

**ASX Limited Company Announcements Office** 

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## Maiden Exploration at the High Grade Gold Sudest Project Highlights Future Potential

- Up to 5,250m of locally strong (but generally weak/moderate), curvi-linear gold in soil anomalies, were interpreted in 13 zones, covering the 3km length of the Adelaide soil grid, in a repeated pattern that is interpreted to reflect E-W trending /moderate to steep north dipping continuous and en-echelon veins.
- Up to 3,500m of locally strong (but generally weak/moderate), linear NW and NE trending gold in soil anomalies were interpreted in 9 zones at the Feiori soil grid.
- Additional gold in trench samples were demonstrated to 2m of 15.6 g/t gold and 2m of 8.40 g/t gold at the Adelaide and Cornucopia Prospects, respectively, plus 9 additional intercepts >1.0 g/t gold in the 11 very short hand trenches.
- Best previous Frontier hand trench results at Adelaide included true widths across the strike of the vein of 2m of 21.71 g/t gold, 2m of 39.85 g/t gold, 2m of 22.34 g/t gold and 2m of 2.74 g/t gold.
- Follow-up exploration consisting of geological mapping, reconnaissance and hand trenching commenced at the Feiori Prospect a week ago to assess the excellent new soil anomalies. Landowners at the Adelaide -Cornucopia Prospects are mapping their land boundaries so follow up exploration can commence in their area in early 2013.



CONTACTS PO Box 52 West Perth WA 6872 Australia

ABN 96 095 684 389 ASX : FNT

EMAIL +61 (08) 9295 0388 info@frontierresources.com.au WEBSITE +61 (08) 9295 3480 www.frontierresources.com.au

PHONE

FAX

Frontier Resources Ltd is pleased to announce excellent gold assay results from grid based soil sampling at 2 different areas, at the 100% owned EL 1594 - Sudest, located in the Misima Mine Gold Corridor in Milne Bay Province, eastern Papua New Guinea (Figure 1).

Nine curvi-linear plus two single point gold in soil anomalies have been interpreted extending over the entire 3,000m length of the Adelaide grid (which contains the historic Adelaide and Cornucopia Gold Mines).



Figure 2 shows the Adelaide soil grid on a coloured topographic plan with hot colours being higher asl and 10m contours plus coloured dots representing different grades of gold in soil. The anomalism extends over the length of the grid with 2 major clusters of anomalous assays in the Adelaide and Cornucopia Mine vicinities and WNW of Adelaide.



Figure 3 is the Adelaide soil grid with thematically contoured gold in soil anomalies with coloured dots representing different grades. The search diameter is the same as the line spacing (100m).

Figure 4 shows an optimistic case of contoured gold in soil assays are contained within a 400m to 700m wide, WNW to ESE trending gold mineralised 'envelope', with individual, generally to E-W to ENE WSW trending component gold anomalies to 900m long that may reflect E-W, moderatesteeply north dipping gold mineralised continuous

and en-echelon veining.

Figure 5 shows а pessimistic case of contouring of the soil assays and Figure 6 shows a pessimistic case of soil sample contouring at the Adelaide grid.

Table 1 below showsinterpretedsoilanomalylengthsforeach prospect.

Anomlay	Length (Metres)		
Number	Adelaide Grid	Feiori Grid	
1	400	700	
2	425	800	
3	600	100	
4	900	700	
5	350	500	
6	400	500	
7	500	150	
8	500	25	
9	700	25	
10	25		
11	25		
12	25		
11	400		
Total	5,250	3,500	
Grand Total	8,750		

The 1,475 grid based soil samples from the Adelaide grid returned 25 assays >0.1 g/t gold



(including 2.68g/t, 3.44 g/t, 1.76, g/t 1.36 g/t and 1.13 g/t gold) and 32 assays between 0.03 and 0.10 g/t gold and 178 assays between 0.01 and 0.03 g/t gold.

There is an excellent multi point soil anomaly located between the two zones of hand trenching completed to date at Cornucopia, combined with a single point gold anomaly located 100m E of the Cornucopia Mine for a total strike length of +300m.

