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ASX: FNT

ASX Limited Company Announcements Office

30th January 2019

TECHNICAL REPORT – QUARTER ENDED 31st DECEMBER 2018

Frontier Resources Ltd (ASX: FNT) (**Frontier** or the **Company**) remains focussed on mineral exploration in highly prospective Papua New Guinea (PNG). Main points on activities over the December quarter include:

- > Adoption of all Resolutions at the Annual General Meeting
- Processes for the renewal of tenements EL2356 and EL1595 (Figure 1), as required by the Mining Advisory Council, have been completed and renewals await signing by the Minister for Mining
- > A fieldwork program has been planned for the Tingi prospect within EL2356 Muller Range
- > Discussions continue with larger exploration companies to help more rapidly advance our projects
- Geophysical modelling outlines significantly larger porphyry intrusive system at the Baia prospect and also generated priority target areas for potential mineralisation at the Cecelia prospect, both within EL2356
- High resolution satellite data reveals additional targets at the Baia prospect. Similar data has been acquired over Bulago Valley within EL1595 and is currently undergoing interpretation



Figure 1: Frontier Resources' Tenements

EL 2356 – Tingi Prospect

Frontier has planned its next phase of fieldwork exploration program in the Northern Tingi Block of EL2356 (Figure 2). The upcoming fieldwork program is designed to collect further geochemical data in certain areas of the Lower Tingi Valley Prospect where historical reconnaissance ridge-and-spur soil sampling has detected areas of anomalous gold and base metals at surface (Figure 3). The fieldwork is based on a grid soil sampling program over previously mapped and sampled zones of alteration and mineralisation related to intrusive stocks. Prior work has established three stocks coinciding with anomalous geochemical data.

The exploration program aims to increase knowledge on the geochemically anomalous zones of the prospect area by increasing sample density over an area identified by historical mapping and ridge line soil sampling. This will be achieved by running a grid based soil sampling program similar to that completed over the eastern end of Tingi prospect by Kennecott in 1992 to 1993 (Figure 3). Provided the sampling program produces positive anomalies of interest, it can be the basis of advanced follow-up work such as trench mapping and channel sampling to generate potential drill targets.

The targeted zone of this work program is outlined in the map below with an area to be covered of approximately 1 km² (100 Ha). Grid sampling lines will be cut 100m apart and orientated near perpendicular to NE trending structures. A total of 237 samples are planned to be collected spaced at 50m intervals along each line grid line.



Figure 2: EL 2356 Tenement on Digital Topography Image



Figure 3: Tingi Planned Soil Sampling Program on Historical Gold Geochemistry Image

EL 2356 – Baia Porphyry

Airborne magnetic geophysical data has been modelled over the Muller Range central tenement block (Figure 2), which hosts the large copper-gold-molybdenum Baia porphyry system.

The three dimensional modelling of airborne geophysical magnetic data reveals a sub-surface large 4.4-6 km x 1-1.5 km magnetic porphyry intrusive system related to copper mineralisation which extends to over 3km depth (Figure 4). Near surface, more intense localised magnetic bodies may relate to skarn styles of mineralisation.



Figure 4: Baia Prospect 3D Magnetic Model

The magnetic modelling helps to more accurately define sub-surface geometry of magnetic target areas and help prioritise areas which require further geochemical testing for mineralisation at both surface and at depth. Similar styles of magnetic signatures are also encountered from the Porgera, Ok Tedi and Frieda River deposits.

Historical anomalous lead + zinc in soil samples occur over a 2.2 km diameter outer halo surrounding a 1 km diameter copper core, both of which are coincident with the magnetic porphyry intrusive (Figure 5). The leadzinc halo is indicative of mineralisation near the heat source of the magnetic intrusive.



Figure 5: Baia Prospect Plan View of Magnetic Porphyry Model

Diorite and hornblende rich porphyry is located near the centre of the interpreted deepset magnetic intrusive porphyry system. Feldspar porphyry has been mapped at its southwestern extent (Figure 6). These areas are also coincident with discrete near surface magnetic targets and copper-in-soils anomalies.



