



17th July 2013

Company Announcements Platform

Australian Securities Exchange

Diamond Drilling Reveals Bonanza Grade of 1m @ 114g/t Gold and Provides Significant Expansion of the Sorpresa Project at Fifield NSW

Diamond Drilling Assay Highlights at Sorpresa Project

- ❑ **Fi 329 DDH - 1m @ 114g/t Au from 159m AND 1m @ 33g/t Ag from 159m**
- ❑ **Fi 328 DDH - 7m @ 4.24g/t Au from 87m, including 1m @ 22.7g/t Au AND 20m @ 97.6g/t Ag from 80m, including 1m @ 631g/t Ag**
- ❑ **Fi 327 DDH - 1m @ 24.9g/t Au from 143m AND 10m @ 35.9g/t Ag from 121m, AND 3m @ 78.2g/t Ag from 135m**

Rimfire Pacific Mining NL (ASX:RIM) ("Rimfire" or "The Company") is pleased to announce that results from a recent diamond drilling program (5 holes for 1,402m, in 3 locations) have confirmed the presence of bonanza high grade gold (Au) with silver (Ag) mineralization within an extensive and continuous receptive "black silica" horizon at the Sorpresa Project.

The receptive horizon remains open along strike and down dip. Geological understanding from the first ever diamond core at the project has enabled correlation of the receptive horizon with a large underlying IP chargeability anomaly. This recognition greatly enhances targeting and enables more rapid exploration to define high grade mineralization within this geophysically map-able horizon.

Key Outcomes from the Diamond Drilling Program

- ❑ **The Sorpresa mineralization has been significantly extended 400m East of Boundary Gate and 1km South of Roadside, appears continuous, has excellent geometry and remains within open cut mining depths or has potential grade suited to underground mining (see Appendix 1 and 2)**
- ❑ **High grades were intersected in the expanded project area, which is open in many directions. Numerous areas have emerged for low risk additional drilling of the Sorpresa mineralization**
- ❑ **The connection of the Sorpresa mineralization host geology to the IP response is firmly established offering an important geophysical technique to enable direct drill targeting**
- ❑ **The observed geology is exciting and consistent across each hole, with the presence of porphyry sills, abundant brecciation, shearing, pervasive silica, sulphides and intrusive features**
- ❑ **Results from Hole Fi 325 DDH at Trench 31 are awaited.**

(The appendices provide important context to this report and give details of hole locations, sections, shapes and assays)

The Executive Chairman, John Kaminsky, remarked:

“The diamond drilling undertaken at Sorpresa has been a resounding success.

The program has complimented and validated the high grade results and observations from previous percussion drilling whilst greatly enhancing the geological understanding and significant scale of the emerging system. The prospective Sorpresa area is now in excess of 8km².

Importantly the coincidence of the receptive horizon with IP geophysics as revealed in the diamond core can expedite future exploration of this large area to rapidly define more, high grade targets.



For the project’s first ever diamond holes to intersect bonanza grades such as **1m @ 114g/t Au**, plus significant width and grade mineralization like the **7m @ 4.24g/t Au**, is testament to the excellent upside potential of this emerging district considering the reconnaissance and step-out nature of the diamond drilling conducted. This recent work builds upon the high grade intersections in the previous 12 months percussion drilling that included **14m @ 24.4g/t Au** and **14m @ 21.9g/t Au** (shown in Appendix 1) and clearly demonstrates that we have an exciting discovery developing at Sorpresa.

Whilst more work needs to be done, positive commercial parameters compliment these results, with respect to the mineralization shape, scale and depth. The Fifield area is well supported with good development infrastructure for mining so this adds further encouragement to the process. The mounting positive drill results from the Sorpresa project have warranted a preliminary examination of the metallurgy, which will provide additional commercial input.

Shareholders should be greatly heartened by the recent rounds of results, both the diamond drilling and the earlier percussion drilling. The Company is well placed to make significant advances in the Sorpresa project area looking forward.”

