CHARLEY CREEK RARE EARTH PROJECT

Located in Northern Territory - Australia

NI 43-101 TECHNICAL REPORT

December 2013

Report Prepared for

PANCONTINENTAL URANIUM CORPORATION

Report Prepared by

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Level 9, 80 Mount Street, North Sydney, New South Wales 2060, Australia

DATE AND SIGNATURE PAGE

This report entitled "Charley Creek Rare Earth Project, Located in Northern Territory - Australia, NI 43-101 Technical Report" dated 23 December 2013 was prepared and signed by the following:

"Malcolm C Hancock" (signed)

Malcolm C Hancock
BA, MA, FAusIMM, CP, MIMMM, FGS, MAIMVA

"Peter D Ingham" (signed)

Peter D Ingham
MSc, BSc, FAusIMM, MIMMM, CEng

"Roland W Nice" (signed)

Roland W Nice
BSc, FAusIMM, Life MCIM, MAIME, MIEAust, Chartered Engineer

"Richard S Frew" (signed)

Richard S Frew
BE Civil, MIEAust

"Adrian J Brett" (signed)

Adrian J Brett
BSc (Hons), MSc, MEnvLaw, FAusIMM, MAIMVA

BEHRE DOLBEAR AUSTRALIA PTY LIMITED

"Malcolm Hancock" (signed)

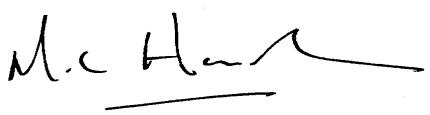
Name: Malcolm C Hancock
Executive Director Behre Dolbear Australia

CERTIFICATE OF QUALIFICATION

I, Malcolm C Hancock (BA, MA, FAusIMM, CP, MIMMM, FGS, MAIMVA), do hereby certify that:

1. I am Executive Director of Behre Dolbear Australia Pty Limited ("BDA") of Level 9, 80 Mount Street, North Sydney, NSW 2060, Australia.
2. I graduated with a Bachelor of Arts degree in Natural Sciences - Geology from Cambridge University, England in 1966 and was admitted to the degree of Master of Arts, Cambridge University in 1971.
3. I am a Fellow of the Australasian Institute of Mining and Metallurgy (FAusIMM).
4. I have worked as a professional geologist for a total of 45 years since my graduation from university and have particular expertise in the areas of mining geology, resource and reserve estimation and reconciliation, open pit and underground mining and project technical review and assessment.
5. I have read the definition of "Qualified Person" set out in National Instrument 43-101 ("NI 43-101") and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfil the requirements to be a Qualified Person for the purposes of NI 43-101.
6. I am responsible for the Geology, Mineralisation, Exploration, History, Mineral Resource and Mineral Reserve sections, specifically Sections 1.4, 1.5, 1.6, 6, 7, 8, 9, 10, 11, 12, 14, 15, 23, and 24 of the "Charley Creek Rare Earth Project, Located in Northern Territory – Australia, NI 43-101 Technical Report" dated 23 December 2013 (the "Technical Report").. As Executive Director of BDA I have also contributed to and take overall responsibility for the Technical Report, the Summary, Introduction and Reliance Sections, and the Interpretations, Conclusions and Recommendations, specifically Sections 1.1, 1.2, 1.3, 1.9, 1.10, 2, 3, 25, 26 and 27. I conducted personal inspections of the Charley Creek site on 4th and 5th November 2013 and reviewed the geology, geological data, resource estimation and planned site of the project operations.
7. As at the date of this certificate, to the best of my knowledge, information and belief, the sections of the Technical Report for which I am responsible contain all the scientific and technical information that is required to be disclosed to make the Technical Report not misleading.
8. I am independent of Pancontinental Uranium Limited in accordance with Section 1.5 of NI 43-101 and have not had any prior involvement with the property that is the subject of the Technical Report.
9. I have read NI 43-101 and Form 43-101F1, and the sections of the Technical Report for which I am responsible have been prepared in compliance with that instrument and form.
10. I consent to the filing of the Technical Report with any stock exchange or other regulatory authority and any publication by them of the Technical Report for regulatory purposes, including electronic publication in the public company files on their websites accessible by the public.

Dated 23 December 2013



"Malcolm C Hancock" (signed)

Signature of Qualified Person

Malcolm C Hancock
Executive Director – Behre Dolbear Australia

CERTIFICATE OF QUALIFICATION

I, Peter D. Ingham (MSc, BSc, FAusIMM, MIMMM, CEng), do hereby certify that:

1. I am General Manager Mining of Behre Dolbear Australia Pty Limited ("BDA") of Level 9, 80 Mount Street, North Sydney, NSW 2060, Australia.
2. I graduated with a Bachelor of Science degree in Mining from Leeds University, England in 1975 and a Master of Science degree in Mineral Production Management from Imperial College of Science and Technology in 1980.
3. I am a Fellow of the Australasian Institute of Mining and Metallurgy.
4. I have worked as a mining engineer for a total of 37 years since my graduation from university and I have particular expertise in open pit and underground mining including mine planning, Mineral Reserve preparation and independent review of Mineral Reserves.
5. I have read the definition of "Qualified Person" set out in National Instrument 43-101 ("NI 43-101") and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfil the requirements to be a Qualified Person for the purposes of NI 43-101.
6. I am responsible for the Mining section, specifically Sections 16 and 21.2 (Mine Operating Costs) of the "Charley Creek Rare Earths Project, Located in Northern Territory – Australia, NI 43-101 Technical Report" dated 23 December 2013 and have contributed to the Economic Analysis, Interpretations, Conclusions and Recommendations, specifically Sections 1.8, 1.9, 1.10, 22, 25 and 26. I conducted personal inspections of the Charley Creek site on 4th and 5th November 2013 and reviewed the geological data and planned site of the open pit operation.
7. As at the date of this certificate, to the best of my knowledge, information and belief, the sections of the Technical Report for which I am responsible contain all the scientific and technical information that is required to be disclosed to make the Technical Report not misleading.
8. I am independent of Pancontinental Uranium Limited in accordance with Section 1.5 of NI 43-101 and have not had any prior involvement with the property that is the subject of the Technical Report.
9. I have read NI 43-101 and Form 43-101F1, and the sections of the Technical Report for which I am responsible have been prepared in compliance with that instrument and form.
10. I consent to the filing of the Technical Report with any stock exchange or other regulatory authority and any publication by them of the Technical Report for regulatory purposes, including electronic publication in the public company files on their websites accessible by the public.

Dated 23 December 2013

P. D. Ingham

"Peter D. Ingham" (signed)

Signature of Qualified Person

Peter D. Ingham
General Manager Mining - BDA

CERTIFICATE OF QUALIFICATION

I, Roland W Nice (BSc (Met Eng), FAusIMM, Life MCIM, MAIME, MIEAust, Chartered Engineer (Chemical)), do hereby certify that:

1. I am a Senior Associate of Behre Dolbear Australia Pty Limited ("BDA") of Level 9, 80 Mount Street, North Sydney, NSW 2060, Australia.
2. I graduated with a Bachelor of Science degree in Metallurgical Engineering from Queens University, Kingston, Ontario, Canada in 1966.
3. I am a Fellow of the Australasian Institute of Mining and Metallurgy.
4. I have worked as a metallurgical process engineer for a total of 47 years since my graduation from university and I have particular expertise in mineral processing and hydrometallurgy as well as process plant operations and design.
5. I have read the definition of "Qualified Person" set out in National Instrument 43-101 ("NI 43-101") and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfil the requirements to be a Qualified Person for the purposes of NI 43-101.
6. I am responsible for the Mineral Processing sections, specifically Sections 1.7, 13, 17, and 21.2 (Plant Operating Costs) and 22 of the "Charley Creek Rare Earths Project, Located in Northern Territory – Australia, NI 43-101 Technical Report" dated 23 December 2013 and have contributed to the Market Studies and Contracts, Economic Analysis, Interpretations, Conclusions and Recommendations, specifically Sections 1.8, 1.9, 1,10, 19, 25 and 26. I have visited the Charley Creek site in July 2011 and have reviewed the process testwork, proposed process flowsheet and plant design aspects of the proposed operation.
7. As at the date of this certificate, to the best of my knowledge, information and belief, the sections of the Technical Report for which I am responsible contain all the scientific and technical information that is required to be disclosed to make the Technical Report not misleading.
8. I am independent of Pancontinental Uranium Limited in accordance with Section 1.5 of NI 43-101. I have previously undertaken a limited consulting assignment for Crossland Strategic Minerals Limited.
9. I have read NI 43-101 and Form 43-101F1, and the sections of the Technical Report for which I am responsible have been prepared in compliance with that instrument and form.
10. I consent to the filing of the Technical Report with any stock exchange or other regulatory authority and any publication by them of the Technical Report for regulatory purposes, including electronic publication in the public company files on their websites accessible by the public.

Dated 23 December 2013

"Roland W Nice" (signed)

Signature of Qualified Person

Roland W Nice
Senior Associate - BDA

CERTIFICATE OF QUALIFICATION

I, Richard S Frew (BE Civil, MIE Aust), do hereby certify that:

1. I am a Senior Associate of Behre Dolbear Australia Pty Limited ("BDA") of Level 9, 80 Mount Street, North Sydney, NSW 2060, Australia.
2. I graduated with a Bachelor of Civil Engineering degree from the University of Melbourne, Australia in 1965.
3. I am a Member of the Institution of Engineers, Australia.
4. I have worked as a project engineer for a total of 47 years since my graduation from university and I have particular expertise in mining project capital cost estimating, cost control, planning and scheduling, contracts management and financial modelling.
5. I have read the definition of "Qualified Person" set out in National Instrument 43-101 ("NI 43-101") and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfil the requirements to be a Qualified Person for the purposes of NI 43-101.
6. I am responsible for the Infrastructure, Contracts, Capital Costs, and Economic Analysis sections, specifically Sections 1.1, 1.8, 5.2, 5.3, 5.4, 18, 21.1 and 22 of the "Charley Creek Rare Earths Project, Located in Northern Territory – Australia, NI 43-101 Technical Report" dated 23 December 2013 and have contributed to the Market Studies and Contracts, Interpretations, Conclusions and Recommendations, specifically Sections 1.9, 1.10, 19, 25 and 26. I have not conducted personal inspections of the Charley Creek site but have reviewed the infrastructure, capital costs and economic analysis aspects of the project.
7. As at the date of this certificate, to the best of my knowledge, information and belief, the sections of the Technical Report for which I am responsible contain all the scientific and technical information that is required to be disclosed to make the Technical Report not misleading.
8. I am independent of Pancontinental Uranium Limited in accordance with Section 1.5 of NI 43-101 and have not had any prior involvement with the property that is the subject of the Technical Report.
9. I have read NI 43-101 and Form 43-101F1, and the sections of the Technical Report for which I am responsible have been prepared in compliance with that instrument and form.
10. I consent to the filing of the Technical Report with any stock exchange or other regulatory authority and any publication by them of the Technical Report for regulatory purposes, including electronic publication in the public company files on their websites accessible by the public.

Dated 23 December 2013

"Richard S Frew" (signed)

Signature of Qualified Person

Richard S Frew
Senior Associate - BDA

CERTIFICATE OF QUALIFICATION

I, Adrian J. Brett (BSc (Hons), MSc, MEnvLaw, FAusIMM), do hereby certify that:

1. I am a Senior Associate of Behre Dolbear Australia Pty Limited ("BDA") of Level 9, 80 Mount Street, North Sydney, NSW 2060, Australia.
2. The Degrees that I hold which are relevant to this work are a Bachelor of Science in Geology with Honours from the University of New England, Armidale in 1972, a Master of Geological Science (Engineering Geology) from Macquarie University, Sydney in 1980 and a Master of Environmental and Local Government Law from Macquarie University, Sydney in 1995.
3. I am a Fellow of the Australasian Institute of Mining and Metallurgy (FAusIMM).
4. I have worked as an environmental scientist for a total of 26 years since my graduation from university.
5. I have read the definition of "Qualified Person" set out in National Instrument 43-101 ("NI 43-101") and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfil the requirements to be a Qualified Person for the purposes of NI 43-101.
6. I am responsible for the Property Description, Location, Topography and Climate, Environmental and Social Considerations, Tenements and Land Ownership and the Adjacent Properties sections, specifically Sections 1.1, 1.3, 4, 5.1,, 20, and 23 of the "Charley Creek Rare Earths Project, Located in Northern Territory – Australia, NI 43-101 Technical Report" dated 23 December 2013, and have contributed to the Interpretations, Conclusions and Recommendations, specifically Sections 25 and 26. I have not conducted personal inspections of the Charley Creek site, but have reviewed the environmental, social and permitting aspects of the planned project.
7. As at the date of this certificate, to the best of my knowledge, information and belief, the sections of the Technical Report for which I am responsible contain all the scientific and technical information that is required to be disclosed to make the Technical Report not misleading.
8. I am independent of Pancontinental Uranium Limited in accordance with Section 1.5 of NI 43-101 and have not had any prior involvement with the property that is the subject of the Technical Report.
9. I have read NI 43-101 and Form 43-101F1, and the sections of the Technical Report for which I am responsible have been prepared in compliance with that instrument and form.
10. I consent to the filing of the Technical Report with any stock exchange or other regulatory authority and any publication by them of the Technical Report for regulatory purposes, including electronic publication in the public company files on their websites accessible by the public.

Dated 23 December 2013

AJ Brett.

"Adrian J. Brett" (signed)

Signature of Qualified Person

Adrian J. Brett
Senior Associate – BDA

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1.0 SUMMARY

1.1 Description and Location

The Charley Creek Project is situated approximately 100 kilometres ("km") west-northwest of Alice Springs in the Northern Territory ("NT"), Australia, at latitude 23° 27´ S and longitude 132° 45´ E, approximately 1,500km south of the Port of Darwin. The project area is situated approximately 500 metres ("m") above mean sea level ("AMSL") and lies on pastoral leases to the north of the West MacDonnell Ranges National Park (Figure 1). The Charley Creek resource is a Quaternary-age surficial alluvial mineral sand deposit with average thickness of 15m (but with some drill intersections of up to 80m), containing the rare earth ("RE") bearing heavy minerals monazite and xenotime (rare earth phosphates), as well as zircon and ilmenite, which have accumulated as a result of prolonged erosion of the Proterozoic age rocks which form the MacDonnell Ranges to the south of the alluvial fans (Figure 2).

The project is a joint venture between Pancontinental Uranium Corporation ("Pancon") with a 45% interest and Crossland Strategic Metals Limited ("Crossland") with a 55% interest. Crossland is the operator of the joint venture and completed a Project Scoping Study ("SS") in April 2013 which examined the potential establishment of a mining, processing and refinery operation for the extraction of Rare Earth Oxide ("REO") minerals from the Charley Creek deposit.

Crossland has estimated an Indicated Mineral Resource of 387 million tonnes ("Mt") averaging 300 parts per million ("ppm") Total Rare Earth Oxides ("TREO") and an Inferred Mineral Resource of 418Mt averaging 300ppm TREO. It is emphasised that the drilling and resource estimation work are at an early stage, that no Mineral Reserves have yet been defined and that the SS, while in parts containing significant plant design and process detail, remains a preliminary assessment.

A Preliminary Economic Assessment ("PEA") was completed as part of the SS. BDA has reviewed the PEA and while the assumptions are considered generally reasonable it is noted that the projections are based on Mineral Resources and include Exploration Targets; no Mineral Reserves have been defined, detailed mine planning has not yet been undertaken and the study is preliminary in nature.

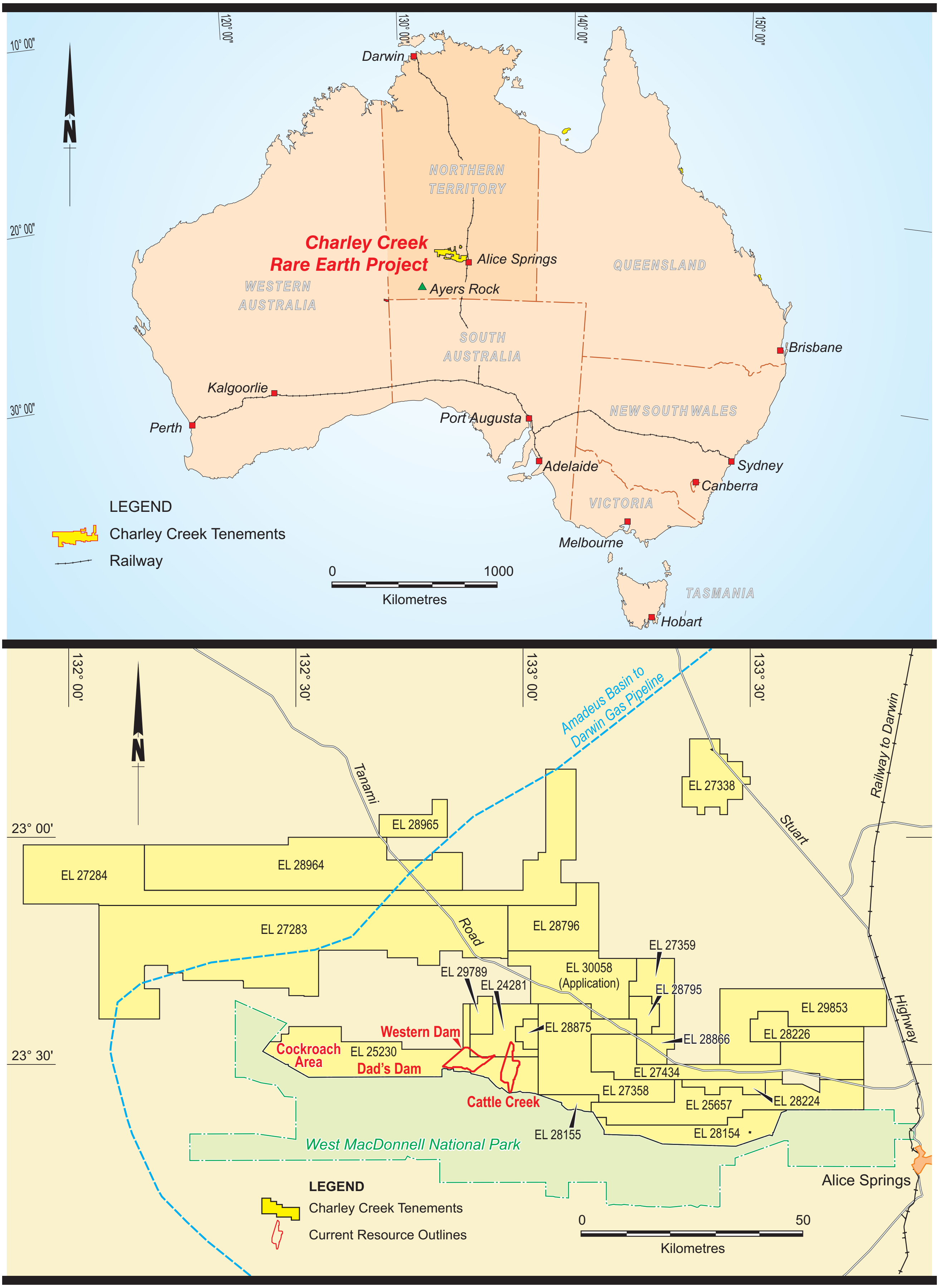
Crossland has advised that from the reconnaissance work carried out, and from the drill sample assays to date, it considers that it is likely that higher grade material in a range of 400-600ppm TREO will be outlined by additional drilling and exploration, sufficient to support the first five years of operation. Crossland has incorporated this Exploration Target assumption in its PEA of the project. Identifying and delineating continuous zones of higher grade mineralisation is a primary focus of the planned 2014 exploration drilling programme.

BDA emphasises that the Exploration Target quantity and grade are conceptual in nature, and that there has been insufficient exploration undertaken to date to define a mineral resource or continuous mineable areas at this grade. It is uncertain if further exploration work will result in the target being delineated as a mineral resource to support the conceptual production schedule. It is also noted that the PEA is preliminary in nature, and includes Mineral Resources that are considered at this stage too speculative geologically to have the economic considerations applied to them that would enable them to be categorised as Mineral Reserves, and there is no certainty that the preliminary economic assessment will be realised.

Among the one metre ("m") drill hole samples and 4m drill hole composites from the Charley Creek area, there are numerous assays around and exceeding 500ppm, but in the areas currently drilled these do not occur in continuous mineable zones whereby a substantial tonnage of higher grade material could be selectively mined. In BDA's opinion, the PEA identifies the potential of the deposit and provides an incentive to explore for such higher grade zones. BDA considers that further exploration and more detailed studies are warranted. However, for the purpose of this NI 43-101 report, BDA has adopted a more conservative approach to the preliminary economic assessment and has based the assessment on the Mineral Resource average grade without assuming any higher grade starter pits. BDA has separately reviewed the impact of higher initial grades as a sensitivity study.

Based on the SS, the proposed mine site and supporting operations are planned to be located within the Charley Creek tenements. The main access to the mine site will be from the Tanami Highway (Figure 1); it is proposed that a dedicated unsealed mine access road (approximately 28km long) will be constructed to the mine and plant sites.

The proposed operations consist of a relatively shallow conventional surface mining operation using excavators and trucks to move 12-20 million tonnes per annum ("Mtpa") of alluvial material from the mining areas.



Pancontinental/Crossland Joint Venture *Charley Creek Rare Earth Project*

Figure 1 PROJECT AND TENEMENT LOCATION PLAN

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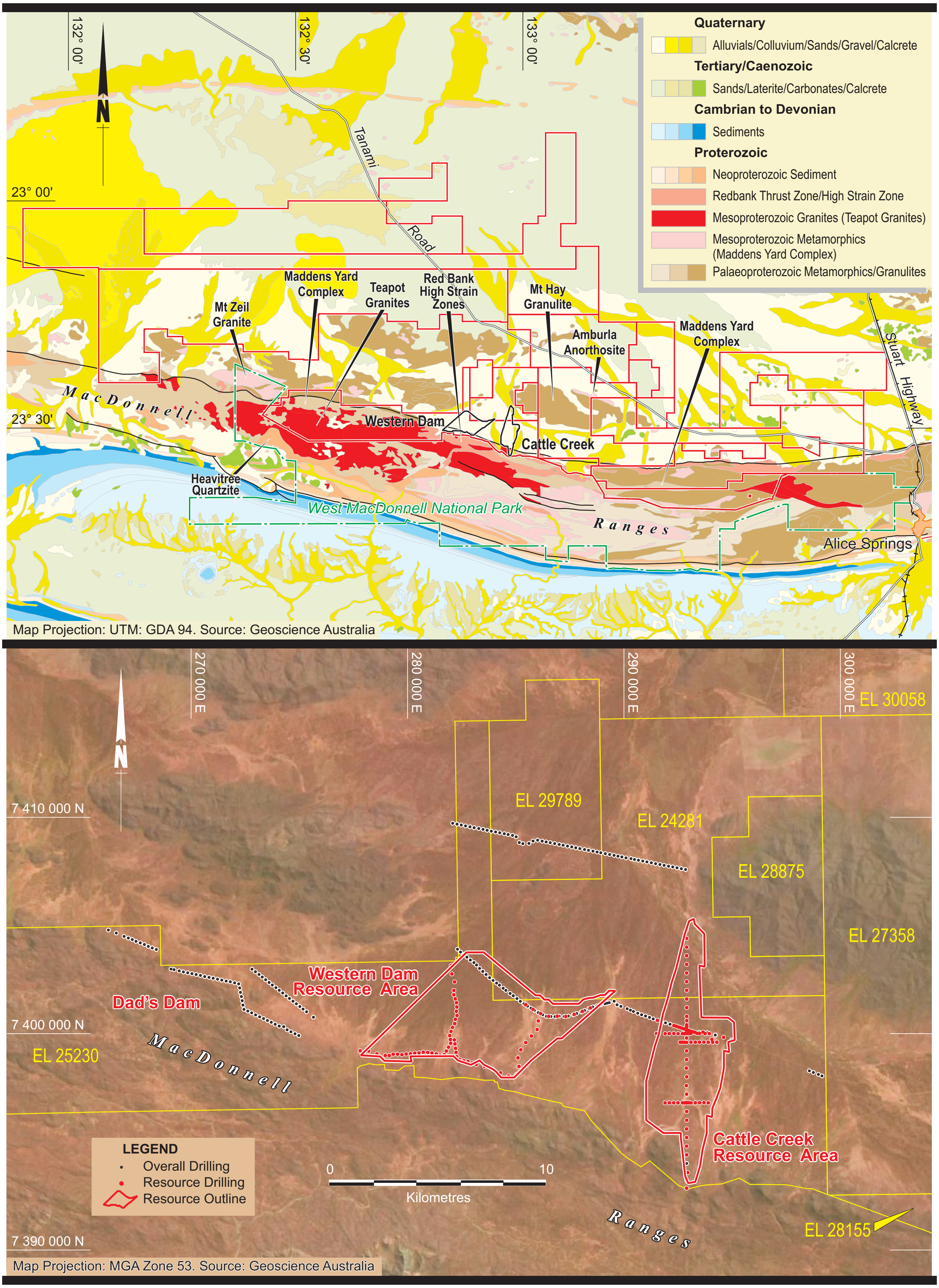

Pancontinental/Crossland Joint Venture *Charley Creek Rare Earth Project*

Figure 2 REGIONAL GEOLOGY AND RESOURCE DRILLING

BDA - 171 (01) Nov. 2013

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Run of Mine ("ROM") material will be trucked a short distance to transportable Mining Field Units ("MFUs") where the mined material will be processed through a series of trommels and screens and the oversize and slimes will be removed and returned ultimately to the pit void. The remaining sand (about 72% of the mass) will be pumped to a nearby Primary Wet Concentration Plant ("WCP") comprising principally a series of spiral circuits, where a heavy minerals concentrate ("HMC") is recovered; around a further 66% of the feed is removed as tailings which will also be pumped to the pit void. The Primary WCP HMC is transported to the Secondary WCP, where a concentrate grading 8-12% TREO is targeted, using wet magnetic separators, hydraulic classifiers and spirals. The Secondary WCP concentrate is fed to the Dry Plant, which uses electrostatic and magnetic separators to produce a high grade rare earth mineral concentrate (a mixture of monazite and xenotime) that grades 40% TREO, and separate zircon and ilmenite concentrates. The wet and dry plants largely use standard mineral sands technology.

