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31 January 2020

# **December 2019 Quarterly Activities Report**

# **Highlights**

- Acquired Belgravia Project and expanded landholding in Lachlan Fold Belt of NSW
- Appointed experienced Exploration & Mining Team
- Commenced field-based exploration to identify key porphyry targets
- Completed placement to professional and sophisticated investors

Krakatoa Resources Limited (ASX: **KTA**) ("**Krakatoa**" or the "**Company**") is pleased to provide the following summary of activities conducted in the December 2019 quarter.

During the December quarter, Krakatoa continued with the significant pivot in activities announced late in the September quarter towards identifying targets in Australia's best known porphyry jurisdiction – the Lachlan Fold Belt, NSW. Following the announcement to acquire the Belgravia Project (*refer ASX release 26 September 2019*), the Company was pleased to appoint Rangott Mineral Exploration Pty Ltd (*refer ASX release 8 October 2019*) as its NSW exploration contractor. Rangott is the leading exploration consulting company based in Orange, NSW and has decades of experience in regional geology and exploration targeting.

# **Belgravia Project**

### Background

The Belgravia Project covers an area of 80km² and lies approximately 7km east of the township of Molong and 20km northwest of the regional centre of Orange, providing excellent road, rail, power, gas and water infrastructure. It is located in the central part of the Molong Volcanic Belt (MVB), between Newcrest Mining's Cadia Valley Mine and Alkane Resources' Northern Molong Porphyry Project and adjacent to the Copper Hill porphyry Cu-Au deposit (Figure 1).

On 5 December 2019, the Company completed the acquisition of the Belgravia Project, with all conditions precedent being satisfied. The Company paid AUD\$300,000, issued 10,000,000 fully paid ordinary shares and executed a deed for the 1% Net Smelter Royalty as consideration for the acquisition of the Project.







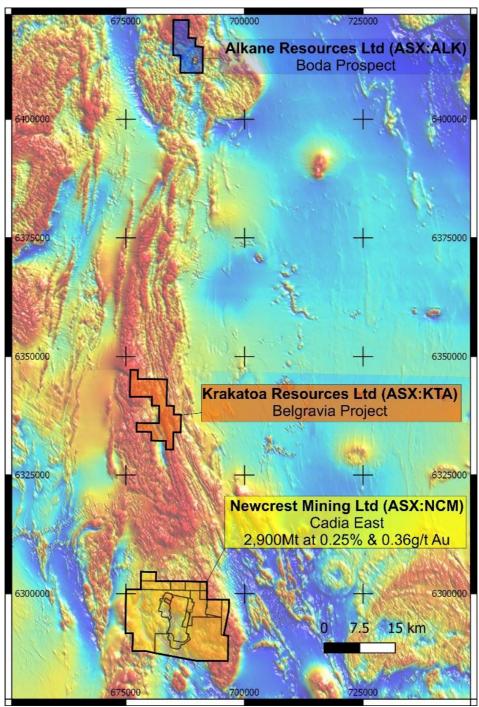


Figure 1: Regional TMI RTP Map of Molong Volcanic Belt

### Due diligence

The December quarter started with the Company undertaking field-based due diligence at exploration licence 8153, comprising the Belgravia Project ("the Project"), after announcing a binding term sheet to acquire a 100% interest in the Project on 26 September 2019.

The Company was extremely pleased with the findings from its technical due diligence, which confirmed the geological, structural and geophysical prospectivity of the Project and the six initial targets: Bell Valley, Guanna Hill, Sugarloaf Creek, Shades Creek, Strathmore and Nandillyan.







### Key findings were:

- Belgravia lies in a very fertile metallogenic province, where copper-gold porphyry deposits typically occur in clusters, providing considerable potential for more discoveries;
- Intense proximal albitisation and silica-saturation observed, similar to alteration seen at Newcrest's Cadia East Mine by experienced porphyry geologist and mining engineer Mr Ian Cooper;
- Large-scale and pervasive alteration identified, particularly at the Bell Valley Target, which lies over the eastern parts of the Copper Hill Igneous Complex;
- Bella Prospect, a doughnut-shaped magnetic pattern considered characteristic of porphyry intrusion, lies within 1km of noted alteration;
- Exceptionally located with the recently upgraded Mitchell Highway providing direct access to the Belgravia Project from the regional centre of Orange and township of Molong.

