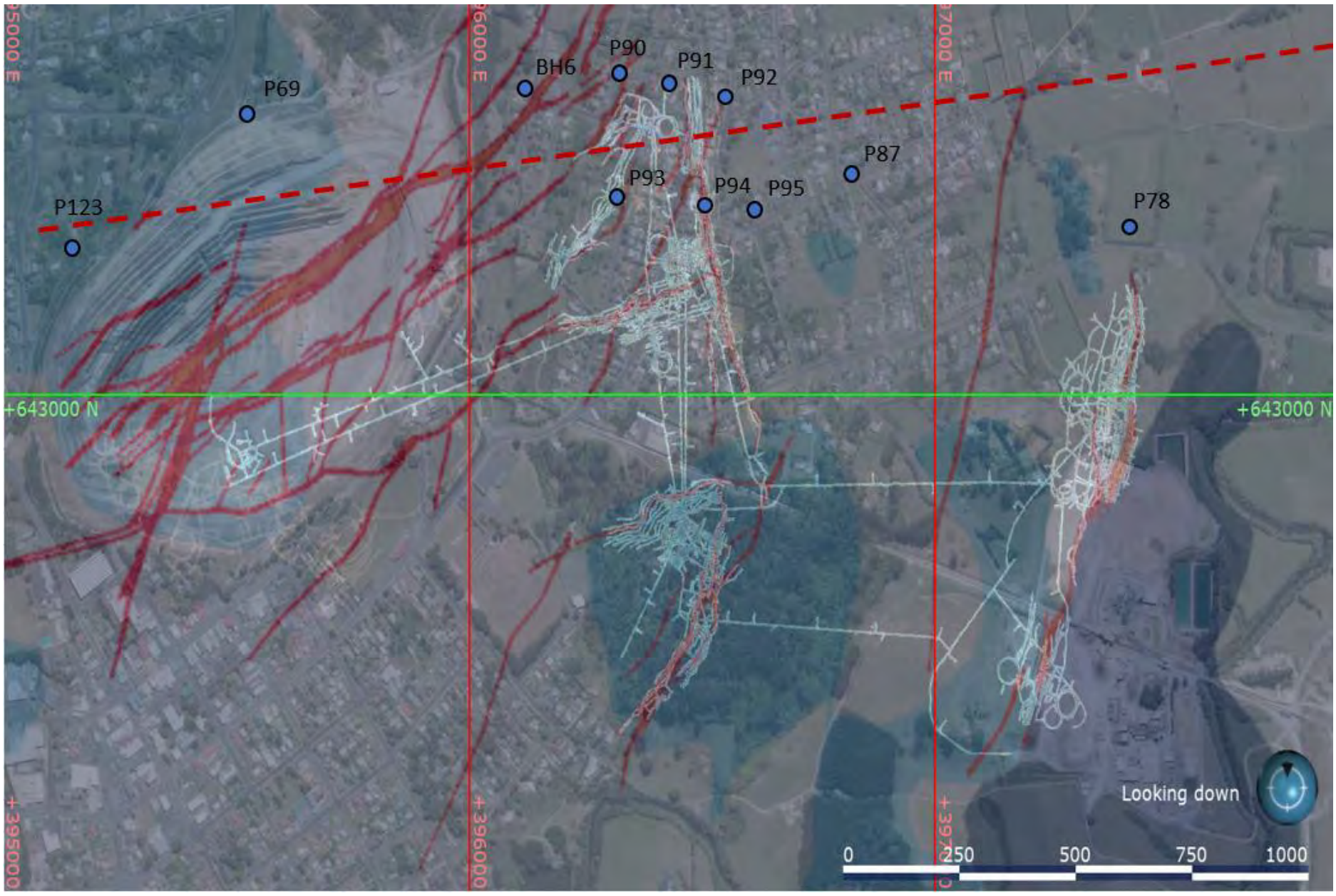

Figure 3 Section 1 P90 Series Section Location – Vein Systems and Underground Workings Shown

