



NSL Consolidated

9 February 2011

BENEFICIATION PROJECT UPDATE

HIGHLIGHTS

- Inspection of selected beneficiation equipment factories Progression of testing results and proposed plant and flowsheet designs
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NSL Consolidated Ltd (ASX: NSL) (**NSL**) wishes to provide an update on operational activities associated with the beneficiation project for its Kurnool Operations.

China Testing Update

As reported previously to the market NSL, through the Heads of Agreement with CMMC, has sent 14 bulk samples (3.2 tonnes) to China for a detailed second round of testing. During December CMMC has coordinated testing through the Ansteel (NETC) laboratories.



Fig 1. 20kg samples being bagged and drummed on site at Kuja



Fig 2. 200kg sample drums clearing customs in China

NETC have been engaged to conduct detailed characterisation testing on material provided from the Kuja and Mangal mines. Specifically the following tests are being conducted by NETC.

- ROM material quality characterisation,
- Fe distribution by type (FeO , Fe_2O_3 , Fe_3O_4 etc),
- Density testwork,
- Spiral and jiggling table performance characterisations,
- LIMS amenability testwork, and
- WHIMS amenability testwork

The testing is well progressed, and the final report is expected from NETC in the near term.

China Factory Visits

During January NSL's Chief Operating Officer, Sean Freeman completed inspections and meetings at shortlisted beneficiation plant manufacturing factories across China. The factories were shortlisted based on their capabilities including:

- heavy engineering construction and fabrication,
- engineering and design support,
- logistics support for foreign export, and
- a strong history in beneficiation plant design and construction.

Two factories are located near Shanghai and the third was located at Zhengzhou in the Henan Province. Figure 3 shows the factory floor of one of the visited factories with equipment ready for export.



Fig 3. Examples of ball mills and driers being manufactured by one of the factories

The factories have all been asked to quote on a EPC basis, with the following broad design criteria:

- Plant to include all primary and secondary crushing equipment,
- No access to power on site,
- Footprint should be less than 10,000 m² for processing facilities, final product storage will be separate,
- Design should be able to upgrade the low grade NSL samples to a saleable % Fe,
- Preference for gravity separation only, however magnetic separators possible, and
- Water reclamation is critical

Under this scope each factory was provided duplicate samples from the 5 originals sent to the NETC laboratories to conduct their own in-house tests to validate their proposed process flowsheet. Figure 4 shows an example of the lab scale equipment used by the factories for testing of these samples.



Fig 4. Lab scale testing facilities at one of the factories

The factories performed various degrees of detail in their testing. The factory with the facilities provided in Figure 4 were able to beneficiate the low grade NSL samples from an average ROM grade of 26.49% to an average concentrate grade 58.67% Fe. This is consistent with the initial testwork that was conducted by local Indian vendors, resulting in test samples of low grade material from across the two projects showing an average Fe grade increase from 33.22% to 61.14% over a suite of 8 tests.

In addition to testing the factories also provided references to existing plants they have designed and constructed, and one summary of these plants is provided in the following table.

项目 Item	内蒙 Inner Mongolia	山西 Shanxi	江西 Jiangxi	安徽 Anhui	贵州 Guizhou	甘肃 Gansu
原矿品味% raw ore Fe %	25.6	33.5	28.9	30.6	23.5	36.8
精矿品味% Fines Fe %	55.2	60.1	56.4	58.6	51.7	61.6
回收率% Recovery rate %	75	80	71	80	70	82

The proposed plant designs from the 3 factories were all in general the same. Each factory has incorporated components of the following

- Primary crushing (up to 700mm max feed size),
- Secondary crushing (down to minus 10mm mill feed),
- Ball mills and horizontal spiral classifiers,
- Gravity spirals feeding into jigging tables for gravity separation,
- Potential for additional magnetic separation, and
- Concentrate and tailing handling processes

The next steps for the Kurnool Beneficiation Project are as follows:

- Receive and review the NETC Final Report in conjunction with NSL's independent consultants METS. This will allow more detailed negotiations with the factories to continue, with specific focus on streamlining the process flow and entering into more detailed plant design proposals,
- Commence negotiations with each factory, and select vendor(s) to move forward. Depending on the final results from NETC NSL may require additional testing to be conducted by the selected factories to confirm the proposed process flow sheet and design,
- Engage METS for a final review of all data and engage with a single factory for execution of purchase agreement, and
- Finalise detailed project plans, capital and operating cost estimates, construction and fabrication schedules, shipping and transport plans and commissioning schedules.

Engagement with the factories against all of the above continues during this quarter. More details, testing results, cost information and accurate project plans will be provided during the March Quarter of 2011.

- Ends -

Appendix - Northern Engineering & Technology Corporation (NETC)

The Northern Engineering & Technology Corporation (NETC) was established as a result of the reorganization and restructuring of the Anshan Metallurgical Design Research Institute of the China Metallurgical Construction (Group) Corporation (an Ansteel subsidiary company).

NETC is a large international engineering company with a diversified capital structure. It is primarily sponsored by the China Metallurgical Construction (Group) Corporation in collaboration with Anshan Iron & Steel Group Corporation, Shenzhen Suntek Industrial Co., Ltd, Liaoning Zhongxin Automatic Control Co., Ltd, and key management and technical personnel of the Anshan Metallurgical Design Research Institute.

The company was the first metallurgical and mining design research institute of China and was a large scientific and technological enterprise providing a full range of services from scientific research to consultancy, design, hi-tech, complete plant supply, project supervision, and general engineering contract.

NETC specializes in general engineering contracts particularly in the areas of mining, concentration, sintering and pelletizing, non-ferrous metallurgy mining, and gold mining. The company provides services like project construction cost consultancy, project consultancy, project design, complete plant service, project supervision, and general engineering contracts for such industries as construction, power generation, construction materials, civil engineering, environment protection and evaluation, construction intelligence, automatic control, pressure container, pressure piping, industrial and commercial investments, etc.

The company has completed national key project designs for large steel enterprises all over the country including 40 large mines, 28 large and medium concentration mills, and 31 large and medium sintering and pelletizing mills. It has produced more than 70 thermo power project designs and over 500 big projects in civil construction, civil engineering, construction material, environment evaluation and project construction supervision. It has greatly contributed to the national economy and social progress through the development of the steel industry of China as well as efforts towards city construction.

NETC has the approval of the state's Ministry of Commerce to carry out overseas operations by taking out contracts for metallurgical project, geo-technical survey and exploration, consultancy, and project design and supervision. The company has established technical exchange and cooperation relations with the counterparts from more than 20 countries including the United States, the United Kingdom, Germany, Switzerland, Australia, Russia, India, Brazil, Vietnam, and Zimbabwe. It also completed a number of joint designs for domestic and overseas projects. Today, NETC continues to provide designs and technical consultancy services for projects abroad and enjoys a good reputation in the overseas market.

NETC fully implements the international standards of ISO-9000. It has established a sound quality assurance system and has passed the certification of quality management system.