The Dry Plant Concentrate is transported to a small 1.2 tonnes per hour ("tph") Rare Earth Refinery located closer to Alice Springs (Figure 3) where radioactive thorium and uranium are removed and a high purity mixed Rare Earth Carbonate is produced for export.

As part of the SS, preliminary capital and operating cost estimates were generated, and preliminary economic modelling, sensitivity analysis and optimisation studies were conducted to determine the potential viability of the project. Based on these preliminary studies it appears that the project has potential, but significant additional drilling, sampling and testwork are required to move the studies to the next stage of a preliminary feasibility study.

Pancon has requested that Behre Dolbear Australia Pty Limited ("BDA") undertake the preparation of this independent technical report in connection with the recent announcement by Crossland of the results of the Charley Creek SS and PEA, in compliance with the Canadian Securities Administrators' National Instrument 43-101 - Standards of Disclosure for Mineral Projects ("NI 43-101"). BDA is the Australian subsidiary of Behre Dolbear and Company Inc., which has offices in Denver, New York, Toronto, Vancouver, London, Hong Kong, Guadalajara, Santiago and Sydney.

1.2 April 2013 Scoping Study and PEA

The purpose of the Charley Creek SS was to develop a 'Base Case' for the establishment of the process operations, associated infrastructure and facilities to mine, process and refine up to 20Mtpa of ROM alluvial material and produce around 6,000 tonnes per annum ("tpa") of RE carbonate product (grading 70-71% TREO in dry carbonate). The process also produces zircon, ilmenite/magnetite and uranium concentrates.

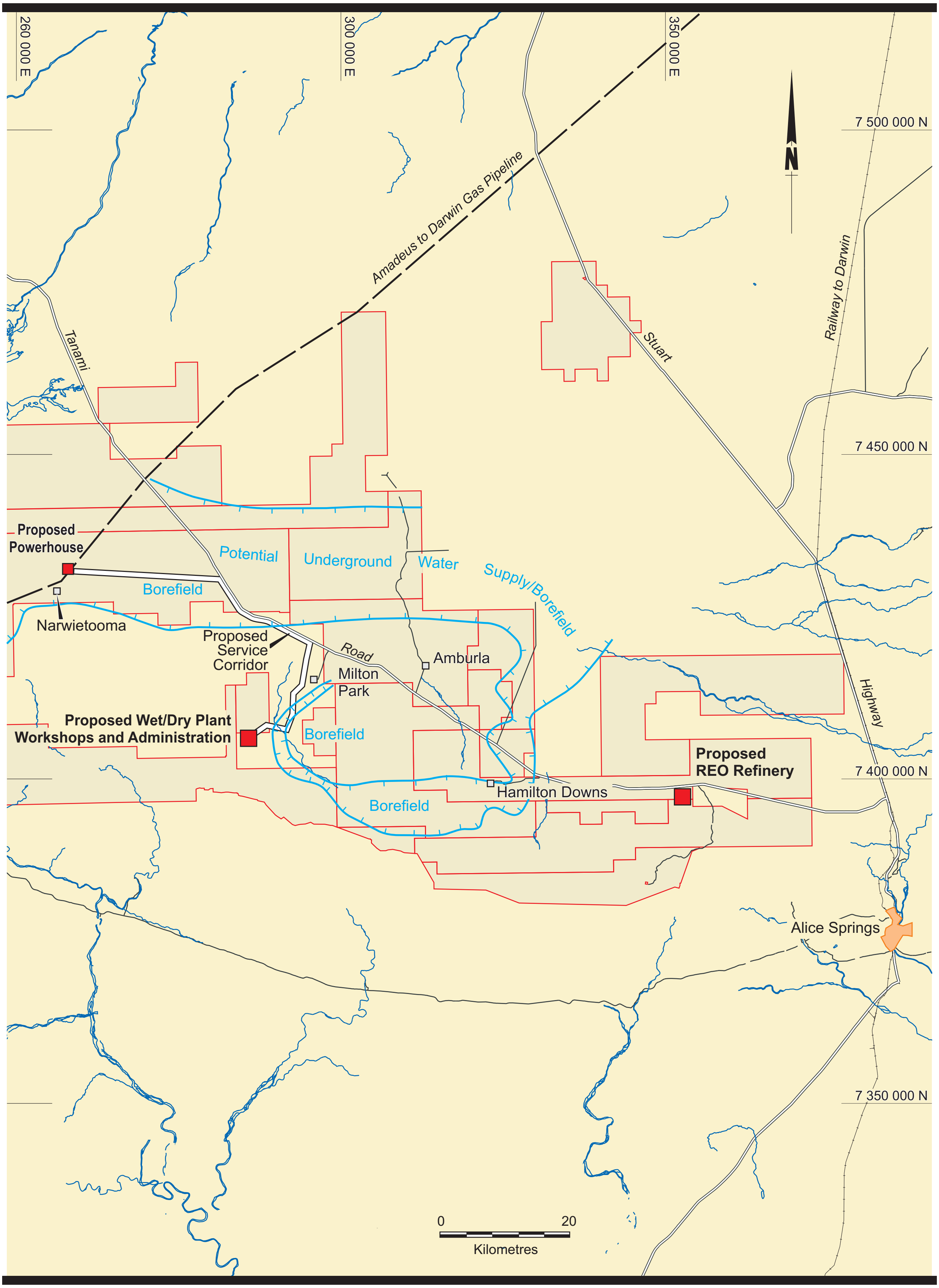
The resource estimates underlying the SS have been prepared by Crossland. The Wet Concentrator Plant and Dry Plant designs were based on preliminary metallurgical test work carried out by Allied Mineral Laboratory ("AML"). The Refinery design was based on metallurgical testwork completed by ALS Metallurgy. The SS was prepared by MSP Engineering ("MSP") of Perth, Western Australia, with input from client representatives Eugene Dardengo and Gavin Beer with respect to conceptual process flowsheets, mass balances and design criteria. MSP was responsible for generating the process flowsheets, preliminary equipment list, general arrangement drawings and capital and operating cost estimates.

Work has commenced on a draft Environmental Impact Statement, being undertaken by GHD Australia Pty Limited ("GHD").

Follow-up drilling programmes are being designed, with a focus on defining a higher average grade "starter pit" resource to support the initial five years of production. Crossland's PEA is based on an average feed grade of 500ppm TREO for the first five years, whereas the current Indicated Resource grade averages 300ppm TREO. Drilling has intersected sample grades of 500ppm TREO and above, but to date with insufficient continuity to ensure that an average feed grade of this order could be produced. However, Crossland has identified numerous targets characterized by high radiometric readings that suggest the potential for higher grade REOs, and this is planned to be tested in 2014.

It should be noted that drilling to date has largely been conducted on single line traverses, with occasional limited cross lines (Figure 2). This is because early approvals provided only for drilling along existing pastoral station roads and fence lines. Hence the current drill coverage of the area is quite limited. Agreements with the Aboriginal Traditional Landowners, the Pastoral Leaseholders and the various NT Government Departments are now largely in place to allow a more comprehensive coverage of the mineralised alluvials during 2014.

Crossland has included the following cautionary statement in reporting the results of the SS: "*the study is based on low-level technical and economic assessments, and is insufficient to support estimation of Ore Reserves (Mineral Reserves) or to provide assurance of an economic development case at this stage or to provide certainty that the conclusions of the SS will be realised*". BDA considers this a reasonable and appropriate summary assessment.



Pancontinental/Crossland Joint Venture *Charley Creek Rare Earth Project*

Figure 3

SITE LAYOUT PLAN

BDA - 171 (01) Nov. 2013

Behre Dolbear Australia Pty Ltd

1.3 Ownership

The project is a joint venture between Pancontinental Uranium Corporation with a 45% interest and Crossland Strategic Metals Limited with a 55% interest; Crossland is the operator of the joint venture. Crossland was previously named Crossland Uranium Mines Limited and listed on the Australian Stock Exchange in April 2007; the company name was changed in May 2013 to reflect the change in focus from uranium exploration to rare earths exploration and development.

The project tenements (Figure 1) comprise twenty exploration licences ("ELs") issued by the NT Government, which are held by a 100% owned subsidiary of Crossland or jointly by subsidiaries of Crossland and Pancon, plus one EL which is held by a third-party and where the joint venture is earning an interest. One additional area is under application. Interests in the tenements are governed by the Crossland/Pancon joint venture agreement. BDA has not undertaken legal due diligence on the tenements or the joint venture agreement, but the joint venture agreement has been sighted and the NT Government Tenement Database has been reviewed. Crossland has advised that all tenements are current and in good standing or under application for renewal.

The Charley Creek deposit as currently defined is centred on EL 24281 and EL 25230 (Figure 1). The registered holder of these tenements is Crossland's 100% subsidiary Crossland Nickel Pty Limited. Crossland advises that a 45% interest in the tenements is in the process of being transferred to Pancon subsidiary Panconoz Pty Limited ("PPL"), Crossland's joint venture partner.

A third party NSR Royalty of 3% of production is payable to the original vendors of EL 24281.

The ELs are located on Pastoral Leases, and exploration works are authorised under a current Mine Management Plan ("MMP") approved by NT Department of Mines and Energy ("DME"). The project area is subject to Native Title, and is included in an Exploration Deed with the Central Land Council ("CLC") as representatives of the Native Title parties. Aboriginal heritage site inspections and certificates have been issued to cover work programs by both the Aboriginal Areas Protection Authority and the CLC. The West MacDonnell Ranges National Park forms the southern boundary of the project area.

1.4 Geology and Mineralization

The Charley Creek project area is dominated by the MacDonnell Ranges which trend east-west to the immediate south of the project tenements (Figures 2). The MacDonnell Ranges are an uplifted, tilted and dissected plateau of basement Proterozoic rocks comprising metasediments, mafic and felsic granulites, gneisses, migmatites and granites.

To the south, Devonian sediments form the northern rim of the Amadeus Basin (Figure 2). The northern boundary of the MacDonnell Ranges is marked by a major fault zone, the Redbank Thrust Zone. North of the Redbank Thrust Zone the basement rocks of the Arunta Block are largely buried beneath flat lying plains, with occasional hills of basement rocks protruding through the younger sediments.

The buried basement rocks commonly show a zone of saprolitic weathering, overlain by Tertiary sediments and calcrete, overlain in turn by Quaternary colluvial and alluvial gravels and sands, representing outwash fans from the weathering of the older basement rocks.

The basement rocks contain elevated values of uranium and thorium and are also the source of the rare earth minerals found in the Charley Creek alluvials. Drilling elsewhere has intersected up to 80m of Quaternary alluvial sands, gravels and calcrete, but the average resource thickness over the Western Dam and Cattle Creek resource areas (Figure 2) is 15m.

The rare earths in the alluvials are contained in the rare earth phosphate minerals, monazite ([Ce, La, Y, Th]PO_4) and xenotime (YPO_4). The term 'Rare Earths' refers to a group of 15 chemical elements, with similar properties and with atomic numbers ranging from 57-71. Rare earths are also termed 'lanthanides', deriving from the transition element Lanthanum. Yttrium is commonly included with the RE elements because it tends to occur in association with them due to its similar chemical properties. The first four lanthanide elements, from Lanthanum to Neodymium are referred to as the 'light' RE elements ("LREE"), Samarium to Gadolinium are referred to as the 'mid' RE elements ("MREE"), while the remaining elements, Terbium to Lutetium plus Yttrium, comprise the Yttrium subgroup or 'heavy' RE elements ("HREE"). The occurrence of xenotime at Charley Creek is significant in that xenotime is enriched in the heavy (and more valuable) rare earths, with approximately 17% of the Charley Creek total rare earth oxides, as currently defined, classified as heavy rare earth oxides.

The grade of the rare earths in the Charley Creek alluvials is relatively low, averaging only 300ppm (0.03%) TREO in the currently defined Indicated Mineral Resource, compared with levels of 5-15.0% TREO in some hard rock carbonatite deposits. However, the Charley Creek alluvials are only loosely consolidated and the mineralisation is amenable to standard and relatively low cost mineral sands processing techniques and upgrading. Process testwork has shown a heavy minerals concentrate can be produced, grading 8-12% TREOs.

It is projected from preliminary testwork that after further processing through electrostatic and magnetic separators a high grade rare earth mineral concentrate comprising a mixture of monazite and xenotime can be produced, grading up to 40% TREO, with separate zircon and ilmenite concentrates.

1.5 Mineral Resources

Crossland has estimated preliminary Mineral Resources for the drilled areas of Western Dam and Cattle Creek within the Charley Creek alluvials (Figure 2). Crossland advises that the drilled areas represent less than 5% of the total potentially mineralised alluvial outwash areas within the joint venture tenements. Two drilling programmes were carried out, in 2008 and 2011; the resource estimation work relies primarily on the 2011 drilling as the earlier drilling lacked comprehensive rare earth analyses (the focus at that time being largely uranium exploration).

The drilling was all carried out using aircore rigs, drilling approximately 75mm holes. Samples were collected at 1m intervals and composited to 4m samples for assay. Sample preparation was carried out by ALS Global ("ALS") in Alice Springs and the pulps then forwarded to the ALS laboratories in Perth for analysis using digestion by lithium metaborate fusion and Inductively Coupled Plasma Mass Spectrometry ("ICP-MS").

A total of 211 aircore holes (111 at Western Dam and 100 at Cattle Creek) were used in the resource estimate. The distribution of the holes is unusual, in that instead of a grid of holes, the holes are distributed along one or two lines in each area (Figure 4). This is because Crossland only had approval at the time to drill along established roads or fence lines. BDA has reviewed the drill hole data and assay results. Although less than ideal, BDA considers the data acceptable for an Inferred resource estimate given the relatively consistent nature of the widespread alluvial fans, and an Indicated classification would be reasonable in the vicinity of consistent drill hole information. Crossland has categorised the zone within 400m of a drill intersection as Indicated, and beyond that (to 800m) as Inferred. Alluvial wireframes were based on logged data and an estimated economic cut off value. Block model grade estimates were based on inverse distance squared weighting.

The Mineral Resource estimates as published in May 2012 are shown in Table 1.1 below.

Table 1.1

Charley Creek Rare Earth Alluvial Mineral Resources – Cattle Creek and Western Dam - May 2012

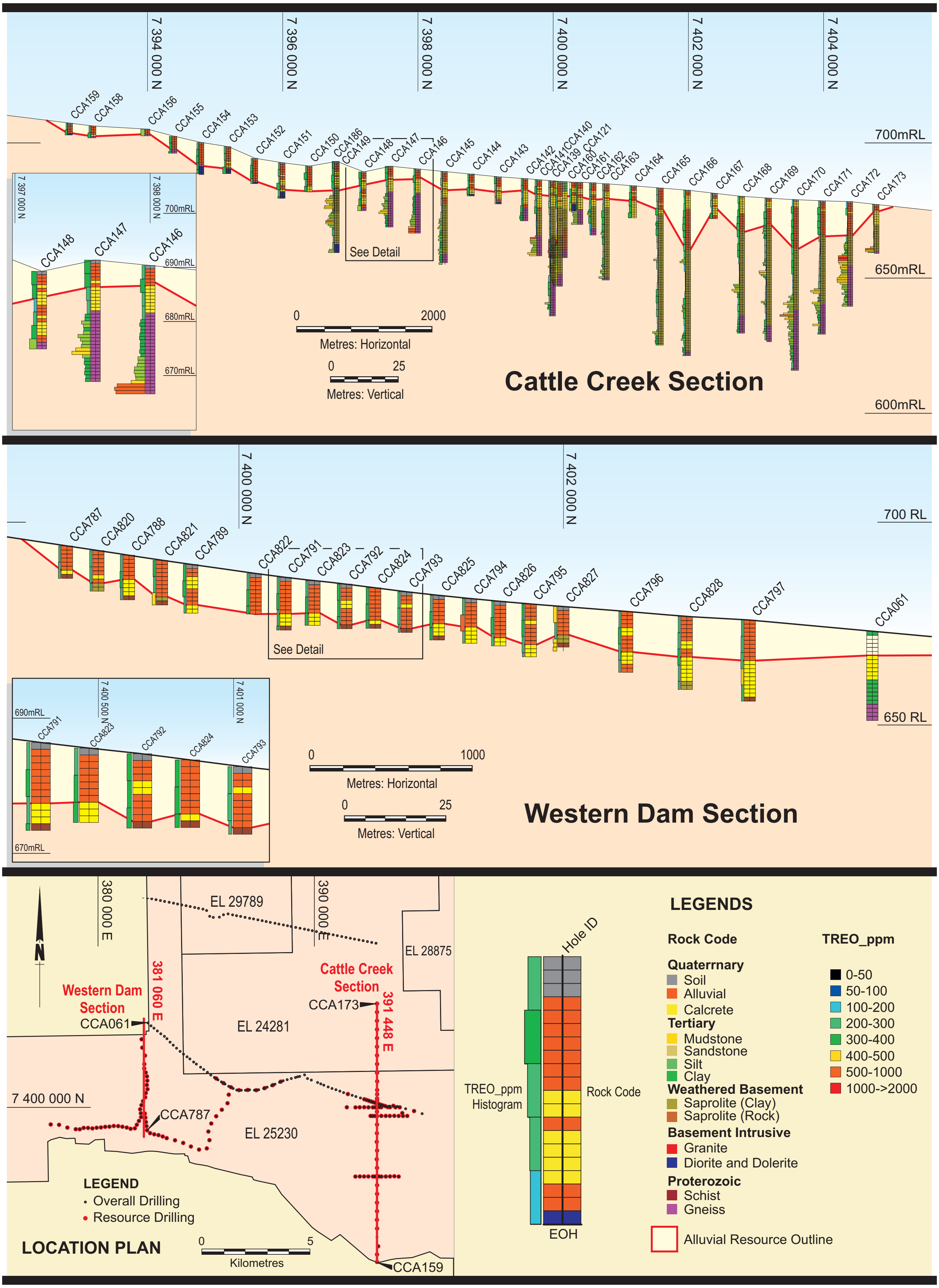
Deposit	Category	Tonnage Mt	Grade TREO ppm	Contained TREO Tonnes
Cattle Creek	Indicated	249.9	280	69,900
Western Dam	Indicated	137.0	322	44,200
	Total	**386.9**	**295**	**114,100**
Cattle Creek	Inferred	353.2	291	102,800
Western Dam	Inferred	65.2	281	18,400
	Total	**418.4**	**289**	**121,100**

Note: Mt = million tonnes, kt = thousand tonnes, ppm = parts per million; TREO grade includes all lanthanide elements plus Yttrium; the resource estimates are limited to material which was logged as 'free-digging' and washable into component grains, amenable to mineral sands processing techniques; a break-even operating cost of US$4.30/t was used as a block grade cut off value, but this impacted very few blocks; the estimate was undertaken by Geoff Eupene of Crossland who is a "Qualified Person" in accordance with National Instrument 43-101 and a ''Competent Person'' as defined by the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves 2012 Edition (the JORC Code). Mineral Resources are not Mineral Reserves and, as such, do not have demonstrated economic viability. Mineralization has been classified according to the definitions in National Instrument 43-101 and the guidelines published by the Council of the Canadian Institute of Mining, Metallurgy and Petroleum (the CIM Standards) and is consistent with the JORC Code.

1.6 Mineral Reserves

No Mineral Reserves have yet been defined for Charley Creek. The SS Base Case production plan was based on 300Mt of Indicated Resources averaging 0.03% TREO and an Exploration Target or starter pit of 60Mt averaging 0.05% TREO. BDA emphasises that, while these are not unreasonable numbers for the purpose of testing various economic scenarios, insufficient planning and testwork has been carried out to date to define such a starter pit or Mineral Reserve. Drilling has intersected numerous samples averaging 500ppm or greater, but not, in the areas currently drilled, forming continuous higher grade zones which would support a substantial higher grade tonnage. Environmental and social studies are underway, but no mining approvals are yet in place.

A large area of alluvials remains untested and Crossland has identified several locations, based on radiometric anomalies, where it believes there is potential for higher grade rare earth mineralisation; however, at this stage no continuous resource mineralisation grading 0.05% TREO (as adopted for the first five years in the SS Base Case production plan) has been defined.



Pancontinental/Crossland Joint Venture

Charley Creek Rare Earth Project

Figure 4

DRILL HOLE SECTIONS AND PLAN

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1.7 Processing

The metallurgical treatment of the Charley Creek alluvial material incorporates two proposed main plants, a concentration plant at the mine site producing a heavy mineral concentrate of REO-bearing minerals together with ilmenite (Fe_2TiO_3) and zircon concentrates, and a refinery located closer to Alice Springs (Figure 3) which treats the REO mineral concentrate to produce a mixed RE carbonate plus a small amount of uranium concentrate.

The flow diagrams of the two plants are illustrated in Figures 5 and 6. Both plants are quite conventional with the mine site plants incorporating standard mineral sands mineral dressing techniques while the refinery utilises conventional sulphate roasting, water leach purification steps and product recovery using precipitation with carbonate.

The mine site concentration plant entails treating the mined material through a wet separation plant followed by a dry separation plant to produce a REO concentrate that is transported to the refinery close to Alice Springs. The initial stages comprise a simple material preparation plant to remove relatively barren coarse material as well as troublesome fines or 'slimes'. Gravity recovery processes such as spirals are then utilised to upgrade the wet concentrates. The Dry Plant utilises the magnetic and electrostatic characteristics of the minerals to produce a 'clean' REO-bearing mineral concentrate at about 40% TREO grade as well as an ilmenite concentrate and a zircon concentrate.

The Refinery will be located closer to Alice Springs and will be a hydrometallurgical refinery which will utilise conventional sulphate roasting and water leach to solubilise the REOs as well as uranium, thorium and other unwanted elements. Various precipitation steps then follow that allow removal of unwanted iron, thorium and phosphorous, recovery of uranium concentrates and recovery of the RE elements as a mixed RE carbonate.

BDA considers the proposed mine site flowsheet to be reasonable for a scoping study. The refinery follows the classic approach for REO extraction. Some steps within the uranium recovery circuit such as product drying have not been detailed and these need to be included at the next feasibility study stage. BDA suggests the use of classifiers such as screw classifiers may be appropriate for many of the solids dewatering steps rather than hydrocyclones.

BDA has reviewed the AML testwork report detailing the processing of a large bulk sample (~1,000kg) through the trommelling and slimes rejection as well as the spirals and dry plant tests using induced rolls and magnetic separation. The testwork results are not directly transferable to the flowsheet mass balances but the general relationships are relevant. No testwork was undertaken on the recycle streams, whereas the process flow diagrams ("PFDs") incorporate recycling which allows improved TREO recoveries; BDA considers this approach valid at the SS stage.