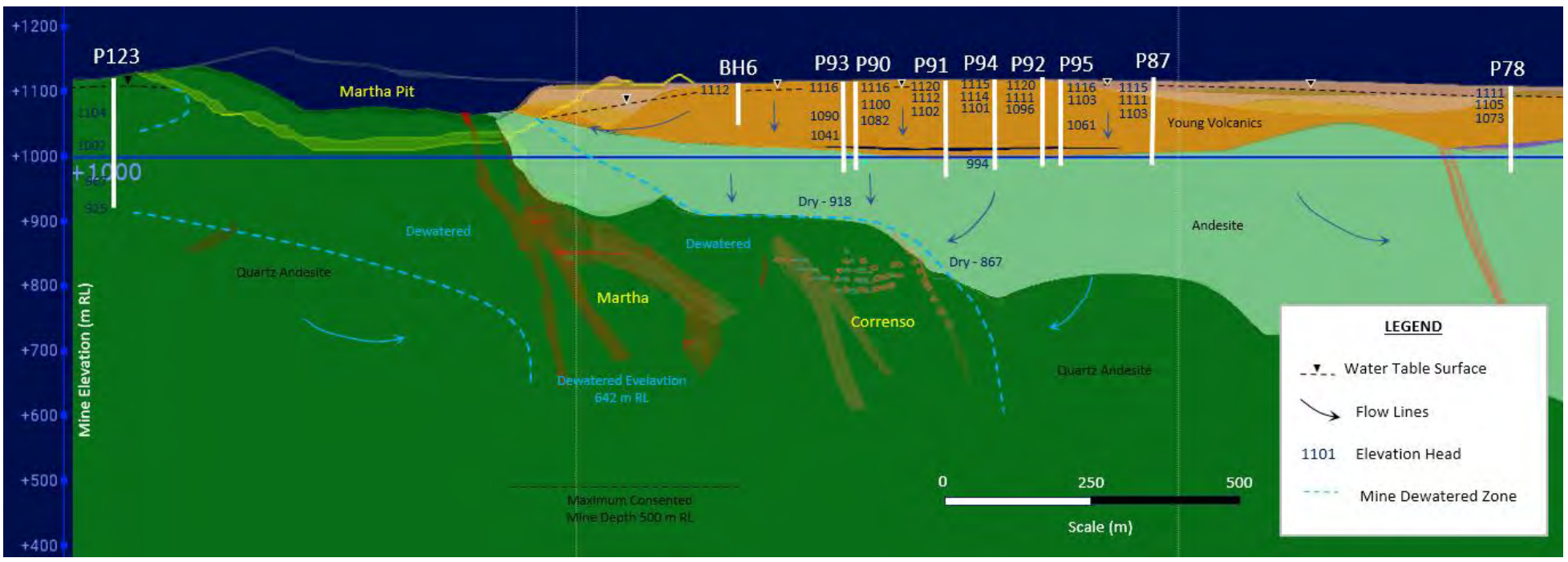

Figure 4 Section 1 P90 Series Conceptual Hydrogeologic Section

Description

The P90 series piezometers were constructed through Waihi East for the purpose of monitoring effects associated with underground mining of the Correnso and Martha ore bodies. The section shows a sequence of young volcanic materials some 100 m in thickness that overlie post mineralisation andesite that thickens to the east. The groundwater flow direction is oblique to the section orientation with most flow coming out of the plane (as shown in Figures 1 and 2) with some flow paths moving towards the Martha Pit.

The section illustrates that there is a dewatered zone in the Andesite host rock that extends from the Correnso underground workings to the Martha Pit. This dewatered zone exists within the Quartz Andesite with some limited propagation up into the overlying post-mineralization Andesite. The installation of an additional andesite piezometer P123 has shown a depressurised zone exists, extending out to the northwest behind the pit wall.

A permanent water table is observed within the Young Volcanic units that are perched over the post-minealization Andesite due to low permeability materials at the contact of the two geologic units. Vertically downward hydraulic gradients are noted to occur that increases locally where under drainage effects occur due to underground dewatering. The groundwater flow directions are illustrated in Figure 4 with some groundwater being lost to the underground to the west and further east flowing away from the Martha Pit. Some shallow groundwater within the Young Volcanics discharges near the edge of the pit.

Section 2 – P100 Series

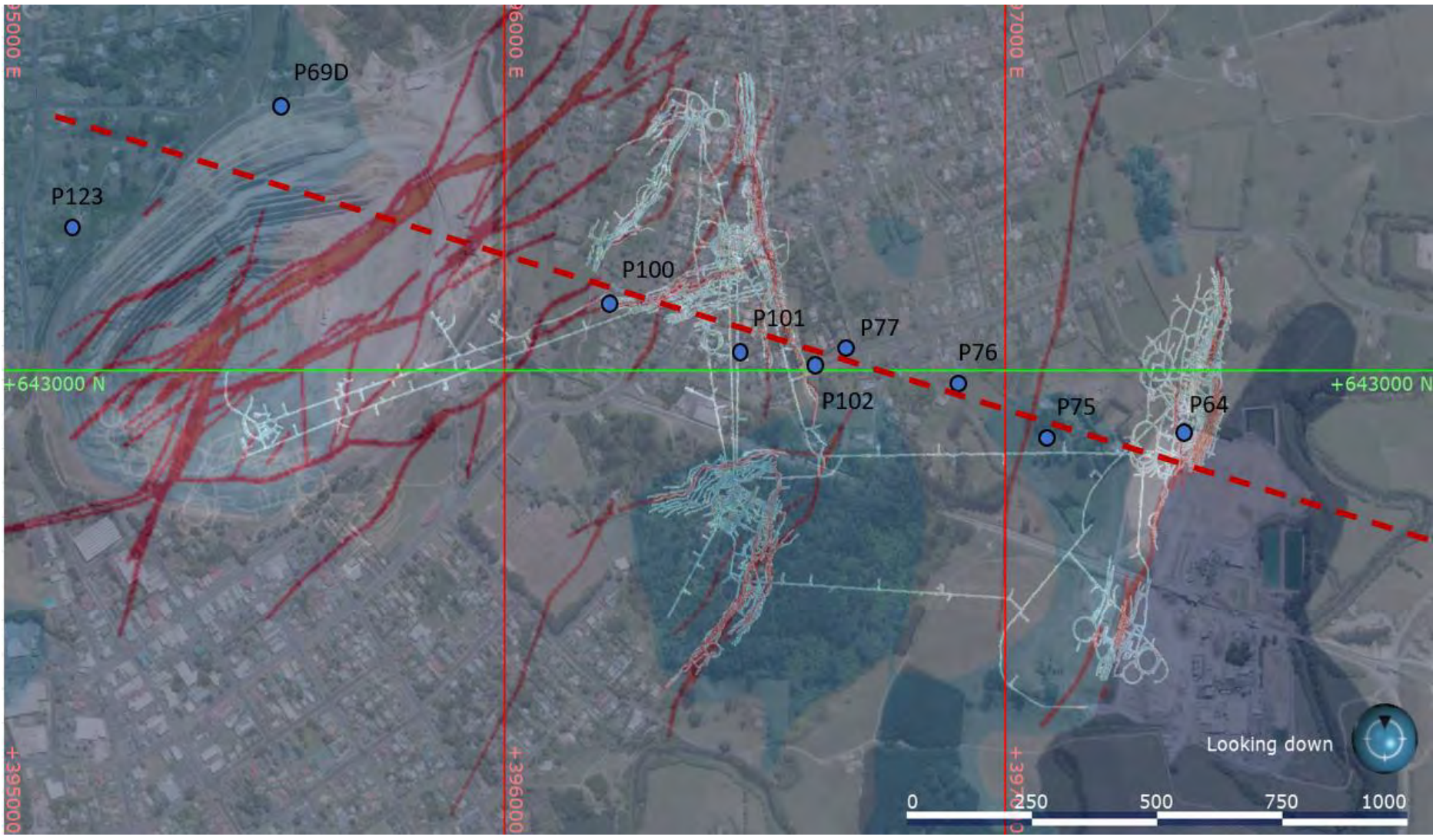

Figure 5 Section 2 P100 Series Section Location – Vein Systems and Underground Workings Shown