On 11 October 2019, the Company announced it had satisfactorily completed legal and technical due diligence on the Project and that it had provided written notice to Vendor, Locksley Holdings Pty Ltd, that it had elected to exercise the option to purchase the Project.

#### Review of historical work

Following technical due diligence, the Company moved swiftly to commence a detailed review of historical work, secure land access and undertake exploration activities at the targeted area, Bell Valley.

The Bell Valley target contains the eastern half of the Copper Hill Igneous Complex (CHIC), which locally hosts the Copper Hill deposit with a total resource of 87Mt @ 0.32g/t Au & 0.36% Cu comprising indicated resources of 47Mt @ 0.39g/t Au & 0.4% Cu and inferred resources of 40Mt @ 0.24g/t Au & 0.32% Cu, using a 0.2% copper cut-off grade (Golden Cross Resources (ASX: GCR) announcement dated 24 March 2015 and titled "updated JORC 2012 compliant Resource Estimate").

At its closet point to Belgravia, the Copper Hill deposit is only 1.5km away. It is also noted that the Copper Hill deposit is sparsely drilled below 350 metres vertically and there is good potential for depth extensions.

The Bell Valley target also contains a second substantial system prospective for porphyry mineralisation, the Larras Lake Igneous Complex (LLIC) – see figure 2.

A review of previous work done by Mount Isa Mines (MIM) and Newcrest at the LLIC, highlighted the highly prospective nature of the target area.





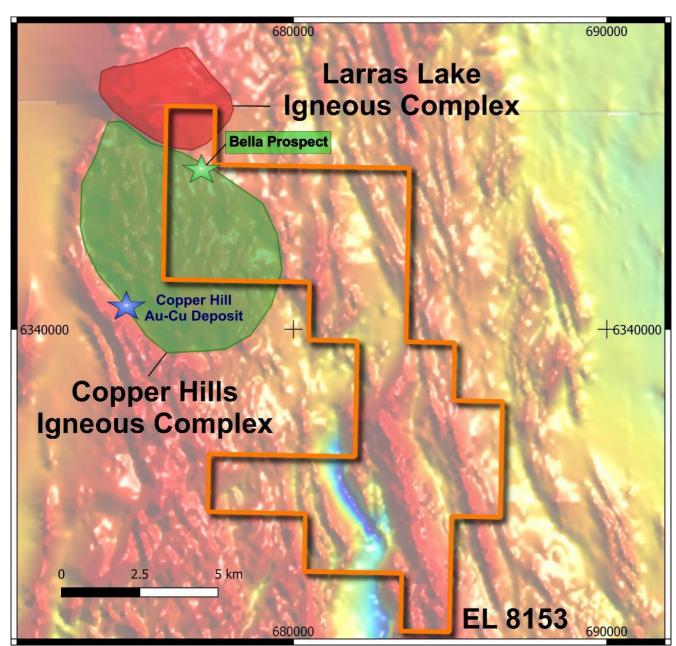


Figure 2: Location of the CHIC and LLIC in relation to the Belgravia Project

Historical drilling results from MIM's 233 vertical hole Rotary Air Blast (RAB) program completed at the LLIC in 1995 were digitised. The drilling comprised mostly shallow (averaging 8m or less) holes sampled in 3-metre composites, with a maximum depth of 33m. The holes terminated at blade refusal.

Importantly, it was noted that the deepest holes are coincident with higher copper and gold results, and are supportive of an alteration trough being associated with the mineralizing event. The max value geochemistry for copper and gold also supported a strong southeasterly trend towards Belgravia (figure 3).







