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Company Announcements Office Announcement

# Higher Grade and Potentially Bulk Mineable Tungsten Demonstrated in a Reconnaissance Drill Hole near the Narrawa Deposit, Tasmania

Frontier Resources Ltd is pleased to announce that the higher grade and bulk mineable tungsten potential of the Narrawa Retention Licence (RL 3/2005) in central-northern Tasmania has been evaluated and demonstrated to be very promising.

- Drill assays from aborted reconnaissance diamond drill hole NC53 have intersected a 0.65m section grading 1.04% tungsten (WO<sub>3</sub>) contained within a 10.5m section grading 0.228% (WO<sub>3</sub>) tungsten.
- The results from hole NC53 have documented structurally controlled higher grade tungsten located within significant widths of lower grade, but potentially bulk mineable tungsten mineralisation.
- The tungsten mineralisation noted is peripheral to the actual high grade quartz/tungsten veins targeted by the hole. It is located in the geochemical halo to the Squib Mine (2 adits), located proximal to the Narrawa gold/polymetallic Deposit.
- The drill hole was terminated prior to/at the target zone by drilling into the adit, which was deeper than historically recorded.
- Soil assays and historic drilling have demonstrated a large area of tungsten anomalism, and the +800m known strike length between holes containing tungsten anomalism <u>remains</u> <u>untested</u>.
- Six historic holes drilled for gold also returned potentially economic grades of tungsten, peaking at 0.5m of 1.26% tungsten (WO<sub>3</sub>) with 0.12% molybdenum. Molybdenum has not yet been analysed in NC53, but this will be undertaken. Five channel samples also returned anomalous tungsten with up to 1.5m grading 0.70% tungsten (WO<sub>3</sub>) and also 3m grading 1.17 g/t gold + 0.1% tungsten (WO<sub>3</sub>).
- The historic Squib Mine produced 34.5 tonnes of tungsten. Dump samples have analysed up to 5% tungsten (WO<sub>3</sub>) and a sample from a lode in a drive returned 3.19% tungsten (WO<sub>3</sub>).
- A 34m long excavator trench was also dug roughly perpendicular to the surface trace of the tungsten mineralisation associated with the Squib Mine. It was composite-channel sampled at 2m intervals and logged. These samples are now being submitted for analysis.
- > The plan below shows:
  - The large area of tungsten in soil anomalism with schematic soil assay results.
  - The location of historic tungsten mines/workings and the Narrawa gold Deposit.
  - NC53 drill collar/hole orientation information, relative to the trend of the Squib Mine tungsten mineralisation.
  - Schematic 2m composite drill assays on hole traces for NC53 and historic drill holes.

Frontier are focussed on the evaluation and possible development of the Narrawa gold/polymetallic and Stormont gold Deposits in Tasmania (6.5km apart). The Company will initiate and update resource estimation for Narrawa later in January. The already positive Conceptual Mining Study for Narrawa will then be updated, incorporating the new resource, that will likely consist of Measured/ Indicated and Inferred components.

### DETAILS

#### RL3/2005 Tungsten Potential

The Narrawa retention licence is host to a rich diversity of minerals, largely related to the intrusion of the Dolcoath Granite, which is an I-Type granite and has a demonstrated relationship to intrusion-related gold, gold - polymetallic skarns and tungsten-molybdenum deposits.

The RL's variety of mineral associations include gold-silver-leadzinc (Narrawa/Higgs), tungsten-molybdenum-bismuth +/- tin (Squib), and gold. These occur at a dozen or more prospects, within a district that hosts around 70 prospects within a 4km radius.



The best potential for tungsten-molybdenum-bismuth

mineralisation exists in the immediate Squib Mine area. It also clearly extends to the south east past the historic Squibb open cut, where it has not been drill tested. Nearby drill hole DD82DG3 targets lower tenor soil analyses (<730ppm tungsten) but not the main zone. This hole returned a 174m long weakly tungsten mineralised interval.