A strong nugget effect has been noted for both the Adelaide and Feiori grids, with the implication that all anomalous soil samples potentially are of interest and should be further evaluated, as there is a possibility a repeat assay could be many times the initial analysed grade.

The 1,200 grid based soil samples from the **Feiori grid** returned 8 assays >0.10 g/t gold (including 1.10 g/t and 1.05 g/t gold), 22 assays between 0.03 and 0.10 g/t gold and 116 assays between

0.01 and 0.03 g/t gold. Up to 3,500m of locally strong (but generally weak/ moderate), linear NW and NE trending gold in soil anomalies were interpreted in 9 zones at the Feiori soil grid (figures 6 and 7).

The soil assays have provided good information regarding the strike length of the Adelaide and Cornucopia gold mineralised vein systems and excellent



targets for hand trenching and further evaluation.

## **Limited Hand Trenching**

Additional gold in hand trench continuous chip channel samples (to those previously announced) were demonstrated at the Adelaide and Cornucopia Prospects, to 2m of 15.6 g/t gold and 2m of 8.40 g/t gold respectively, plus 9 additional intercepts >1.0 g/t gold in the 11 very short hand trenches.

Please refer to Figures 10 and 11 for location, soil and trench gold assay and soil /trench anomaly interpretation information and Table 2 for trench sample weighted gold assay results.

The high grade zone of gold mineralisation in trenches is located about 400m along strike (maximum) to the west of the historic Adelaide Mine. There are significant gold in soil anomalies in this region that will be followed up when possible in early 2013.



The trenching at the Cornucopia Prospect was reconnaissance in nature, with the second trench located about 15m further along strike to the west trying to track the orientation of the gold mineralisation. It appears that this higher grade zone of east - west trending and moderately/steeply north dipping high-grade gold vein mineralisation in trenches trends towards Adelaide, but it is unclear if it is a single broadly east-west trending vein (system) or a series of en-echelon veins.

There is a 5.5 km strike length between the SE corner of the Feiori and the NW corner of the Adelaide grids that contains significant stream sediment /panned concentrate gold anomalies. This area will also be further investigated in 2013 with geological mapping and sampling, along with reconnaissance in the gold anomalous NW of the Island. Exploration will commence at the Adelaide Grid in early 2013 and hand trenching combined with infill soil sampling will initially be undertaken to better define and prioritise the soil anomalies for subsequent mechanical trenching or drilling.

## **Sampling And Interpretation**

Samples were analysed for gold only to minimise costs. This is prudent because gold is its own best pathfinder and the limited analyses from the area to date suggest that only arsenic would be significant as a pathfinder to the mineralised lodes. The threshold of 0.01 g/t gold was selected to define the gold envelope because it is anomalous against the background level at Sudest (which is less than the detection limit of 0.005 g/t gold).

Twelve samples at Adelaide had >0.05 g/t gold in the 'first' assay (with 9 of those >0.10 g/t gold) and repeat assays were below the detection limit of 0.005, showing a pronounced nugget effect and the need to evaluate all anomalies carefully.

For example the difference between the sample that assayed 3.44 g/t and its re-assay of 2.02 g/t is 70% difference, but is 'pretty good relatively', whereas 2.68 g/t re-assaying 0.034 g/t gold is a huge difference. The former value is very interesting, whereas the later value is at or below the base of 'normal' gold anomalism in PNG. Another sample assayed 1.36 g/t gold and re-assayed 0.04 g/t gold. You would follow-up the first result but not necessarily the second result.

The nugget effect is not as pronounced at Feiori (i.e. assay repeatability is somewhat better), with the most extreme variation being about 10 times (0.06 g/t re-assaying 0.66 g/t gold), the next being 5 then 2 times.

## Background

The 'maiden' exploration program on Sudest was conducted midyear and it consisted of 2 grid based soil sampling programs over a non-contiguous total area of about 5 sq km, with limited hand trenching at Adelaide and Cornucopia Prospects.