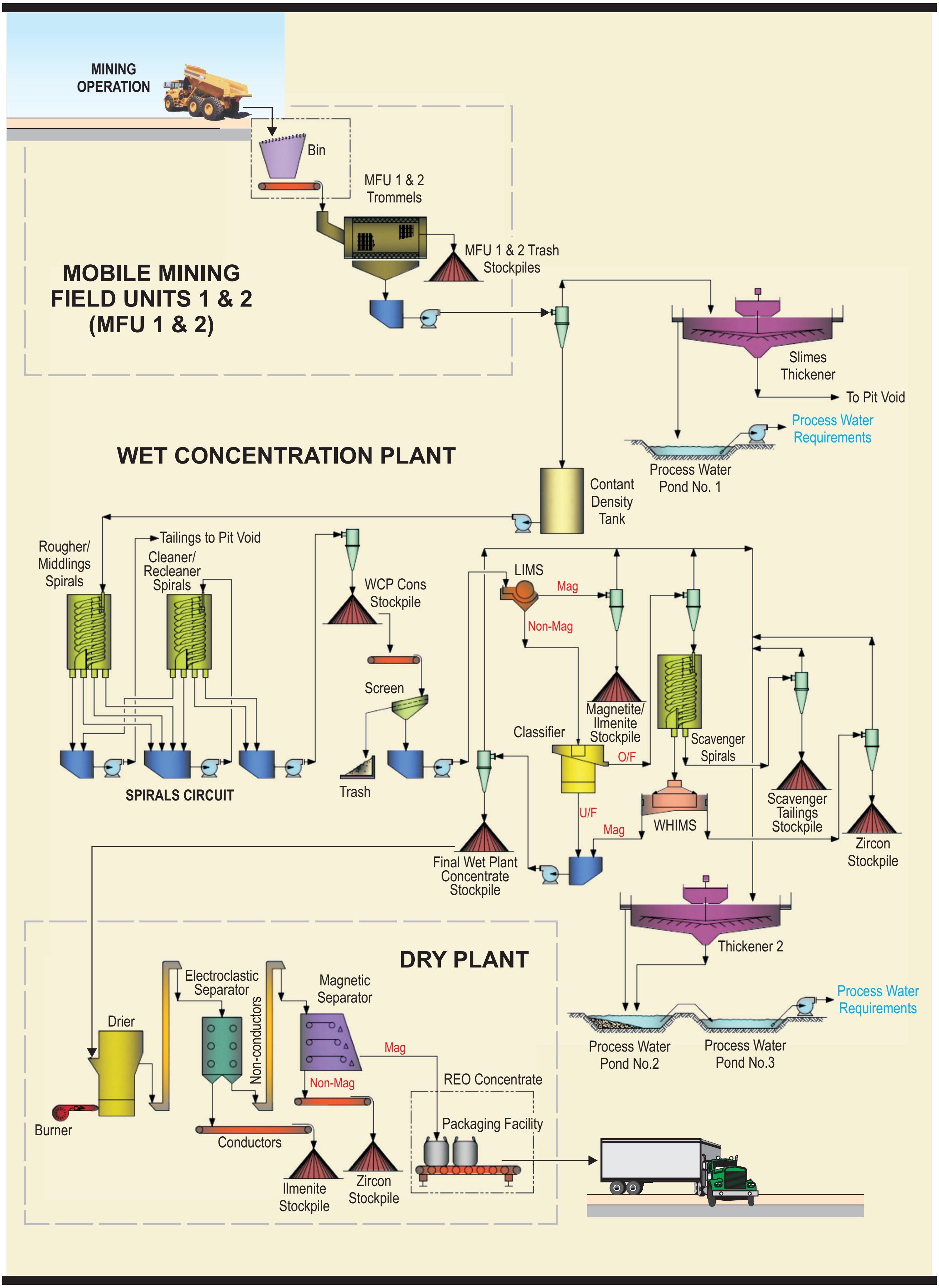
BDA considers the trommel mass balance to be acceptable, but the slimes separation is showing a much higher REO recovery to the coarse or plus 38 micron ("+38μm") fraction material than the testwork indicated. BDA notes that the testwork was conducted on a feed grade of 0.15% TREO while the PFDs use a head grade of 0.05% TREO. The projected recoveries around the rougher spiral circuit are better than the testwork has indicated, even at a higher feed grade. BDA concurs that the final concentrate grades produced ahead of the dry separation plant are reasonable, but the projected recoveries may not be readily achieved. The dry plant testwork results appear to be appropriately reflected in the flowsheet mass balance.

1.8 Economic Analysis

As part of the SS, Crossland prepared a financial model for the project and input revenue and cost parameters established in that study. BDA has reviewed the financial model and, in BDA's opinion, the model is suitable for analysing the projected economics of the project over the life of the mine. BDA has input the production and cost parameters described elsewhere in this report into the financial model and used the model to determine cash flows and the net present value of the after-tax cash flow at a 10% discount rate.

Over the life of mine ("LOM") of 20 years, the model shows that 356Mt of ore will be mined and processed to produce 64,900t of REO products. The LOM capital costs are projected to total Australian dollars ("A$") 297 million ("M"), of which A$182M is to be spent in the pre-production period and A$115M is for plant expansion, project rehabilitation and sustaining capital. Projected operating costs over the LOM are based on SS operating cost estimates as described in Section 21.

Projections for revenue are based on the Mineral Resource estimates, an expansion of the process plant in FY 2018, a basket TREO price, an off-take agreement discount forecast by Crossland and an industry consensus view of future exchange rates.



Pancontinental/Crossland Joint Venture *Charley Creek Rare Earth Project*

Figure 5 PROCESS FLOWSHEET - WET AND DRY CONCENTRATION PLANT

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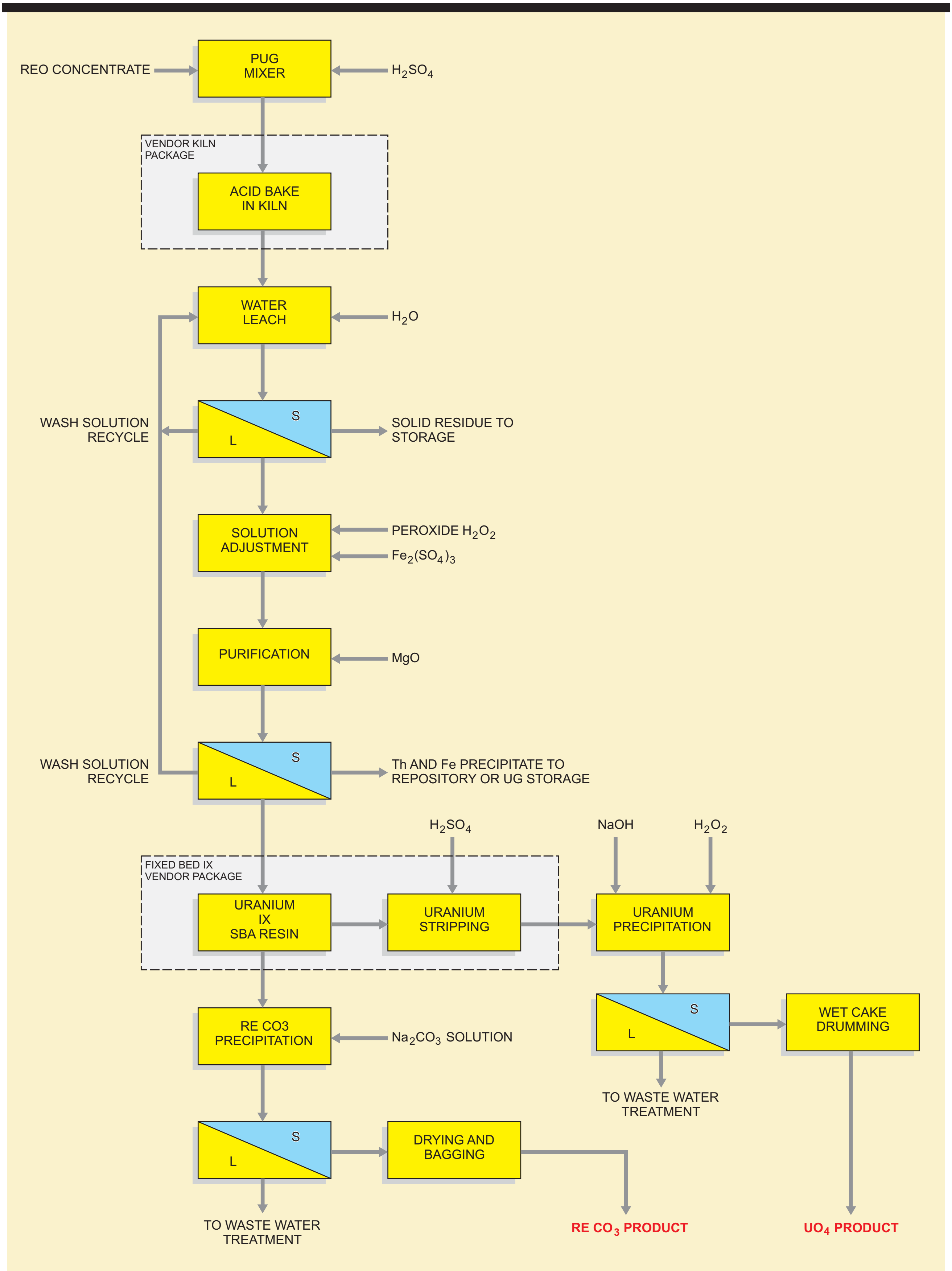

Source Material: MSP Engineering Pty Ltd

Pancontinental/Crossland Joint Venture *Charley Creek Rare Earth Project*

Figure 6 PROCESS FLOWSHEET - RARE EARTH REFINERY

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The TREO basket price of US$51/kg is based on China FOB prices published in Metal-Pages.com. For the economic analysis BDA has used spot prices current in November 2013..

The refining penalty discount (or mixed carbonate off-take terms) advised by Crossland is based on terms which apply at similar rare earth operations and indicative terms discussed with a number of toll refiners and off-take refineries. A 25% discount to the published REO prices has been used in the analysis.

The economic analysis is based on cash flows after the NSR royalty payable to the previous owner of the mining tenement, Northern Territory royalties and Australian company tax. The 3% NSR royalty is payable only for production from one Exploration Licence which covers a very limited section of the area proposed to be mined and does not have a material impact on the economic analysis. The Northern Territory royalty is a profit-based royalty applied at a rate of 20% to taxable income calculated generally in accordance with Australian taxation law and deducted prior to the application of the Australian company tax rate of 30%.

The financial model with inputs as described above forecasts that project cash flows after royalties and company tax over the LOM will total A$140M; the net present value ("NPV") of the cash flows at a real discount rate of 10% is -A$73M. The operation is most sensitive to variations in REO prices.

The PEA in the SS is based on the assumption that, within the extensive alluvial outwash fans, some higher grade areas will be identified and that these will form the basis of 'starter pits', allowing the feed grade for the first five years to be maintained at 500ppm TREO, before reducing to 300ppm TREO for the rest of mine life. Given the drill data to date, BDA accepts that this is not an unreasonable scenario, however, BDA has not incorporated this higher grade Exploration Target potential upside in its modelling, other than to examine the sensitivity of the project outcome to higher initial grades. The potential quantity and grade are conceptual in nature; there has been insufficient exploration to define such a mineral resource and it is uncertain if further exploration will result in the target being delineated as a mineral resource. BDA therefore considers it prudent to assess the project economics and project cashflows based on the current Mineral Resource average grade of 300ppm TREO rather than 500ppm TREO for the first five operating years. It should be emphasised that the assessment is preliminary in nature, and that it is based on Mineral Resources. No detailed mine planning studies have been carried out or economic considerations applied that would enable the resources to be categorised as mineral reserves, and there is no certainty that the results of the preliminary economic assessment will be realised.

BDA emphasises that the project is at an early stage and there are many uncertainties in relation to the assumptions on which the financial model is based. The analysis demonstrates the sensitivity of the project to the various assumptions and in particular reinforces the exploration focus to identify and prove up areas of continuous higher grade starter pits to provide a higher grade feed for processing in the initial years of production.

1.9 Development Potential

In BDA's opinion there is significant potential to build on the current Mineral Resources. As noted, to date only around 5% of the area of potentially mineralised alluvials within the Crossland/Pancon joint venture tenements has been tested by drilling. Drill evaluation has been severely limited by the requirement to keep to existing tracks or fence lines. Crossland advises that these restrictions have been largely removed for its planned 2014 drilling, allowing a more systematic approach and investigation of a number of locations where radiometric anomalies suggest the potential for higher grade rare earth values.

Initial process testwork has indicated that the material is amenable to standard mineral sands processing techniques and that a high grade rare earth concentrate can be produced for treatment in a refinery to produce a rare earth carbonate for export. The overall recovery of TREOs to final product will be the most important parameter requiring confirmation. Significant additional process testwork and bulk sampling will be required, but it is important to complete systematic drill evaluation first so that the samples tested are from the actual areas selected for mining.

Mining methods appear relatively straightforward but given the relatively shallow nature of the mineralisation and the low grade, requiring a significant tonnage of raw material, there will be significant ground disturbance requiring appropriate approvals from Government departments and the Traditional Aboriginal Landowners.

The alluvial sands contain low grade uranium and thorium mineralisation, but this is also upgraded in the rare earth concentrate. Appropriate radiation safety procedures will have to be in place for the processing operation, and the uranium will have to be extracted as part of the refinery process to produce an acceptable, saleable product.

None of these factors are considered fatal flaws and all steps required are considered achievable; nevertheless there is a significant work still to do to obtain all the necessary approvals and to complete Pre-Feasibility and Feasibility Studies to establish a viable project and to determine the optimum project parameters.

1.10 Recommendations

BDA has reviewed the future work programme planned by Crossland and Pancon and considers it reasonable and appropriate. The completion of the EIS currently underway is an important step in progressing the project and in obtaining the necessary Government approvals for the planned programme. The budget for the proposed drilling and exploration work planned for 2014 totals A$548,000 (Australian dollars); BDA considers the allocated funds to be appropriate for the next stage of exploration.

BDA understands that relationships with the local Traditional Landowners and local pastoralists are good and that while formal agreements will be required, no significant difficulties are anticipated in reaching a satisfactory agreement. The significant Aboriginal sites are typically located around topographical features, whereas the project focus is on the flat alluvial plains.

BDA concurs that before systematically grid drilling the Western Dam or Cattle Creek areas, it is important to complete more widespread evaluation of the alluvials to determine if there are any higher grade areas which would form optimum sites for early production. A budget of A$170,000 has been allocated for this widespread reconnaissance work. Once the optimum locations are defined, systematic grid drilling is recommended to provide a firm basis for Measured and Indicated Resource estimation. BDA estimates that expenditure of the order of around A$200,000 will be required for the first stage of systematic grid drilling.

BDA recommends that systematic Quality Assurance/Quality Control (“QA/QC”) procedures be put in place prior to the next drilling phase. BDA has examined the current drill data, and while there is no evidence of any material inaccuracies or bias, it is not possible to provide definitive comments in that there is relatively little systematic QA/QC data. BDA accepts that the 2008 and 2011 drilling was largely of an exploration nature, but given that it has led to a Mineral Resource estimate, it is important that industry standard QA/QC procedures be adopted. To date Crossland and Pancon have largely relied on the analytical laboratories internal procedures but these are not a substitute for independent checks and do not provide any information on sampling errors. This work should not add materially to the overall cost of the drilling programme.

BDA also recommends that an independent resource group be engaged to undertake the next resource estimate. Given the limited linear nature of the data underlying the initial estimate, it is not unreasonable that this resource was completed in-house. However, at the next stage, assuming more systematic grid data is available to support a Pre-Feasibility Study and perhaps initial discussions with financiers, an independent resource assessment by an established specialist group would be beneficial. BDA estimates that an independent data audit and resource estimation would cost around A$40-50,000.

It is recommended that preliminary mine planning be undertaken to ascertain how the mining sequence can be balanced with maintaining higher grades to the process plant in the initial period of the operation. BDA estimates that the work required to prepare a preliminary mine plan and schedule would cost around A$35-45,000 if carried out be an independent consulting group.

BDA recommends further metallurgical testwork in the wet and dry plant sections be carried out to confirm final TREO grades and, importantly, TREO recoveries. BDA suggests that a sum of approximately A$70,000 be budgeted for the next stage of follow-up metallurgical testwork.

Once sufficient infill drilling has been undertaken to define the preferred resource areas for initial development BDA suggests a bulk sampling exercise be carried out, ideally using a large diameter bucket rig which would allow sampling of the full depth of the potentially mineable horizons. A budget provision of around A$100,000 is suggested for such a programme.

2.0 INTRODUCTION

This NI 43-101 Technical Report has been prepared by Behre Dolbear Australia Pty Limited for Pancontinental Uranium Corporation, a Vancouver-based company listed on the Toronto Stock Exchange ("TSX") and focussed on rare earth and uranium exploration and development. The subject of the current report is the Charley Creek Rare Earth Project, situated approximately 100km west-northwest of Alice Springs in the Northern Territory, Australia (Figure 1). The Charley Creek resource is a Quaternary-age surficial alluvial mineral sand deposit with average thickness of 15m, containing the rare earth-bearing heavy minerals monazite and xenotime (rare earth phosphates), which have accumulated as a result of prolonged erosion of the Proterozoic age rocks which form the MacDonnell Ranges to the south of the alluvial fans (Figure 2).

The project is a joint venture between Pancontinental Uranium Corporation with a 45% participating interest and the ASX-listed Crossland Strategic Metals Limited with a 55% interest. Crossland is the operator of the joint venture and completed a Project Scoping Study in April 2013 which examined the potential establishment of a mining, processing and refinery operation for the extraction of Rare Earth Oxide minerals from the Charley Creek deposit.

Subsequent to various announcements relating to the Charley Creek resource estimates, the Scoping Study and a Preliminary Economic Assessment, Pancon has requested BDA to review the project and associated studies and prepare a technical report of the results of the Charley Creek SS and PEA, in compliance with the Canadian Securities Administrators' National Instrument 43-101 - Standards of Disclosure for Mineral Projects, for lodgement by the 24 November 2013. BDA is the Australian subsidiary of Behre Dolbear and Company Inc., which has offices in Denver, New York, Toronto, Vancouver, London, Hong Kong, Guadalajara, Santiago and Sydney.

BDA has based this review on the Charley Creek Rare Earth Project Scoping Study prepared by MSP Engineering Pty Limited, issued in April 2013, and the Appendices to the SS. BDA has also reviewed mineralogical and metallurgical testwork reports, tenement data, drill hole logging, sampling and assaying procedures, drill hole plans and sections and resource estimation reports.

This report has been prepared in accordance with NI 43-101 and the Mineral Resource and Mineral Reserve classifications adopted by the Canadian Institute of Mining, Metallurgy and Petroleum ("CIM") Council. The Mineral Resource and Mineral Reserve reporting and classifications are also consistent with the December 2012 "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves" ("the JORC Code"), as prepared by the Joint Ore Reserves Committee of the Australasian Institute of Mining and Metallurgy ("AusIMM"), the Australian Institute of Geoscientists ("AIG"), and the Minerals Council of Australia.

This report complies with disclosure and reporting requirements set forth in NI 43-101, Companion Policy 43-101CP, and Form 43-101F1 and is in accordance with the 2005 "Code for the Technical Assessment and Valuation of Mineral and Petroleum Assets and Securities for Independent Expert Reports" (the "Valmin Code") as adopted by the AusIMM. The satisfaction of requirements under both the JORC and Valmin Codes is binding upon those authors who are members of the AusIMM or AIG.

All monetary amounts expressed in this report are in Australian dollars (A$) unless otherwise stated.

A personal site inspection of the property has been carried out on the 4th and 5th of November 2013 by Mr Malcolm Hancock, BDA Executive Director, and Mr Peter Ingham, BDA General Manager Mining. Mr Hancock is a graduate of Cambridge University, a Fellow of the AusIMM, and a geologist with over 45 years of experience in Australia, Africa and Southeast Asia, with particular expertise in the areas of mining geology, resource and reserve estimation and reconciliation, open pit and underground mining and project technical review and assessment. Mr Peter Ingham is a graduate of Leeds University and of Imperial College London, a Fellow of the AusIMM and a mining engineer with over 35 years of experience in Africa, Australia and Southeast Asia with particular expertise in open pit and underground mining including mine planning, mine scheduling and cost estimation, Mineral Reserve preparation and independent review.

Three other BDA Senior Associates have also worked on the preparation of this report covering the areas of metallurgy, process engineering and process operating costs (Mr Roland Nice), infrastructure, project implementation and capital cost (Mr Richard Frew) and environmental, social and permitting aspects (Mr Adrian Brett).

Mr Roland Nice is a metallurgist with over 45 years of experience mostly in Canada, Australia and Africa. He is a Fellow of the AusIMM and a Member of the Canadian Institute of Mining and Metallurgy, with particular expertise in mineral processing, including gravity processing, dense media separation, flotation and magnetic separation. Mr Richard Frew is a civil engineer and a Member of the Australian Institute of Engineers with more than 40 years of experience in Australia, North and South America, Southeast Asia and Europe as a planning, estimation, projects and contracts engineer with particular expertise in contract management, feasibility study review, financial modelling and project controls. Mr Adrian Brett holds degrees in Geology, Environmental Science and Environmental Law and is a Fellow of the AusIMM with over 35 years of experience in the mining industry in environmental and geo-science, including the fields of environmental planning and environmental impact assessment, regulatory permitting, environmental audit, environmental engineering, environmental law and policy analysis and the development of environmental guidelines. He has worked in an advisory capacity with several United Nations, Australian and overseas government agencies in Australia, Southeast Asia, Africa and South America.

3.0 RELIANCE ON OTHER EXPERTS

The authors of this report are not marketing experts and are not qualified to comment on rare earth marketing, supply and demand or future prices. Crossland and Pancon have relied on published studies for their marketing and price forecast data. BDA has reviewed available published information and discussed the projections with Dr Tony Chamberlain, Crossland Chief Operating Officer. On the basis of these reviews and discussions BDA considers that the price forecasts used in the Crossland PEA to be reasonable (see Section 19 – Market Studies and Contracts; and Section 22 – Economic Analysis).

4.0 PROPERTY DESCRIPTION AND LOCATION

4.1 Location

The Charley Creek Project is situated approximately 100km west-northwest of Alice Springs in the Northern Territory, Australia, at latitude 23° 27´ S and longitude 132° 45´ E (Figure 1). The West MacDonnell Ranges National Park forms the southern boundary of the area.

Exploration works in the project area are conducted under approved exploration licences issued by the Northern Territory Government. The area of granted ELs totals 672,385 hectares ("ha") or approximately 6,724 square kilometres ("sq km") or 7,058sq km including application areas. The Charley Creek tenements on which the current resources have been defined are EL 24281 and EL 25230, but the potential extent of the mineralised alluvials extends into several other ELs.

The ELs are located on Pastoral Leases, and exploration works are authorised under a current Mine Management Plan authorised by the NT Department of Mines and Energy. There are Native Title interests over the area, and the ELs are included in an Exploration Deed with the Central Land Council as representatives of the Native Title parties. Aboriginal heritage site inspections and clearance certificates have been issued to cover work programs by both the Aboriginal Areas Protection Authority and the Central Land Council. Any future development will require the negotiation of a compensation agreement with the Native Title holders.

4.2 Mineral Tenure

The mineral exploration tenements which are held and controlled by the Pancontinental/Crossland joint venture in the Charley Creek area, or under application, are shown in Figure 1 and are listed in Table 4.1.

