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ASX: FNT

ASX Limited Market Announcements Platform

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## 3D Geophysical and Geochemical Porphyry Copper - Gold Drill Targeting Evaluation Completed

Frontier Resources Limited (**Frontier** or the **Company**) is pleased to advise that an independent review of the Bulago Valley porphyry copper – gold mineralisation potential has been completed by geologist Grant MacDonald and the results are appended.

The inverted magnetics defined 4 magnetic susceptibility highs (i.e. at >0.75 si within a broader range of 0.6 - 0.75 si) and they appear to follow a north-northwest trend.

Three major zones were defined:

- A Northern zone is defined by the alteration plus copper and gold mineralisation in hole BUL001 (Figures 1 to 5) plus a north-northwest magnetic trend at the junction of 2 main tributaries (a conducive structural setting).
- 2. A Central zone is defined by the best coherent/strongest copper in soils (**Figures 2 & 5**) on hillslopes trending west down to the Bulago River, a coincident central magnetic high and the surface projection of historical drill hole BUL007's favourable alteration (**Figure 7**).
- 3. A Southern Zone is defined by a coherent copper anomaly on both sides of the river (Figure 2) and a southern magnetic high (Figure 5), plus the adjacent favourable alteration in BUL007 (Figure 7).

Two zones (magnetic susceptibility highs) have yet to be drilled and the northwestern anomaly has been only just drill tested on its southern margin by Ok Tedi Mining Ltd in historical drill holes BUL001 /BUL003 (**Figures 1 & 7**).

The best alteration (and copper + gold mineralisation) occurred in holes BUL001 and BUL007 (Figure 7), providing a strong argument for drilling in between them. Hole BUL006 appears to have split the difference, but it actually lies on the eastern side of the ridge and is not within the strong copper in soil anomaly on the western slope that trends west down to the Bulago River and then up the other side.

Possible drill holes with acceptable drill site access are proposed and shown on the attached plans (Figures 5 to 7). The pad locations are on breaks in slope (flatter areas) for sites 1, 2 and 4. Site 5 is on the BUL007 drill pad, but oriented SSW and site 3 is next to the Bulago River (if/ as possible).

The possible holes are shown as traces 165m long (i.e. assuming -60 degrees for 330m). Frontier would likely drill at -50 degrees inclination to 'cross' more ground, rather than going slightly deeper (i.e. at -60 degrees).

A 'Ridgeway' mine porphyry copper-gold type target is suggested by petrology work on drill core conducted to date and these highly mineralised porphyry deposits have a narrow but longer and deeper morphology, compared to the OK Tedi Mine. Drilling will traverse across strike as much as possible to test the target ultimately chosen.

Modelling of the inverted magnetics suggest that targets lie nearer the surface, however, downhole magnetic susceptibility readings in hole BUL001 suggests the magnetic zone is at depth, questioning the depth reliability of the inverted data (Note that the sharp eastern edge to this anomaly is correct with data continuing to the immediate east).

Procedure:

- 1. Data was appraised and where possible converted into MapInfo/Discover and/or Surpac readable form.
- 2. A 3D digital terrain model (DTM) of the surface topography was generated along with contours at 10m intervals in 2D.
- 3. jpeg/gif plans were imported into MapInfo.
- 4. Bulago drill logs were coded into an Excel database with:
  - a. Primary rock type under LithCode (existing data)
  - b. Intensity of the three major alteration styles (taken from logs) being:
  - c. Propylitic
  - d. Phyllic and
  - e. Potassic
- 5. Presence or absence of key alteration minerals (taken from logs), including:
  - a. K-feldspar
  - b. Magnetite,
  - c. Epidote,
  - d. Anhydrite and
  - e. Actinolite.
- 6. This lithological information was imported into an Access database for use with a 3D geological software modelling program (Surpac), as well as assay and magnetic susceptibility data.
- 7. Soil/rock geochemistry for copper and gold was draped over the 3D Digital Terrain Model.
- 8. Soil/rock assays for copper and gold were imported into MapInfo with colour coded point data and gridded (inverse distance squared) images were generated.
- 9. The inverted magnetics was imported into Surpac and the 2D plan view shows outlines of the 0.6 to 0.75 si and >0.75si magnetic susceptibilities that were traced and exported into MapInfo.