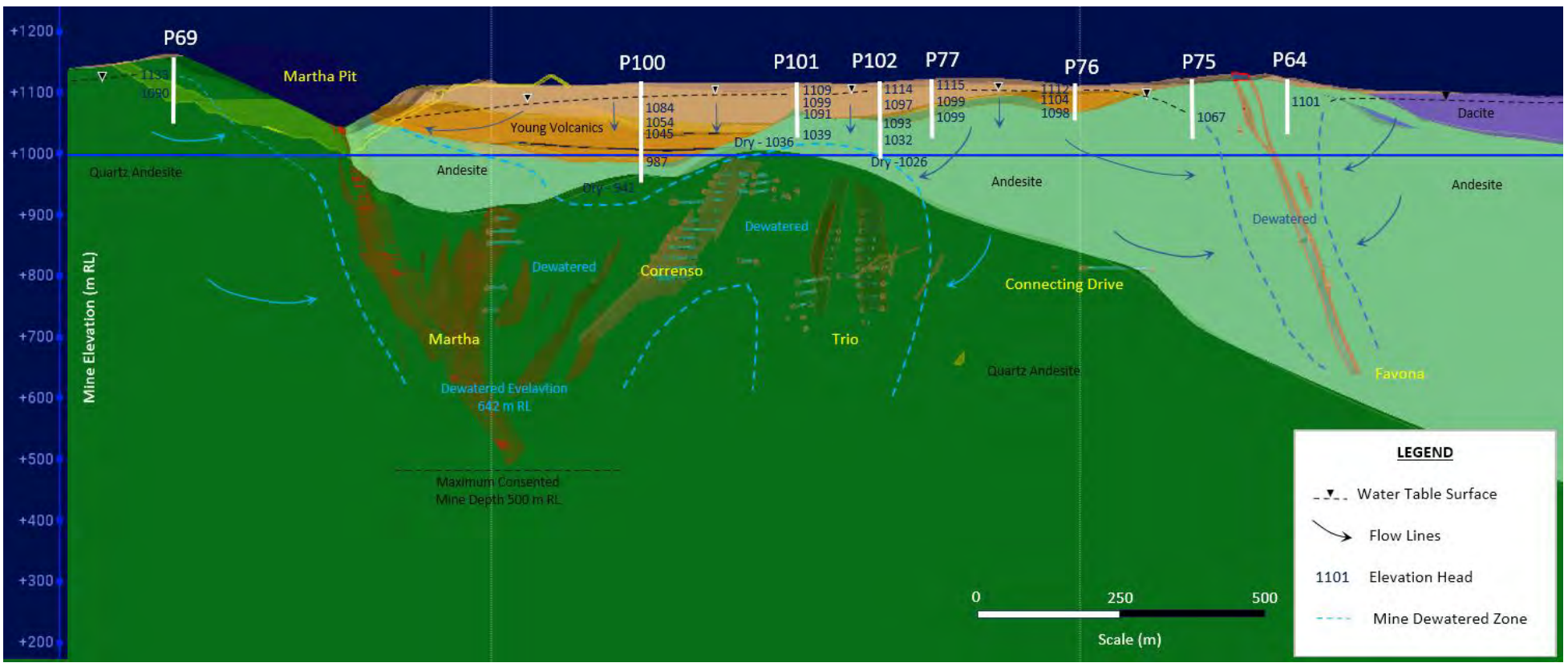

Figure 6 Section 2 P100 Series Conceptual Hydrogeologic Section

Description

The P100 series piezometers were constructed through Waihi for the purpose of monitoring effects associated with underground mining of the Correnso, Trio and Favona ore bodies. The section shows a sequence of young volcanic materials some 150 m in maximum thickness that thins to the east towards Union Hill. These deposits overly post mineralisation andesite that thickens to the east. The groundwater flow direction is oblique to parallel to the section orientation with most of the flow in the Andesite moving towards underground workings and Martha Pit in the west or Favona underground workings in the east. Groundwater flow in the young volcanics is towards the Martha Pit in the west and also downward leakage.

The section illustrates that there is a dewatered zone that extends between the Martha, Correnso and Trio underground workings in the Andesite host rock. The dewatered zone is limited in its eastern extent and does not propagate out to Favona which has its own localised dewatered zone. The low permeability rockmass between the zones creates this separation. An access drive physically connects Favona to the other ore bodies and a localised dewatered zone exists around it. A groundwater divide exists between the Favona and Trio with groundwater flowing either west towards Trio/Correnso or east towards Favona.

A permanent water table is observed within the Young Volcanic units that are perched over the post-mineralization Andesite due to low permeability materials at the contact of the two geologic units. A vertically downward hydraulic gradient is noted to be present that increases locally where under drainage effects occur due to underground dewatering. Some shallow groundwater within the Young Volcanics discharges near the edge of the pit.

