

Perth, Australia  
15 August 2012

## GALAXY IMPROVES PRODUCT QUALITY AT JIANGSU

### Highlights

- Production showing consistent improvements in battery grade lithium carbonate quality
- Impurity reduction seen across all product samples
- Levels of key impurity sodium reduced significantly
- Galaxy aims to set new benchmark on battery grade specifications required by customers

Lithium producer Galaxy Resources Ltd (ASX: GXY) ("Galaxy" or "the Company") is pleased to report further improvements in the quality of lithium carbonate produced at its wholly-owned Jiangsu Lithium Carbonate Plant ("Jiangsu" or "Jiangsu Plant") in China.

Galaxy advised on 27 July 2012 that it had achieved battery grade quality across all the necessary specifications. Testing of the latest battery grade production has demonstrated significant reductions in sodium (Na) and sulphate (SO<sub>4</sub>) levels in particular, resulting in higher purity levels of battery grade lithium carbonate. (Refer Figure 1).

Figure 1: Latest Jiangsu battery grade lithium carbonate results

Batch ID	LC %	ppm													
		Na	K	Ca	Mg	Si	Fe	Cu	Pb	Ni	Mn	Zn	Al	Cl	SO <sub>4</sub>
27 July Announcement	99.55	117	5	24	4	10	8	1	1	1	1	1	5	10	790
6120805005	99.51	20	5	28	5	10	6	1	1	1	1	2	5	10	480
6120806001	99.52	20	5	22	5	10	7	2	1	1	1	2	5	10	350
6120807001	99.58	20	5	35	5	20	6	1	1	1	1	2	10	13	520
6120807002	99.64	20	5	31	5	15	6	1	1	1	1	1	8	10	580
6120807003	99.68	20	5	29	5	20	6	1	1	1	1	1	9	10	420
6120807004	99.56	20	5	29	5	19	8	2	1	1	1	1	10	11	400
6120807005	99.60	20	5	36	5	26	6	1	1	1	1	1	5	14	590
6120807006	99.62	20	5	31	5	20	6	2	1	1	1	2	11	10	440
6120807007	99.50	20	5	26	5	10	9	2	1	1	1	1	5	15	550
6120807008	99.50	20	5	26	5	10	8	1	1	1	1	1	5	17	640
6120807009	99.50	20	5	25	5	10	5	1	1	1	1	1	5	10	640
6120808001	99.53	26	5	25	5	10	8	1	1	1	1	1	5	10	710
6120808002	99.70	25	5	27	5	10	10	1	1	1	1	1	5	10	580
6120808003	99.70	32	5	26	5	10	7	1	1	1	1	1	5	10	590
6120808004	99.70	20	5	33	5	10	8	1	1	1	1	1	5	10	500
Battery Grade Specs	≥99.5	<250	<10	<50	<100	<50	<20	<10	<10	<30	<10	<10	<50	<50	<800

parts per million (ppm)

For lithium cathode and lithium-ion battery makers, sodium levels are one of the most detrimental impurities, potentially causing oxidation and gassing in the final battery product. In addition, excessive sodium levels can cause a reduction in charging and discharging capacity in lithium-ion batteries as well as reducing the life of the battery.

The latest lithium carbonate testing at Jiangsu show sodium levels have dropped from 117 parts per million (ppm) (battery grade spec is <250 ppm) to a low of 20 ppm.

Galaxy Managing Director Iggy Tan said: “The reduction in impurity levels is a key step in quality improvement of our battery grade lithium carbonate at Jiangsu and we not only continue to meet all the impurity tolerances required by our battery cathode producing customers but are now consistently producing a lithium carbonate product that is superior to almost all of our competitors in the lithium carbonate market.

“These latest results justify our decision to have designed the Jiangsu Plant to produce high purity lithium carbonate. The additional quality improvements we have made to the production processes at Jiangsu have been patented by Galaxy,” Mr Tan said.

Similar quality improvements have been recorded in sulphate (SO<sub>4</sub>) levels. Although the original batches (790 ppm) met the battery grade specification of less than 800 ppm, the latest battery grade product testing has shown a further 30% decrease in sulphate levels to around 530 ppm. This is positive in respect to Galaxy’s cathode customers looking to minimise the sulphate impurities in their lithium carbonate supply. Excessive sulphate impurities can lead to gassing and leakage in lithium-ion batteries.

Calcium (Ca), magnesium (Mg) and iron (Fe) levels have also remained well below specification levels. These elements can reduce the capacity of lithium-ion batteries and have similar effects to those of high sodium levels.

Galaxy believes it is already achieving one of the best quality battery grade products available in the market today, based on its assessment of other battery grade lithium carbonate production. Figure 2 shows impurity levels in competitor product sourced from lithium carbonate producers in the People’s Republic of China (PRC) and South America.

Figure 2: Competitor lithium carbonate impurity levels

Impurity levels (ppm)														
Competitor	Na	K	Ca	Mg	Fe	Al	Cu	Mn	Ni	Zn	Pb	Si	SO <sub>4</sub>	Cl
PRC 1	200	5	10	30	2	16	1	1	1	1	1	28	800	10
PRC 2	180	10	25	35	8	1	1	1	1	3	1	8	830	12
Sth Am 1	570	29	94	83	5	9	1	1	1	1	1	110	240	92
Sth Am 2	260	10	70	50	2	7	1	1	1	1	1		800	60
Galaxy	20	5	28	5	6	5	1	1	1	2	1	10	480	10
Battery Grade Specs	≤250	≤10	≤50	≤100	≤20	≤50	≤10	≤10	≤30	≤10	≤10	≤50	≤800	≤50

\* Samples collected and analysed by Galaxy Resources Ltd

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## About Galaxy (ASX: GXY)

Galaxy Resources Ltd ("Galaxy") is an Australian-based global lithium company with lithium production facilities, hard rock mines and brine assets in Australia, China, Canada and Argentina. The Company is an integrated lithium mining, chemicals and battery company listed on the Australian Securities Exchange (Code: GXY) and is a member of the S&P/ASX 300 Index.

Galaxy wholly owns the Mt Cattlin project near Ravensthorpe in Western Australia where it mines lithium pegmatite ore and processes it on site to produce a spodumene concentrate and tantalum by-product. At full capacity, Galaxy will process 137,000 tpa of spodumene concentrate which will feed the Company's wholly-owned Jiangsu Lithium Carbonate Plant in China's Jiangsu province. The Jiangsu Plant has commenced production and will produce 17,000 tpa of battery grade lithium carbonate, the largest producer in the Asia Pacific region and the fourth largest in the world.

Galaxy is also advancing plans to develop the Sal de Vida (70%) lithium and potash brine project in Argentina situated in the lithium triangle (where Chile, Argentina and Bolivia meet) which is currently the source of 60% of global lithium production. Sal de Vida has excellent promise as a future low cost brine mine and lithium carbonate processing facility.

The Company completed a feasibility study for a proposed lithium-ion battery plant, to produce 620,000 battery packs per annum for the electric bike (e-bike) market. The Company also owns the James Bay (100%) Lithium Pegmatite Project in Quebec, Canada.

Lithium compounds are used in the manufacture of ceramics, glass, electronics and are an essential cathode material for long life lithium-ion batteries used to power e-bikes and hybrid and electric vehicles. Galaxy is bullish about the global lithium demand outlook and is positioning itself to achieve its goal of being involved in every step of the lithium supply chain.

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