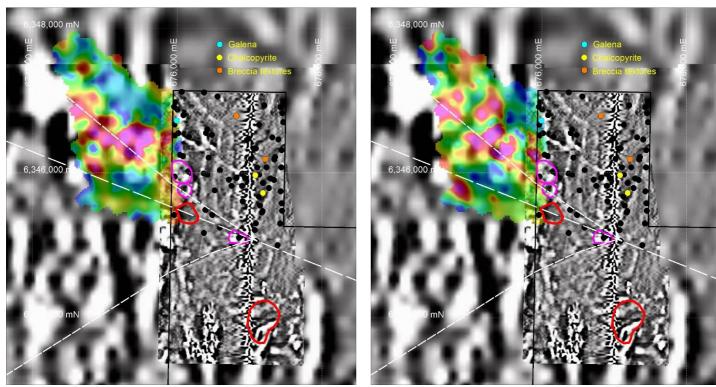


Figure 3: Gold (left) and copper (right) geochemistry from the historical Larras Lake anomaly identified by MIM geochemistry

In 1997 Newcrest Mining Limited drilled 4 Reverse Circulation (RC) holes to test earlier MIM RAB anomalies (defined as 200ppb Au and >300ppm Cu). The 4 inclined holes (-55°) each of a 200m length and sampled in one-metre increments, lie approximately 400 metres west of the Belgravia Project.

The limited historical drilling program by Newcrest supports the LLIC as being gold mineralised, with better results including:

- 30m @ 0.20 g/t Au from 163m (Hole: LLR004)
  - o Inc 1m @ 1.15 g/t Au and 0.28% Cu from 185m
- 3m @ 1.02 g/t Au and 0.10% Cu from 56m (Hole: LLR004)
  - o Inc 1m @ 2.28 g/t Au and 0.21% Cu from 56m
- 6m @ 0.26 g/t Au from 105m (Hole: LLR004)
- 6m @ 0.18g/t Au from 84m (Hole: LLR003)

The review of drilling logs also identified the following:

- Numerous thin intersections of anomalous gold ± copper mineralisation are associated with quartz
   ± carbonated veins within volcanics and dioritic intrusives.
- Hematite alteration or "dusting" is associated with the higher grade and broader intervals of anomalous gold (>100ppb) delineated in the RC drilling. Generally, hematite dusting is restricted to the propylitic alteration zone related to porphyry Cu-Au deposits hosted by high-K calc-alkaline or shoshonitic intrusions with high oxidation states (e.g. Cadia).







Pervasive sericite alteration which becomes more abundant in the lower parts of hole LLR004. Importantly, the alteration minerals and assemblages, and how they vary with mineralisation, offer important vectors towards mineralisation. Thus, in the example of Larras Lake, the alteration type and frequency of mineralised intersections increase in width and tenor at depth and towards the southeast suggesting the drilling was neither deep enough nor of sufficient density to outline a more substantial source, which may lie towards or in the Belgravia Project.

Newcrest reported that the tenor and alteration were similar to other recent discoveries in the Lachlan Fold Belt (without naming them), and recommended retaining the ground even with the prevailing low gold price. Newcrest exited the Joint Venture in 1999.

Krakatoa believes that the metal tenor and distribution, and that of the alteration minerals, support the theory that Newcrest drilled the periphery of a larger mineralised system that potentially lies at depth and direction consistent with the Company's Belgravia Project.

### Drone aeromagnetic survey

An Unmanned Aerial Vehicle (UAV) magnetics survey by Thomson Aviation on the Company's Bell Valley Target commenced in late November. The survey utilising UAV drone technology was flown at a flight height between 30m – 35m, on 25m line spacing in an east-west direction with tie lines every 250m in a north-south direction.