Section 3 – P110 Series

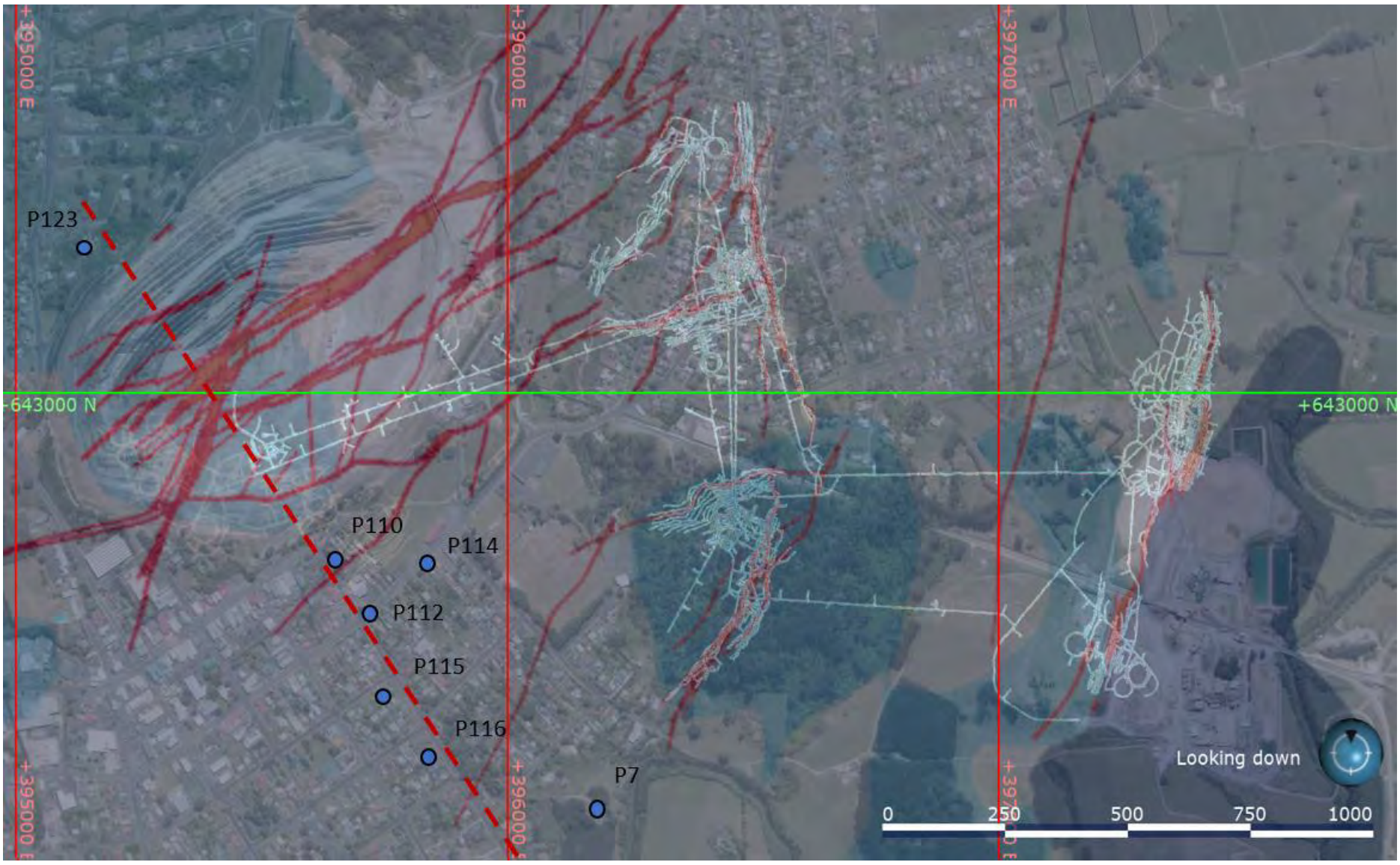

Figure 7 Section 3 P110 Series Section Location – Vein Systems and Underground Workings Shown

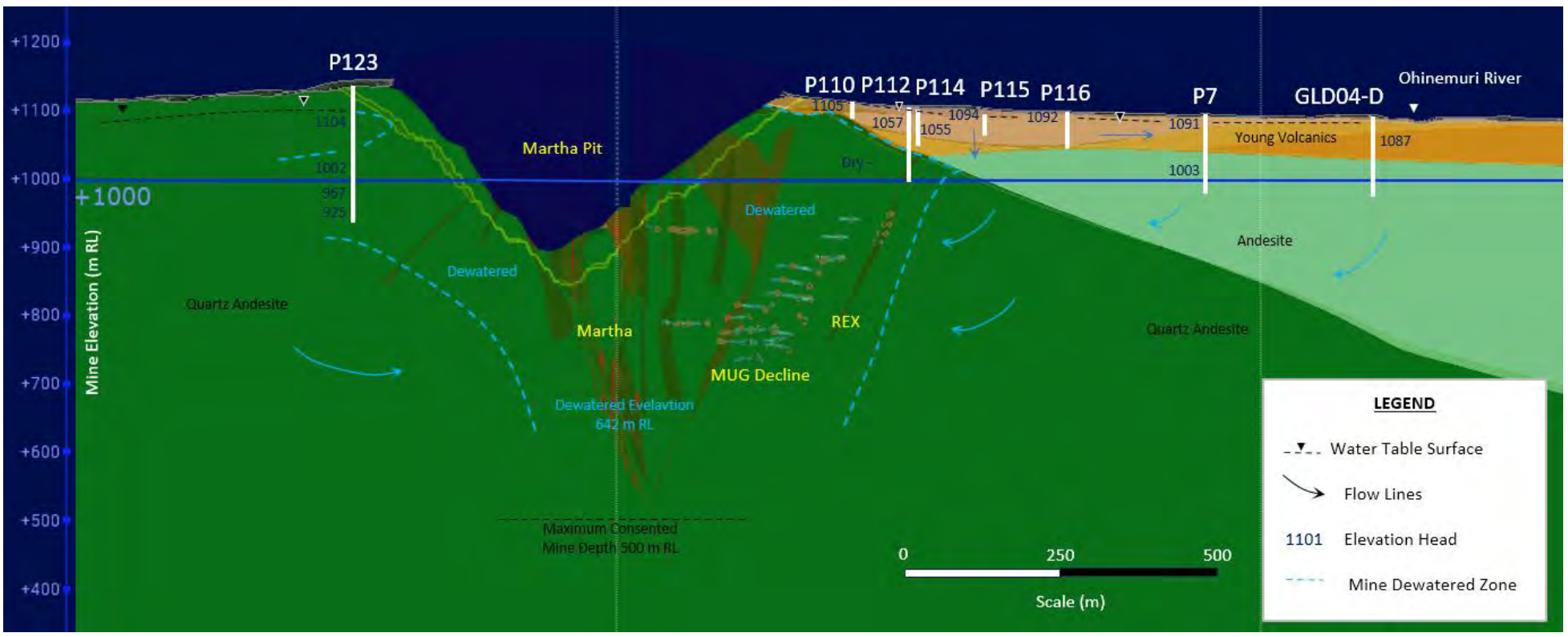

Figure 8 Section 3 P110 Series Conceptual Hydrogeologic Section

Description

The P110 series piezometers were constructed through Waihi for the purpose of monitoring effects associated with the Martha Pit and underground mine. The section shows a sequence of young volcanic materials up to 80 m in thickness overlying post-mineralization Andesite which thickens considerably to the east. The groundwater flow direction is parallel to the section orientation.