The first group of hand trench assays were for  $24 \times 1m$  long, trench channel samples from the Adelaide Prospect plus  $8 \times 1m$  long samples from the Cornucopia Prospect. Three historic hand cut trenches were deepened at Adelaide and an additional trench was cut over a 12m strike length to confirm the continuity, width and tenor of the higher grade section of the E-W trending high-grade gold mineralised zone.

A previous explorer sampled locally along strike of this vein returning 2m of 104 g/t gold and Frontier noted it contained fine grained traces of visible gold within vugs. Frontier has previously demonstrated grab rock assays up to 256 g/t gold with 19 g/t silver. Refer to Table 2 for weighted gold assay averages.

Best previous Frontier results included true widths across the strike of the vein of 2m of 21.71 g/t gold, 2m of 39.85 g/t gold, 2m of 22.34 g/t gold and 2m of 2.74 g/t gold..

The close spaced trenches showed that the mineralisation has a relatively consistent width and grade, but is mildly disrupted by dextral faulting.

Refer to the ASX release dated 3/9/2012, 3/5/2012 and 16/4/2012 for details relating to the Sudest Gold Project. For additional information relating to Frontier Resources, please visit the Company's website at <u>www.frontierresources.com.au</u> or feel free to

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contact me. FRONTIER RESOURCES LTD

P.A.McNeil, M.Sc.

CHAIRMAN / MANAGING DIRECTOR

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 A. McNeil - Member of the Aust. Inst. of Geoscientists. Peter McNeil is the 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 2004 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 Table 2

Sudest Hand Trench Gold Assay Results

Trench	Sample	Gold Grade	Sample		
Number	Width (m)	(g/t)	Number		
AT11D	Grab	8.52	124051		
AT88B	2m	15.60	124052		
	2m	0.30	124064		
	1 m	0.65	124069		
ATUSAD	1111	0.05	124008		
	1m	5.06	124069		
	1m	1.10	124074		
AT02B	1m	0.33	124089		
AT02A	Grab	2.10	124090		
AT02C	1m	2.50	124091		
	1m	2.63	124092		
ΑΤ26Α	2m	0.11	124097		
/1120/1	2m	0.30	124099		
	3	0.12	124100		
AIZJA	2111 2m	0.12	124100		
AT24A	2m	0.74	124102		
AT01B	Grab	0.45	124115		
CT1C	3m	0.55	125000		
CIIC	2111	0.55	125009		
	2111	0.53	125010		
	2111	0.84	125011		
	2m	0.21	125015		
	2m	8.40	125014		
CT2A	2m	0.56	125016		
	2m	2.21	125017		
CT2B	1m	2.51	125022		
	1m	0.57	125025		
	1m	0.17	125026		
CT1D	1m	0.17	125028		
CIID	1m	0.87	125020		
	1m 1m	1.66	125025		
074 0	1	0.10	125050		
CIIB	1m	0.10	125036		
Previously Announced Hand Trench Results					
		26.00			
AT10A	1m	36.98	124001		
AI9A	1m 1	7.70	124002		
	1m	0.02	124003		
	1m	0.00	124004		
	Im	0.00	124005		
	1m 1-m	0.05	124006		
	1m	49.27	12400/		
	TW	30.43	124008		
AT11A	1m	3.25	124010		
	2m	2.23	124011		
AT11B	1m	0.43	124012		

	1m	49.27	124007
	1m	30.43	124008
AT11A	1m	3.25	124010
	2m	2.23	124011
AT11B	1m	0.43	124012
AT11C	1m	0.09	124013
	1m	1.01	124014
AT012B	1m	0.00	124015
	1m	0.28	124016
	1m	0.21	124017
AT8C	1m	6.29	124018
AT7A	<b>1m</b>	<b>37.13</b>	124019
	1m	0.46	124020
AT6B	1m	0.17	124021
	1m	0.12	124022
CT1A	1m	1.01	124023
	1m	0.00	125001
CT1C	<b>1m</b> 1m 1m <b>1m</b> <b>1m</b>	5.62 0.42 0.31 2.48 2.11 11.40	125002 125003 125004 125005 125006 125007