Table 4.1

List of Mineral Tenements Held and/or Controlled by Pancon/Crossland Joint Venture

Tenement	Grant Date	Expiry Date	Area Hectares	Registered Holder
EL 24281	7-Feb-2005	6-Feb-2015	12920	CNPL
EL 25230	9-Nov-2005	8-Nov-2014	50430	CNPL
EL 25657	30-Aug-2007	29-Aug-2013	29780	WDR (renewal application)
EL 27283	17-Nov-2009	16-Nov-2015	156067	CNPL
EL 27284	17-Nov-2009	16-Nov-2015	98372	CNPL
EL 27338	24-Dec-2009	23-Dec-2015	18980	CNPL
EL 27358	17-Nov-2009	16-Nov-2015	41267	CNPL
EL 27359	17-Nov-2009	16-Nov-2015	12299	CNPL
EL28154	20-Apr-2011	20-Apr-2017	19147	CNPL
EL 28155	2-Feb-2011	1-Feb-2017	3268	CNPL
EL 28224	8-Mar-2011	7-Mar-2017	5035	CNPL
EL 28226	8-Mar-2011	7-Mar-2017	12297	CNPL
EL 28434	28-Jul-2011	27-Jul-2017	38102	CNPL(50%)/PPL(50%)
EL 28795	12-Dec-2011	11-Dec-2017	5044	CNPL(50%)/PPL(50%)
EL 28796	12-Dec-2011	11-Dec-2017	25574	CNPL(50%)/PPL(50%)
EL 28866	21-Feb-2012	20-Feb-2018	5671	CNPL(50%)/PPL(50%)
EL 28875	21-Feb-2012	20-Feb-2018	3151	CNPL(50%)/PPL(50%)
EL 28964	26-Jul-2012	25-Jul-2018	78862	CNPL(50%)/PPL(50%)
EL 28965	26-Jul-2012	25-Jul-2018	9804	CNPL(50%)/PPL(50%)
EL 29789	25-Jul-2013	24-Jul-2019	4413	CNPL(55%)/PPL(45%)
EL 29853	15-Aug-2013	14-Aug-2019	41902	CNPL
EL 30058	Application		33430	CNPL(55%)/PPL(45%)
All			*705,815*	

Note: CNPL denotes Crossland Nickel Pty Ltd; WDR denotes WDR Base Metals Pty Ltd; PPL denotes Panconoz Pty Ltd; EL denotes Exploration Licence

The registered holders of twelve of the ELs is Crossland Nickel Pty Ltd ("CNPL"), a wholly-owned subsidiary of Crossland. A 45% interest in the tenements is in the process of transfer to Panconoz Pty Ltd, Crossland's joint venture partner and a wholly-owned subsidiary of Pancon. Eight of the ELs and one EL application are already registered in the names of both CNPL and PPL.

The interest in the tenements is governed by the Pancon/Crossland Joint Venture ("JV") Agreement. In 2007 Pancon entered into a JV with Crossland, which required Pancon to spend A$8M to earn a 50% interest in the project, which at that time was primarily focussed on uranium exploration. In September 2010 Pancon earned its 50% interest and at that point both parties, under the joint venture terms, were required to contribute equally to exploration expenditure, or dilute. For a short period Pancon chose to dilute and its interest in the joint venture was reduced to 45%. Pancon then re-commenced contributions and has remained with a 45% interest. The registered interest in the various tenements is being modified to reflect the current joint venture interests.

EL25675 is registered to WDR Base Metals Pty Limited but is included in the Pancon/Crossland joint venture. A Joint Venture Heads of Agreement ("HOA") was signed with WDR on 1 July 2010, whereby Crossland could earn 60% of EL 25657 by expenditure of A$100,000 within 12 months of the agreement followed by a further A$500,000 within 3 years of the agreement. On 22 August 2013 an extension to the HOA was signed extending the second stage expenditure to 28 February 2014. When the 60% interest is earned WDR can either contribute or reduce its interest to a free carried interest to the Bankable Feasibility Study ("BFS"), at which point the Crossland/Pancon JV will own 80%. At the BFS stage WDR may participate in the JV or reduce its interest to a 2% net smelter royalty.

Crossland advises that all tenement titles are current and in good standing. An application has been submitted to renew EL 25657. The renewal application was lodged with the NT Department of Resources ("DoR") on 27 August 2013; its approval is pending.

The current annual minimum expenditure commitment to maintain the various Exploration Licences totals A$1,844,750. The joint venture has lodged a rehabilitation bond with the DoR to cover the current exploration activities at Charley Creek. The rehabilitation bond which DoR currently holds in security for the Charley Creek project is A$32,177, but this amount is expected to increase in the near future with further drilling and development activities.

The Exploration Licences which contain the currently defined Western Dam and Cattle Creek Indicated and Inferred Mineral Resources are EL 24281 and EL 25230. A third party NSR royalty of 3% of production is payable to the original vendors of EL 24281.

4.3 Other Surrounding Mineral Tenements

Crossland has advised BDA that to the best of its knowledge, the Charley Creek project is the only known active alluvial rare earth project within the region. A Chinese party held a tenement area to the west of the Charley Creek tenements, but it is understood that no active exploration is underway.

The southern boundary of the mineral tenements is located adjoining the northern boundary of the West MacDonnell Ranges National Park. No exploration licences are issued within the National Park boundary.

No known exploration activities for alluvial rare earth resources have been undertaken by any previous exploration companies in the area. Previous exploration within the Charley Creek project area was undertaken by CRA Exploration Pty Ltd in the 1970s for uranium, and initial exploration work undertaken by Crossland and Pancon was for uranium and nickel sulphides in the Proterozoic basement rocks, before the focus changed to rare earths within the alluvial outwash fans.

4.4 Royalties

No allowances for royalties were made in the Charley Creek Scoping Study.

The administrative arrangements relating to the establishment, calculation and collection of mining royalties are stipulated under the Northern Territory *Mineral Royalty Act 1982 (NT)* ("MRA").

Royalties are collected under the MRA or Agreement Ratification Acts or Agreement Acts which are negotiated for individual projects. In some cases, the Agreement Ratification Acts and Agreement Acts contain specific royalty clauses while in other cases they refer to the MRA with or without modification.

Royalties on minerals within the scope of the MRA are charged on a proportional profit basis. The Northern Territory royalty is a profit-based royalty applied at a rate of 20% to taxable income calculated generally in accordance with Australian taxation law and deducted prior to the application of the Australian company tax rate of 30%.

Under the MRA, royalty applies to profits derived from the production of a saleable mineral commodity within the boundaries of a production unit. The objective is that, generally, only those expenditures essential to produce that commodity are allowable as deductions against gross revenue from the sale or value of the saleable mineral commodity.

As noted above, a third party NSR royalty of 3% of production is payable to the original vendors of EL 24281.

BDA has incorporated both the NSR royalty and the Northern Territory royalty in its economic analysis (see Section 22).

4.5 Access

Access to the project site is by mine access roads from the Tanami Road which runs from Alice Springs in the Northern Territory to Halls Creek in Western Australia. The Tanami Road is a two-lane rural road and is sealed from Alice Springs to beyond the Charley Creek access road. Access roads within the project area comprise pastoral station unsealed roads and tracks.

Alice Springs is located on the Stuart Highway, a high quality highway which connects Adelaide and Darwin. Daily commercial flights operate to Alice Springs from the major centres. A railway line also links Adelaide, Alice Springs and Darwin.

4.6 Permits

Current exploration activities in the project area are conducted under approved exploration licences issued by the Northern Territory Government. The activities are further regulated under an approved Mine Management Plan (MMP) authorised by NT Department of Mines and Energy. The current Mine Management Plan is limited to exploration only and does not allow for mining activities.

4.7 Environmental Liabilities

At this exploration activity stage of the project, there are no known existing or pre-existing environmental liabilities. There is however a requirement under the current Mine Management Plan to remediate areas disturbed during exploration activities. The process entails an application for Certificate of Closure and submission of a Rehabilitation Report. Any security held is released on approval of both these documents.

The current Exploration Licence rehabilitation security held by DoR for the Charley Creek area is A$32,177.

5.0 ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE AND PHYSIOGRAPHY

5.1 Topography, Elevation, Vegetation and Climate

The project area comprises flat-lying alluvial outwash fans emanating from the nearby MacDonald Ranges to the south (Figure 2). The project tenements adjoin the West MacDonnell National Park. Some outliers of basement Proterozoic gneiss and granite form prominent hills rising above the alluvial plains, with Mt Hay and Mt Chapple and Mt Ziel to the west being the most significant basement hills within the Charley Creek area. The plains average around 500m above sea level.

Vegetation in the area is typically sparse Mulga scrub, with wide areas largely cleared of vegetation for cattle grazing. Ribbons of eucalypt vegetation occur along the transient creeks and water channels. There are no permanent waterways but rainfall in the MacDonnell Ranges can produce significant short-term flows in the creek beds flowing across the alluvial plains.

A full environmental impact assessment, which includes environmental studies of the project area, has not yet been conducted by Crossland. However, GHD Australia has been commissioned to carry out an environmental impact study, and work is currently in progress. Important seasonal fauna and flora studies are expected to be completed during December 2013.

The Charley Creek project area has a dry arid climate characterised by significantly higher evaporation potential than annual rainfall. The mean monthly maximum temperature ranges from 36ºC in January to 20ºC in July. Mean monthly minimum temperatures range from 22ºC in January to 4ºC in July (source: Alice Springs Airport weather station, Australian Bureau of Meteorology 2013). Average annual rainfall is 280mm and average annual potential evaporation is 3,065mm, with the wetter months being October to March averaging from 20-40mm.

The average annual wind speed ranges from 12-17km per hour (“km/h”) with an annual average of 15km/h. Wind data from Alice Springs airport indicates that the strongest winds generally blow in an east-southeasterly direction.

5.2 Access to the Property

Access to the project site is by gravel all-weather roads and pastoral station tracks leading south from the Tanami Road which runs from Alice Springs in the Northern Territory to Halls Creek in Western Australia (Figure 1). The Tanami Road is a two-lane rural road and is sealed from Alice Springs to beyond the Charley Creek project access roads. Alice Springs is located on the Stuart Highway, a high quality highway which connects Adelaide and Darwin.

Access to Alice Springs is good with daily commercial flights from most major centres in Australia. There is also direct rail access from Adelaide and Darwin.

Access to site is relatively straightforward and unlikely to present any significant difficulties.

5.3 Proposed Project Infrastructure

Site infrastructure, other than a well-established field camp utilising the old Milton Downs pastoral station homestead, is currently minimal, reflecting the current exploration stage of the project. The description below is based on the proposed infrastructure development as outlined in the Scoping Study.

Site Access Roads

Dedicated unsealed mine access roads will be established from the Tanami Road to the proposed mine, processing plant and refinery and internal site access roads will be constructed to the major processing and infrastructure facilities.

Water Supply

Raw water for the processing plant and refinery will be supplied from nearby borefields. Limited hydrological studies have been undertaken to date but numerous bores drilled on the pastoral stations demonstrate the presence of aquifers in the deeper alluvials and Tertiary beds. Proving up an adequate supply of bore water will be one of the priorities for a future feasibility study. It is proposed that power will be supplied to the borefields from the planned plant power station by overhead power lines.

Process water will be stored in two process water dams. Potable water will be trucked from Alice Springs. Fire water will be distributed to hydrants from a fire water tank by a dedicated electric fire water pump and a backup diesel-powered pump.

Power Supply

The total installed load for the mine, process plant and associated infrastructure is estimated at 12.6 megawatt (“MW”). This is to be provided from a natural gas-fired power plant with a diesel generator ‘black start’ back-up. It is proposed to construct a build-own-operate (“BOO”) gas turbine power station at the pipeline, approximately 60km from the project site, and run a high voltage (“HV”) power line to the project site.

The total installed load for the refinery, estimated at 0.5MW, is to be provided from an existing transmission line from Alice Springs.

Fuel Supply

Diesel for the mining operation is to be provided from a fuel storage and dispensing facility located at the mine site. Other fuel and lubricants will be stored and dispensed from a dedicated drum storage area.

LPG/LNG will be supplied by truck from Alice Springs and stored in a dedicated storage facility adjacent to the process plant and site village.

It is envisaged that natural gas will be supplied from the Darwin-Amadeus pipeline, which runs within 50km of the mine site. Detailed negotiations regarding supply terms will be part of a future feasibility study scope.

Project Site Buildings

It is proposed that site buildings will include a site administration building, a crib facility, an ablutions block, a first aid room, a workshop and stores facility and a laboratory. The buildings will be modular prefabricated buildings.

The mining contractor will provide modular prefabricated buildings as required.

Camp Facilities

An accommodation village for 150 personnel is proposed and will comprise of self-contained accommodation units with en-suite bathrooms, a mess hall and kitchen, laundry facilities and ablution blocks with associated power and water supply facilities and a sewage treatment plant.

5.4 Discussion

In BDA’s opinion the proposals for infrastructure are reasonable and appropriate for a project at scoping study stage; while hydrological testwork will be required to establish the borefields and terms will need to be negotiated for supply of natural gas, none of the infrastructure elements are likely to present any significant technical difficulties.

Although located in the middle of Australia and some distance from any major capital cities, access to site is straightforward via Alice Springs and the site topography is flat and presents no significant construction or development issues.

6.0 HISTORY

6.1 Mining and Exploration History

No known mining activities have been carried out in the Charley Creek area. No known exploration of the Charley Creek alluvials for rare earth resources has been undertaken by any previous exploration companies in the area. Exploration of the Proterozoic lithologies within the Charley Creek area was undertaken by CRA Exploration Pty Ltd in the 1970s, searching for uranium.

Crossland was initially attracted to the area based on the hypothesis that differentiation of some of the mafic units could provide a source of nickel sulphides. ELs 24281 and 25230 were granted in 2005. Surveys of the area revealed nickeliferous anomalies, but no potentially economic accumulations. However, significant radiometric anomalies led to a focus on uranium exploration. In 2007 Pancon entered into a joint venture with Crossland, to further pursue uranium exploration.

As well as investigating potential source rocks, shallow air core drilling of the alluvials was undertaken in 2008 to investigate the potential for uranium accumulations in the alluvial outwash fans, the underlying Tertiary sediments and the basement saprolites. The drill coverage was limited as approval was only granted for access along existing tracks and fence lines (Figure 2); 126 holes were completed and samples sent for analysis. In addition to analysis for uranium and a suite of base and precious metals, analyses were also carried out for selected rare earths. It was noted that the alluvials had anomalous levels of rare earths. Mineralogical investigations confirmed the presence of the rare earth minerals monazite and xenotime, the latter containing elevated levels of the heavier and more valuable rare earth elements.

Although the TREO grades were relatively low, averaging around 300ppm, as the minerals existed in largely unconsolidated sands it was considered that a rare earth concentrate could potentially be recovered, using standard heavy mineral beach sand technologies. This was confirmed by spiral and magnetic separation testwork with heavy mineral spiral concentrates of 8-12% TREO readily produced, upgradeable to around 40% TREO after magnetic and electrostatic treatment.

Alluvial thicknesses of up to 80m have been reported, but in terms of unconsolidated free-diggable material in the areas covered by Crossland aircore drilling, the average thickness was around 15m. Based on geological mapping and interpretations, the alluvials potentially occur over an area in excess of 2,000sq km.

The focus of exploration shifted to establishment of a rare earth resource within the alluvials. In 2011 a second air core drilling programme was undertaken in three areas, Dad's Dam, Western Dam and Cattle Creek (Figure 2). Drilling was still restricted to essentially following existing tracks or fence lines. Within the Western Dam and Cattle Creek areas Indicated and Inferred resources were estimated, based primarily on the 2011 drilling with limited use of some of the 2008 drilling. In total, Crossland estimated an Indicated Mineral Resource of 387Mt averaging 300ppm TREO and an Inferred Mineral Resource of 418Mt averaging 300ppm TREO.

MSP Engineering Pty Ltd was commissioned to undertake a Scoping Study and a preliminary economic analysis to determine whether the deposit could potentially support development of a rare earth mining and processing project. Mineralogical assessment was carried out by ALS Mineralogy Pty Limited ("ALS Mineralogy") and process testwork was undertaken by Allied Mineral Laboratories. MSP developed a conceptual flowsheet and plant design and undertook the estimation of capital and operating costs.

Based on an assumed range of rare earth price projections, the SS concluded that the project warranted further work, and could potentially lead to a viable project. BDA has reviewed the various studies and concurs that the prospect warrants further exploration, testwork and study. However, it must be emphasised that much of the work is at a preliminary stage and there is no guarantee that an economic project will result, although initial indications are encouraging. In particular it is important to firstly complete more widespread exploration to identify the optimum target areas for initial development, and then to drill those areas on a systematic grid to establish a reliable resource base and provide bulk samples for detailed testwork. The SS PEA assumed that for the first five years feed to the mill would average 500ppm. Although high grade samples exist within the current resource, to date no continuous zone of 500ppm grade mineralisation has been established, and this remains an Exploration Target. BDA emphasises that the Exploration Target quantity and grade incorporated in the SS PEA are conceptual in nature. There has been insufficient exploration to define such a mineral resource and it is uncertain if further exploration will result in the target being delineated as a mineral resource. Permits are now in hand to undertake additional drilling and a target of the 2014 drill programme will be the identification of higher grade areas with potential to form initial starter pits.

7.0 CHARLEY CREEK GEOLOGICAL SETTING AND MINERALIZATION

7.1 Regional Geology

The Charley Creek project area lies within the Central Province of the Arunta Block, a region of Early Proterozoic (age around 1820 million years or "1820Ma") to Late Proterozoic (1080Ma) metamorphic rocks and intrusives (Figure 7). The project tenements largely overlie alluvial and colluvial sand, and gravel of Quaternary age, formed as outwash fans from erosion of the older Proterozoic metamorphic and granitic basement rocks which underlie the alluvials and form the MacDonnell Ranges to the south (Figure 2). Most of the Proterozoic basement rocks in the MacDonnell Ranges and foothills are granulite facies metamorphic grade with some retrograde zones of amphibolite facies. This represents the roots of a mountain chain along the southern edge of the North Australian Craton, now eroded to its core.

Commonly a discontinuous zone of Tertiary sediments immediately overlies the basement rocks and underlies the alluvials. The alluvial plains are at an elevation of around 500m above sea level. The MacDonnell Ranges rise to a maximum height of 1,530m (Mt Ziel) with several basement outliers (eg. Mt Chapple and Mt Hay) forming prominent hills rising to elevations of 600-1,000m above the alluvial plains (Figure 2).

The southern margin of the alluvials is marked by a major east-west striking, north-dipping, fault and high strain zone, the Redbank Thrust Zone, with the MacDonnell Ranges rising steeply to the south.

To the south of the MacDonnell Ranges, Devonian sediments form the northern rim of the Amadeus Basin.

The oldest rocks exposed in the Charley Creek area are the mafic and felsic granulites of the Strangways and Narwietooma Metamorphic Complexes (1820-1770Ma); these include the Mt Hay Granulite, the Bunghara and Illyabba Metamorphics and the Amburla Anorthosite, a layered complex on the northeast side of Mount Hay.

The Madderns Yard Metamorphic Complex has been dated at around 1680-1650Ma and comprises gneisses and migmatised granites. These are overlain by metamorphosed sediments including the Chewings Range Quartzite, felsic volcanics and volcaniclastics dated around 1600Ma.

Mylonites of the Redbank High Strain Zone (1500 – 1400Ma) traverse the area from west to east and form the northern boundary of the MacDonnell Ranges.

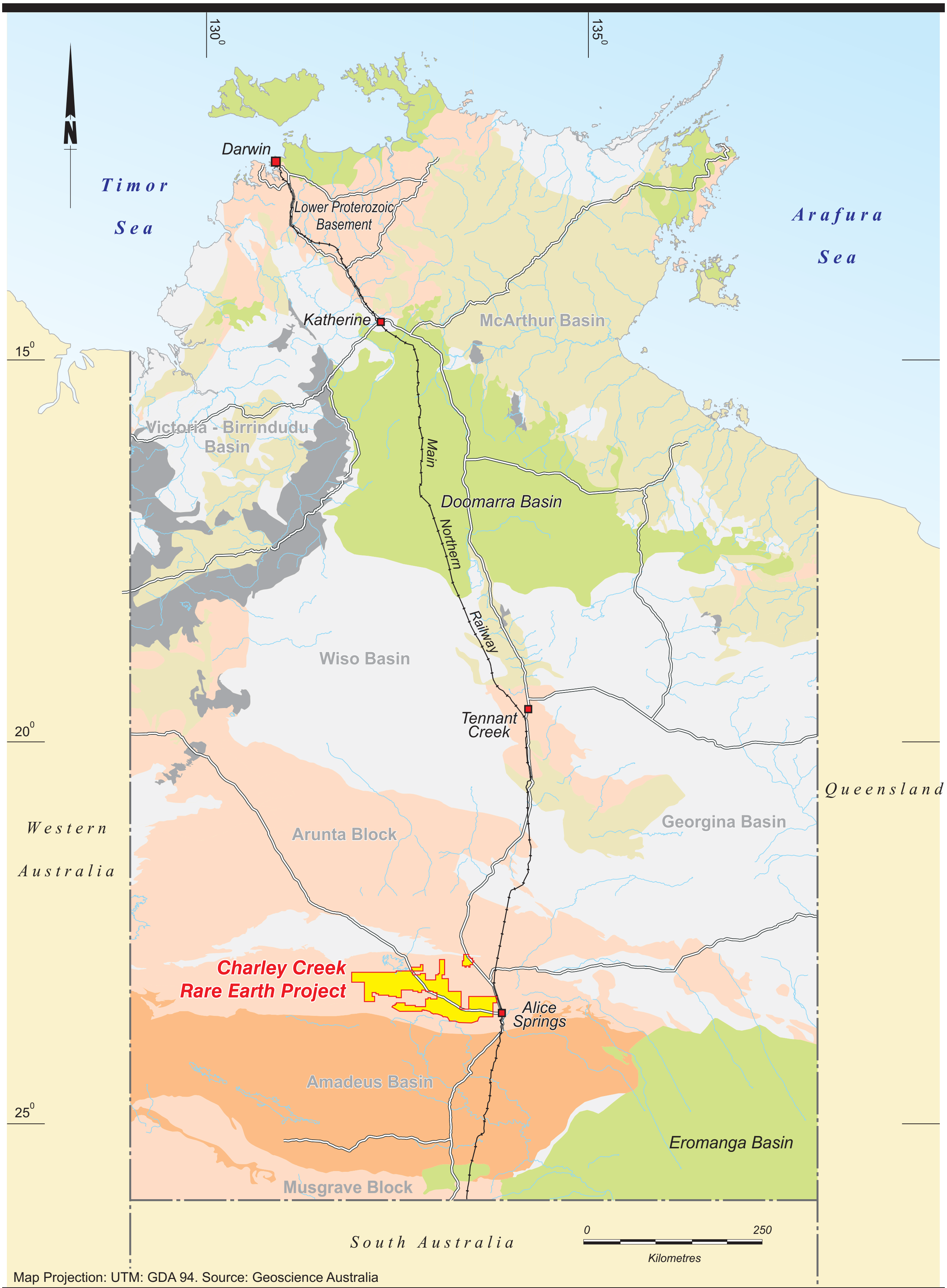
The Teapot Granite Complex is dated at around 1140Ma, and outcrops in the southwestern part of the project area, forming part of the foothills of the MacDonnell Ranges. The complex intrudes the older Proterozoic gneissic basement of the Madderns Yard Metamorphic Complex. The granite has numerous late pegmatite and aplite phases as well as a younger biotite-feldspar-quartz phase.

Dolerite dykes (Stuart Pass Dolerite), aged around 1080Ma, are common, and reach thicknesses of up to 50m. The dykes cut the granite and older rocks with various orientations from east-west in some locations to north-south elsewhere. To the east in EL 28154, an unnamed granite equivalent to the Teapot granite intrudes migmatites, gneisses, metasediments and amphibolites belonging to the Madderns Yard Metamorphic Complex.

The Amadeus Basin (Figure 7) to the south of the MacDonnell Ranges is part of a large intracratonic basin that occupied much of central Australia from the late Proterozoic to the Devonian. Lithologies include quartzite, sandstone, carbonates, shales and evaporites. The Amadeus Basin is now a significant source of natural gas.

Since the Alice Springs intracratonic orogeny from 400-300Ma, this part of Central Australia has remained within an extensive landmass, marked by deep weathering, erosion and non-marine sedimentation. In the Late Cainozoic the MacDonnell Range plateau was uplifted and tilted, leading to extensive erosion and development of late Tertiary and Recent (Quaternary) alluvial fans and flood deposits to the north.

The Tertiary sediments comprise sands, clays, siltstone, and conglomerate with some lignite horizons. The Quaternary sediments are characterised by shallow alluvial fans of coarse gravels, sandy ephemeral creek deposits, sand and clay with a surficial covering of aeolian silts, and sand with minor calcrete and carbonate deposits. The degree of cover formed by these sediments is highly variable ranging from less than 1m up to 80m thick. These extensive Quaternary alluvials provide the host rocks for the Charley Creek rare earth mineralisation.



Map Projection: UTM: GDA 94. Source: Geoscience Australia

Pancontinental/Crossland Joint Venture *Charley Creek Rare Earth Project*

Figure 7 NORTHERN TERRITORY GEOLOGY PLAN

7.2 Local Geology

The focus of the Charley Creek rare earth project is the Quaternary alluvials. As noted above these comprise coarse gravels, sandy creek deposits, sand and clay, aeolian silts, and minor calcrete and carbonate deposits Although the alluvials are reported as reaching up to 80m in thickness, the zone of primary interest is the upper layer averaging around 15m. This is because the planned upgrade to a heavy mineral concentrate is based on mineral sand technology and spiral circuits requiring a loosely consolidated sand. Zones of calcrete or ferruginous cementation occur within the alluvials and therefore the primary zone of interest is confined to the free digging sand and gravel horizons above the first significant calcrete zone.