For additional information please visit our website at <u>www.frontierresources.com.au</u>

## FRONTIER RESOURCES LTD

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P.A.McNeil, M.Sc., MAIG Chairman and Managing Director

Frontier Resources Ltd Exploration Licence Information								
	Licence No.	Date From	Date To	Ownership	Area (SQ KM)	Lat. Sub Blocks		
Bulago River*	EL 1595	7/07/2014	6/07/2016	100% Frontier Gold PNG Ltd	100	30		
Muller Range	EL 2356	31/12/2015	30/12/2017	100% Frontier Copper PNG Ltd	187	56		
* Under renewal					287	SQ KM		
NB: The Papua New Guinea Mining Act of 1992 stipulates that ELs are granted for renewable 2 year Terms (subject to Work and Financial Commitments) and the PNG Government maintains the right to ourchase up to 30% project equity at "Sunk Cost" if/when a Mining Lease is granted.								

## **Competent Person Statement:**

The information in this report that relates to Exploration Results is based on information compiled by Peter A. McNeil - Member of the Aust. Inst. of Geoscientists. Peter McNeil is the Chairman/Managing Director of Frontier Resources, who consults to the Company. Peter McNeil has sufficient experience which is relevant to the type of mineralisation and type of deposit under consideration to qualify as Competent Person as defined in the 2012 Edition of the Australasian Code of Reporting Exploration Results, Mineral Resources and Ore Resources. Peter McNeil consents to the inclusion in the report of the matters based on the information in the form and context in which it appears.









## The following information is provided to comply with the JORC Code (2012). JORC CODE 2012

		Section 1 Sampling Techniques and Data					
Criteria		Explanation	Commentary				
Sampling techniques	0	Nature and quality of sampling (e.g. cut channels, random chips, or specific sp measurement tools appropriate to the minerals under investigation, suc sondes, or handheld XRF instruments, etc). These examples should not be t meaning of sampling.	As noted herein				
	0	Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.			Supervised by Consulting Geologist		
	0	Aspects of the determination of mineralisation that are Material to the Publin cases where 'industry standard' work has been done this would be relacirculation drilling was used to obtain 11m samples from which 3 kg was procharge for fire assay') In other cases more explanation may be required, sugold that has inherent sampling problems. Unusual commodities or submarine nodules) may warrant disclosure of detailed information.	Airborne magnetic data was acquired by UTS Geophysics and magnetic data modelled by Mira Geoscience				
Drilling techniques	0	Drill type (e.g. core, reverse circulation, open-hole hammer, rotary air blast, and details (e.g. core diameter, triple or standard tube, depth of diamond other type, whether core is oriented and if so, by what method, etc).	Cored drillholes BUL001-007 completed by Ok Tedi Mining Ltd				
Drill sample	0	Method of recording and assessing core and chip sample recoveries and re-	sults asses	sed	Linear arithmetic		
recovery	0	Measures taken to maximise sample recovery and ensure representative national	As noted herein.				
	0	Whether a relationship exists between sample recovery and grade and whe occurred due to preferential loss/gain of fine/coarse material.	No				
Logging	0	Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.			Yes		
F	0	Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.			As noted herein.		
	0	The total length and percentage of the relevant intersections logged	All				
Sub-sampling	0	If core, whether cut or sawn and whether quarter, half or all core taken.			Quarter core sampled		
tecnniques and	0	If non-core, whether riffled, tube sampled, rotary split, etc and whether sam	NA				
preparation	0	For all sample types, the nature, quality and appropriateness of the sample preparation technique.			Appropriate		
	0	Quality control procedures adopted for all sub-sampling stages to maximise	Exploration Manager				
	0	Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate /second-half sampling.			Supervised by Exploration Manager		
	0	Whether sample sizes are appropriate to the grain size of the material being	Supervised by Exploration Manager				
Quality of assay data and laboratory tests	0	The nature, quality and appropriateness of the assaying and laboratory proc used and whether the technique is considered partial or total. Nature of quality control procedures adopted (e.g. standards, blanks, dup external laboratory checks) and whether acceptable levels of accuracy (i.e. bias) and precision have been established.	arter diamond blade cut gm fire assayed for gold <i>v</i> ith total 4 acid digestion Icy levels established				
	0	For geophysical tools, spectrometers, handheld XRF instruments, etc, determining the analysis including instrument make and model, reading applied and their derivation, etc.	As noted herein.				
Verification of	0	The verification of significant intersections by either independent or alternation	All by J.Kirakar				
assaving ana	0	The use of twinned holes.			Nil		
assaying	0	Documentation of primary data, data entry procedures, data verification, electronic) protocols.	As noted herein.				
	0	Discuss any adjustments to assay data.	None				
Location of data points	0	Accuracy + quality of surveys used to locate drill holes (collar + down-hol workings and other locations used in Mineral Resource estimation.	e surveys),	trenches, mine	NA		
F	0	Specification of the grid system used. Map datum is AGI					
Data cassing	0	Quality and adequacy of topographic control.         40m contours - 1:           Data spacing for reporting of Evaluation Desults         As noted hereing	ans, 10m -DTM co	ntours.			
and distribution	U	As noted herein a					
	0	whether the data spacing and distribution is sufficient to establish the degr continuity appropriate for the Mineral Resource and Ore Reserve est classifications applied	Yes				
<u></u>	0	Whether sample compositing has been applied.	No				
Urientation of data in relation	0	whether the orientation of sampling achieves unbiased sampling of possib this is known, considering the deposit type.	if and as stated in text.				
to goological	0	If the relationship between the drilling orientation and the orientation of ke	If and as stated in text				
structure		CONSIDERED TO HAVE INTRODUCED & SALIDNING DIGS. THIS SHOULD BE ASSESSED AND	The measures taken to ensure sample security Normal baggage-				
structure Sample security	0	The measures taken to ensure sample security	reported.	Normal baggage	e-freight procedures		