A dewatered zone exists around the Martha Pit and the decline that is being advanced to allow the underground mining of the Martha ore body. The dewatering extends out to include the Rex and Royal vein systems via crosscutting structures. Groundwater flow towards the dewatered zone in the mineralised host rock to the north. There is a groundwater divide between P115 and P116 where groundwater in the post-mineralization Andesite flows to the south. The installation of an additional andesite piezometer P123 has shown a depressurised zone exists, extending out to the northwest behind the pit wall.

A permanent water table is observed within the Young Volcanic units that are perched over the host Andesite and post-mineralization Andesite due to low permeability materials at the contact of the two geologic units. Vertically downward hydraulic gradients are noted to be present that increases locally where under drainage effects occur due to underground dewatering. Shallow groundwater within the Young Volcanics flows to the south down gradient where it discharges into the Ohinemuri River.

Section 4 – MUG Line of Strike

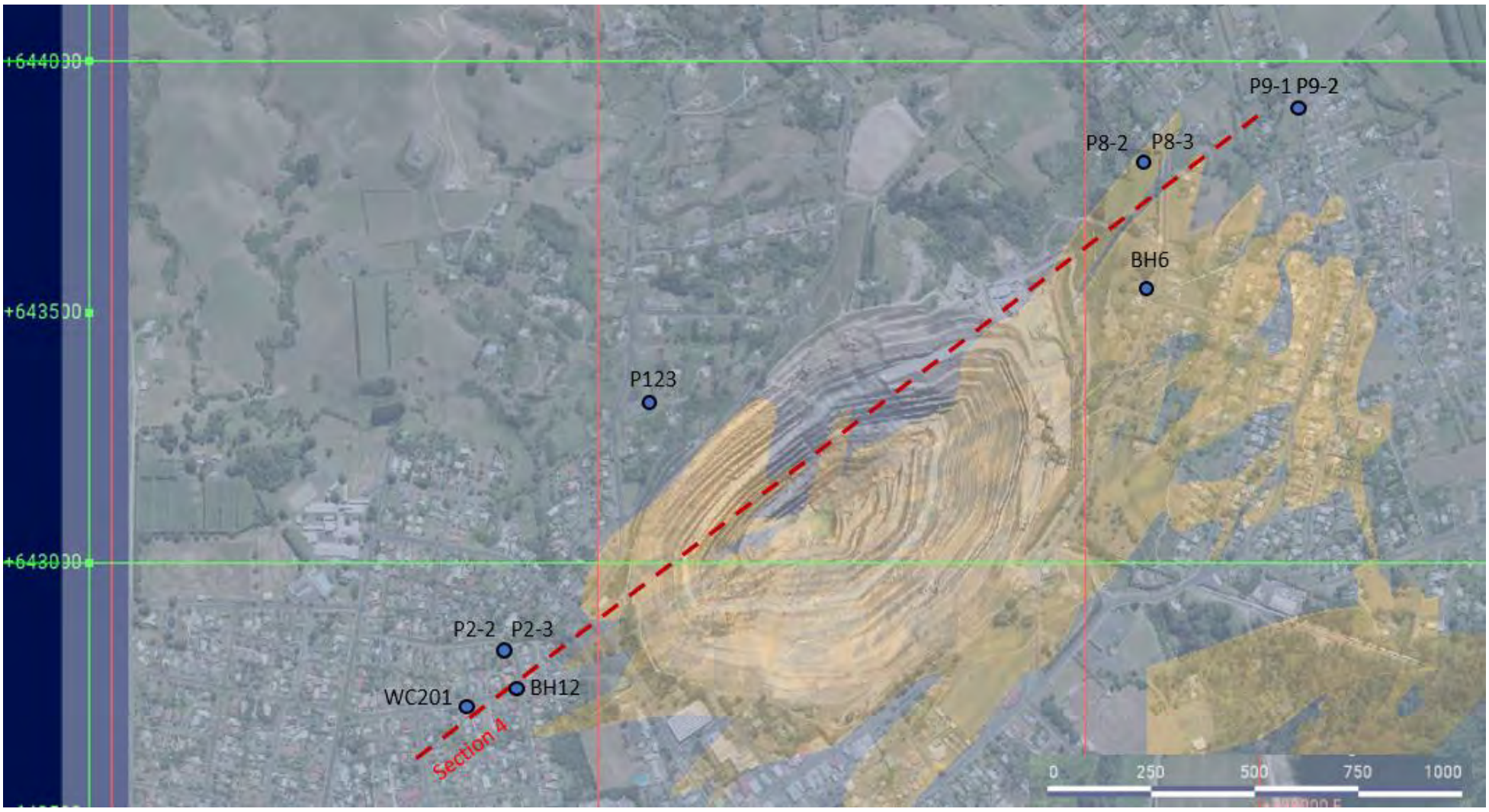

Figure 9 Section 4 MUG Line of Strike Section Location – Vein Systems and Underground Workings Shown