Results of the magnetics survey were received subsequent to quarter end and identified several magnetic and structural features demanding immediate investigation due to their geological similarity to the adjacent Copper Hill and Cadia Valley copper-gold deposits:

- situated along strike from the copper-gold geochemical trend discovered through reprocessing of historical RAB drilling;
- located within 400m of a shallow RC drill hole historically completed by Newcrest that intersected 30m @ 0.2g/t Au including 1m @ 1.15g/t Au & 0.28% Cu;
- feature a significant demagnetised zone that results from (potentially mineralised) fluids exiting a
  magmatic source and migrating to higher crustal levels where they overprint (destroy) the existing
  magnetite;
- coincide or lie adjacent to a northwest-trending structure interpreted to control emplacement of nearby mineralised granitic complexes (CHIC and LLIC);
- several doughnut-shaped magnetic patterns thought to reflect the intrusion of porphyritic rocks.





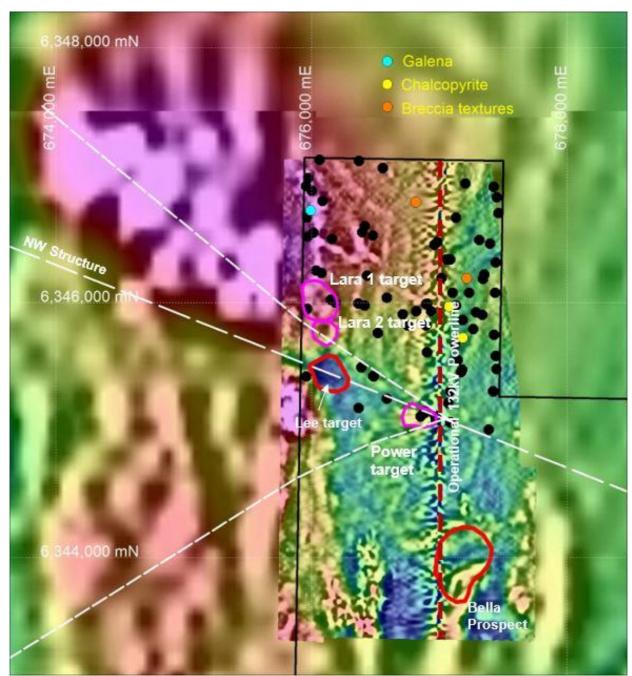


Figure 4: UAV magnetic survey with interpreted features including structure, prospects (Lara 1 and 2, Power, Lee and Bella) and rock chip samples.

# Field Program

In tandem with the magnetics survey, the Company implemented a campaign of field mapping and rock chip sampling across the Bell Valley target area.

The comprehensive mapping program has established the presence of dioritic host rocks which also host the nearby Copper Hills and Cadia deposits. The alteration in the host rocks includes widespread distal chlorite-epidote and locally more proximal hematite and silica. The presence of these minerals and the rock type itself is typically associated with copper-gold deposits.







So far, 87 rock chips have been collected from across the survey area and submitted for analysis as part of the mapping campaign. Some rock samples contain <u>visible chalcopyrite</u> or galena. Assays for the rock chips are anticipated for release in late February.

# Proposed aircore program

To quickly advance exploration at Belgravia, the Company will implement an 87-hole air-core drill program (Figure 5). The program will test multiple drill targets, focusing on the northern and southern edges of the Copper Hill and Larras Lake igneous complexes, the demagnetised zone between the complexes and along the NW-trending structure. Drilling will commence upon receipt of the appropriate approvals.

Additionally, the Company has made an application through the NSW Government's New Frontiers Cooperative Drilling program to receive co-funding for a 600m diamond drill hole at the Bella Prospect. Allocation of co-funding is expected to be determined this quarter.