The alluvials thin out against the MacDonnell Ranges and the Redbank High Strain Zone to the south, and also against the Proterozoic inliers such as Mt Hay and Mt Chapple which rise above the alluvial plains (Figure 2). The Quaternary sediments record a complex history of deposition, erosion and re-deposition

The Charley Creek aircore drilling has generally been continued through to basement rocks. In many areas the Quaternary alluvials lie directly on a weathered saprolitic basement. Elsewhere a thin zone of Tertiary sands, clays and siltstones is intersected, overlying the basement.

High levels of rare earths have been intersected in some holes within the Tertiary rocks and the basement saprolites (Figure 4), but as this material is generally consolidated and not amenable to simple washing and spiral treatment it is generally excluded from the resource estimation.

7.3 Deposit Type and Origin

The Charley Creek rare earth deposit is an alluvial deposit formed from the weathering and erosion of basement Proterozoic metamorphic and granitic rocks in the MacDonnell Ranges. The sands and gravels from this erosion process have been deposited in widespread alluvial outwash fans, forming broad flat plains to the north of the ranges.

Several of the granites within the MacDonnell ranges are known to contain uranium, thorium and rare earth minerals and these rocks are interpreted as having provided the primary source for the mineralisation within the alluvials.

7.4 Deposit Geometry

The Charley Creek mineralisation is flat lying, extending from surface to an average depth of 15m. It should however be emphasised that only limited areas of the alluvials have been drilled to date and these parameters may vary from area to area. Crossland has estimated that only 5% of the area of potential alluvials has been drilled to date.

As previously noted, the alluvials thin out against the basement rocks, but occur elsewhere with thicknesses of 80m or more. However, the current resource has been limited to free-diggable unconsolidated material.

From the southern edge of the alluvial fans against the MacDonnell Ranges, to the northern limit of the Charley Creek ELs, there is approximately a 70m drop in elevation.

7.5 Mineralisation

The principal rare earth-bearing minerals within the Charley Creek alluvials have been identified as the rare earth phosphates monazite ([Ce, La, Y, Th]PO_4) and xenotime (YPO_4). Other rare earths can substitute in the mineral lattice, and the xenotime at Charley Creek is significantly enriched in the heavy (and more valuable) rare earths, with approximately 17% of the total rare earth oxides classified as heavy rare earth oxides. The alluvial deposits also contain zircon and ilmenite.

The grade of the rare earths in the Charley Creek alluvials is relatively low, averaging only 300ppm (0.03%) TREO in the currently defined Indicated Resource, compared with levels of 5-15.0% in some hard rock carbonatite deposits. However, the Charley Creek alluvials are only loosely consolidated and the mineralisation is amenable to standard and relatively low cost mineral sands processing techniques and upgrading. Process testwork has shown a heavy minerals concentrate of ilmenite, magnetite, rutile, zircon, monazite and xenotime can be produced, grading 8-12% TREO by simple gravity (spiral) means; after further processing through electrostatic and magnetic separators a high grade rare earth mineral concentrate comprising a mixture of monazite and xenotime can be produced, grading up to 40% TREO, with separate zircon and ilmenite concentrates.

The Charley Creek alluvials contain elevated thorium and uranium values, also most probably originating from the weathering of the Proterozoic granites within the MacDonnell Ranges which are strongly radiometric. Uranium and thorium values are concentrated in the heavy mineral concentrate and have to be removed to produce a commercially saleable rare earth product. It is planned that this removal will occur in the proposed refinery process.

7.6 Rare Earth Mineralogy and Chemistry

The term 'Rare Earths' refers to a group of 15 chemical elements, with similar properties and with atomic numbers ranging from 57-71 (see Table 7.1). Rare earths are also termed 'lanthanides', deriving from the transition element Lanthanum. Yttrium is commonly included with the RE elements because it tends to occur in association with them due to its similar chemical properties.

The first four lanthanide elements, from Lanthanum to Neodymium are referred to as the 'light' RE elements or LREE, Samarium to Gadolinium are referred to as the 'mid' RE elements, MREE or 'SEG' (Samarium, Europium, Gadolinium), while the remaining elements, Terbium to Lutetium plus Yttrium comprise the Yttrium subgroup or 'heavy' RE elements or HREE. The xenotime at Charley Creek is significantly enriched in the heavy (and more valuable) rare earths, with approximately 17% of the total rare earth oxides in the Charley Creek concentrates classified as heavy rare earth oxides.

All the RE elements except Promethium occur in nature. The RE elements and Yttrium are listed in Table 7.1, together with their natural abundance and their relative percentage in the Charley Creek alluvials.

Table 7.1

Rare Earth Elements and Yttrium

Element	Atomic Number	Symbol	Atomic Weight	Natural Abundance (ppm)	REO Relative Percentage Charley Creek
Yttrium	39	Y	88.91	28.0	12.9
Lanthanum	57	La	138.91	18.0	18.1
Cerium	58	Ce	140.12	46.0	38.6
Praseodymium	59	Pr	140.91	5.5	4.2
Neodymium	60	Nd	144.24	24.0	14.9
Promethium	61	Pm	146.00	-	-
Samarium	62	Sm	150.43	6.5	2.8
Europium	63	Eu	152.00	0.5	0.6
Gadolinium	64	Gd	157.25	0.9	2.4
Terbium	65	Tb	158.93	5.0	0.4
Dysprosium	66	Dy	162.46	1.2	2.1
Holmium	67	Ho	164.93	4.0	0.4
Erbium	68	Er	167.26	0.4	1.2
Thulium	69	Tm	169.93	2.7	0.2
Ytterbium	70	Yb	173.04	0.8	1.0
Lutetium	71	Lu	174.97	10.0	0.2

RE elements are widely distributed in low concentration throughout the earth's crust. More than 70 minerals contain REs in concentration of over 10% TREO. However, about 95% of the RE elements occur in three principal minerals, bastnasite, monazite and xenotime; these minerals are the principal sources for RE production and separation.

Bastnasite is a fluoro-carbonate, containing predominantly light REs and very low levels of thorium. The mineral occurs in carbonatites and a large deposit was discovered in 1949 at Mountain Pass, California. The Mountain Pass ore contains about 60% carbonates including RE fluoro-carbonates. Bastnasite ore was mined at Mountain Pass until 2002 and RE concentrates continue to be marketed from stockpiles.

The world's largest deposit of REs is found at Bayan Obo in Inner Mongolia, China, where bastnasite and monazite occur as associated minerals in iron ore. Bastnasite and monazite account for approximately 70% and 30% respectively of the RE fraction of the ore. The deposit contains an estimated 17.5Mt of REO, which amounts to more than 30% of the total world Proved RE reserves, however the overall process recovery is low at around 10%.[1]

Monazite is a phosphate mineral mainly of the cerium group elements, lanthanum to neodymium and thorium. The mineral is found in many geological environments. Primary monazite deposits have been commercially exploited in only a few places, with operations in South Africa, USA and in China as part of the Bayan Obo RE deposit. The most important sources of monazite are beach placers and sand deposits, which contain, in addition to monazite, other heavy minerals such as ilmenite, rutile and zircon. Heavy mineral sand deposits are found in large quantities in Australia, Brazil, India, China, Malaysia, South Africa and the USA, however due the

[1] BCC Research, May 2006

relatively high amount of thorium associated with the beach sand monazites these deposits are generally not commercially viable sources of rare earths.

While higher concentrations of the lighter REs occur in monazite and bastnasite, xenotime is an important source of heavy REs and yttrium. Xenotime, like monazite, is a RE-thorium orthophosphate, containing up to 63% Y_2O_3/REO. The mineral occurs in a few placer deposits in Malaysia, Indonesia and in Thailand as well as in heavy mineral sands of Australia and China. Xenotime production comprises less than 1% of the total RE production which is dominated by monazite and bastnasite. In southern China, ion absorption clays are mined for their RE content. The clays are formed as a result of intense weathering of phosphate minerals such as apatite and xenotime. The ore is characterised by a low cerium content of 0.3-5.5% and high concentrations of samarium, europium and yttrium.

7.7 Discussion

The regional and local geology is reasonably well defined. The distribution of the alluvials in the Charley Creek area can be mapped at surface and from aerial photography/surveys and satellite imagery. However, the distribution of the rare earths within the alluvials, and the grade distribution are still at an early stage of definition. The proportion of the more valuable heavy rare earths in the Charley Creek alluvials, concentrated in the xenotime, is an important feature of the deposit. There is some correlation between radiometric values and rare earth grade, and this may provide a useful guide to locating initial potential starter pit areas within the alluvials and then drilling to confirm and define any higher grade areas.

8.0 DEPOSIT TYPES

The Charley Creek deposit is an alluvial deposit formed by the erosion of the Proterozoic basement rocks of the MacDonnell Ranges. Alluvial outwash fans of gravel, sands and silt have been deposited forming a broad, flat plain. Alluvial thicknesses of up to 80m have been intersected, but a more typical thickness (of unconsolidated material) within the drilled areas is around 15m.

Rare earth minerals in the alluvials are interpreted as having been derived from the Proterozoic granites and metamorphics. The heavy mineral concentrates derived from the alluvials have elevated uranium and thorium values which are also interpreted as having been sourced from the MacDonnell Range granites. The principal rare earth minerals are monazite and xenotime. The presence of xenotime is potentially of economic significance as the mineral carries a significant percentage of the more valuable heavy rare earths.

9.0 EXPLORATION

Exploration in the Charley Creek area has, until recently, generally been focussed on uranium mineralisation. Exploration of the Proterozoic lithologies within the Charley Creek area was undertaken by CRA Exploration Pty Ltd in the 1970s, searching for uranium.

Crossland was initially attracted to the area based on the hypothesis that differentiation of some of the mafic units could provide a source of nickel sulphides. Surveys of the area revealed nickeliferous anomalies, but no potentially economic accumulations. However, significant radiometric anomalies led to a focus on uranium exploration. In 2007 Pancon entered into a joint venture with Crossland, to further pursue uranium exploration.

Surface sampling generally focussed on rock chip sampling of the outcropping basement lithologies and stream sediment sampling within the alluvials. This work has not been conducted to obtain quantitative data for resource purposes, but rather to direct exploration towards the more promising areas. Crossland has established that typically there is a relationship between high radiometric values, particularly thorium, and high rare earth values. Thus radiometric surveys have proved useful in directing the rare earth exploration.

As well as investigating potential source rocks, shallow air core drilling of the alluvials was undertaken in 2008 to investigate the potential for uranium accumulations in the alluvial outwash fans, the underlying Tertiary sediments and the basement saprolites. Aircore drilling is widely used in the mineral sands industry and Crossland advises that penetration rates and recoveries have been satisfactory.

Drill coverage was somewhat limited, as approval was only granted for drilling along existing tracks and fence lines (Figures 2 and 4); 126 holes were completed and samples sent for analysis. In addition to analysis for uranium and a suite of base and precious metals, analyses were also carried out for rare earths. It was noted that the alluvials had anomalous levels of rare earths. Mineralogical investigations confirmed the presence of the rare earth minerals monazite and xenotime, the latter containing elevated levels of the heavier and more valuable rare earth elements.

Although the TREO grades were relatively low, averaging around 300ppm, as the minerals existed in largely unconsolidated sands it was considered that a rare earth concentrate could potentially be recovered, using standard heavy mineral beach sand technologies. This was confirmed by spiral and magnetic separation testwork with heavy mineral spiral concentrates of 8-12% TREO readily produced, upgradeable to 40% TREO after magnetic and electrostatic treatment.

In the area of drilling the thickness of the unconsolidated alluvials averages around 15m, but thicknesses of up to 80m have been reported. Based on geological mapping and interpretations, the alluvials within the Pancon/Crossland joint venture tenements potentially occur over an area in excess of 2,000sq km.

From 2011, the focus of exploration shifted to establishment of a rare earth resource within the alluvials. In 2011 a second air core drilling programme was undertaken in four areas, Dad's Dam, Cockroach, Western Dam and Cattle Creek (Figure 1). Drilling was still restricted to essentially following existing tracks or fence lines. Within the Western Dam and Cattle Creek areas Indicated and Inferred resources have been estimated (Figures 2 and 4), based primarily on the 2011 drilling with limited use of some of the 2008 drilling.

Some bulk sampling has been undertaken, but not within the resource areas. Various potential off-takers were interested in examining the composition of the rare earths in a concentrate sample from Charley Creek. Crossland identified some high grade areas from radiometric surveys, and some shallow pits were dug to provide samples which were then processed to produce a heavy mineral concentrate.

More detailed and systematic grid drilling is required in the Western Dam and Cattle Creek area to firm up the resource definition. However, Crossland considers there may be other areas within the alluvial fans with a higher in situ grade which would be beneficial as starter pit areas in the early years of any future mining and processing operation. Before undertaking further detailed work on Western Dam and Cattle Creek, it is proposed to undertake more regional assessment and scout drilling to attempt to identify such zones. There appears to be a correlation between higher radiometric anomalies and rare earth content, which could provide some guide to exploration.

10.0 DRILLING

10.1 Drilling Programs

The Pancon/Crossland joint venture has undertaken two drilling programmes within the Charley Creek project area. All drilling has been carried out by aircore drilling with approximately 75mm diameter holes. The rig used was an Almet 50/S top drive rig with on-board Sullair 150psi x 250cfm compressor mounted on a 6x6 Toyota Landcruiser using NQ-sized double tube aircore drill rods. The aircore drill produces rotary chip samples from each metre drilled. If the material is competent small broken sections of 'core' approximately 25mm in diameter are also produced, but at Charley Creek, given the unconsolidated nature of the alluvials, this generally does not occur except through sections of calcrete or within the more cemented Tertiary sands or the basement saprolites.

The aircore drill holes were all drilled vertically and generally drilled to 'refusal' which typically occurred on intersection of the Basement rocks, or in some cases harder zones of calcrete or cemented Tertiary sandstones. Holes were generally drilled dry for most of their depth; if significant water was intersected resulting in wet samples the hole was stopped to avoid sample smearing and the collection of possibly contaminated samples. Overall average depth of drilling to date is around 30m, but in some areas holes of more than 80m have been drilled.

The drilling programs have been managed by Pancon's joint venture partner, Crossland. Two programs have been undertaken, in 2008 and 2011 with 126 holes drilled in 2008 and 221 holes in 2011; in total 347 aircore holes have been drilled at Charley Creek totalling 9,672m. The drilling has focussed on four areas, Western Dam, Cattle Creek, Dad's Dam and Cockroach East. Resources have been estimated at Western Dam and Cattle Creek. There have been 111 holes drilled at Western Dam and 110 holes drilled at Cattle Creek. However, not all of these holes have been used in the resource estimate. The focus of the 2008 drilling was uranium exploration so not all samples were analysed for rare earths. Thus the bulk of the data used in the resource estimation comes from the later holes drilled in 2011, though the 2008 data has also been used to define the geological boundaries.

A summary of the aircore drilling undertaken to date is provided in Table 10.1. Surface drill hole collar locations are shown in Figure 2, and two cross sections are plotted in Figure 4.

Table 10.1

Charley Creek Aircore Drilling – 2008 and 2011

Area	Aircore Holes	Drill Metres	Samples Collected	Composites Sent for Assay
Western Dam Total	111	1,478	253	212
Western Dam Resource Estimate	68	786	172	162
Cattle Creek Total	110	5,623	1,796	761
Cattle Creek Resource Estimate	86	3,960	444	374
All Areas	347	9,672	4,644	1,360

Note: various other exploration lines drilled in the Dad's Dam and other areas; 126 holes were drilled in 2008; in the two resource areas, Western Dam and Cattle Creek most of the drill data used in the resource estimates was from the 2011 drill program

Approvals for drill access were quite limited in both 2008 and 2011; Crossland advises that approvals have been granted for greater access for the 2014 drill program with the ability to undertake drilling on a more systematic pattern. During 2008 and 2011, drilling could only take place along existing tracks or fence lines. The drill pattern therefore represents a series of traverses rather than any systematic grid coverage. Drill spacing along the traverses averages 400m, with 200m infill in some areas.

In a typical hard rock gold or base metal project such drilling would be unlikely to provide sufficient information for resource estimation. However, given the nature of the alluvial fans, and the consistency of the intersections, the drill pattern, though less than satisfactory, has allowed Crossland to undertake an initial indicative resource estimate over two areas of the alluvials.

10.2 Drill Surveys

All drill hole locations have been picked up by GPS (Global Positioning System) differential survey. The geodetic grid system used was WGS 84 (World Geodetic System 1984) and the survey data was plotted following the UTM (Universal Transverse Mercator) co-ordinate system. A topographic survey over the drilled areas was completed using GPS differential survey equipment to provide elevation control data.

Given the holes were relatively short and vertical, no down hole surveys were carried out.

During the site visit BDA inspected a number of drill hole locations and walked parts of the drill lines. All drill hole collars had been rehabilitated in line with DME requirements, but at many sites evidence of the aircore drill samples was still evident.

Drill hole collar locations were checked on the plans and logging sheets to confirm the coordinates in the database.

10.3 Logging

All holes drilled at Charley Creek have been manually logged, recording depth of hole, sample intervals, colour, material type and lithology of the cuttings and where relevant, the depth of intersection of the water table and the commencement of wet sampling. BDA has inspected a number of the drill logs.

Drill samples are collected at metre intervals. The individual metre samples are bagged and transferred back to the Milton Park camp for sampling and storage. Samples are weighed and a percentage recovery recorded based on a theoretical volume, and density of 1.8 tonnes per cubic metre ("t/m^3"). Overall recoveries average around 80% of the theoretical weight.

A portion of the each metre sample is collected, washed, and the washed fragments stored in a plastic tray as a permanent record of the hole profile. BDA reviewed a number of these sample trays.

Both the 2008 and the 2011 holes have been re-logged by an experienced mine geologist to classify those areas of the alluvium that were considered to be free-diggable and amenable to processing through the proposed wash plant and spirals. Only the drill intervals which complied with these criteria were included in the resource estimation.

10.4 Sampling Method and Approach

The aircore samples provide a mix of fine rock chips and coarser fragments. Aircore samples were collected at the drill rig using a 1m sample interval. Each 1m sample was collected from the drill cyclone in a polyweave bag, labelled and transferred to the Milton Park camp for further processing.

At the camp, after weighing (for recovery) and logging, the sample in the bag was thoroughly mixed and a spear or tube sample of equal volume taken from four consecutive metre samples to make up a 4m composite.

The 4m composites were labelled and bagged and transported by Crossland to the ALS Global laboratory sample preparation site in Alice Springs.

10.5 Discussion

In BDA's opinion aircore drilling is an appropriate methodology for sampling the alluvials. Linear drill traverses are acceptable for initial reconnaissance work but are far from ideal for resource estimation purposes; BDA understands that Crossland is negotiating for these restrictions to be relaxed for future drill programs. Logging procedures are reasonable, though the data recorded on the log sheets could be more comprehensive. Spear sampling is commonly used for sampling such material, but comparative checks with riffle splitting should be carried out to confirm that any sampling errors are at acceptable levels.

11.0 SAMPLE PREPARATION, ANALYSES AND SECURITY

11.1 Sample Preparation

The 4m composites were bagged and labelled, secured with a cable tie and transported by Crossland to the ALS Global laboratory sample preparation site in Alice Springs where sample security was transferred to ALS. ALS has been used for the sample preparation and analytical work for both drilling programs, with sample preparation carried out at Alice Springs and a pulp sample sent to the ALS laboratory in Perth for analysis. ALS is a well-regarded and certified laboratory.

At the sample preparation laboratory samples were dried and then mixed and riffle split to obtain a sub-sample of around 1 kilogram. The 1kg sample was pulverised in a ring grinder to 85% passing 75 microns and a sample pulp aliquot labelled and dispatched to the ALS Perth laboratory for analysis.

11.2 Analysis

A 0.1g aliquot from the pulp sample was analysed for rare earth elements ("REEs") using a high grade REE lithium metaborate fusion method (ME-MS81), finished by inductively coupled plasma-mass spectrometry (ICP-MS). Where individual REEs exceeded the upper limit of detection the sample was re-analysed by an ore grade REE method using lithium metaborate fusion and analysis by inductively coupled plasma – atomic emission spectroscopy ("ICP-AES").

From the 2008 and 2011 drill programmes a total of 2049 samples have been tested. The range of values (minimum, maximum, average) is shown in Table 11.1

Table 11.1

Charley Creek Analytical Data – 2008 and 2011

Values	Y ppm	La ppm	Ce ppm	Pr ppm	Nd ppm	Sm ppm	Eu ppm	Gd ppm	Tb ppm	Dy ppm	Ho ppm	Er ppm	Tm ppm	Yb ppm	Lu ppm
Min	1	1	1	0.1	0.8	0.1	0.1	0.1	0.02	0.1	0.1	0.1	0.02	0.1	0.02
Max	1910	2580	9050	590	2090	410	80	360	50	260	60	190	26	170	27
Avg	58	87	175	20	71	13.5	2.8	11.5	1.7	10.3	2.0	6.0	0.8	5.2	0.8

Note – values rounded

BDA has not visited the ALS laboratory for the purpose of this review but has visited the laboratory on previous occasions and has discussed sample preparation and analytical processes and procedures. ALS Australia is a NATA (National Association of Testing Authorities Australia) accredited laboratory and is ISO 9001 and ISO 17025 accredited. In BDA's opinion, analytical methods and laboratory practices are in accordance with industry standards. The laboratory undertakes a regime of check standards and duplicate analyses to support the quality of the analytical work. BDA considers that the sample preparation, security and analytical procedures are adequate and acceptable for the purpose of Mineral Resource estimation.

11.3 Quality Assurance/Quality Control Procedures

BDA has reviewed the QA/QC procedures adopted by Crossland in relation to sampling and assaying operations. Generally, Crossland has relied on the internal laboratory checks and standard/calibration analyses carried out by ALS. While internal laboratory checks are important, best practice is to supplement this with independent checks on sample preparation and assay procedures by insertion of blanks, duplicates and standards in the submitted samples. The variance introduced in the composite sampling procedure should also be regularly checked by repeat sampling and submission of duplicate samples. Periodic third-party analysis is also recommended to provide an independent check on the primary laboratory.

No systematic QA/QC work has been undertaken by Crossland and BDA has discussed with management that this is an important component that should be incorporated in all future programmes. Some check data is available, though not directly planned as a quality control procedure. In a number of cases where high values were reported for the 4m composites, Crossland resampled the original 1m samples and submitted the 1m samples as a check. BDA has reviewed this data. Clearly some sampling variability would be expected, but overall the average of the four 1m samples gave reasonably consistent data compared with the original 4m composite assays, with no indication of material errors or bias.

For the analysis of concentrates, prepared from the drill hole samples, Crossland used a second laboratory, ITS-Genalysis ("Genalysis") in Adelaide which provided a partial independent inter-laboratory check. However, this was only on concentrate grade samples, not on the much lower grades of the drill hole samples. Generally on the lower grade concentrates, comparisons were satisfactory; on higher grade concentrates it appeared that the ALS results were generally lower than the Genalysis data.

The lack of industry standard QA/QC data is a shortcoming and should be addressed in future. However, BDA has examined the information which is available and the drilling, sampling and assaying procedures undertaken, and overall considers that there is no evidence or concern of material bias in the data. BDA considers that the data is adequate to support an initial resource estimate and Scoping Study.

11.4 Discussion

The sampling procedures adopted appear adequate, but the spear sampling variances should be checked against riffle splitting. Sample security arrangements in relation to transport and transfer of the samples to ALS appear reasonable and the sample preparation and assay methodologies and procedures are appropriate. Industry standard QA/QC procedures were not adopted for the 2008 and 2011 drilling programmes and this should be corrected before any additional drilling is undertaken. Submission of duplicates, blanks and certified reference standards within each batch of samples should be standard procedure, as should periodic checks on sampling accuracy and third-party independent analyses. BDA has reviewed what check assay data is available, largely between individual 1m samples and 4m composites, and the results show a reasonable correlation. BDA has no reason to believe that the sampling or analytical data is inaccurate or biased, but standard confirmatory QA/QC data is not available.