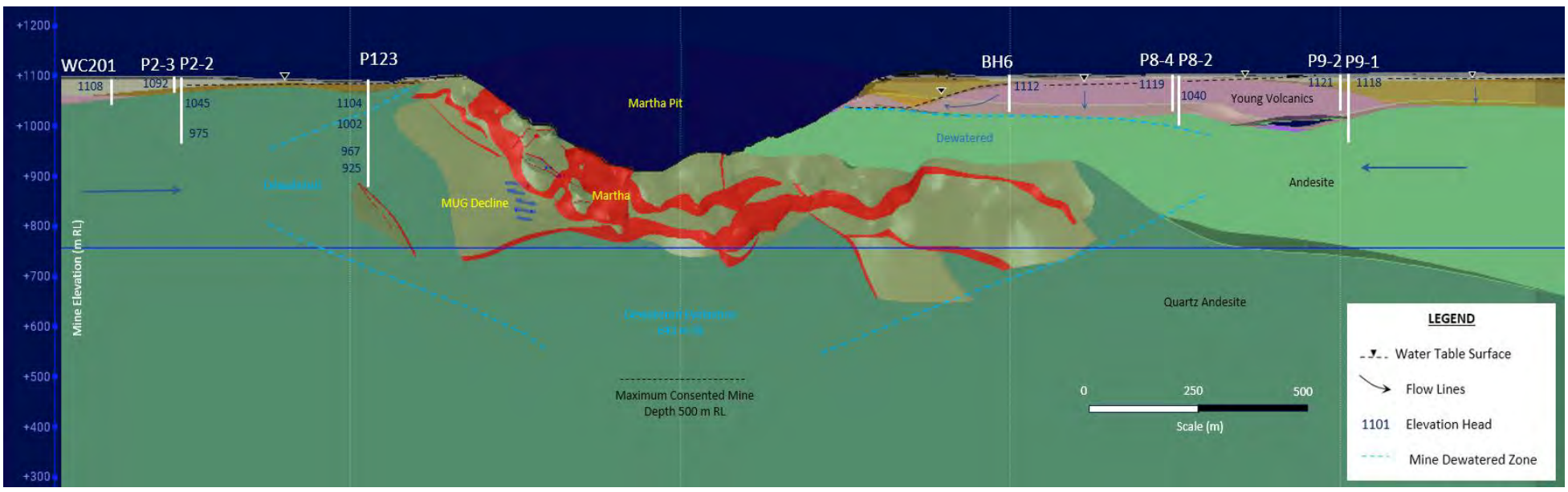

Figure 10 Section 4 MUG Line of Strike Section Location Conceptual Hydrogeologic Section

A conceptual hydrogeologic section has been developed along strike of the dominant structures hosting the vein systems. The purpose of the section is to determine the extent of dewatering within the andesite rock unit. The section shows a sequence of young volcanic materials up to 100 m in thickness overlying post-mineralization Andesite which thickens considerably to the east. The groundwater flow direction is parallel to the section orientation.

Conceptually, the section shows that dewatering occurs along the length of the MUG vein system and shows that the andesite host rock is dewatered at depth. The lateral extent of dewatering within the andesite at depth is not completely closed out along strike. As indicated by P123, a piezometric surface is present in the andesite in the near surface but is dewatered at depth. That is interpreted to be a function of the lower rockmass permeability in the near surface due to the effects of alteration and higher permeability at depth due to veining and fracturing.

A permanent water table is observed within the Young Volcanic units that are perched over the host Andesite and post-mineralization Andesite due to low permeability materials at the contact of the two geologic units. Vertically downward hydraulic gradients are noted to be present that increases locally where under drainage effects occur due to underground dewatering.

Appendix G Piezometers

Martha Network

Well ID	X Coord	Y Coord	Ground RL	Depth (mbgl)	Depth (mRL)	Formation	Type	Standpipe Screen (mbgl)	Purpose
GLD004S	396597	642166	1089.0	9.0	1080.0	Alluvium	Standpipe	6.95 - 9.95	To collect baseline groundwater data for the proposed Gladstone pit.
P2-4	394839	642818	1110.3	8.6	1101.0	Alluvium	Standpipe	7.6 - 8.6	Original piezometer network installed to monitor dewatering of the Martha Pit.
P8-4	396145	643831	1125.7	13.9	1112.0	Alluvium	Standpipe	11.9 - 13.9	
P91-1	396472	643572	1112.1	9.3	1112.8	Alluvium	VWP	NA	Installed in 2011, 2014 & 2016, these piezometers are located across and perpendicular to the Correnso vein system in three lines (P90, P91 and P92 forming one line, P93, P94 and P95 a second line and P100, P101 and P102 the third). Separation distance between the northern and southern lines is some 500m. The piezometers were constructed to intercept the shallow aquifer, young volcanics, and andesite rock to provide improved groundwater information in an area that had few existing wells.
P93-1	396347	643345	1117.7	12.5	1105.0	Alluvium	VWP	NA	
P94-1	396546	643306	1120.0	6.0	1114.0	Alluvium	VWP	NA	
P101-1	396464	643037	1115.0	12.8	1102.0	Alluvium	VWP	NA	
P102-1	396619	643016	1116.6	8.0	1109.0	Alluvium	VWP	NA	
WC201-4	394750	642714	1112.6	9.1	1104.0	Alluvium	Standpipe	7.1 - 9.1	Original piezometer network installed to monitor dewatering of the Martha Pit.
WC201-5	394750	642714	1112.6	2.7	1110.0	Alluvium	Standpipe	1.7 - 2.7	
WC203-4	395449	642346	1103.7	4.4	1099.0	Alluvium	Standpipe	3.4 - 4.4	
BH6	396131	643566	1117.7	74.0	1053.0	Young Volcanics	Standpipe	5 - 11 41 - 47 59-65	
BH9	396041	642575	1106.7	35.1	1074.0	Young Volcanics	Standpipe	26.2 - 32.2	
BH11	395384	642488	1112.8	37.0	1075.0	Young Volcanics	Standpipe	29.6 - 35.6	
BH12	394854	642752	1109.0	33.3	1079.0	Young Volcanics	Standpipe	24.7 - 30.7	
GLD004I	396597	642166	1089.0	24.0	1065.0	Young Volcanics	Standpipe	22.6 - 25.6	To collect baseline groundwater data for the proposed Gladstone pit.
P2-3	394839	642818	1110.3	37.0	1073.0	Young Volcanics	Standpipe	35 - 37	Original piezometer network installed to monitor dewatering of the Martha Pit.
P4-2	395280	641927	1101.6	53.6	1048.0	Young Volcanics	Standpipe	51.6 - 53.6	
P7-2	396165	642220	1092.7	53.5	1039.0	Young Volcanics	Standpipe	51.5 - 53.5	
P7-3	396165	642220	1092.7	12.0	1081.0	Young Volcanics	Standpipe	10 - 12	
P8-3	396145	643831	1125.7	32.8	1093.0	Young Volcanics	Standpipe	30.8 - 32.8	
P27-1	396104	642988	1107.8	34.2	1074.0	Young Volcanics	Standpipe	32.2 - 34.2	
P90-1	396339	643592	1119.8	20.0	1099.8	Young Volcanics	VWP	NA	Installed in 2011, 2014 & 2016, these piezometers are located across and perpendicular to the Correnso vein system in three lines (P90, P91 and P92 forming one line, P93, P94 and P95 a second line and P100, P101 and P102 the third). Separation distance
P90-2	396339	643592	1119.8	100.0	1019.8	Young Volcanics	VWP	NA	
P91-2	396472	643572	1112.1	25.3	1096.8	Young Volcanics	VWP	NA	
P91-3	396472	643572	1112.1	111.3	1010.8	Young Volcanics	VWP	NA	
P92-1	396573	643540	1121.6	25.3	1096.0	Young Volcanics	VWP	NA	
P92-2	396573	643540	1121.6	121.3	1000.0	Young Volcanics	VWP	NA	