The Head of Exploration, Colin Plumridge, stated:



“The diamond drilling program has provided an enormous leap forward in our understanding of the system geology and confirmed the large scale of the mineralization operating at Sorpresa.

We have achieved exciting gold and silver intersections and the IP has now proven its suitability to identify the Sorpresa geology, even at depth.

The one metre at **114 g/t Au in diamond core hole Fi 329 DDH** is a great result and was beyond expectations. This is the third best gold intersection ever drilled at Sorpresa.

Looking north from Fi 329 DDH (see Appendices 1, 2 & 3) we now have 1.4km of mineralization strike with some excellent results that remain open at both ends and also open to the east. The surrounds to the recent work are now a high priority for follow up RC drilling.

The diamond drill core gave us our first critical view at the geological-mineralization connection at Sorpresa. The five cored holes showed remarkable similarity in both the overall geology and the mineralization style. The quartz porphyry sill acts as a capping rock over the carbonaceous black silica horizon and has emerged as a signature assembly for the Sorpresa gold and silver.

The project geometry also has a very important commercial message. The Sorpresa gold and silver mineralization is characterized by a low dip rolling structure, which represents a very favourable geometry for delineation and mining considerations.

Sorpresa continues to deliver strong results with a mix of geology, geophysics and drilling. This puts real excitement into the drill out and exploration programs in the next 12 months.”

Background on Diamond Drilling Program at Sorpresa

Diamond drilling was utilized to investigate the interrelationship of structure and lithology with mineralization plus reveal any potential relationship to the very large IP chargeability anomaly which underlies the currently identified mineralization.

The location of the holes (Appendix 1) reflects the reconnaissance and conceptual nature of the diamond drill targets as opposed to direct targeting of known mineralization.

This program was the first ever diamond drilling, and the deepest drilling undertaken to date at Sorpresa with 5 holes for 1,402m completed at three separate locations.

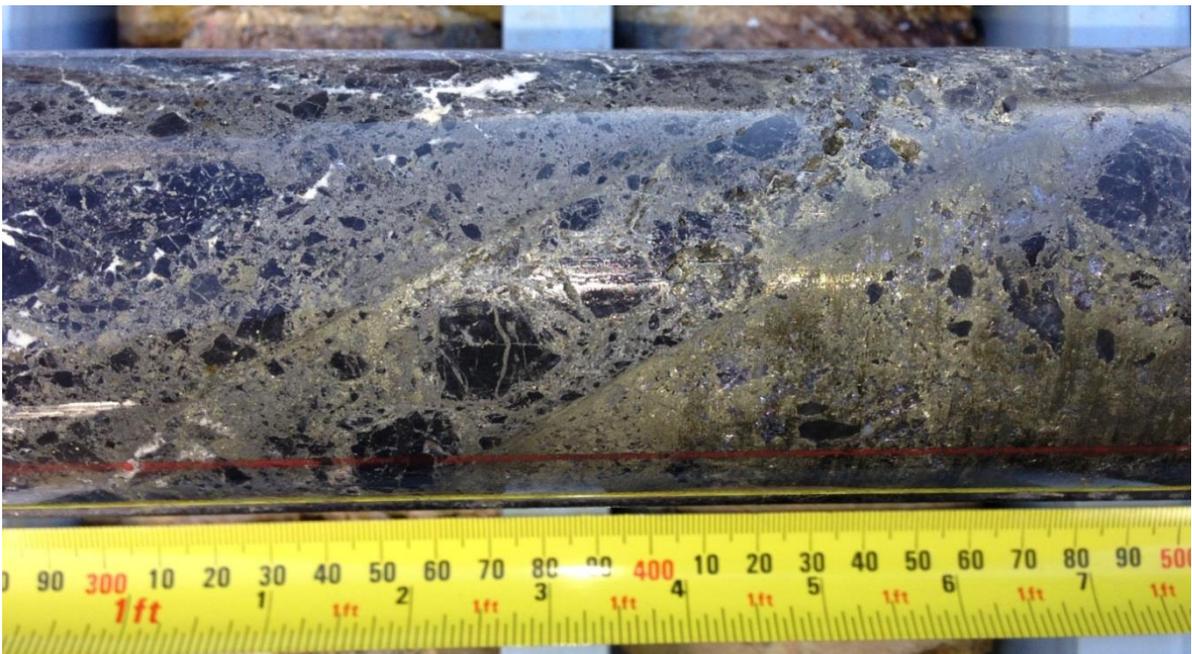
Results of the program are outstanding in terms of bonanza grade, width, and revealing the consistency and orientation of the prospective stratigraphy across a significant area. All five diamond holes intersected the “receptive black silica horizon” which in core is expressed as a brecciated, silicified, carbonaceous sediment often with sulphide matrix infill of pyrite, arsenopyrite, galena, sphalerite, pyrrhotite and lesser chalcopyrite.