12.0 DATA VERIFICATION

As noted above, the sampling and assay programmes have not been conducted with industry standard QA/QC procedures and thus BDA has been unable to review results of duplicate sampling, analyses of certified reference materials or independent third-party check assays. However, BDA has inspected the drill lines, drill sample material, drilling sample trays, sampling records, drill logs and assay reports. BDA has reviewed the assays of individual 1m samples compared with the 4m composite data and overall the results are considered reasonable. All assaying has been carried out by recognised NATA registered laboratories using appropriate methodologies. Analyses include the full range of rare earth elements, and Yttrium and major elements. BDA has reviewed the laboratory assay reports and the internal check analyses. Assay reports from the laboratory were generally provided as electronic data files to minimise any transcription errors. The metallurgical testwork results are confirmatory of the original drill hole sample analyses.

BDA has discussed the exploration programmes with the exploration geologists, and has viewed the concentrate data and reports from the mineralogical and metallurgical laboratories.

Overall, BDA considers the data to be reasonable and the interpretations reasonable and appropriate. Although the distribution of the drill data is restricted to linear traverses, the consistency of the information is such that BDA considers it provides an acceptable basis for an initial estimation of resources. Given the widespread distribution of the alluvials, it is clear that the area currently defined represents only a small portion of the alluvial material. However, systematic drilling and sampling is still required to demonstrate the future resource potential thickness and grade, and in particular to identify any higher grade areas which could provide suitable starter pit locations.

13.0 MINERAL PROCESSING AND METALLURGICAL TESTING

BDA has reviewed the AML testwork; a large bulk sample (~1,000kg) was processed through test trommelling and slimes rejection circuits followed by spirals testwork and the proposed dry plant circuits using induced rolls and magnetic separation.

The bulk samples were selected from locations in the Cockroach area to the west of the Western Dam and Cattle Creek resource locations. The 987kg bulk sample composite was made up of 36 separate samples of roughly equal weight. Typically representivity of a metallurgical bulk sample is a critical consideration in all process testwork. BDA cannot comment regarding the representivity of the bulk sample material, but notes that the alluvial outwash fans are, by their nature, relatively widespread and from the limited drilling to date show good consistency and continuity. However, for future bulk sample testwork BDA suggests the use of large diameter bucket rigs (500-900mm diameter) to collect a number of bulk samples through the alluvial profile.

The detailed testwork results are not directly transferable to the flowsheet mass balances but the general relationships can used. No testwork on recycle streams was undertaken; however the PFDs incorporate recycling, which allows improved REO recoveries. BDA considers this approach valid at the SS stage.

The AML testwork was well conducted and considered the various unit operations involved in producing a final concentrate to be sent to the refinery grading around 40% TREOs. The AML testwork achieved this grade target but did not achieve the targeted recoveries of about 67%. BDA considers the trommel mass balance to be acceptable, but the slimes separation flowsheet is showing a much higher REO recovery to the coarse or plus 38 micron (“+38µm”) fraction material than the testwork indicated. The AML bulk sample was of a higher head grade than is expected from the ROM material (testwork was conducted on a feed grade of 0.15% TREO while the PFDs use a head grade of 0.05% TREO) and without any recycle streams overall recovery was about 56% TREOs. The projected recoveries around the rougher spiral circuit are better than the testwork indicated, even at a higher feed grade. BDA concurs that the final concentrate grades produced ahead of the dry separation plant are reasonable, but the projected recoveries may not be readily achieved. BDA considers that an extra 10% recovery could be achieved from some recycling but this will have to be confirmed with future testwork. The dry plant testwork results appear to be appropriately reflected in the flowsheet mass balance.Additional testwork has been undertaken by ALS Metallurgy (formerly ALS AMMTEC), however a formal report has not yet been produced. BDA considers ALS Metallurgy to be a well-qualified hydrometallurgical test laboratory. The testwork was managed by Met-Chem Pty Ltd a Perth based process engineering company specialising in REO refining. Data currently available comprises an excel workbook containing testwork results. The tests conducted by ALS considered conventional REO sulphate roast technology followed by a water leach as well as a number of hydrochloric acid (“HCl”) leaches on caustic soda residues. The summary of results clearly indicates that the sulphate roast followed by water leach was the most effective approach with final dissolution of TREOs at over 95%. Uranium dissolution was 94.5% and thorium dissolution 96.4%. These results are within the expected range and can be used for scoping study mass balances. No precipitation results are yet available so generally accepted parameters have been applied, but these should be confirmed at a later date. BDA considers it likely that the precipitation process may result in higher TREO losses than projected in the SS mass balance.

14.0 MINERAL RESOURCE ESTIMATES

14.1 Introduction

In May 2012 Crossland announced that an estimate of Indicated and Inferred Rare Earth Mineral Resources had been completed within the alluvials of the Charley Creek Western Dam and Cattle Creek areas, based on the aircore drilling completed during 2011 and 2008.

The published resource estimate is shown in Table 14.1.

Table 14.1

Charley Creek Rare Earth Alluvial Mineral Resources – Western Dam and Cattle Creek - May 2012

Deposit	Category	Tonnage Mt	Grade TREO ppm	Contained TREO Tonnes	Contained Monazite Tonnes	Contained Xenotime Tonnes
Cattle Creek	Indicated	249.9	280	69,900	97,200	17,600
Western Dam	Indicated	137.0	322	44,200	63,700	9,700
	Total	**386.9**	**295**	**114,100**	**160,900**	**27,300**
Cattle Creek	Inferred	353.2	291	102,800	141,000	26,500
Western Dam	Inferred	65.2	281	18,400	26,200	4,200
	Total	**418.4**	**289**	**121,100**	**167,200**	**30,700**

Note: Mt = million tonnes, kt = thousand tonnes, ppm = parts per million (figures are rounded); TREO grade includes all lanthanide elements plus Yttrium; the resource estimates are limited to material which was logged as 'free-digging' and washable into component grains, amenable to mineral sands processing techniques; a break-even operating cost of US$4.30/t was used as a block grade cut off value, but this impacted very few blocks; the estimate was undertaken by Geoff Eupene of Crossland who is a "Qualified Person" in accordance with National Instrument 43-101 and a ''Competent Person'' as defined by the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves 2012 Edition (the JORC Code). Mineral Resources are not Mineral Reserves and, as such, do not have demonstrated economic viability. Mineralization has been classified according to the definitions in National Instrument 43-101 and the guidelines published by the Council of the Canadian Institute of Mining, Metallurgy and Petroleum (the CIM Standards) and is consistent with the JORC Code.

Crossland noted that the xenotime contained a high percentage of high value heavy rare earth oxides ("HREO"), giving an overall HREO percentage of around 17% of TREO.

The thickness of the rare earth alluvial resource had been restricted in depth to the loose unconsolidated material which was judged both to be free digging and amenable to treatment and concentration in a heavy minerals spiral circuit. Whilst the samples had to achieve a minimum grade cut off (a calculated minimum block value) to be included in the resource, relatively few samples were excluded on this basis, and Crossland reports that most block values were more than double the minimum. The resource outlines typically extend from surface to the depth of the first major cemented calcrete zone.

14.2 Drill Data

The aircore drill holes on which the resource estimates are based are shown in Figure 4. Drilling in the Western Dam and Cattle Creek areas was conducted in 2008 and 2011. At the time of the 2008 programme the focus of exploration was uranium mineralisation, and most samples were not analysed for a full suite of REEs. Thus the resource estimates are based primarily on the 2011 drilling. However, the 2008 data was used in the interpretation of the alluvial fans and in determining the base of the unconsolidated material.

The drill hole distribution, as shown in Figures 2 and 4, is primarily along linear traverses, rather than the normal expectation of a drilling grid. This is because access approvals for drilling at the time of both the 2008 and 2011 programmes were restricted to existing tracks or fence lines. This drill hole distribution would not be satisfactory for estimation of a typical hard rock gold or base metal deposit, but given the relatively uniform and widespread nature of the alluvial outwash fans, the data is considered adequate for an initial estimate, though certainly subsequent programs should seek to infill on a more systematic grid pattern.

The general aircore drill spacing is 400m, with several areas within the Western Dam and Cattle Creek resource areas infilled to 200m.

All drilling conducted by the Crossland/Pancon joint venture within the Charley Creek alluvials has been based on aircore drilling with approximately 75mm diameter holes. The aircore drill holes were all drilled vertically and generally drilled to 'refusal', which typically occurred on intersection of the Basement rocks, or in some cases harder zones of calcrete or cemented Tertiary sandstones. Holes were generally drilled dry for most of their depth; if significant water was intersected resulting in wet samples the hole was stopped to avoid sample smearing and the collection of possibly contaminated samples. Overall average depth of drilling to date is around 30m, but in some areas holes of more than 80m have been drilled. The average thickness of the outlined resource is approximately 15m.

The drilling programs undertaken in 2008 and 2011 are summarised in Table 14.2. A total of 347 holes have been drilled in the area. Data from 68 holes has been used in the Western Dam resource estimate and 86 holes have been used in the Cattle Creek resource estimate.

Table 14.2

Charley Creek Aircore Drilling – 2008 and 2011

Area	Aircore Holes	Drill Metres	Samples Collected	Composites Sent for Assay
Western Dam Total	111	1,478	253	212
Western Dam Resource Estimate	68	786	172	162
Cattle Creek Total	110	5,623	1,796	761
Cattle Creek Resource Estimate	86	3,960	444	374
All Areas	347	9,672	4,644	1,360

Note: various other exploration lines drilled in the Dad's Dam and other areas; 126 holes were drilled in 2008; in the two resource areas, Western Dam and Cattle Creek most of the drill data used in the resource estimates was from the 2011 drill program

14.3 Resource Estimation Methodology

Wireframing the Mineralized Zone

Crossland and Pancon applied two primary criteria in determining the limits to apply to the resource estimate.

The process proposed for the treatment of the relatively low grade alluvial material involves production of a heavy mineral concentrate to upgrade the rare earth content. That concentration process, predominantly using spirals, relies on a feed of unconsolidated sands. Therefore, it was agreed that firstly, the resource thickness should be limited by the first appearance of cemented or consolidated material. In some cases this is the intersection with the basement saprolite or with Tertiary sandstones, but more commonly it is the intersection of a zone of cemented calcrete. An upper thin layer of calcrete can occur at relatively shallow depths of 5-10m, but given that significant mineralized alluvials commonly continue below this horizon, the lower cut off has generally been taken at the top of a more massive calcrete unit that can occur around 15-20m depth.

The second criterion applied is an economic cut off. Estimates were made of the operating cost to mine the alluvial material and treat it through the first concentration process. This was determined to be around A$4.30/t. An average value of US$47.46/kg was estimated based on projected REO prices for 2016 and the average distribution of REO within the Charley Creek alluvials. This allowed the exclusion of any zones where the TREO content gave a value below the A$4.30/t break even. In practice very few samples were excluded on this basis and the primary criterion used was the intersection of consolidated or cemented material.

Crossland engaged an experienced mine geologist to review and re-log all the holes to define this lower boundary. The boundary was digitized to define a zone for resource estimation. The upper boundary was the ground surface, with only a thin layer of topsoil which would be removed and stockpiled for rehabilitation purposes. The lower boundary defined a near surface zone with a maximum thickness of around 20m and an average thickness of 15m.

Sections were constructed at 400m intervals and the alluvial contacts defined and wireframed.

Area of the Resource

Crossland determined that the drill traverses had outlined two potential resource areas at Western Dam and Cattle Creek. The potential resource areas were based on a maximum extrapolation of 400m from the nearest drill hole to allow a definition of an Indicated block, with a further 400m allowed for Inferred blocks. With drill hole spacing of 200-400m, and given the general continuity of the alluvials and the RE distribution, these allowances appear reasonable. Some variography was carried out on the drill data and suggested a range of 900m, on which basis the maximum search ellipse range of 800m appears reasonable.

Grade Estimation

Block model cells of 200 x 200 x 4m (vertically) were defined, with sub-celling into 50 x 50 x 1m where required to more accurately represent the wireframe boundaries. Block grades were estimated using a 800 x 50m search ellipse and inverse distance squared weighting. The sample search was limited to the nearest 4 samples.

Block Classification

Indicated Mineral Resources were defined around drill hole intersections, extending 400m beyond the intersection within the alluvium outline. Inferred Mineral Resources were defined beyond the Indicated boundary, based on blocks where grades were estimated applying the 800 x 50m search ellipse.

Density

Based on measurements of material excavated from 12 shallow bulk pits in the Cockroach area (Figure 1), Crossland estimated an average dry bulk density of 1.8t/m^3. This value was applied to the resource volumes to derive a tonnage estimate.

14.4 Discussion

The resource estimate on which the SS and PEA are based, relies on a relatively simple model interpretation and BDA suggests that at the next stage of evaluation it would be advantageous to engage a specialist resource estimation group to carry out an independent estimate. BDA accepts that the data on which the current estimate is based is quite limited, and is concentrated along a few linear traverses. On this basis a more sophisticated approach may well not be justified until a wider distribution of data points is available.

Nevertheless there are some approaches which could be reviewed; for example the selection of only four samples for block grade estimation suggests that a number of blocks may be estimated using data from only a single drill hole, though Crossland advised that one off the objectives was to maximize local influence and not smooth out the estimate excessively.

The use of a simple wireframe to define the mineralization based on constructed sections is considered appropriate at this stage of the investigation; Crossland constructed sections oblique to the drill lines to maximize the data points on a section. Preparation of sections will be much simpler in future with approvals to drill on a more systematic grid where required.

It should be recognized that from ground surveys the alluvials extend well beyond the current resource areas, so that the resource potential is likely to be several times that currently estimated. Crossland has suggested that less than 5% of the potential alluvial body has currently been investigated. However, although significant volumes of alluvials are available, the grade of the material still needs to be determined by drilling and sampling.

Crossland is confident that areas of higher average grade will be defined, and the SS PEA is based on the assumption that sufficient material averaging 500ppm TREO (rather than the current Mineral Resource grade of 300ppm TREO) will be delineated with sufficient continuity to support the initial five years of operation in a series of starter pits. However, BDA emphasises that the Exploration Target quantity and grade are conceptual in nature, there has been insufficient exploration to define such a mineral resource and it is uncertain if further exploration will result in the target being delineated as a mineral resource.

n BDA's opinion, the concept that within the widespread alluvials some areas of higher grade will be delineated, and that these will form the basis of the initial "starter pits", is not an unreasonable hypothesis, but it must be recognized that this material has not yet been defined, and so it would be prudent to examine the impact on the project of a grade profile based on the current average resource grade of 300ppm. This is the basis of BDA's economic analysis as discussed in Section 22.

15.0 MINERAL RESERVE ESTIMATES

No Mineral Reserve has yet been defined for the Charley Creek project. In BDA's opinion that is appropriate, in that the project parameters are not yet well enough defined to estimate a reserve and to appropriately define the relevant modifying factors.

No mine plan has been developed, although the mining should be relatively straightforward. Completion of the EIS will be a major step forward. The other work priority is to complete the planned widespread drilling programme to ascertain whether there is an area or areas of higher grade material which would support initial higher grade starter pits.

Once the preferred areas are identified, systematic drilling will be required to establish a well-defined Mineral Resource, followed by appropriate mining and ancillary studies to determine the Mineral Reserves.

Other factors of importance will be negotiation of agreements with the local aboriginal groups and the Central Land Council. Crossland advises that relations are good and no major issues are anticipated. Nevertheless such negotiations typically take a considerable time to complete.

Further detailed work will be required to establish that uranium and thorium can be satisfactorily removed from the RE concentrate to produce a saleable RE carbonate product.

A source of process water will need to be confirmed, as will access to a supply of gas for the proposed power station.

16.0 MINING METHODS

16.1 Mining

It is proposed that the deposit will be mined using conventional dry mining methods utilising two excavators and a series of 90t rigid dump trucks. The deposit is within alluvium and is relatively unconsolidated such that no drilling and blasting will be required. The depth of the Mineral Resource has been limited to material classed as 'free dig'. A dozer will be required to assist the excavator in mining the deposit.

The planned depth of mining averages 15m based on the known resources. The area planned to be mined will be of the order of 0.5sq km per year increasing to approximately 1sq km per year. The rate of mining is planned initially at 12Mtpa for the first five years increasing to 20Mtpa from Year 6. This scenario is based on the SS concept of a higher grade feed for the first five years (projected grade 500ppm TREO) dropping to 300ppm TREO for the remainder of the mine life. It should be noted that the initial five years of higher grade mining, while not unreasonable, is based on an Exploration Target and there is no certainty that future drilling will confirm such a resource. BDA has modelled a constant average grade equal to the average resource grade of 300ppm TREO.

It is proposed that the mined material will be fed into one of two mining field units via drive-over dump hoppers. The MFUs will consist of a trommel, which will remove +2mm material, and a system to slurry the fines which will then be pumped to the wet concentration plant or WCP. Sufficient surge capacity will be provided in the MFU's to accommodate the equivalent of two truck-loads at any one time

Excavations will be backfilled on an ongoing basis, using the coarser fraction removed during screening in the MFU which is estimated to be 15% by volume. Slimes from the WCP will be disposed to slimes dams, constructed below the natural ground level within the mining areas.

It is planned that mining, at least in the early stages, will remain above the water table with the maximum depth of excavations being some 20 m. Results from the resource drilling indicate that the water level is around 20m depth, but it does vary across the resource areas. Pumping adjacent to the mining areas may be adopted to lower the water table below the mining horizon, particularly during periods of high rainfall.

BDA notes that the mining sequencing does not lend itself to selective mining of higher grade sections of the profile unless generally higher grade areas can be defined within the deposit to support higher grade production in the initial starter pits.

For annual mine production rates over the life of mine reference should be made to Table 21.2, Section 21 - Capital and Operating Costs; and to Table 22.1, Section 22 – Economic Analysis.

16.2 Mining Factors

No Mineral Reserves have been estimated to date for the Charley Creek project as no detailed mining studies, prefeasibility or feasibility studies have yet been undertaken. Some allowance for mining losses and mining dilution will need to be applied to the resource estimates in establishing a mining plan. However, given the bulk nature of the proposed mining with all mined material except the top soil delivered to the MFUs, mining factor adjustments will be small.

BDA recommends that these factors be further considered at the prefeasibility stage when sufficient systematic drilling has been carried out to effectively prepare a mining plan.

16.3 Mining Field Units

Dump trucks will deliver ore to the MFUs located in the mining area. The deposits are shallow in depth which, combined with the high plant processing rate, will result in a high rate of advance of the mining operation along the deposit. Therefore the MFUs will be highly modular and skid mounted so that they can be periodically relocated closer to the mining face to reduce haulage distances to and from the MFUs.

The mining operation assumes that truck haulage will average 1km to the MFUs. The ore will be delivered into the dump hopper at the MFUs. The hoppers will be fitted with a 150mm static grizzly. Feed is extracted from the bin via a belt feeder at a rate of 750tph and discharged to an inclined conveyor feeding a rotary trommel screen that removes trash at +2mm size range. The undersize reports to the trommel undersize hopper and is hydraulically transported to the WCP.

For this study, booster stations for the mining field units have not been included. It has been proposed that the plant is located within pumping distance of the mine operations. Process water will be supplied via a single booster station, back to the MFUs from the WCP process water ponds.

16.4 Discussion

The proposed mining method appears relatively straightforward, but given the shallow nature of the mineralisation and the low grade, requiring a significant tonnage of raw material to be mined each year, there will be significant ground disturbance. The water level and water channels will require close management to ensure the operation is not affected by rain events.

The MFU system provides the initial separation of the material and reduces the back loading of the coarse rejects. The periodic movement of the MFU units with the progression of mining will impact production, but overall BDA concurs that mobile MFUs provide an efficient method of primary sorting and reduce material transport.

The priority for mine planning is the identification of the starter pit areas and the drilling out of these areas to sufficient detail to allow mine planning and design to commence and Mineral Reserves to be estimated.

17.0 RECOVERY METHODS

17.1 Introduction

The proposed treatment process for the Charley Creek REOs is conventional for an alluvial deposit carrying heavy minerals. The concentration plants at the mine site (Figure 5) will target a REO concentrate grading around 40% TREOs. The mine site plants comprise two ‘wet’ plants and one ‘dry’ plant. The first wet plant utilises scrubbing to remove coarser waste materials, and desliming to remove finer difficult-to-handle size fractions as fines or slimes. The second wet plant adopts gravity recovery processes using spirals to upgrade the wet concentrate to around 8-12% TREO. The dry plant utilises various magnetic and electrostatic characteristics of the minerals to produce a clean REO concentrate at about 40% TREO grade. The planned process steps also produce ilmenite and zircon concentrate by-products.

The refinery (Figure 6) is to be located closer to Alice Springs (Figure 3) and will be a hydrometallurgical refinery utilising conventional sulphate roasting and water leach to solubilise the TREOs as well as uranium and thorium. Once leached, a purification stage using precipitation removes thorium, iron and phosphorous. A uranium recovery step allows the uranium to be removed from the final TREO product. Final TREO recovery as a mixed RE carbonate is based on carbonate precipitation.

BDA is confident that these unit operations and unit processes will allow the separation, purification and recovery of the various minerals as projected. The grade of each product and the individual recoveries remain to be confirmed with further detailed testwork, but the overall projections are reasonable for a SS level review.

Figures 5 and 6 illustrate the flow diagrams of the mine site plants and refinery.

17.2 Wet Plant

The first process stage comprises two sets of scrubbing trommels with the coarse +2mm material discharged as waste and the -2mm material sent to further size separation using hydrocyclones. Hydrocycloning is conducted in two stages with the first and second stage overflows or slimes sent to a slimes thickener while the first stage underflow is retreated in hydrocyclones and the second stage underflow or “sands” is sent to a spirals gravity separation plant.

The spirals circuit is made up of a rougher bank followed by a middlings retreatment bank with first concentrates treated in a cleaner bank of spirals and then retreated in a recleaner bank of spirals. The tailings product from rougher and middlings spirals are rejected to tailings while the cleaner and recleaner middlings and tailings are recycled. The final spiral concentrate at a grade of about 0.9% TREO containing about 88% of the TREOs is sent to the second stage wet separation plant.

The second stage wet concentration plant first screens the concentrates to remove any trash. The screen undersize is treated in high energy attritioners to remove iron oxide staining. The attritioned slimes are removed using a bank of hydrocyclones and the cyclone underflow is treated in a three-stage low intensity magnetic separation (“LIMS”) step. The non-magnetics from the LIMS is the REO concentrate while the magnetics streams are sent to a magnetite/ilmenite concentrate dewatering step.

The non-magnetics REO stream is treated using first a hydrocyclone followed by an upflow classifier. The classifier coarse material is sent directly to the final wet plant concentrate containing 61% of the TREOs at 11% TREO while the fines are retreated in a bank of scavenging spirals. The scavenger spirals tailings is sent to waste while the concentrate is treated in a wet high intensity magnetic separator (“WHIMS”). The non-magnetics fraction from the WHIMS is dewatered using hydrocyclones and the solids are collected as a zircon concentrate. The WHIMS magnetics portion is a further REO stream containing approximately 13% of the TREOs at 9.1% TREO grade. The two final wet products are dewatered using hydrocyclones and the underflow sent to the dry separation plant.

BDA notes that the target recovery percentages are higher than those achieved to date in AML testwork where 56% overall TREO recovery was achieved. The AML testwork did not incorporate any recycle streams and in BDA’s opinion an extra 10% recovery could reasonably be achieved from some recycling, but further testwork and circuit refinements will be required to confirm that the targeted overall TREO recoveries can be achieved.

17.3 Dry Plant

The dry separation plant dries the wet plant concentrate using a fluidised bed dryer. The dried product is then treated using electrostatic separation in three steps. The first roughing step produces a conductor product separated as ilmenite concentrate and containing about 3.7% of the TREOs. The non-conductor product is retreated in a middlings electrostatic separator with the non-conductor product comprising a concentrate containing approximately 69% of the REOs at a grade of 16% TREO. The conductor product is combined with the ilmenite concentrate while the middlings material is retreated in a third stage electrostatic separation step.

The non-conductor product from this third stage is final REO concentrate, while the conductor product joins the ilmenite concentrate.

The combined non-conductor REO product is then treated in a two-stage rare earths rolls magnetic separation step. The magnetics from the first stage is a final concentrate grading around 57% TREO with 59% REO recovery. The non-magnetic product is treated in the second stage rolls magnetic separation step to produce a magnetic final product grading approximately 12% TREO at 7.4% recovery. The non-magnetics comprise a zircon concentrate by-product carrying about 3.7% of the REOs at a grade of 1.2% TREO. The two magnetic products are bagged separately and trucked to the refining plant.

17.4 Refinery

The refinery first bakes or cures the dry plant concentrate with sulphuric acid (Figure 6). The dried concentrate is mixed with sulphuric acid in a pug mixer. The mixed material is then sulphate roasted at about 250°C in a rotary kiln. Roasting is conducted for about two hours. The kiln discharge drops to a quench tank where water is added. The resultant slurry is pumped to a bank of four water leach vessels which allows the REOs to solubilise in the water.