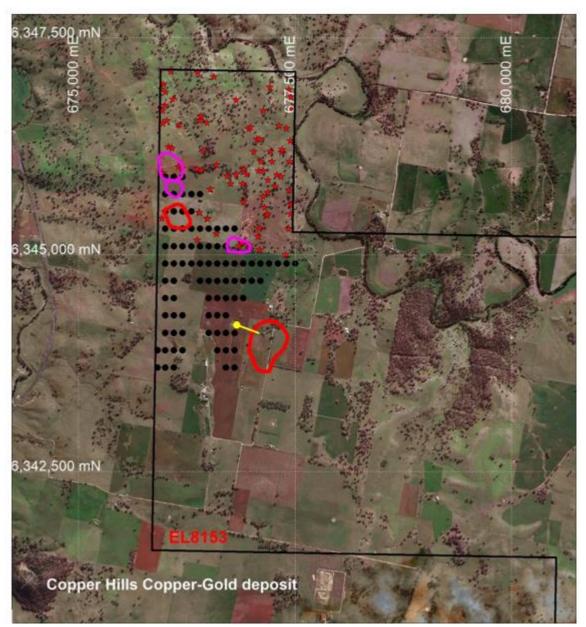


Figure 5: Proposed air-core drilling program (in black), co-funded application drill hole (in yellow) and rock chip sample locations (red stars) Larras UAV grid





# Other target areas

Work is currently focussed on the Bell Valley (Copper Hill North East) target area. The five other target areas (Guanna Hill, Sugarloaf Creek, Shades Creek, Strathmore and Nandillyan) are yet to be systematically reviewed (Figure 6). Subsequent to quarter end, the Company commenced planning to assess the Sugarloaf Creek target area.

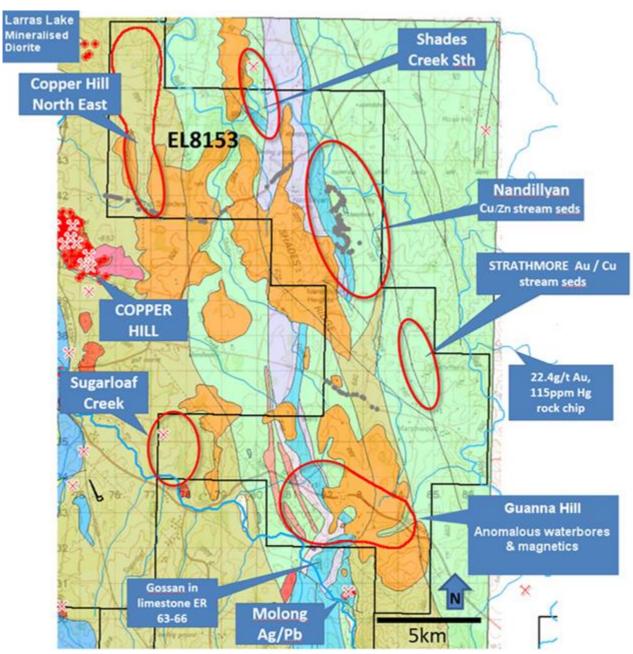


Figure 6: Belgravia Exploration targets







### **Turon Project**

On 25 November 2019, the Company announced the acquisition of the Turon Project, expanding the Company's landholding in the Lachlan Fold Belt, NSW, via direct licence application (ELA5882), subject to grant.

The Turon Project covers an area of 120km2 and is situated approximately 50km east of the Company's Belgravia Project and 60km north east of Newcrest Mining's Cadia Valley Operations, in the Hill End Synclinorial Zone, NSW. The area has been subject to recent pegging interest, with both Alkane Resources Limited and Freeport McMoran Exploration Australia Pty Ltd pegging large landholdings immediately adjacent to the Turon Project.

The Turon Project is prospective for:

- High-grade "Slate Belt" orogenic gold similar to the Hill End Field which has produced ~2Moz Au and where the world's largest gold specimen, the Holtermann Nugget, was found;
- Shear-hosted gold mineralisation.