Figure 6: Baia Prospect Geology and Magnetic Model

Magnetic modelling shows that the intrusive mineralising system at Baia is much larger than originally thought. Anomalous copper in soils outside eastern margins of the intrusive (Figure 5) demonstrate that alteration mapping, geochemical sampling and drill testing will be required well beyond the boundaries of the modelled magnetic data.

According to historical results by Barrick, peripheral magnetic bodies are related to intrusives which were fresh hornblende porphyry stocks and sills. A number of skarns were also identified as related to the magnetics, adding to its copper and base metal prospectivity.

A total of eight near surface magnetic targets have been more accurately defined compared to previous interpretations and are priority areas for follow-up fieldwork. Some of these areas exist near mapped limestone contacts and are potential skarn targets (Figure 7).



Figure 7: Baia Prospect Magnetic Skarn Targets

Historical rock samples taken by Barrick within and surrounding the copper-in-soils anomaly, contained 18 with values of 50 to 22,500 ppm Mo and ten with values > 0.15 g/t gold (Figure 8).



Figure 8: Baia Prospect with Historical Gold in Rock Samples

Frontier recently acquired half metre resolution Worldview satellite data covering the Baia tenement block; from which interpretation has revealed a number of previously unmapped circular intrusive centres and breccia type bodies located outside of the main Baia magnetic porphyry intrusive (Figure 9). These additional intrusive centres together with the interpreted magnetic skarn targets (Figures 8 and 10) improve the prospectivity of the tenement and they will require reconnaissance geochemical sampling and geological mapping in future fieldwork programs.



Figure 9: Worldview Satellite Data Showing Baia Prospect Intrusive Centres



Figure 10: Airborne Magnetic Geophysical Image Showing Magnetic Baia Porphyry

EL 2356 – Cecelia Prospect

A positive analysis was completed from modelled geophysical results over the EL2356 Muller Range southernmost block (Figure 11), which is host to anomalous copper-gold-zinc-molybdenum at the Cecelia prospect. The analysis has generated high priority target areas for potential mineralisation requiring further mineral exploration in future fieldwork programs.

The modelled data shows a 1.1 Km wide mapped argillic alteration zone defined by a zone of low magnetics which is interpreted to be caused by magnetite destruction from later stage argillic overprinting along a north-south structure. The mapped 'argillic zone' at surface occurs between magnetic andesite and magnetic 'propylitic alteration'. The margins of the > 4 Km long southerly trending 'argillic zone' and the 'propylitic alteration' area are priority targets for further exploration to test extensions of surface mineralisation within this complex system (Figure 12).



Figure 11: EL 2356 Muller Range Airborne Geophysical Data



Figure 12: Cecelia Prospect 3D Magnetic Model

The known zone of mineralisation at surface extends east-west for 2.5 Km across the non-magnetic 'Mapper Argillic Zone'. To the west, anomalous gold-zinc-lead is coincident with the margins of magnetic Propylitic Alteration. A further 300m to the east, anomalous copper-molybdenum-arsenic is coincident with the margins of magnetic andesite (Figure 13).

Strong argillic and propylitic alteration has been covered by recent agglomerate. Pebble dykes are common, indicating a probable buried porphyry copper-gold-molybdenum system.



Figure 13: Cecelia Prospect Plan View of Magnetic Model

The Cecelia prospect was historically defined from stream sediment and rock chip sampling by exploration company Kennecott in 1970. Intrusive outcrop up to 0.62% copper with chalcopyrite and bornite occur in the upper reaches of the project area with altered granodiorite float of 0.18% copper (see ASX Announcement dated 15th July 2016).

Altered rock chip samples returned 0.616 g/t gold and 0.12 g/t gold + 710ppm copper (See ASX Announcement dated 15th July 2016).

The 3D modelling helps to accurately map magnetite content of geology and in particular, the andesite basement to the east and 'Propylitic Alteration' 800m to the west.

The non-magnetic argillic alteration zone and its mineralised margins are newly defined priority target areas with favourable potential for mineralisation. These areas will be the subject of future fieldwork expected to include geological mapping, trench and rock sampling.