Overlying the receptive horizon an intensely sericite altered quartz and feldspar phyrriic porphyry sill has been intersected in the diamond core holes. This porphyry has acted as an impervious “cap rock” effectively trapping gold and silver bearing hydrothermal fluids and restricting fluids to the host carbonaceous receptive horizon.

Recognition of such perfect host and trap rocks in diamond core adds greatly to the unfolding exploration model for future exploration success.



Porphyry Sill (PS) and Receptive Horizon (RH) in Fi 329 DDH



Receptive “Black Silica” Horizon Fi 328 DDH: Brecciated chalcedonic black silica clasts with a sulphide matrix comprising pyrite, galena, sphalerite, chalcopyrite, arsenopyrite and pyrrhotite.

Assayed from 90m giving **1m @ 22.7g/t Au, 312g/t Ag**, 1.8% Pb, 2.1% Zn. The Sulphide assemblage and carbonaceous / graphitic nature represents an ideal induced polarization (IP) target.

Diamond drilling at Sorpresa has enabled the integration of geophysical, lithological, structure and mineralization observations to reveal:

- The nature, consistency, orientation and large scale of the receptive “black silica” horizon
- Identification of the intensely altered porphyry trap rocks
- Intersection of the likely intrusive driver at depth

- Significant bonanza grade and potential economic widths to mineralization in diamond core plus the validation of high grade mineralization in the system encountered in previous percussion drilling
- The establishment of the relationship of the mineralization host geology¹ with the IP and detailed gravity models
- The prospective area has grown substantially

All drilling results are being captured and interpreted as 3D wireframes and models to aid the next phase of drilling, however, obvious prospective areas east and south east of the main Sorpresa strike that are currently low risk extensions of known gold and silver mineralization will be targeted with RAB and percussion drilling.

Finally, intriguing fractionated, largely non-magnetic mafic intrusive rocks were intersected in the deepest stratigraphic diamond hole Fi 329 DDH drilled to 502m. Such intrusives hint at a potential intrusive heat source “driver” to the mineralisation and also allude to the underlying Platinum potential at Fifield. Further work is required to distinguish this relationship, including potential age dating, and selective petrology samples have already been returned.

Sorpresa Project Information Thread

The Company provides a **hyperlink thread** of the Sorpresa Gold Mineralization area of recent ASX and video materials as follows. The thread provides important views previously expressed, that will assist the reader with understanding the Company’s technical consideration and outlook for the work it is undertaking:

1. ASX June 13th 2013 [Further Positive RC Drilling Results at Sorpresa Project](#)
2. ASX May 23rd 2013 [Diamond and RC Drilling Completed, RAB Drilling Extended](#)
3. ASX April 26th 2013 [Mineralized Zones Intersected in Diamond Drilling](#)
4. ASX April 12th 2013 [RAB Drilling program Commences at Sorpresa](#)
5. ASX April 5th 2013 [Diamond Drilling and RC Drilling Commences at Sorpresa Gold Project](#)
6. ASX March 27th 2013 [Additional Assays at Sorpresa Gold Project](#)
7. ASX March 13th 2013 [Sorpresa Gravity Geophysical Survey Commences](#)
8. ASX February 19th 2013 [Continuous 350m Section Established at Roadside Area & New Gold Zone Intersected](#)
9. ASX January 31st 2013 [Quarterly Exploration Activities December 2012](#)
10. ASX December 18th 2012 [Sorpresa Project Produces More Encouraging Results](#)
11. ASX November 22nd 2012 [Presentation for 2012 AGM](#)
12. ASX November 5th 2012 [Best Silver Grades to Date Seen at Sorpresa Project Area](#)
13. ASX October 10th 2012 [Highest Gold and Silver Grades seen to date at Sorpresa Project](#)
14. ASX September 17th 2012 [First Gold Sections Created at Sorpresa Project – New Assay Results](#)
15. ASX August 31st 2012 [New Gold in Soil Zones Located 4km South of Sorpresa](#)
16. ASX July 31st 2012 [Quarterly Exploration Activities June 2012](#)
17. ASX July 26th 2012 [Successful Intersections at Sorpresa Gold Project](#)
18. ASX June 13th 2012 [High Grade Gold Intersection Sorpresa Project – Fifield NSW](#)

¹ The IP response is not directly attributed to the actual gold and silver content in the geology. The IP response is principally derived from the associated pyrite and graphite. Accordingly, drill holes are designed to intersect this geological horizon, as a means of potentially obtaining gold and silver intersections that often reside within or around the geological horizon.

19. ASX May 28th 2012 [Sorpres Gold Project has Increased Potential at Depth](#)

A video link is provided to a [3D model of the IP Anomaly at Sorpresa \(click here\)](#).

20. ASX April 30th 2012 [Quarterly Exploration Activities March 2012](#)

21. ASX January 31st 2012 ([Quarterly Exploration Activities December 2011](#))

22. A video link is provided [January 2012 Sorpresa Gold Project – Trench 31 Area Review Video](#)

23. ASX 28th November 2011 [AGM Exploration Presentation – Including Key Summary Assay results of Sorpresa](#)

24. Rimfire Website Summary [Brief history of Sorpresa Mineralization discovery and style \(to September 2011\)](#)

25. ASX [Assays Confirm Significant Gold and Silver at Sorpresa Project 6th July 2011](#)

Metal Prices

As at 16th July 2013, the approx. trading prices ([Kitco.com](#)) for metals in New York based on opening Ask in USD were as follows:

Gold	\$1,292/oz
Platinum	\$1,427/oz
Silver	\$20/oz



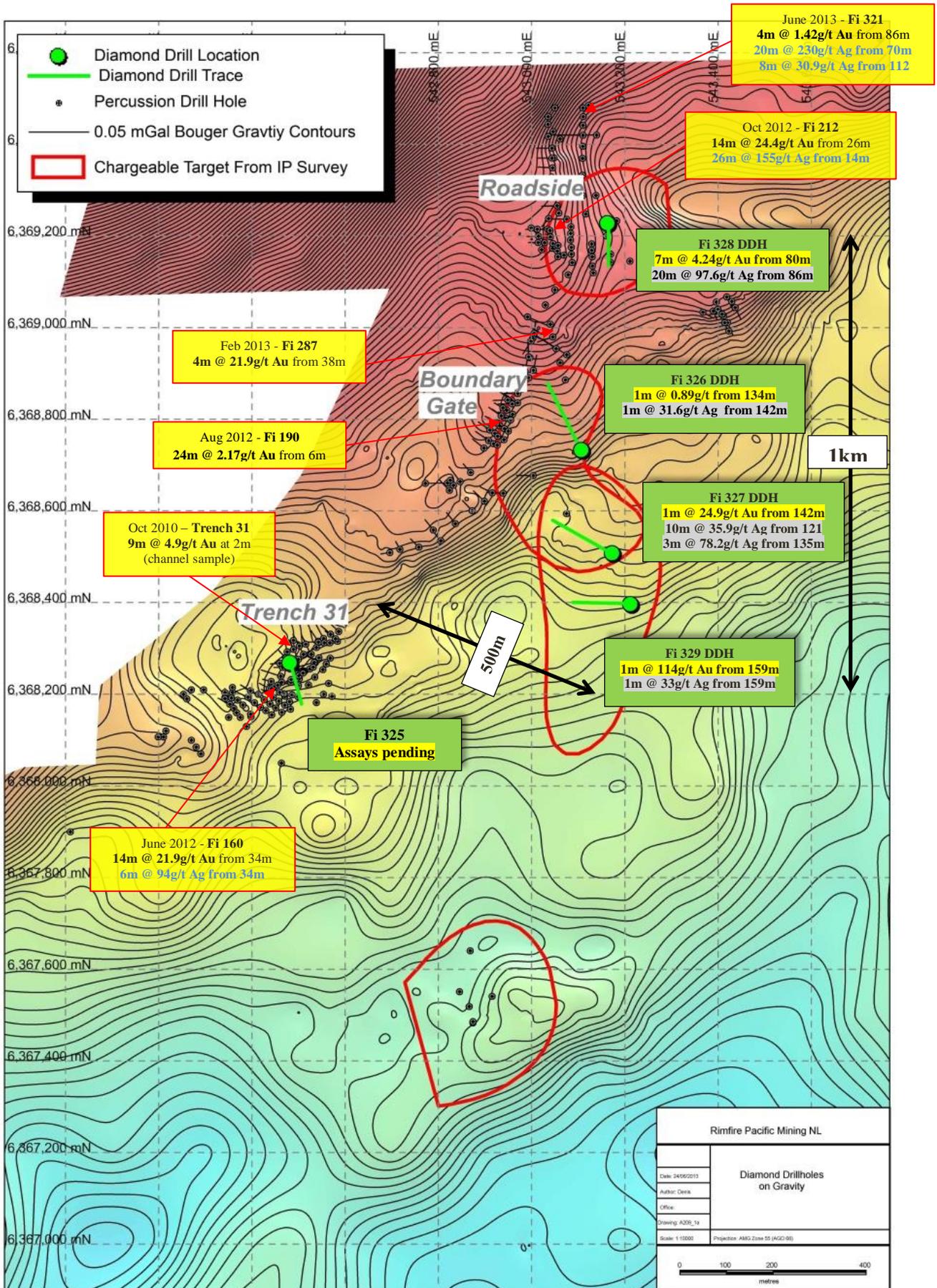
JOHN KAMINSKY
Executive Chairman

The information in the report to which this statement is attached that relates to Exploration Results is compiled by Mr Colin Plumridge, who is a Member of The Australian Institute of Mining and Metallurgy, with over 40 years experience in the mineral exploration and mining industry. Mr Plumridge is employed by Plumridge & Associates Pty. Ltd. and is a consulting geologist to the Company. He has sufficient experience, which is relevant to the style of mineralization and type of deposit under consideration and to the activity, which is being undertaken to qualify as Competent Persons as defined in the 2004 edition of the "Australian Code for Reporting of Mineral Resources and Ore reserves". Mr Plumridge consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