The best tungsten potential appears to exist in the Squib Mine area, which historically was the richest and largest tungsten producer in the area. The Squib mined high grade wolfram (tungsten-molybdenum-bismuth +/-tin and gold) bearing quartz veins and historically produced around 34.5tonnes of tungsten, which equates to approximately half of Australia's current annual production.

The spatial distribution of mineralisation style reflects proximity to the granite source. The Squib Open Cut located about 70m northeast, mined greisen bearing pegmatitic veins and numerous narrow quartz veins within the granite. The mined termination of the East Vein was noted for splitting into numerous thinner veins. More distal from the granite, wolfram-bearing quartz veins are well defined (as the 200 to 300mm West Vein and 75 to 200mm East Vein).

The mineralisation form suggests that modest sized, low grade, open cut potential exists in the vicinity of the granite contact with rich underground mineable lode potential extending north west away from this area. The total known/indicated strike length potential, encompassing both high and low grade tungsten mineralisation is approximately 800m.

The high grade potential is supported by high grade rock chip analysis from the Lower Workings mullock dump, returning up to 5% tungsten ( $WO_3$ ), whereas 3.19% tungsten ( $WO_3$ ) was returned from a 6" (150mm) wide lode, at the NW termination of a drive beneath the SW end of the Squib Open Cut. Gold is noted as a minor accessory at Squib, with previous explorers sampling returning up to 6.95g/t gold from the Truscots' Adit dump.

Drill hole intersections some 500m to the north west of the Squib Open Cut in the Narrawa Creek Mine area represent probable strike equivalents of the Squib lodes, with no drill holes to-date targeted between these sites. The potential here is evident with an intersection of 1.26% tungsten (WO<sub>3</sub>) and 0.12% molybdenum over 0.5m in hole DD82DG1 (from 166.5m). The nearby DD82DG2 returned 14.45m grading 0.122% tungsten (WO<sub>3</sub>).

Elevated tungsten is also found in the Higgs Gold Mine area. Lower grade, untested, open pit potential exists in the Squib Open Cut vicinity, as reflected by a broad tungsten in soil anomalous

zone trending north west along a granite spine near the main granite bodies margin. Notably, drill hole DD82DG3, collared approximately 200m to the east of the Squib Open Cut, drills away from the strongest tungsten in soils, targeting Black's Lode and Black's Lower Workings. This apparently poorly targeted hole drilled beneath only modest tungsten in soils, but returned a 174m wide, low grade intersection with tungsten (WO<sub>3</sub>) to 0.16%, bismuth to 0.55% and molybdenum to 340ppm.

The table below lists significant intervals for tungsten in the Narrawa area. It is designed to show the general tungsten distribution with a cut off grade of 500ppm tungsten and allowing 3m of unspecified internal dilution which allows several proximal higher grade samples to be joined as the one 'potentially mineable' interval.

Hole_ID	From (m)	Interval (m)	Gold (g/t)	Tungsten WO₃(ppm)	Bismuth (ppm)	Molybdenum (ppm)	Туре
DD82DG1	114.5	1.00	0.00	1010	0	70	Drill Hole
DD82DG1	166.5	0.50	0.00	12600	0	1190	Drill Hole
DD82DG2	14.5	5.50	0.00	631	0	0	Drill Hole
DD82DG2	37.75	14.45	0.00	1219	0	0	Drill Hole
DD82DG3	25.5	0.50	0.03	1380	2900	240	Drill Hole
DD82DG3	39.4	1.50	0.00	520	70	26	Drill Hole
DD82DG3	43.05	0.39	0.00	1040	870	48	Drill Hole
DD82DG3	47.8	0.43	0.01	561	200	66	Drill Hole
DD82DG3	61	2.00	0.01	999	120	340	Drill Hole
DD82DG3	71.1	0.90	0.00	869	200	92	Drill Hole
DD82DG3	77.45	0.60	0.00	791	5500	58	Drill Hole
DD82DG3	79.32	1.40	0.00	543	170	120	Drill Hole
DD82DG3	110.77	32.23	0.00	775	17	41	Drill Hole
DD82DG3	149	3.00	0.00	538	0	16	Drill Hole
DD82DG3	153.8	10.20	0.00	638	43	31	Drill Hole
DD82DG3	170	14.35	0.00	599	48	62	Drill Hole
NC15	27.2	0.90	0.00	970	0	10	Drill Hole
NCCS13	17	3.00	1.17	953	0	11	Channel
ND1	91	1.00	0.03	1030	0	10	Drill Hole
ND1	106	1.00	0.00	537	60	130	Drill Hole
ND1	108	2.00	0.00	2890	105	130	Drill Hole
ND2	49.8	4.30	0.01	4029	1048	12	Drill Hole
ND2	98	2.00	0.03	639	0	550	Drill Hole
NC53	21.7	10.50	0.00	2281	0	100	Drill Hole
GFSQ01	4.5	1.50	0.00	1290	0	28	Channel
GFSQ02	0	1.50	0.37	3295	0	0	Channel
GFSQ04	1.5	13.50	0.00	714	120	141	Channel
GFSQ06	0	1.50	0.00	6990	162	78	Channel