Additional Information:

- Discussions continue with large exploration companies with the aim of more rapidly advancing our existing tenements EL2356 Muller Range and EL1595 Bulago through additional funding for geophysics, geochemical sampling and drilling. A fieldwork programs is being planned for EL1595.
- Over the past quarter, Frontier Resources has completed several visits to PNG to ensure its tenements and holding subsidiary companies are kept in good standing. The two Frontier tenements have gone through renewal processes as required by the Mining Advisory Council and their technical assessment team. Both tenement renewals for EL2356 & EL1595 are pending signing by the Minister for Mining Hon. Johnson Tuke.
- Project Evaluations and Acquisitions as part of the process to improve value for shareholders (ASX Announcement 19th June 2018) is an ongoing process and the board will consider any proposals as they arise. There is currently no proposal before the board.

The EL 2351 Tolukuma tenement application (Figure 1), surrounding the Tolukuma Mining Lease, has been considered by the MAC and the Matter is with the Minister.

Releases Submitted to the ASX During the Quarter Included:

27 November 2018	Baia Geophysical Model Outlines Large Porphyry Intrusive
28 November 2018	Results of Meeting
29 November 2018	Cecelia Target Alteration Zone Defined by Geophysical Model
10 January 2019	Muller Fieldwork

For additional information please visit our website at www.frontierresources.com.au

FRONTIER RESOURCES LTD

Fenix Dong

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Competent Person Statement:

The information in this report that relates to Exploration Results and Mineral Resources is based on information compiled by or compiled under the supervision of Peter Swiridiuk - Member of the Aust. Inst. of Geoscientists. Peter Swiridiuk is a Technical Consultant and Non-Executive Director for Frontier Resources. Peter Swiridiuk 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 Swiridiuk consents to the inclusion in the report of the matters based on the information in the form and context in which it appears. Additionally, Mr Swiridiuk confirms that the entity is not aware of any new information or data that materially affects the information contained in the ASX releases referred to in this report.

Frontier Resources Ltd Exploration Licence Information							
Licence Name	Number	Date From	Date To	Ownership	Area (SQ KM)	Lat. Sub Blocks	
Bulago	EL 1595	7/07/2016	6/7/2018	100% Frontier Gold PNG Ltd	73	22	
Muller	EL 2356	31/12/2015	30/12/2017	100% Frontier Copper PNG Ltd	187	56	
Granted Els = 260 SQ KM							
Gazelle	ELA 2529	Application second		100% *Frontier Copper PNG Ltd	703	211	
Tolukuma	ELA 2531	Application		100% *Frontier Copper PNG Ltd	433	130	
EL Applications = 1,136 SQ KM							
The PNG Mining Act 1992 stipulates that ELs are granted for renewable 2 year Terms (subject to Work and NB: Financial Commitments) and the PNG Government maintains the right to purchase up to 30% project equity at "Sunk Cost" if/when a Mining Lease is granted.							

The following information is provided to comply with the JORC Code (2012) requirements for the reporting of exploration results for Exploration Licence 2356 Papua New Guinea.

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 specialised industry standard measurement tools appropriate to the minerals under investigation, such as down whole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.	Historic exploration results are quoted. Previous explorers are known and standard industry practice sampling procedures were followed.			
	0	Include reference to measures taken to ensure sample representivity and any measurement tools or systems used.	the appropriate calibration of Unknown			