Section 2 Reporting of Exploration Results							
Criteria		Explanation	Commentary				
Tenure	0	The security of the tenure held at the impediments to obtaining a licence to op	time of reporting along with a erate in the area.	e of reporting along with any known AS noted herein ein the area.			
Exploration	0	Acknowledgment and appraisal of	sal of Exploration in the region was initiated in the late 1960s as part of a PNG porphyry				
done by others		exploration by other parties.	copper deposit search. It was explored for gold initially in the mid 1980's.				
Geology	0	Deposit type, geological setting and style of mineralisation.	Gold intrusive -epithermal related targets, porphyry copper-gold - molybdenum and higher grade gold -silver-zinc-lead skarns.				
Drill hole	о	A summary of all information material to	the understanding of the explora	tion results	Drilling completed and Information		
information		including a tabulation of the following inf	ormation for all Material drill ho	les:	tabulated herein.		
		Easting and northing of the drill hole of	collar		Information noted herein.		
		Elevation or RL (Reduced Level- eleva	tion above sea level in metres)	of the drill	Information noted herein.		
		Note collar			Information noted herein		
		Dip and azimuth of the noie		Information noted herein.			
		Hole length	.pen		Information noted herein		
	0	If the exclusion of this information is justi	ified on the basis that the inform	ation is not	Not applicable		
	-	Material and this exclusion does not det	ract from the understanding of	the report,			
		the Competent Person should clearly exp	lain why this is the case.				
Data	0	In reporting Exploration Results, weighti	um and/or	Tables of results included show data			
aggregation		minimum grade truncations (e.g. cutting o	are usually	aggregation if applied.			
methods		Material and should be stated.					
		Where aggregate intercepts incorporate short lengths of high grade results and If this occurs, it is stated in the text.					
		longer lengths of low grade results, the procedure used for such aggregation should					
	-	be stated and some typical examples of s					
	0	The assumptions used for any reporting of metal equivalent values should be clearly No metal equivalent values are reported stated.					
Relationship between	0	These relationships are particularly important in the reporting of Exploration Results. Moderately understood					
mineralisation	0	If the geometry of the mineralisation w	ith respect to drill hole angle is	known, its	Reported		
widths &		nature should be reported.					
lengths	0	If it is not known and only the down ho clear statement to this effect (e.g. 'down	not known and only the down hole lengths are reported, there should be a statement to this effect (e.g. 'down hole length, true width not known').				
Diagrams	0	Appropriate maps and sections (with sca	les) and tabulations of intercepts	Appropriate maps, sections and			
		included for any significant discovery bei	covery being reported. These should include, but not tabulations of intercepts are included.				
		be limited to a plan view of drill hole colla	lan view of drill hole collar locations and appropriate sectional views.				
Balanced	0	Where comprehensive reporting of al	practicable,	Comprehensive reporting of Exploration			
reporting		representative reporting of both low a	f Exploration Bosults	Results has been previously completed			
Other	0	practiced to avoid misleading reporting of exploration Results. and released.					
substantive	0	not limited to): geological observations: geophysical survey results: geochemical completed by Mira Geoscience					
exploration		survey results; bulk samples - size and method of treatment; metallurgical test results: Independently verified by geologist					
data		ulk density, groundwater, geotechnical and rock characteristics; potential Grant MacDonald under the supervisio					
		deleterious or contaminating substances		of Aimex Geophysics. All meaningful			
				exploration data has been included in			
Funthan 1			an mark (a a train for the t	Eutro :	this and previous releases.		
Further work	0	extensions or depth extensions or large-s	er work (e.g. tests for lateral cale step-out drilling).	Future wo results.	ork is dependent capital and program		
	0	Diagrams clearly highlighting the areas o	f possible extensions, including	Appropriat	e plans will be included, as soon as possible		
		the main geological interpretations and	future drilling areas, provided	in a later re	elease documenting approved future work		
		this information is not commercially sens	itive.	programs.			