Well ID	X Coord	Y Coord	Ground RL	Depth (mbgl)	Depth (mRL)	Formation	Type	Standpipe Screen (mbgl)	Purpose
P93-3	396347	643345	1117.7	103.0	1015.0	Young Volcanics	VWP	NA	between the northern and southern lines is some 500m. The piezometers were constructed to intercept the shallow aquifer, young volcanics, and andesite rock to provide improved groundwater information in an area that had few existing wells.
P94-2	396546	643306	1120.0	26.0	1094.0	Young Volcanics	VWP	NA	
P94-3	396546	643306	1120.0	104.0	1016.0	Young Volcanics	VWP	NA	
P95-1	396624	643310	1120.9	30.0	1091.0	Young Volcanics	VWP	NA	
P95-2	396624	643310	1120.9	90.0	1031.0	Young Volcanics	VWP	NA	
P100-1	396216	643131	1116.0	50.0	1066.0	Young Volcanics	VWP	NA	
P100-2	396216	643131	1116.0	120.0	996.0	Young Volcanics	VWP	NA	
P101-2	396464	643037	1115.0	32.0	1083.0	Young Volcanics	VWP	NA	
P101-3	396464	643037	1115.0	47.0	1068.0	Young Volcanics	VWP	NA	
P102-2	396619	643016	1116.6	38.0	1079.0	Young Volcanics	VWP	NA	
P102-3	396619	643016	1116.6	62.0	1055.0	Young Volcanics	VWP	NA	
P107	395287	642630	1118.9	29.9	1089.0	Young Volcanics	Standpipe		New piezometers installed for Project Martha.
P108	395563	642655	1125.8	9.8	1116.0	Young Volcanics	Standpipe		
P109	395495	642527	1113.0	22.0	1091.0	Young Volcanics	Standpipe		
P110	395653	642683	1114.0	17.0	1097.0	Young Volcanics	Standpipe		
P111-1	395581	642604	1113.4	13.0	1100.0	Young Volcanics	VWP	NA	Monitor shallow groundwater level impacts from mining the Rex orebody.
P112-1	395710	642590	1107.8	50.0	1058.0	Young Volcanics	VWP	NA	
P113A-1	395774	642654	1108.7	19.0	1090.0	Young Volcanics	VWP	NA	
P113A-2	395774	642654	1108.7	39.0	1069.0	Young Volcanics	VWP	NA	
P114	395817	642694	1114.0	60.0	1054.0	Young Volcanics	Standpipe		
P115	395751	642440	1109.5	37.5	1072.0	Young Volcanics	Standpipe	27.5 - 30.5	Installed to monitor the broader effects further afield from MUG dewatering.
P116	395848	642355	1098.3	53.3	1045.0	Young Volcanics	Standpipe	49.8 - 52.8	
P122-1	395391	642450	1111.9	20.0	1092.0	Young Volcanics	VWP	NA	Installed during Dec 2022 – Jan 2023, following the GWS review of the Waihi piezometer network.
P122-2	395391	642450	1111.9	52.0	1060.0	Young Volcanics	VWP	NA	
WC202-2	395881	642769	1110.5	61.8	1048.0	Young Volcanics	Pneumatic	NA	Original piezometer network installed to monitor dewatering of the Martha Pit.
GLD004D	396597	642166	1089.0	69.0	1020.0	Andesite	Standpipe	63 - 69	To collect baseline groundwater data for the proposed Gladstone pit.
P2-1	394839	642818	1110.3	136.0	974.0	Andesite	Standpipe	134 - 136	Original piezometer network installed to monitor dewatering of the Martha Pit.
P2-2	394839	642818	1110.3	75.7	1035.0	Andesite	Standpipe	73.7 - 75.7	
P7-1	396165	642220	1092.7	101.2	989.0	Andesite	Standpipe	102 - 104	
P9-1	396472	643916	1122.1	85.1	1037.0	Andesite	Standpipe	83.1 - 85.1	
P69-D	395522	643504	1165.3	101.2	1063.0	Andesite	Standpipe	97.65 - 101.15	
P69-S	395522	643504	1165.4	51.0	1114.0	Andesite	Standpipe	47.45 - 50.95	
P90-3	396339	643592	1119.8	137.0	982.8	Andesite	VWP	NA	Installed in 2011, 2014 & 2016, these piezometers are located across and perpendicular to the Correnso vein system in three lines (P90, P91 and P92 forming one line, P93, P94 and P95 a second line and P100,
P91-4	396472	643572	1112.1	151.3	970.8	Andesite	VWP	NA	
P92-3	396573	643540	1121.6	156.3	965.0	Andesite	VWP	NA	
P93-4	396347	643345	1117.7	143.0	975.0	Andesite	VWP	NA	
P94-4	396546	643306	1120.0	144.0	976.0	Andesite	VWP	NA	