	0	Aspects of the determination of mineralisation that are Material to the Public Report.				
		In cases where 'industry standard' work has been done this would be relatively simple (e.g. 'reverse in circulation drilling was used to obtain 11m samples from which 3 kg was pulverised to produce a 30g				
		charge for fire assay'). In other cases more explanation may be required, such as where there is coarse				
		gold that has inherent sampling problems. Unusual commodities or mineralisation types (e.g. submarine nodules) may warrant disclosure of detailed information.				
Drilling	0	Drill type (e.g. core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc)				No drilling
techniques		and details (e.g. core diameter, triple or standard tube, depth of diamond ta	ails, face-sai	mpling bit or	other	undertaken
		type, whether core is oriented and if so, by what method, etc).				
Drill sample recovery	ple o Method of recording and assessing core and chip sample recoveries and results assessed.				No drilling undertaken	
	0	Measures taken to maximise sample recovery and ensure representative nature of the samples.				
					havo	
	U	occurred due to preferential loss/gain of fine/coarse material.				undertaken
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.			ail to	No drilling undertaken
	0	Whether logging is qualitative or quantitative in nature. Core (or costean,	channel, et	c) photograp	hy.	No drilling undertaken
	0	The total length and percentage of the relevant intersections logged.				No drilling undertaken
Sub-sampling techniques and	0	If core, whether cut or sawn and whether quarter, half or all core taken.				No drilling undertaken
sample preparation	0	If non-core, whether riffled, tube sampled, rotary split, etc and whether sa	ampled wet	or dry.		No drilling undertaken
	0	For all sample types, the nature, quality and appropriateness of the sample preparation technique.				No drilling undertaken
	0	Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.			oles.	No drilling undertaken
	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.				No drilling undertaken
	0	Whether sample sizes are appropriate to the grain size of the material bei		No drilling		
Quality of assay	0	o The nature, quality and appropriateness of the assaying and laboratory procedures Historic exploration				n results are
laboratory tests	о	Nature of quality control procedures adopted (e.g. standards, blanks, d	lunlicates	known ar	nd star	idard industry
external laboratory checks) and whether acceptable levels of accuracy (i.e. lack of bias) and precision have been established.				practice sat followed	sampling procedures were	
	0	 For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc. 				plicable
Verification of sampling and	0	The verification of significant intersections by either independent or personnel.	alternative company Histo quot		Histori quoteo	cal results
assaying	0	The use of twinned holes.			No dri	ling reported
	0	Documentation of primary data, data entry procedures, data verification,	Historical	results quote	ed	
	0	Discuss any adjustments to assay data.	Unknown			
Location of data points	0	Accuracy + quality of surveys used to locate drill holes (collar + down- hole surveys), trenches, mine workings and other locations used in	wn- Not applicable d in			
		Mineral Resource estimation.				1: 10
	0 0	Specification of the grid system used. Quality and adequacy of topographic control.	Map datum is AGD66. To contours are from published		066. Top olished 1 d from Si	:100,000 maps.
Data spacing	0	Data spacing for reporting of Exploration Results.	Refer to the attached plans for de			details relating
	о	to the data spacing of explorat Whether the data spacing and distribution is sufficient to establish the degree of geological and grade				Not
		continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.				applicable
Oriontatio	0	Whether sample compositing has been applied.				Unknown
data in relation	0	is known, considering the deposit type.				Unknown
structure	0	If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported.				No drilling undertaken
Sample security	0	The measures taken to ensure sample security. Unknown. Historical results question			oted.	
audits or reviews	0	The results of any audits or reviews of sampling techniques and data.	views of sampling techniques and data. No specific audits or reviews of sampling techniques and data have been undertaken			
		Section 2 Reporting of Exploration Results				
Criteria	1	Explanation Commentary	/			