Figure 7: Holtermann Nugget, world's largest gold specimen

The Project contains two separate north-trending reef systems, the Quartz Ridge and Turondale Groups, comprising numerous workings and quartz reefs that strike over 1.4km and 2.4km respectively. Rock grab sampling across the Quartz Ridge and Turondale Groups returned several tantalising results, including:

- 1,530.00 g/t Au Dead Horse Reef
- 150.00 g/t Au Dead Horse Reef
- 60.60 g/t Au Britannia Mine
- 26.00 g/t Au Dead Horse Reef
- 17.15 g/t Au Sixty Seven Reef
- 11.30 g/t Au Quartz Ridge Reef

Limited historical drilling at the Project has inadequately tested the Quartz Ridge Group targets with anomalous gold mineralisation intersected, which remains open in all directions, including:

- 2m @ 6.53g/t Au from 30m (incl 1m @ 10.40g/t Au)
- 1m @ 1.23g/t Au from 24m
- 3m @ 0.576g/t Au from 35m

The Company has commenced a review of the historical work completed to generate targets for follow-up testing in the March quarter.







### Mt Clere Rare Earth Project

The Mt Clere Rare Earth Project comprises three tenement applications covering a total area of 1,079km<sup>2</sup>, located approximately 200km northwest of Meekatharra, within the Gascoyne Region of Western Australia.

The Project potentially contains multiple mineralisation-styles, including:

- Rare earth elements (REE) and thorium in enriched monazite sands;
- REE ion adsorption on clays within the widely preserved deeply weathered lateritic profiles; and
- REE occurring in plausible carbonatites associated with alkaline magmatism.

Monazite [(REE) PO4], an important ore for thorium, lanthanum, and cerium, represents one of three primary exploration targets within the Project. Importantly, the total REE $_2$ O $_3$  contents within monazite range from 49.6 to 74.13 wt % and the average value is 64.31 wt %.

Previous exploration programs were completed by BHP, Astro Mining NL, and All Star Resources Plc, all of which delineated numerous prospective areas for thorium and REE mineralisation (refer to ASX announcement dated 19 June 2019).

During the quarter, the Company has submitted 9 samples for micro analysis to obtain an indication of the monazite, zircon and ilmenite composition with the heavy mineral fraction. Results are expected to be received in the March 2020 quarter.

## **Mac Well Project**

The Mac Well Project has a land area of 66.9km² and is located 10km west of the Company's Dalgaranga Project. The Project contains a 7.5km strike along the prospective Warda Warra greenstone belt, mostly untested due to a thick transported cover. The Company considers favourable structural conditions for gold mineralisation are likely within the Mac Well tenement, acknowledging the significance and prospectivity of the western granite-greenstone contact, as evidenced by the Western Queen Mine. In addition, WMC's historical gold prospectivity model for the Warda Warra Greenstone Belt identified the importance of northeast-trending lineaments, such as the Stewart and Western Queen Zones, as a critical control on gold mineralisation within the belt.

No work was conducted on the Mac Well Project during the December 2019 quarter. A short field program is planned for the March 2020 quarter.

# **Dalgaranga Project**

The Dalgaranga Project is located 80km north-west of Mount Magnet in Western Australia and lies within the Dalgaranga Greenstone Belt. The Dalgaranga Greenstone Belt is about 50km long and up to 20km wide and contains gold mineralisation (Dalgaranga gold mine), a zinc deposit (Lasoda), graphite deposits, and occurrences of tantalum, beryllium, tin, tungsten, lithium and molybdenum related to pegmatites. The Company has concluded that the Dalgaranga Project is prospective for base metal mineralisation, as it lies along strike from the Lasoda VMS mineralisation, contains the right rocks (west of the knotted schists exposed in the open pit) and contains an EM conductor in the south of the property that is, in-turn, supported by coincident lead soil geochemistry.

No work was conducted on the Dalgaranga Project during the December 2019 quarter. A short field program is planned for the March 2020 quarter.







### **Corkill-Lawson Project**

The Corkill-Lawson Project is located in the Gowganda area of north-eastern Ontario, covers a 3.2km strike of Nipissing Diabase and is prospective for cobalt-silver mineralisation. The Cobalt-Gowganda mining area (otherwise known as the Cobalt Camp) of Ontario is historically one of the most prolific cobalt and silver mining areas in the world.

No work was conducted on the Corkill-Lawson Project during the December 2019 quarter.