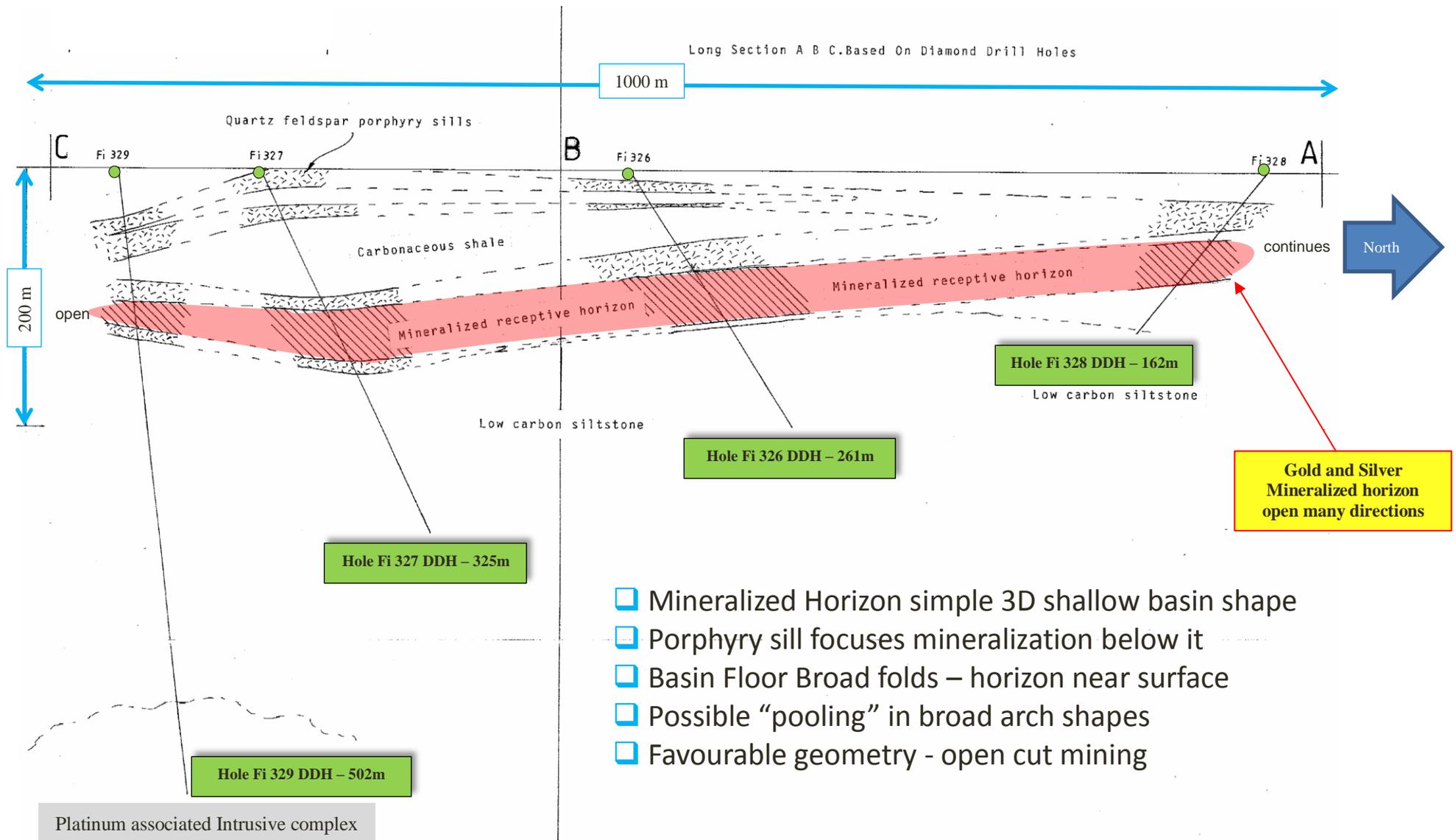
APPENDIX 1

Plan View Diamond Drill Holes - Sorpresa Project (with Gravity and IP backdrop)

Selected reference assays are shown for orientation. Refer tables (current and previous) for complete results.



Appendix 2 Diamond Drilling 1km “Long Section north – south”