#### Narrawa Creek (RL3/2005) significant tungsten intervals.

A NW aligned granite spine is mapped immediately SE of the Squib open cut. This greisen dominated style mineralisation likely extends along the spine, plunging to the NW. Higher tonnage, lower grade zones may be focused immediately within the granite and are reported from quartz porphyry margins.

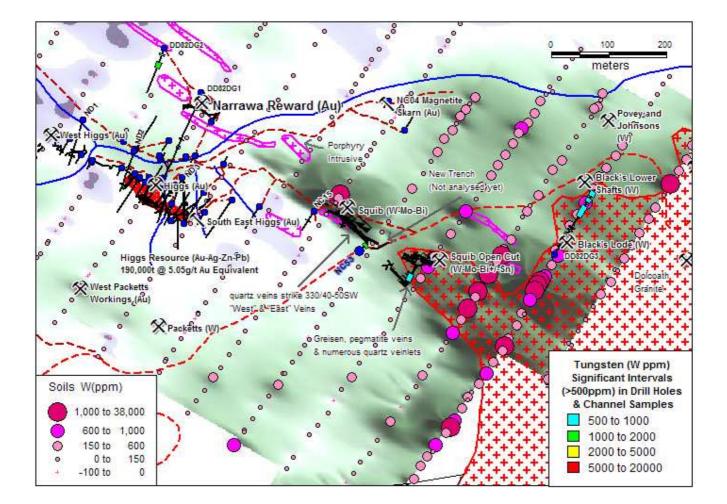
Skarn appears to lie distal to the main greisen zone and is commonly enveloped by, and overprints brown biotite altered hornfels.

Existing soil sampling does not cover the Squib open cut area.

### Squib Mine Description

The ore bodies at the Squib Mine contain wolframite with lesser amounts of molybdenite, cassiterite and bismuthinite. The operation of the main level at Squib developed a molybdenite vein  $\frac{1}{4}$  to  $\frac{1}{2}$  an inch (6 to 12mm) thick (McIntosh Reid, 1919). The richest ores (and with the greater proportion of molybdenite) are observed to occur in veins intruding the Moina Sandstone, however most of the workings are in the granite. It is also noted by government geologist McIntosh Reid that free gold occurs in the pegmatitic veins of the Squib workings. The veins are the typical greisen – quartz-wolframite-molybdenite-cassiterite-bismuthinite veins – with minor accessory minerals such as topaz, fluorite and beryl. This occurrence of free gold provides a possible link between the granite and gold. McIntosh Reid (1919) also described a possible genesis that is ordered from earliest to latest: cassiterite, molybdenite, wolframite, wolframite-quartz-bismuthinite, quartz, chalcopyrite, pyrite, sphalerite, arsenopyrite.

At the open cut workings, the lode consists of  $15x \ 2 - 10cm$  veins of quartz > wolframite > bismuthinite > molybdenite. The most appreciable amount of molybdenite was found in the East Drive where the vein was 25cm wide. Appreciable molybdenite is also found in the end of West Drive in the main level. The structure of the lodes at Squib is strike 320°, dip 40-50° SW. Molybdenite and bismuthinite contents are also said to be much greater in the "Number 2 lode" or "western vein" where mineralisation is 20-30cm wide (McIntosh Reid, 1919).