The leached slurry is filtered in a plate and frame filter. The filter cake solids are discharged as waste and the filtrate or REO-bearing liquor discharges to a bank of 'adjustment' vessels. The adjustment involves oxidation-reduction potential ("ORP") control using magnesium hydroxide for pH control and hydrogen peroxide for the ORP control. Ferric sulphate is also added to assist removal of the phosphates. The resultant slurry is then sent to a further purification step using more magnesium sulphate plus recycled 'seed' material to promote precipitation of phosphorous, thorium and iron. This final slurry is filtered using candle filters with filter cake discharged to a special repository. The filtrate is then pumped to the uranium recovery circuit. Some of the liquor is recycled to the water leach circuit.

The purified liquor is pumped through a bank of three ion exchange ("IX") resin columns to allow recovery of the solubilised uranium. The liquor is forwarded to the REO carbonate precipitation circuit. The IX columns are eluted using a sulphuric acid eluate. The eluant after elution is forwarded to the uranium recovery circuit. The uranium is recovered by precipitating with hydrogen peroxide using sodium hydroxide as a pH control. The resultant slurry containing the precipitant, uranyl peroxide (UO_4), is filtered and the moist filter cake product is packaged for shipment to market. The filtrate is sent to an evaporation pond.

The liquor from the IX circuit contains the REOs which are then recovered in a carbonate precipitation circuit. Sodium carbonate is used as the precipitant. The resultant slurry is thickened with the thickener underflow sent to a two-stage wash/filtration circuit. The first stage of filtration uses hot demineralised water as a wash. The filter cake is re-pulped using demineralised water and then re-filtered. Second stage washing is with cold demineralised water with the filter cake sent to the product dryer. Both filtrates are recycled to the thickener. Thickener overflow is treated using a polishing filter with solids returned to the thickener; the filtrate proceeds to a water treatment circuit.

The final product filter cake is dried using an oil-fired paddle dryer at about 120°C to a moisture content between 1-2%. The dried product is stored in a silo and packaged into bags for market. The final product will be a RE carbonate pentahydrate and will contain around 50% REOs. Overall REO recovery is quoted at 60.0% of the REOs in the ROM feed. BDA notes that the financial model uses an overall recovery of 60.8% rounded to 61% while the flowsheet mass balances indicate an overall TREO recovery to market of 60.0%. Given that the study is a scoping study this inconsistency is minor, but should be reconciled in the next study phase.

17.5 Discussion

BDA considers the mine site flowsheet to be reasonable for a scoping study. The refinery flowsheet is the classic approach for REO extraction. Some steps within the uranium recovery circuit such as product drying have not been defined and it is expected these will be included at the next feasibility study stage. BDA suggests that the use of classifiers such as screw classifiers should be considered for many of the solids dewatering steps rather than hydrocyclones. Further testwork is required to confirm the projected process recoveries.

18.0 PROJECT INFRASTRUCTURE

Project infrastructure for the proposed project is also described in Section 5 – Accessibility, Climate, Local Resources, Infrastructure and Physiography and is shown in Figure 3.

18.1 Site Access Roads

It is planned that dedicated unsealed mine access roads will be established from the Tanami Road to the proposed mine, processing plant and refinery and internal site access roads will be constructed to the major processing and infrastructure facilities.

18.2 Water Supply

It is proposed that raw water for the processing plant and refinery will be supplied from borefields located within 1km of the plant. Power will be supplied to the borefields from the plant power station by overhead power lines.

Process water will be stored in two process water dams. Potable water will be trucked from Alice Springs. Fire water will be distributed to hydrants from a fire water tank by a dedicated electric fire water pump and a backup diesel-powered pump.

18.3 Power Supply

The total installed load for the mine, process plant and associated infrastructure is estimated at 12.6MW. It is proposed that this is provided by a natural gas-fired power plant with a diesel generator ‘black start’ back-up and reticulated to major project facilities through high voltage overhead power lines.

The total installed load for the refinery, estimated at 0.5MW, is to be provided from an existing transmission line from Alice Springs.

18.4 Fuel Supply

Diesel for the mining operation is to be provided from a fuel storage and dispensing facility located at the mine site. Other fuel and lubricants will be stored and dispensed from a dedicated drum storage area.

LPG/LNG will be supplied by truck from Alice Springs and stored in a dedicated storage facility adjacent to the process plant and site village.

It is planned that natural gas supply will be supplied from the Darwin – Amadeus pipeline, which runs within 50km of the mine site.

18.5 Project Site Buildings

Site buildings will include a site administration building, a crib facility, an ablutions block, a first aid room, a workshop and stores facility and a laboratory. The buildings will be modular prefabricated buildings

The mining contractor will provide modular prefabricated building as required.

18.6 Camp Facilities

An accommodation village for 150 personnel is proposed and will comprise self-contained accommodation units with en-suite bathrooms, a mess hall and kitchen, laundry facilities and ablution blocks with associated power and water supply facilities and a sewage treatment plant.

18.7 Discussion

In BDA’s opinion the proposals for infrastructure are reasonable and appropriate for a project at scoping study stage and unlikely to present any significant technical difficulties.

19.0 MARKET STUDIES AND CONTRACTS

19.1 Rare Earths Market

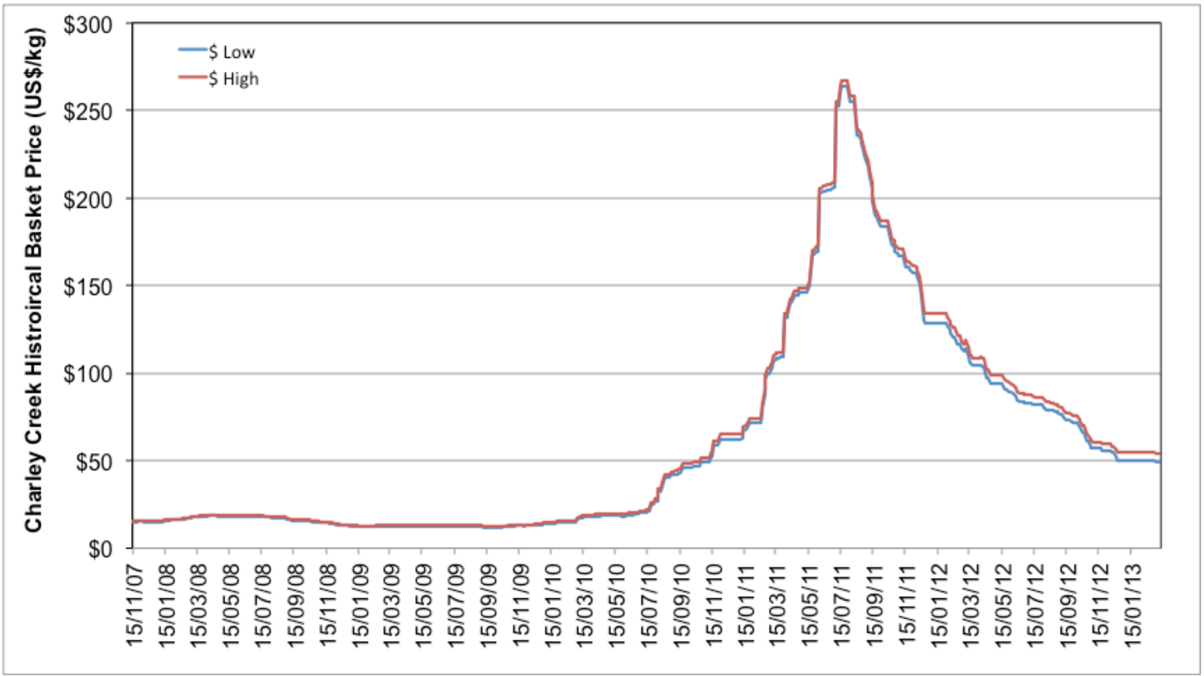
The economic analysis described in Section 22 is based on REO prices as at November 2013.

Figure 8 shows the historical basket price for the Charley Creek Resource over the past 5 years. Basket price excludes price allocations for Er-Lu as these rare earths are not quoted by Metal Pages. The China FOB REO pricing quoted on Metals Pages website appears to have stabilized in early 2013 (see Figure 8), with market conditions close to the base production costs of many significant producers. This conclusion is supported by the recent series of actions taken by the Chinese authorities, such as forced closure of illegal REO mines, amalgamating multiple small producers to allow better control of the industry and suspension of production for periods in an attempt to stabilize prices at or above current levels. Therefore current prices are viewed as a realistic price base when compared to the REO price highs of 2011/12.

For the purposes of this report the current China FOB price (November 2013) from Metal Pages has been assumed as the Base Case. Table 19.1 summarizes the price assumptions used in the economic analysis. As previously mentioned there are a number of rare earths not quoted on Metal Pages including Er, Ho, Tm, Yb and Lu. Various price forecasts have been reviewed to derive a conservative price outlook for these rare earths, which are present in higher proportions in the Charley Creek basket than most other REO projects. The price assumptions for Er-Lu are consistent with 2016 Toyota-Matamec forecast. It is worth noting the contribution from Er-Lu accounts for less than 5% of the revenue line within the financial model.

Figure 8

Charley Creek REO Project Basket Price (US$/kg REO)



Note :Figure 8 shows price trends to February 2013; prices in 2013 have generally been maintained at the February 2013 level; the basket price at November 2013 is around US$51/kg as shown in Section 19.2 below.

19.2 Product Offtake

REO prices shown in Table 19.1 are based on 99% pure oxides, except for Eu, which is based upon 99.9% prices. Crossland is proposing to produce a high purity mixed rare earth carbonate, which is suitable as a refinery feedstock. Product offtake terms of 75% of quoted oxide prices have been assumed for this study. A discount of 25% was determined as a trade-off between further refining the mixed carbonate through to final individual saleable rare earth oxides and the additional capital costs and time to construct a REO separation plant. The BDA analysis as discussed in Section 22 has used the November 2013 prices.

Table 19.1

Charley Creek Base Case REO Pricing

REO	Type	Price US$/kg China FOB (March 2013)	Price US$/kg China FOB (November 2013)
La_2O_3	Light	11.00	6.20
CeO_2	Light	11.50	5.50
Pr_6O_{11}	Light	85	118
Nd_2O_3	Light	77	72
Sm_2O_3	Medium	25	33.60
Eu_2O_3	Medium	1,600	1,360
Gd_2O_3	Medium	49	46.50
Tb_4O_7	Heavy	1,300	1,000
Dy_2O_3	Heavy	630	660
Ho_2O_3	Heavy	65	65
Er_2O_3	Heavy	40	40
Tm_2O_3	Heavy	25	25
Yb_2O_3	Heavy	25	25
Lu_2O_3	Heavy	320	320
Y_2O_3	Heavy	38	21.50

Considering the relatively high HREE content of the Charley Creek mixed carbonate product, additional trade off studies will be undertaken to evaluate economic benefits of constructing a full REO separation facility at Charley Creek. The distribution of rare earths in mixed carbonate product and their proportionate contribution to the 'basket price' is shown in Table 19.2.

Table 19.2

Charley Creek Mixed Carbonate REE Distribution and Basket Price

REO	Distribution in Mixed REE Carbonate (%)	Basket Price US$/kg China FOB November 2013
La_2O_3	18.1%	1.12
CeO_2	38.6%	2.12
Pr_6O_{11}	4.2%	5.00
Nd_2O_3	14.9%	10.75
Sm_2O_3	2.8%	0.95
Eu_2O_3	0.6%	8.02
Gd_2O_3	2.4%	1.11
Tb_4O_7	0.4%	3.70
Dy_2O_3	2.1%	13.93
Ho_2O_3	0.4%	0.27
Er_2O_3	1.2%	0.48
Tm_2O_3	0.2%	0.04
Yb_2O_3	1.0%	0.26
Lu_2O_3	0.2%	0.48
Y_2O_3	12.9%	2.77
Total	100.0%	51.00

20.0 ENVIRONMENTAL STUDIES, PERMITTING AND SOCIAL OR COMMUNITY IMPACT

20.1 Environmental Studies and Future Permitting

A full environmental impact assessment for the project has not yet been completed by Crossland. However, this work has been commissioned and is currently being progressed.

For a project of the potential scope of Charley Creek, Crossland anticipates that the permitting process will involve both NT and Commonwealth of Australia regulatory agencies who will assess the potential impacts of the project prior to issue of the permits required to commence construction and production. Project development approval is achieved through a defined process that is addressed through preparation and submission of a Draft Environmental Impact Statement ("EIS") that is the basis for official and public comment, and the concerns raised are addressed by the proponent in the final EIS. Crossland has engaged the local office of international consultants, GHD, to undertake preparation of the Charley Creek EIS and their work has been under way since October 2012. GHD has previous experience in the preparation of environmental studies for REE projects in the NT. Important seasonal surveys have been completed, leading to the expectation that the Draft EIS can be completed within 12 months. The study also includes an investigation of the groundwater regime, an important consideration for the project. The scope of the environmental studies includes radiation management and disposal of radioactive species in a manner that is considered best practice.

The environmental studies that are currently being conducted in support of the project include:

- Vegetation and Flora Survey
- Fauna Survey
- Hydrogeological Assessment

EIS Progress To-Date

Environmental Impact Assessment has been fully scoped and is currently in progress. Critical seasonal fauna and flora studies are on track and will be completed during December 2013. Crossland is well positioned to have all the required licences and permitting completed before the end of 2014.

The next stage in the Environmental Assessment process is the submission of the Environmental Scoping Study to the NT regulatory agencies.

In BDA's opinion the schedule to achieve the necessary development approval, licences and other permits is reasonable and at this time BDA is not aware of any issues likely to significantly delay the project permitting.

20.2 Environmental Management and Waste Management Planning Considerations

The Charley Creek REE Scoping Study (2013) has considered at the concept stage a number of environmental management aspects associated with the proposed mining and processing plant operations. These aspects are summarised below and will be furthered considered during the Environmental Impact Assessment process.

For the Scoping Study, the front end wet and dry plants, current best practice used in the heavy minerals industry for waste and process residue disposal has been assumed. Protocols for the final disposal of hazardous wastes, particularly radioactive wastes, have not yet been finalised and will be addressed in detail in subsequent studies.

Wet Concentrate Plant (WCP) Reject Material

The proposed WCP envisaged in the scoping study comprises two stages. The primary wet concentrator consists of a modular 4- stage spiral concentration plant which produces a primary HM concentrate which is mechanically transferred to the secondary wet plant. Feed from the MFU will be pumped to the primary WCP and de-slimed before reporting to a constant density feed tank, ahead of the spiral plant. Slimes will be thickened and then sent to paste dams for solar drying whilst coarse tails from the WCP will be hydraulically transported back to the mining void where they will be dewatered prior to discharging into a disused pit. Future studies will evaluate whether slimes can be paste thickened for co-disposal with the coarse tails.

Dry Plant Reject Material

The Dry Plant will process the low grade REO concentrate from the WCP to produce a high grade (40% TREO) REO concentrate as well as ilmenite and zircon by-products. The REO concentrate will be bagged for despatch to the refinery 70km from the mine site. The bagging area will be tightly controlled system with secured fencing and material movement monitoring due to the hazardous nature of the concentrate.

A dedicated wet scrubbing dust extraction unit will maintain a negative pressure within the building, to minimise airborne dust. The recovered dust will be slurried and returned to the WCP for retreatment. Given the high grade REO concentrate contains high concentrations of radioactive minerals the units in the building may require shielding and limited operator exposure. This has been considered during design.

Refinery Health and Safety

The proposed Rare Earth Refinery will process the REO concentrate from the Dry Plant to produce a rare earth carbonate product, as well as a uranium cake by-product. The rare earth carbonate product and uranium cake will be bagged and drummed respectively via an automated packaging plant and then loaded onto trucks for export. A dedicated wet scrubbing unit maintains a negative pressure in the water leach and uranium circuits to minimise acid and airborne dust. The recovered dust is then slurred and returned to the tails thickener for disposal. Given the purified waste contains high concentrations of radioactive minerals, sections of the building may require shielding and limited operator exposure, and the waste will be transported in specially designed waste repository. This has been considered during design.

20.3 Water Management

The water management strategy for the project aims to recycle, reuse and conserve as much water as possible.

In the Scoping Study, it is assumed that make-up water requirements for the WCP will be from two borefields located approximately 1km east and 1km west of the proposed WCP location.

Total ground water make-up requirement is nominally 4.3Mm^3 per annum, which equates to 535m^3/h. The amount of water required from the borefield will be investigated further to verify the capacity of the local aquifer.

A site water balance was prepared and pumping requirements estimated from which the make-up requirements were determined as a component of the Scoping Study.

20.4 Rehabilitation Financial Assurance

In the Northern Territory a rehabilitation security is required to be posted pursuant to the requirements of the NT *Mining Management Act* prior to the commencement of a mining project and is conditional to the grant of a Mining Lease. The security amount is usually equivalent to 100% of the cost of rehabilitation in respect of both new and existing mines. Securities are reviewed and adjusted to take into account any progress in rehabilitation, as well as new or expanded activities.

In addition, the NT Government announced in 2013 the introduction of a new rehabilitation levy which is additional to the upfront security already required to secure compliance with environmental rehabilitation obligations. The amount of the levy will be equivalent to one percent of the value of the environmental security.

Crossland is not yet required to lodge a rehabilitation security for mining activities, as a mining lease has not yet been granted and mine development has not yet been approved. However, it has lodged financial security for the Exploration Licences which the company holds.

20.5 Stakeholder Engagement

Key Stakeholders identified so far include the local community, regulatory agencies and Native Title holders.

The local community is comprised of pastoralists on whose leases the project is located. There are four individual pastoral leases. The initial start-up project area affects two of these pastoralists. Cordial relations including rental and compensation agreements are in place with both of these.

Activities on mining titles are regulated under approvals issued by the NT Department of Mines and Energy conditional on approved Mining Management Plans prepared by the Titleholder. A Mining Management Plan has been submitted by Crossland for the work proposed during 2013 to complete the feasibility study for the first phase of the proposed Project.

Aboriginal culture and heritage is significant in the region and local aboriginal groups maintain an interest in Crossland's activities. Crossland has entered an Exploration Deed with Aboriginal Central Lands Council as representative of potential Native Title Claimants. This is an active arrangement involving meetings for program approvals, site inspections, and compensation payments, and is expected to lead to an Indigenous Land Use Agreement ("ILUA") as the project proceeds. Aboriginal Heritage Site Clearances are incorporated into the Exploration Deed, but much of the area has also been covered by certificates issued by the Aboriginal Areas Protection Authority, an NT Government agency.

Stakeholder engagement and consultations are ongoing.

20.6 Discussion

An Environmental Impact Assessment has been fully scoped and is currently in progress. Critical seasonal fauna and flora studies are on track and will be completed during December 2013. Consequently, Crossland is well positioned to have all the required licenses and permitting completed before the end of 2014.

In BDA's opinion the schedule to achieve the necessary development approval, licences and other permits is reasonable and at this time BDA is not aware of any issues likely to significantly delay the project permitting.

21.0 CAPITAL AND OPERATING COSTS

21.1 Capital Costs

Estimated initial total capital cost in the SS is A$169M. In BDA's opinion this estimate should be increased to A$203.8M based on an increase in EPCM Costs, allowance for Owner's Costs and an increase in Contingency considering the early SS stage of the estimate. A breakdown of these estimates of initial capital cost is presented in Table 21.1.

Table 21.1

Initial Capital Expenditure

Activity	SS Estimate (A$M)	BDA Adjusted Estimate (A$M)
Direct Costs		
Wet Plant	88.6	88.6
Dry Plant	13.6	13.6
Refinery	18.0	18.0
Subtotal Direct Costs	*120.2*	*120.2*
Indirect Costs		
Mining Mobilisation	1.5	1.5
EPCM Costs	17.6	17.6
Other Indirect Costs	4.2	4.2
Owners Costs		2.8
Subtotal Indirect Costs	*23.2*	*26.1*
Contingency	12.7	35.9
Total	**156.1**	**182.2**

In addition to these estimated initial capital costs, allowances have been made in the Crossland financial model used in the analysis of project economics for expansion costs of A$40.0M in Operating Year 6 and for general sustaining capital of A$2M per annum. BDA notes that no allowance has been made in the financial model capital cost inputs for rehabilitation of the site at the completion of operations. BDA has included a nominal amount of A$30M for the rehabilitation.

The SS capital cost estimate has been prepared by MSP Engineering Pty Ltd, an engineer and constructor located in Perth Western Australia. MSP has used industry standard estimating methodology for a scoping study estimate to arrive at the estimate of direct costs. In its estimate it has noted that client costs, normally described as Owner's costs, and contingency on indirect costs and engineering, procurement and construction management ("EPCM") costs have been excluded.

BDA notes that no allowance has been made in the capital cost estimate for Owner's costs including pre-production operating costs; EPCM costs are estimated at around 15% of direct costs and contingency is around 9% of direct and indirect costs. BDA would normally expect EPCM costs to be at the higher end of the range of 15-20% of direct costs for a project in a remote location in Australia which includes a reasonably complex process plant. In this case where a detailed EPCM cost estimate has been prepared based on a preliminary implementation plan and reasonably detailed manning schedules, in BDA's opinion, the lower percentage is reasonable. However, in BDA's opinion, Owner's costs need to be included and the contingency increased to fall within the industry standard range for scoping studies of 25-35%. The level of engineering completed for the SS indicates that a contingency allowance at the lower end of this range is appropriate.

On that basis, BDA would recommend that the capital cost estimate for the economic assessment be increased as follows:

- an Owner's costs allowance of around 50% of the Operating Year 1 G&A costs, or A$2.8M should be included
- contingency should be increased to around 25% of direct and indirect costs, an increase of A$23.1M
- an allowance of A$30M should be included in the last year of operations for site rehabilitation.

Inclusion of the additional costs recommended by BDA increases initial capital from A$156.1M to A$182.2M.

21.2 Operating Costs

The preliminary cost estimate for the economic analysis is set out in Table 21.2. Projected operating costs over the LOM are calculated from indicative contractor prices and typical costs within the industry. As the data is only at a scoping study level the costs are of a preliminary nature with an accuracy of ±35%.

Table 21.2

Forecast Production Schedule

Item	Unit	Year									Total
		1	2	3	4	5	6	7	8	9-20	
Physicals											
Mine to MFU	Mt	8.0	12.0	12.0	12.0	12.0	20.0	20.0	20.0	240.0	356.0
TREO Concentrate	kt	4.05	6.08	6.08	6.08	6.08	10.13	10.13	10.13	121.50	180.23
TREO Contained	kt	1.46	2.19	2.19	2.19	2.19	3.65	3.65	3.65	43.74	64.88
Operating Costs											
Mining Cost	$M	21.1	31.7	31.7	31.7	31.7	51.8	51.8	51.8	621.1	924.2
WCP Cost	$M	12.2	18.4	18.4	18.4	18.4	27.0	27.0	27.0	324.0	490.7
Dry Plant	$M	2.2	3.4	3.4	3.4	3.4	3.4	3.4	3.4	40.3	66.1
Refinery	$M	8.6	12.8	12.8	12.8	12.8	21.4	21.4	21.4	256.8	380.9
G&A	$M	5.6	8.4	8.4	8.4	8.4	14.0	14.0	14.0	168.0	249.2
Shipping	$M	1.0	1.5	1.5	1.5	1.5	2.4	2.4	2.4	29.3	43.5
Total Site Costs	$M	50.7	76.1	76.1	76.1	76.1	120.0	120.0	120.0	1,412.6	2,154.5
Unit Costs											
Mining Cost	$/t mined	2.64	2.64	2.64	2.64	2.64	2.59	2.59	2.59	2.59	2.60
WCP Cost	$/t mined	1.53	1.53	1.53	1.53	1.53	1.35	1.35	1.35	1.35	1.38
Dry Plant	$/t mined	0.28	0.28	0.28	0.28	0.28	0.17	0.17	0.17	0.17	0.19
Refinery	$/t conc	2,113	2,113	2,113	2,113	2,113	2,113	2,113	2,113	2,113	2,113
Site Costs	$/t mined	6.34	6.34	6.34	6.34	6.34	6.00	6.00	6.00	6.00	6.05

Table 21.3

Projected Average LOM Operating Costs

Activity	Unit	Unit Cost
Mining	A$/t MFU Feed	2.60
WCP	A$/t MFU Feed	1.38
Dry Plant	A$/t MFU Feed	0.19
REE Refining	A$/t REO Conc	2,113
G&A and Rehabilitation	A$/t MFU Feed	0.70
Product Transport	A$/t MFU Feed	0.12
Total Operating Cost	**A$/t MFU Feed**	**6.05**

Mining costs are estimated at A$2.60/t ore delivered to the MFU. There is effectively no overburden or waste required to be mined over the LOM (except minor stockpiling of topsoil). The unit costs reflect pricing from local mining contractors and include the operating costs of the MFUs and the back hauling of oversize (15% of the feed tonnage) from the MFU to the mined out areas prior to rehabilitation.