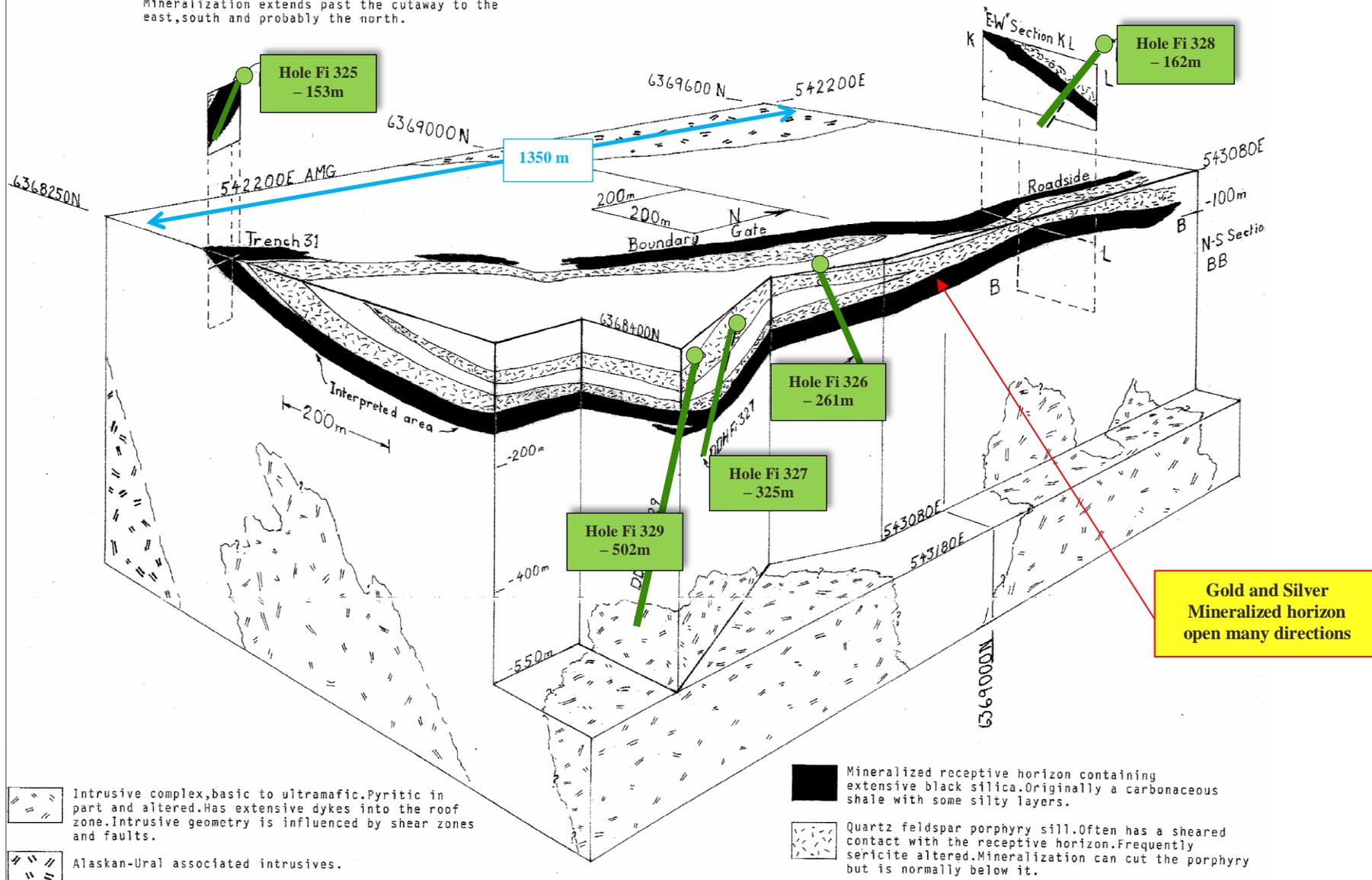


The geology plotted as a long section and cutaway (Appendices 2 and 3) for the diamond drilling gives the interpretation that the receptive horizon “rolls on”, is shallow dipping and likely continuous. Results in holes Fi 327 DDH and Fi 329 DDH in particular, expand Sorpresa hundreds of metres further to the east and south of previous gold and silver intersections.

Appendix 3 Diamond Drill Holes on Cutaway Perspective View

SORPRESA CUTAWAY PERSPECTIVE VIEW

Mineralization extends past the cutaway to the east, south and probably the north.



Appendix 4

The Geological Concept Model – Syncline Rift Basin in Plan View

(Note that the IP survey response at approx. 100m depth is overlaid, selected assays for orientation shown)