## **Exploration Completed**

#### Drill Hole NC53

The hole returned significant tungsten analyses despite not testing the defined targets.

#### Significant Intervals for NC53

Hole ID	From (m)	To (m)	Intercept Length (m)	WO3 (ppm)	FeW Equiv (ppm)
NC53	4.2	38.6	34.4	866	895
incl.	21.7	32.2	10.5	2281	2358
incl.	25.6	32.2	6.6	3169	3276
incl.	25.6	30.25	4.65	3915	4047
incl.	29.6	30.25	0.65	10400	10752

NB: Calculations for FerroTungsten here assume all concentrate is as FeW, equating to 76.7% tungsten, whereas commercial concentrate typically contains 70 to 75% tungstic oxide (WO<sub>3</sub>) - 55 to 63% tungsten.

Hole NC53 was collared at 425825mE, 5406560mN [AGD66, Zone55], with an azimuth of 50°TN, an inclination of -60° and an end of hole depth of 38.6m. The hole targeted the 330° strike / 40° to 50°SW dipping Squib Mine lode at approximately 15m beneath the reported bottom level of the workings. However a significant puggy fault was intersected around 32m and the hole terminated shortly thereafter when the barrel and three rods snapped off down hole in a cavity. The latter likely represents underground workings, which apparently extend to greater depth than is historically reported.

Results returned were consistently elevated in tungsten (mostly >250ppm), with a peak analysis of 0.65m grading 1.04% tungsten (WO<sub>3</sub>) from 29.6m, within a broader 10.5m grading 0.23% tungsten (WO<sub>3</sub>). This result is highly encouraging, suggesting there is potential for extensive low grade wolfram mineralisation marginal to quartz porphyry dykes and known quartz lodes.

Veins / structures, locally with trace visible wolfram, are encountered sporadically from near surface with locally up to 10% quartz over a metre, and with the thickest veins up to 15cm. These differ slightly from intense greisen-silica veins, commonly bearing Wolfram blades (to 16mm & 3% locally), which superficially appear like quartz veins, but represent focused silica replacement. Greisen is best developed on the porphyry margins.

#### Trenching

A trench was dug by excavator for 34m along the access track edge, roughly perpendicular to the surface trace of mineralisation and parallel to hole NC53. Composite channel / trench sampling at 2m intervals was undertaken and logged. Samples are now being submitted for analysis. Both the East and West Squib Lodes were covered by this trench, with numerous thin quartz veins and pervasive silica/greisen altered zones being sampled.

It should be noted that wolfram grades are typically spotty/erratic in nature and therefore testing via diamond drilling is nowhere near as conclusive as bulk sampling of exposed faces. Numerous diamond drill hole intercepts are ideally required to better ascertain more representative grades.

#### General Tungsten Information

As a general note for an indication of potential relative value, 0.1% tungsten is currently nearly equivalent to 1 g/t gold in metal value. However it should be noted that the extractive metallurgy and marketing of gold and tungsten is very different. Also no studies have yet been done on processing and recovery of the material sampled.

For additional information relating to the Company and its projects please visit our website at <u>www.frontierresources.com.au</u> or feel free contact me.

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P.A.McNeil, M.Sc. 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 their information in the form and context in which it appears.