# Corporate

On 23 October 2019, the Company issued a total of 15,000,000 fully paid ordinary shares at an issue price of 5 cents pursuant to the Company's Listing Rule 7.1 and 7.1A capacity, to raise \$750,000 (before costs).

Subsequent to quarter end, the Company obtained firm commitments to raise \$1,312,500 via a placement of 43,750,000 ordinary shares at \$0.03 per share.

Authorised for release by the Board.

Yours faithfully,

Colin Locke Executive Chairman

#### Competent person's statement:

The information in this announcement is based on information compiled by Mr Jonathan King, consultant geologist, who is a Member of the Australian Institute of Geoscientists and employed by Collective Prosperity Pty Ltd, and is an accurate representation of the available date and studies for the claim blocks. Mr King has sufficient experience relevant to the style of mineralisation and type of deposit under consideration, and to the activity which he has undertaken, to qualify as a Competent Person as defined in the 2012 Edition of the Joint Ore Reserves Committee (JORC) Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. Mr King consents to the inclusion in this announcement of the matters based on this information in the form and context in which it appears.





# Appendix 1 - Details of Tenements Held at 31 December 2019

Project	Tenement Licence	Interest held at at 30 September 2019	Interest acquired/ disposed	Interest held at 31 December 2019
Belgravia	EL8153	-	100%	100%
Turon	ELA5882	-	-	-+
Mt Clere	E52/3730	-	-	-+
Mt Clere	E52/3731	-	-	-+
Mt Clere	E09/2357	-	-	-+
Mac Well	E59/2175	100%	-	100%
Dalgaranga	P59/2082	100%	_	100%
Dalgaranga	P59/2140	100%	-	100%
Dalgaranga	P59/2141	100%	_	100%
Dalgaranga	P59/2142	100%	_	100%
Corkill- Lawson	113077	100%	_	100%
Corkill- Lawson	127453	100%	_	100%
Corkill- Lawson	139501	100%	_	100%
Corkill- Lawson	155382	100%	_	100%
Corkill- Lawson	155383	100%	_	100%
Corkill- Lawson	170039	100%	-	100%
Corkill- Lawson	170568	100%	-	100%
Corkill- Lawson	191476	100%	-	100%
			-	
Corkill- Lawson	200011	100%	-	100%
Corkill- Lawson	200012	100%	-	100%
Corkill- Lawson	203607	100%	-	100%
Corkill- Lawson	203626	100%	-	100%
Corkill- Lawson	210246	100%	-	100%
Corkill- Lawson	228787	100%	-	100%
Corkill- Lawson	228800	100%	-	100%
Corkill- Lawson	228801	100%	-	100%
Corkill- Lawson	237094	100%	-	100%
Corkill- Lawson	237095	100%	-	100%
Corkill- Lawson	247658	100%	-	100%
Corkill- Lawson	267268	100%	-	100%
Corkill- Lawson	267287	100%	-	100%
Corkill- Lawson	267288	100%	-	100%
Corkill- Lawson	286779	100%	-	100%
Corkill- Lawson	294811	100%	-	100%
Corkill- Lawson	307478	100%	-	100%
Corkill- Lawson	307479	100%	-	100%
Corkill- Lawson	307480	100%	-	100%
Corkill- Lawson	307504	100%	-	100%
Corkill- Lawson	307505	100%	-	100%
Corkill- Lawson	314208	100%	-	100%
Corkill- Lawson	314209	100%	-	100%
Corkill- Lawson	314210	100%	-	100%
Corkill- Lawson	314212	100%	-	100%
Corkill- Lawson	323368	100%	-	100%
Corkill- Lawson	335103	100%	-	100%
Corkill- Lawson	552682	100%	-	100%
Corkill- Lawson	552683	100%	-	100%
Corkill- Lawson	552684	100%	-	100%
Corkill- Lawson	552685	100%	-	100%
Corkill- Lawson	552686	100%	-	100%

<sup>+</sup> Tenement applications subject to grant