Mineral	0	Type, reference name/number, Exploration Licence 2356 - Muller Range is located in Papua New Guinea's Western				
tenement and	Ŭ	location and ownership including and Southern Highlands Provinces. EL's are regulated under the Mining Act of 1992.				
land tenure		agreements or material issues with				
status		third parties such as joint ventures,	Inere no agreemen	its or material issues	with third part	les such as joint ventures,
		partnerships, overriding royalties,	national nark and/o	r environmental issue	s associated wit	the Fl
		native title interests, historical sites,		r environmentarissue.		
		wilderness or national park and	The PNG National g	overnment under the	Mining Act of 1	992 currently has the right
		environmental settings.	to acquire up to 30%	% of any project at the	time of grantin	ig of a mining lease for the
			'sunk cost'.	-		
	0	The security of the tenure held at the	e time of reporting	ing The tenement was granted 31/12/15 for a standard period of		
		to operate in the area	obtaining a licence	2 years. A two year renewal was granted to 31/12/17. An		
		to operate in the area.		application for a renewal to 31/12/19 is currently with the		
Exploration	0	Winister for signing. Acknowledgment and appraisal of exploration by other Exploration in the region was initiated in the late 1960s as part				ed in the late 1960s as part
done by other	Ũ	parties.	Aprolation by other	of a PNG porphyry of	copper deposit	search. It was explored for
parties		1		gold initially in the n	nid 1980's.	
Geology	0	Deposit type, geological setting	g and style of	Porphyry copper-go	old – molybdei	num, higher grade gold -
57		mineralisation.		silver-zinc-lead ska	، rns, gold intru	usive -epithermal related
				targets.	-	
Drill hole	0	A summary of all information materia	l to the understanding	g of the exploration re	sults including	No drilling undertaken
information		a tabulation of the following informat	ion for all Material dr	ill holes:		
		Easting and northing of the drill he	ole collar			No drilling undertaken
		Elevation or RL (Reduced Level- el	evation above sea lev	el in metres) of the dr	ill hole collar	No drilling undertaken
		Dip and azimuth of the hole				No drilling undertaken
		Down hole length and interception	n depth			No drilling undertaken
		Hole length	•			No drilling undertaken
	0	If the exclusion of this information is	justified on the basis	that the information is	s not Material	No drilling undertaken
		and this exclusion does not detract	from the understand	ding of the report, th	e Competent	
		Person should clearly explain why this	s is the case.	-		
Data	0	In reporting Exploration Results, v	veighting averaging	Historical sampling	results show da	ta aggregation if applied in
aggregation		techniques, maximum and/or minimu	m grade truncations	trench/channel sam	ples etc. No to	p cuts have been applied.
methods		(e.g. cutting of high grades) and cut-o	ff grades are usually	They are continuou	is channel sam	ples and so are stated as
		Material and should be stated.		continuous weighte	d assay results (length x grade summed for
			the shared based by a Chi	each sample / sum o	of total length).	and the second second second second
		where aggregate intercepts incorpora	ate short lengths of hi	ign grade results and	If this is occur	ring, it is stated in the text.
		should be stated and some typical of	vamples of such and	or such aggregation		
		shown in detail	examples of such agg	regations should be		
	0	The assumptions used for any report	ing of metal equivale	ent values should be	No metal	equivalent values are
	-	clearly stated.			reported.	-4
Relationship	0	These relationships are particularly i	mportant in the repo	orting of Exploration	Not well unde	erstood.
between		Results.		U		
mineralisation	0	If the geometry of the mineralisation	with respect to drill	hole angle is known,	No drilling un	dertaken.
widths &		its nature should be reported.				
intercept	0	If it is not known and only the down l	nole lengths are repor	ted. there should be		
lengths		a clear statement to this effect (e.g. 'o	down hole length, true	e width not known').		
Diagrams	0	Appropriate maps and sections (with scales) and tabulations of intercepts Appropriate maps and any sample			maps and any sample	
		should be included for any significan	t discovery being rep	orted. These should	results are in	cluded.
		include, but not be limited to a pla	n view of drill hole	collar locations and		
		appropriate sectional views.				
Balanced	0	Where comprehensive reporting of	all Exploration Result	s is not practicable,	Reporting o	of historical Exploration
reporting		representative reporting of both low and high grades and/or widths should be results is included herein.			uded herein.	
		practiced to avoid misleading reporting	ng of Exploration Resu	ilts.		
Other	0	Other exploration data, if meaningful	and material should b	e reported including	All relevant m	eaningful exploration data
substantive		(but not limited to): geological ol	oservations; geophys	ical survey results;	relating to	Tingi, Baia and Cecelia
exploration		geochemical survey results; bulk sa	mples - size and me	ethod of treatment;	prospects ha	ve been included in this
αατα	1	metallurgical test results; bulk density, groundwater, geotechnical and rock release.				
		characteristics; potential deleterious	or contaminating subs	stances		
Further work	0	The nature and scale of planned furth	er work (e.g. tests for	lateral extensions or	Future fieldw	ork is planned at the Tingi
	1	depth extensions or large-scale step-o	depth extensions or large-scale step-out drilling). prospect including soils sampling in the first instance. Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this prospect including soils sampling in the first instance.			uding soils sampling in the
	1	Diagrams clearly highlighting the are				
	~	main geological interpretations an				
	information is not commercially sensitive.				later release documenting	
	1				completed w	ork programs.