#### About Frontier Resources

- Frontier is focused on exploring for and developing mineral deposits in the highly mineralised Pacific 'Rim of Fire' in Papua New Guinea and the highly prospective Mt Read Volcanics of Tasmania.
- > The Company is presently evaluating the possible development of the Narrawa and Stormont Deposits in Tasmania.
- Frontier has a 100% interest in 4 Exploration Licences covering approx. 1,460 km<sup>2</sup> in PNG and 3 Exploration Licences + 2 Retention Licences covering 134 km<sup>2</sup> in Tasmania.
- > The portfolio offers excellent mineral deposit potential, with primary targets being World Class gold/silver epithermal, gold- base metal skarn, copper-gold-molybdenum porphyry and polymetallic VMS (zinc-lead-silver-gold) deposits.
- > The projects <u>all</u> have high-grade exploration results in rock, trenches and/or drill hole and are in the same or similar geological terranes as existing World Class and/or major mines.
- The Inferred Resource for the Narrawa Deposit contains 30,850 ounces of gold equivalent\* grading 5.05 g/t gold equivalent, within 190,000 tonnes grading 2.74 g/t gold + 1.21% zinc + 1.59% lead + 22g/t silver.
  - The Inferred Resource contains 16,740 ounces of gold + 2,300 tonnes of zinc + 3,020 tonnes of lead + 134,400 ounces of silver.
  - It is contained within 3 on or near surface, potentially open-pitable lodes and is based on all historic drilling to date and estimated in accordance with the 2004 JORC code.
  - Excellent metallurgical testwork results have been obtained. This information has been incorporated into a Conceptual Mining Study (CMS) to evaluate the project's potential to be placed into development. The CMS (and metallurgical testwork results) will be released forthwith.
  - Future drilling will target extensions to the mineralisation to increase the total size of the resource and thus
    improve possible 'economics'. There is excellent exploration potential, particularly to the NW. Additional
    mineralisation is likely to be documented in the general project region also, from the many existing drill targets.
  - The resource will be re-estimated and will likely be re-classified as Measured, Indicated and Inferred. The CMS will then be updated to evaluate changes in the projects' economics. The nearby Stormont Deposit will later be included in the revised CMS, following completion of an estimation of a resource.
  - The Tasmanian Government is supportive of mining and exploration. The RLs are in 'good' locations for possible development and there are no known social or alternative land use issues.
- Frontier's Directors and management team have more than 300 years combined experience in PNG and Australia to serve the interests of the Company and its shareholders.
- Frontier operates with a general policy of 'DRILLING' our quality projects using our purpose built and self manufactured, cost effective, environmentally friendly, man-portable diamond core rigs.
- We 'own' and operate <u>all</u> the major required means of exploration including a long term and very competent human resources team, drilling, earth moving and transport equipment, magnetic surveys etc, to maximise exploration success, while minimising costs in a very competitive environment.
- The Company is an ASX listed junior mineral explorer whose shares also trade on the Frankfurt, Berlin and Munich Stock Exchanges.

#### Notes:

- Gold equivalent is the contained gold, zinc, lead, silver, bismuth that are converted to an equal amount of pure gold and summed (based on mineralised rock with assays above various cut off grades and actual metal prices).
- Narrawa Au(g/t) Equivalent is based upon metal prices on 11/11/2008, being US\$732.8/oz Au, US\$0.4901/lb Zn, US\$0.5829/Lb Pb, & US\$1.674/lb Cu, US\$9.805/oz Ag; The formula used is Au(g/t) Equivalent = Au(g/t) + 0.4586 x %Zn + 0.54544 x %Pb + 1.56641 x %Cu + 0.01338 x g/t Ag
- Skarn gold- silver -basemetal deposits such as the Narrawa Deposit typically recover contained gold, silver and basemetals if in sufficient quantities (subject to metallurgical characteristics and prevailing metal prices).
- The ASX requires metallurgical recovery be specified for each metal and they are: 96.7% for gold, 98.5% for zinc, 95.6% for lead and 92.4% for silver.

- Drill core at the Narrawa Deposit was sampled as half core for the entire length of mineralized intervals. Sample intervals within the confines of the resource are typically no greater than one metre and constrained by appropriate lithological or mineralization boundaries. Quality control was assessed via submission of known standards approximately every 20 to 25 samples / metres downhole. Laboratory quality control reported very good repeatability for in-house standards, as well as for duplicate drill core analysis. Assaying was carried out at Analabs, Burnie using fire assays for gold and the AAS technique, with analysis for copper, lead, zinc and silver.
- It is the Company's opinion that each of the elements included in the Narrawa metal equivalent calculations have a reasonable potential to be recovered if the project proceeds to mining.