Well ID	X Coord	Y Coord	Ground RL	Depth (mbgl)	Depth (mRL)	Formation	Type	Standpipe Screen (mbgl)	Purpose
P95-3	396624	643310	1120.9	120.0	1001.0	Andesite	VWP	NA	P101 and P102 the third). Separation distance between the northern and southern lines is some 500m. The piezometers were constructed to intercept the shallow aquifer, young volcanics, and andesite rock to provide improved groundwater information in an area that had few existing wells.
P100-3	396216	643131	1116.0	135.0	981.0	Andesite	VWP	NA	
P100-4	396216	643131	1116.0	160.0	956.0	Andesite	VWP	NA	
P101-4	396464	643037	1115.0	78.0	1037.0	Andesite	VWP	NA	
P102-4	396619	643016	1116.6	90.0	1027.0	Andesite	VWP	NA	
P106-1	395215	643265	1137.2	37.0	1100.0	Andesite	VWP	NA	Installed in 2017 to provide data northwest of the Martha Pit.
P106-2	395215	643265	1137.2	77.0	1060.0	Andesite	VWP	NA	
P106-3	395215	643265	1137.2	127.0	1010.0	Andesite	VWP	NA	
P106-4	395215	643265	1137.2	163.0	974.0	Andesite	VWP	NA	
P111-2	395581	642604	1113.4	25.0	1088.0	Andesite	VWP	NA	Monitor andesite groundwater level impacts from mining the Rex orebody.
P111-3	395581	642604	1113.4	58.0	1055.0	Andesite	VWP	NA	
P112-2	395710	642590	1107.8	72.0	1035.0	Andesite	VWP	NA	
P112-3	395710	642590	1107.8	110.0	998.0	Andesite	VWP	NA	
P113A-3	395774	642654	1108.7	74.0	1035.0	Andesite	VWP	NA	
P122-3	395391	642450	1111.9	80.0	1032.0	Andesite	VWP	NA	Installed during Dec 2022 – Jan 2023, following the GWS review of the Waihi piezometer network, to provide monitoring data for deeper andesite.
P122-4	395391	642450	1111.9	179.0	933.0	Andesite	VWP	NA	
P123-1	395137	643319	1124.4	80.0	1044.0	Andesite	VWP	NA	
P123-2	395137	643319	1124.4	120.0	1004.0	Andesite	VWP	NA	
P123-3	395137	643319	1124.4	160.0	964.0	Andesite	VWP	NA	
P123-4	395137	643319	1124.4	200.0	924.0	Andesite	VWP	NA	
P124-1			1099.0	19.8	1079.2	Andesite	VWP	NA	Installed in Aug 2025 to monitor groundwater level along strike of the Martha vein system and southwest of the Martha Pit in an area with no existing piezometers.
P124-2			1099.0	61.8	1037.2	Andesite	VWP	NA	
P124-3			1099.0	197.8	901.2	Andesite	VWP	NA	
WC201-1	394750	642714	1112.6	53.8	1059.0	Andesite	Pneumatic	NA	Original piezometer network installed to monitor dewatering of the Martha Pit.
WC201-2	394750	642714	1112.6	35.4	1077.0	Andesite	Pneumatic	NA	
WC201-3	394750	642714	1112.6	16.0	1097.0	Andesite	Pneumatic	NA	
WC202-1	395881	642769	1110.5	78.8	1032.0	Andesite	Pneumatic	NA	

Favona Network

Well ID	X Coord	Y Coord	Ground RL	Depth (mbgl)	Depth (mRL)	Formation	Type	Standpipe Screen (mbgl)	Purpose
P63-S	397220	643120	1119.8	6.7	1113.0	Alluvium	Standpipe	4.7 - 6.7	Monitor Favona dewatering
P76-S	396903	642972	1113.1	5.0	1109.0	Alluvium	Standpipe	4.5 - 5.0	
P77-S	396679	643039	1117.5	6.0	1111.0	Alluvium	Standpipe	5.5 - 6.0	
P78-S	397435	643275	1115.4	6.5	1110.0	Alluvium	Standpipe	6 - 6.5	
P87-S	396851	643383	1119.9	9.4	1110.0	Alluvium	Standpipe	7.4 - 9.4	
P63-I	397220	643120	1120.3	50.1	1070.0	Young Volcanics	Standpipe	38.4 - 50.1	
P64-I	397392	642887	1116.0	30.5	1086.0	Young Volcanics	Standpipe	30 - 30.5	
P67-D	397575	642884	1098.8	14.2	1084.6	Young Volcanics	Standpipe	8.65 - 13.80	Monitor groundwater quality
P76-I	396903	642972	1112.5	40.6	1073.0	Young Volcanics	Standpipe	38.6 - 40.6	Monitor Favona dewatering
P78-I	397435	643275	1115.3	49.5	1066.0	Young Volcanics	Standpipe	47.5 - 49.5	
P79-S	396720	642307	1102.1	12.0	1091.0	Young Volcanics	Standpipe	11 - 12	
P79-I	396720	642307	1102.2	41.5	1061.0	Young Volcanics	Standpipe	40.5 - 41.5	
P87-I	396851	643383	1119.9	49.9	1070.0	Young Volcanics	Standpipe	47.9 - 49.9	
P75	397085	642889	1130.0	150.6	979.0	Andesite	Standpipe	64 - 70 84 - 88 109 - 113 116.8 - 118.2 120.3 - 212.5 123 - 125	
P76-D	396903	642972	1113.0	58.0	1056.0	Andesite	Standpipe	55 - 58	
P77-I	396679	643039	1117.5	77.0	1046.0	Andesite	Standpipe	70 - 72	
P77-D	396679	643039	1117.5	86.5	1031.0	Andesite	Standpipe	83.5 - 86.5	
P78-D	397435	643275	1115.2	63.0	1053.0	Andesite	Standpipe	60 - 63	
P79-D	396720	642307	1102.3	55.0	1048.0	Andesite	Standpipe	52 - 55	
P87-D	396851	643383	1119.9	94.9	1025.0	Andesite	Standpipe	92.9 - 94.9	
P88	397244	642812		43.5			Standpipe	41.2 - 42.7	Monitor groundwater quality