The processing and refining costs as discussed in the SS are reasonable given the level of confidence at ±35%. BDA considers that the wet plant and refinery operating and maintenance workforce estimates are somewhat optimistic. Maintenance costs have been estimated using conventional methodology. Energy costs are reasonable based on gas turbine generation for the mine site and grid costs for the refinery.

Selling expenses include product loading and transport. No marketing costs have been included or corporate costs.

21.3 Discussion

The capital cost estimate of direct costs has been prepared using industry standard methodology for a scoping study and provides a reasonable estimate of direct costs for scoping study purposes. However, in BDA's opinion the Crossland allowance for contingency is inadequate, an estimate of Owners costs needs to be included and an allowance needs to be made in the financial model capital cost inputs for rehabilitation of the site at the completion of operations.

BDA has adjusted the estimate of initial capital cost in the financial model from A$156M to A$182M and added A$30M for site rehabilitation in its analysis of project economics.

The operating costs are preliminary with many aspects still to be better defined. However, overall the operating costs are considered by BDA to provide a reasonable basis for the preliminary economic assessment and provide reasonable guidance as to the likely cost structure.

22.0 ECONOMIC ANALYSIS

BDA's economic analysis is largely based on the Crossland SS LOM cash flow forecast model for the Charley Creek Rare Earth Project. BDA's analysis incorporates modifications to the grade and capital cost assumptions, incorporates royalty and tax considerations and is based on November 2013 REO prices.

22.1 Production Forecast

The production schedule has been prepared on the basis of the known Mineral Resources and average resource grade. Indicated Mineral Resources total 387Mt; the LOM model is based on mining 356Mt over a 20 year period as shown in Table 22.1.

Table 22.1

Forecast Production Schedule

Item	Unit	Year									Total
		1	2	3	4	5	6	7	8	9-20	
Physicals											
Mine to MFU	Mt	8.0	12.0	12.0	12.0	12.0	20.0	20.0	20.0	240.0	356.0
TREO Grade	ppm	300	300	300	300	300	300	300	300	300	300
MFU Reject	Mt	1.2	1.8	1.8	1.8	1.8	3.0	3.0	3.0	36.0	53.4
Feed to WCP	Mt	6.8	10.2	10.2	10.2	10.2	17.0	17.0	17.0	204.0	302.6
TREO Recoveries											
WCP/MFU Recovery	%	75	75	75	75	75	75	75	75	75	75
MSP Recovery	%	90	90	90	90	90	90	90	90	90	90
Refinery Recovery	%	90	90	90	90	90	90	90	90	90	90
Overall Recovery	*%*	*61*	*61*	*61*	*61*	*61*	*61*	*61*	*61*	*61*	*61*
Product											
TREO Conc	kt	4.1	6.1	6.1	6.1	6.1	10.1	10.1	10.1	121.5	180.2
TREO Contained	kt	1.5	2.2	2.2	2.2	2.2	3.6	3.6	3.6	43.7	64.9

Note: The economic analysis in this assessment is based on Indicated resources; no detailed mine planning or economic considerations have been applied that would enable them to be categorized as Mineral Reserves. There is no certainty that the PEA will be realized. Mineral Resources that are not Mineral Reserves do not have demonstrated economic viability.

Mine production will utilise conventional hydraulic excavators and trucks hauling and feeding the MFUs located within 1km from the mine face with slurry pumped to the WCP. No detailed mine plan has been prepared for the production schedule due to the preliminary nature of study. The next stage of the project assessment will require a mine schedule to be prepared with particular attention to the water courses through the mining area to ensure they are not disturbed and the operations are protected from flooding during major rain events.

BDA considers that the production plan is satisfactory for a SS level. However, it is noted that Year 2 production has been set at 12Mt treated while the model shows that the ramp-up for Year 2 is 90% of design. BDA considers the proposed ramp-up schedule to be reasonable. The plant recoveries are considered generally acceptable for a SS level of assessment, but will have to be confirmed during the next level of study.

22.2 Prices

The TREO basket price of US$51/kg is based on China FOB prices published in Metal-Pages.com. For the economic analysis BDA has used spot prices current in November 2013.

The refining penalty discount (or mixed carbonate off-take terms) used in the financial model is based on terms which apply at similar rare earth operations and indicative terms discussed by Crossland with a number of toll refiners and off-take refineries. A 25% discount has been used in the analysis.

22.3 Capital and Operating Costs

Capital and operating costs estimates used in the economic analysis are as described in Section 21.

22.4 Tax and Royalty

As noted in Section 4.4 a third party NSR royalty of 3% of production is payable to the original vendors of EL 242813. This EL covers a very limited section of the area proposed to be mined and does not have a material impact on the economic analysis.

In the Northern Territory, a profit-based royalty of 20% is payable to the Territory Government for mineral production and is described in Section 4.4 – Royalties. Royalties are excluded from the Operating Expenditure forecasts shown in Table 21.2. For the financial modelling royalties have been taken into account. Royalties are profit-based and reduce taxable income for the calculation of company tax.

The Australian tax system is controlled by the Australian Taxation Office. Corporate income tax is applied at a rate of 30%. The economic analysis of the Charley Creek Project has been prepared on an after-tax basis.

22.5 Exchange Rates

Capital and operating costs to be expended in A$ have been converted into US$ using an exchange rate of US$/A$1.02 for financial year ("FY") 2014, US$/A$1.00 for FY 2015, US$/A$0.99 for FY 2016, US$/A$0.97 for FY 2017, US$/A$0.92 for FY 2018 and US$/A$0.90 thereafter.

These forecasts correspond generally with forecasts by Australian financial institutions.

22.6 Forecast Cash Flows

The project's real, before tax, ungeared project cash flows as calculated by BDA using the inputs noted above are presented in Table 22.2.

Table 22.2

Charley Creek Conceptual Study Forecast Cash Flows

Item	Unit	Financial Year									
		0	1	2	3	4	5	6	7	8-20	Total
TREO Sales	'000t		1.46	2.19	2.19	2.19	2.19	3.65	3.65	47.39	64.88
Revenue	A$M		55.8	84.5	86.2	90.9	93.3	155.4	155.4	2,020.7	2,742.3
Operating Expenditure	A$M		-50.7	-76.1	-76.1	-76.1	-76.1	-120.0	-120.0	-1,559.5	-2,154.5
Capital Expenditure	A$M	-182.2	-3.7	-3.7	-3.7	-3.7	-43.7	-3.7	-3.7	-48.4	-296.6
NT Royalty	A$M				-0.1	-0.7	-0.6	-3.2	-3.2	-40.7	-48.6
Company Tax	A$M		1.2	0.3	-0.2	-1.4	-1.4	-6.9	-6.9	-87.3	-102.6
Cash Flow (after-tax)	A$M	-182.2	2.6	4.9	6.1	9.0	-28.6	21.6	21.6	284.8	139.9

Based on the product price, cost and production projections described above, the operation remains cash flow positive throughout the LOM. The NPV of the project, based on the projected after-tax cash flows and applying a real discount rate of 10%, is -A$73M.

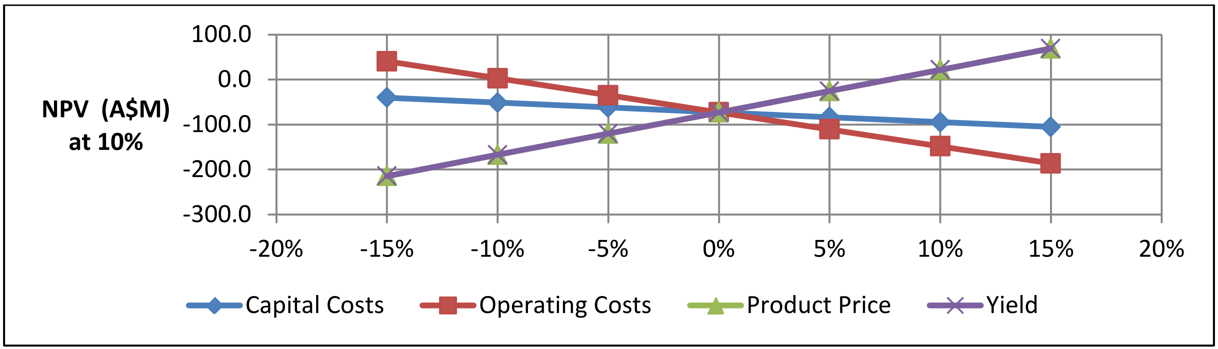
22.7 Sensitivities

The sensitivity of the NPV to ±5%, ±10% and ±15% changes to capital costs, operating costs, product yields (metric for grade) and prices is presented in Figure 9.

The yield and prices sensitivities are similar given that changes to yield, providing more or less product to be sold at base case pricing, provides a similar result to holding production constant and varying prices. Positive NPVs are achieved with an increase in the product price of around 8%.

Figure 9

NPV Sensitivities



In addition to the sensitivities described above, BDA has also assessed the effect on the NPV, at a 10% discount, of higher head grade for an initial five year period. As the base case, BDA has assessed the project economics on the basis of the average resource grade as currently estimated. It is noted that higher grade zones have been intersected in the drilling, but no work has been carried out to date to determine whether higher grade starter pits can be defined. Crossland, in its SS identified this as a likely scenario, and used this as the basis of the PEA. BDA considers that until sufficient drilling is carried out to determine whether higher grade starter pits can be identified, it is more appropriate to base the analysis on the average resource grade. However, BDA considers that it is appropriate to review the impact of higher grade as a sensitivity. The effect on the NPV of higher head grade for the first five years of operation is shown below:

300ppm head grade (Base Case):	-A$73M
400ppm head grade	-A$29M
500ppm head grade	+A$15M
600ppm head grade	+A$58M.

The results confirm the merit of the 2014 drilling programme aimed at locating and delineating higher grade areas. BDA considers it likely, based on the current drill data and radiometric anomalies, that some higher grade zones will be identified, but the size of these areas, and whether they can practically be mined as higher grade starter pits is not yet established. The sensitivity cases have been studied merely to examine the impact of different grade scenarios. BDA emphasises that there has been insufficient exploration undertaken to date to define a mineral resource or continuous mineable areas at a higher grade. It is uncertain if further exploration work will result in such a target being delineated, the higher grade scenarios are conceptual, and additional drilling may fail to locate higher grade zones that could support an initial higher grade operation.

22.8 Discussion

The project is cash flow positive for reasonable forecasts of tonnage, head grade, product prices, yield, capital costs and operating costs.

The project is most sensitive to factors which impact on revenues. The project is not particularly sensitive to changes in capital costs.

In BDA's opinion the economic evaluations confirm that the project warrants further study and evaluation. The sensitivity to higher grade in the initial years supports the objectives of the 2014 drilling programme.

23.0 ADJACENT PROPERTIES

Crossland has advised BDA that to the best of its knowledge, the Charley Creek deposit is presently the only known alluvial REE deposit being explored within the Arunta Region. One tenement registered to a Chinese company adjacent to the Charley Creek property has potential for rare earth alluvials, but Crossland advises that to the best off its knowledge, no alluvial exploration is currently underway. No known exploration activities for alluvial REE resources have been undertaken by any previous exploration companies in the area.

The Nolans Bore rare earth project owned by Arafura Resources Limited lies around 100km to the north of Charley Creek, but is a hard rock deposit with the rare earths primarily within fluor-apatite veins.

The southern boundary of the Charley Creek mineral tenements is located adjoining the northern boundary of the West MacDonnell Ranges National Park. No exploration licences are issued within the National Park boundary.

24.0 OTHER RELEVANT DATA AND INFORMATION

24.1 Company Structure

Pancon/Crossland Joint Venture - Australia

Pancontinental Uranium Corporation is the 100% owner of the subsidiary company, Panconoz Pty Ltd, registered in Australia. PPL holds Pancon's interests in the Charley Creek joint venture tenements.

On 8 February 2007, Pancon formed a joint venture with Crossland to earn a 50% participating interest (the" Participating Interest") in a number of prospective uranium projects held by Crossland in Australia; the joint venture interests also extended to any uranium prospects that subsequently became available or were known to Crossland. The joint venture agreement was finalised in 30 June 2008. In 2010 Pancon fulfilled its initial funding obligations to earn its Participating Interest by contributing A$8M in exploration funds.

Effective 1 August 2011, Pancon determined that it would cease funding its share of joint venture expenditures, and, as per the joint venture agreement, Pancon's participating interest was progressively reduced to a level of 45%. Effective 1 January 2012, with the advancement of the Charley Creek REE project and definition of an initial REE resource, Pancon determined to resume funding its proportionate share of joint venture expenditures.

Pancon's current interest in the joint venture with Crossland remains at 45%.

Crossland acts as operator of the joint venture. Pancontinental participates in the management of the joint venture through a Joint Venture Management Committee. Funding of expenditures is shared on a proportionate basis.

Crosscontinental Uranium Limited

Pancon and Crossland also formed a joint venture to explore prospects outside Australia. In March 2007 Pancontinental and Crossland formed Crosscontinental Uranium Limited ("Crosscontinental"), a private Canadian company, owned and funded by Pancon and Crossland on a 50:50 basis.

Crosscontinental was formed to expand Pancon and Crossland's uranium exploration and development efforts beyond Australia.

Since inception, Crosscontinental has focused on uranium exploration activities in Burkina Faso, West Africa. Crosscontinental began applying for uranium permits in 2007, based on a 2003 study funded by the European Development Fund, but has not to date been successful in obtaining any of these permits. Processing of Crosscontinental's uranium permit applications was suspended while the government of Burkina Faso formulated its policy on uranium mining. The joint venture re-evaluated the potential for obtaining uranium permits in Burkina Faso and concluded that this would likely be a lengthy process; after due consideration the joint venture withdrew from Burkina Faso in 2013 and terminated all related activities.

24.2 Mine Life and Exploration Potential

The current economic analysis is based on 20 years mine life. A long mine life appears a generally reasonable assumption based on current knowledge of the distribution of the alluvials.

The alluvials appear to have significant exploration potential beyond the limited areas that have been drilled to date. Crossland has estimated that only around 5% of the potential area of alluvials has been investigated by the 2008 and 2011 drilling programs.

The priority for the next drilling program is to identify areas of generally higher grade that could be developed as initial starter pits. The Crossland SS PEA assumes that an average feed grade of 500ppm TREO can be maintained for the first 5 years. This is not unreasonable as an Exploration Target, but needs to be proved up, initially with reconnaissance drilling and then with systematic grid drilling leading to Mineral Resource and Mineral Reserve estimates. BDA emphasises that the Exploration Target quantity and grade are conceptual in nature. There has been insufficient exploration to define such a mineral resource and it is uncertain if further exploration will result in the target being delineated as a mineral resource. BDA has taken a more conservative view in this NI 43-101 economic analysis and has applied the average resource grade of 300ppm. However, from the data reviewed BDA considers that the prospects for identifying some higher grade areas are good.

24.3 Glossary

Technical terms or abbreviations used in this report are generally defined where first used. For ease of reference the terms are summarised in the glossary tables below.

Term/Abbreviation	Description
A$	Australian Dollars
AIG	Australian Institute of Geoscientists
ALS	ALS Global
ALS Mineralogy	ALS Mineralogy Pty Limited
AML	Allied Mineral Laboratory
AMSL	Above Mean Sea Level
AusIMM	Australasian Institute of Mining and Metallurgy
bcm	Bank Cubic Metre (in situ volume)
BDA	Behre Dolbear Australia Pty Limited
BFS	Bankable Feasibility Study
BOO	Build, Own, Operate
CIM	Canadian Institute of Mining, Metallurgy and Petroleum
CLC	Central Lands Council
CNPL	Crossland Nickel Pty Limited
Crosscontinental	Crosscontinental Uranium Limited
Crossland	Crossland Strategic Metals Limited
DME	Northern Territory Department of Mines and Energy
DoR	Northern Territory Department of Resources
EIS	Environmental Impact Statement
EL	Exploration Licence
EPCM	Engineering, Procurement and Construction Management
FY	Financial Year
Genalysis	ITS-Genalysis
GHD	GHD Australia Pty Limited
GPS	Global Positioning System
ha	Hectare
HCl	Hydrochloric Acid
HMC	Heavy Minerals Concentrate
HOA	Heads of Agreement
HREE	Heavy Rare Earth Elements
HREO	Heavy Rare Earth Oxide
H_2SO_4	Sulphuric Acid
HV	High Voltage
ICP-AES	Inductively Coupled Plasma Atomic Emission Spectrometry
ICP-MS	Inductively Coupled Plasma Mass Spectrometry
ILUA	Indigenous Land Use Agreement
IX	Ion Exchange
JORC	Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves – Joint Ore Reserve Committee
JV	Joint Venture
kg	Kilogram
km	Kilometre
km^2	Square Kilometre
km/h	Kilometres per hour
kt	Thousand Tonnes
kW	Kilowatt
LIMS	Low Intensity Magnetic Separation
LOM	Life of Mine
LREE	Light Rare Earth Elements
m	Metre
M	Million
m^3	Cubic Metre
µm	Micron (m x 10^{-6})
Ma	Million Years
MFU	Mining Field Unit
MMP	Mine Management Plan
MRA	Northern Territory Mineral Royalty Act 1982
MREE	Mid Rare Earth Elements
MSP	MSP Engineering Pty Limited
Mt	Million Tonnes
Mtpa	Million Tonnes Per Annum
MW	Megawatt
NI 43-101	Canadian Securities Administrators' National Instrument 43-101 - Standards of Disclosure for Mineral Projects
NPV	Net Present Value
NT	Northern Territory
ORP	Oxidation/Reduction Potential

Term/Abbreviation	Description
Pancon	Pancontinental Uranium Corporation
Panconoz	Panconoz Pty Limited
PEA	Preliminary Economic Assessment
PFD	Process Flow Diagram
PPL	Panconoz Pty Limited
ppm	Parts Per Million
psi	Pounds per Square Inch
QA/QC	Quality Assurance/ Quality Control
RL	Reduced Level
RE	Rare Earth
REE	Rare Earth Element
REO	Rare Earth Oxide
ROM	Run of Mine
SG	Specific Gravity
sq km	Square Kilometres
SS	Scoping Study
t	Tonne
t/m^3	Tonnes per Cubic Metre
Th	Thorium
tpa	Tonnes Per Annum
tph	Tonnes Per Hour
TREO	Total Rare Earth Oxides
TSX	Toronto Stock Exchange
U	Uranium
US$	United States Dollars
UTM	Universal Transverse Mercator
WA	Western Australia
WCP	Wet Concentration Plant
WGS 84	World Geodetic System 1984

25.0 INTERPRETATION AND CONCLUSIONS

The geology of the Charley Creek area is reasonably well understood.

The data that has been used to estimate the Western Dam and Cattle Creek Mineral Resources is based on aircore drilling, GPS survey and independent accredited laboratory analyses. BDA considers the data adequate to support an initial resource estimation but notes that industry standard Quality Assurance/Quality Control procedures have generally not been applied to the sampling and assaying procedures, although systematic internal laboratory checks have been carried out.

The Mineral Resource estimates have been carried out by Crossland using an inverse distance weighted grade algorithm within deposit limits which have been wireframed on section. The lower wireframe boundary has been limited to the occurrence of the first consolidated material, typically a harder calcrete band, as the mining and processing plans are based on free-dig unconsolidated material which can readily be upgraded through a mineral-sands-type circuit. The Competent Person under the JORC Code who has undertaken the resource estimate is an experienced geologist.

The aircore holes have been drilled along linear traverses at 200-400m intervals due to access restrictions. A systematic grid pattern of drilling would be more satisfactory for resource estimation, but this has not been possible at this stage of the exploration programme. Due to the relatively widespread and regular nature of the alluvial fan distributions, and the restrictions imposed on drill access, BDA considers the drill distribution acceptable for an initial resource estimate. Crossland has advised that it is likely access restrictions will be relaxed for future drilling programmes.

Crossland has allowed a 400m extrapolation from the nearest drill hole for estimation of Indicated resources, and a further 400m extrapolation for Inferred resources. Based on the nature of the alluvial fans, BDA considers these limits acceptable, but on the upper boundary of what would be considered reasonable. However, it should be noted that the alluvial fans are widespread and extend for many kilometres beyond the current the drill pattern. There is no certainty as to the REE grade distribution in these undrilled areas, but there is significant potential for an extensive resource to ultimately be defined.

Crossland has estimated an Indicated Mineral Resource of 387Mt averaging 300ppm TREO and an Inferred Mineral Resource of 418Mt averaging 300ppm TREO based on two areas of drilling within the alluvial fans, Western Dam and Cattle Creek. No Mineral Reserves have yet been defined.

A Scoping Study has been completed, together with a Preliminary Economic Assessment based on the SS. The SS, while in parts containing significant plant design and process detail, remains a preliminary assessment. The SS PEA is based on a 20 year mine life, mining 356Mt of mineralised alluvials.

The project is amenable to open pit mining and the planned approach is appropriate based on the current knowledge but to date no significant mine planning or design work has been carried out.

The approach taken to upgrade the ROM material to a 40% TREO concentrate has been well thought out and is supported by testwork. The refinery flowsheet is quite conventional and appropriate. Nevertheless the next stage of study should include a more detailed testwork programme directed to confirm the unit operations and unit processes used for the plant designs, with testwork based on samples representative of the areas to be mined at the expected grades.

In BDA's opinion the SS capital cost estimate and the capital inputs to the financial model should be increased in the areas of Owners costs and contingency. After these increases are made, the capital cost estimate is reasonable and appropriate for scoping study purposes.

BDA has reviewed the SS PEA and while the assumptions are considered generally reasonable it must again be noted that the projections are based on Mineral Resources and Exploration Targets, that detailed mine planning has not yet been undertaken, and that the study is preliminary in nature. The assessment includes mineralisation that is too speculative geologically to have economic considerations applied that would enable it to be categorised as a Mineral Reserve, and there is no certainty that the results of the PEA will be realised. BDA has carried out a more conservative economic analysis for the purpose of this NI 43-101 report, based on material at the average resource grade.

Significant additional drilling, sampling and testwork are required to move the studies to the next stage of a preliminary feasibility study. Nevertheless, in BDA's opinion, the outcome of the studies identifies the potential of the deposit and supports the continuation of further exploration and more detailed studies. The results of the SS and BDA's revised economic analysis indicate that the project warrants further study and evaluation.

An Environmental Impact Assessment has been fully scoped and environmental studies are currently well progressed. Consequently, Crossland is well positioned to have all the required licenses and permitting completed before the end of 2014. In BDA's opinion the schedule to achieve the necessary development approval, licences and other permits is reasonable and at this time BDA is not aware of any issues likely to significantly delay the project permitting.

26.0 RECOMMENDATIONS

BDA makes the following recommendations for the progression of the Charley Creek project. It is recognised that a number of these activities are already planned to be carried out and are part of the joint ventures planned future programs:

- BDA recommends that a more systematic grid drilling approach be adopted for future potential resource areas. BDA recognises that the limited drill coverage to date has been as a result of access restrictions requiring drilling to be undertaken along existing roads or fence lines. To progress the project, more systematic grid drilling is required and Crossland advises that it anticipates that these restrictions will be relaxed for future investigations. BDA has reviewed the future work programme planned by Crossland and Pancon and considers it reasonable and appropriate. The budget for the proposed drilling, exploration and development work planned for 2014 totals A$548,000; BDA considers the allocated funds to be appropriate for the next stage of planned exploration. Assuming the identification of areas of potentially economic grade, systematic grid infill drilling will be required to establish an appropriate basis for resource estimation. BDA suggests that in selected areas, drill spacing as close as 50 x 50m will be required to provide a guide to the variability of the deposit, but overall an initial 200 x 200m grid with infill to 100 x 100m (dependent on variability) is likely to be appropriate for the next stage of resource estimation. BDA suggests provision of A$0.2M for the first stage of systematic infill drilling.

- The alluvial outwash fans in the Charley Creek region are very extensive and BDA recommends that widespread mapping, sampling and scout drilling be undertaken prior to focussing detailed grid drilling on a specific area. Crossland has indicated that it considers that some areas of the alluvial fans will support mining of higher grade TREO material for a period of around five years in a series of starter pits, before reverting to an average ROM grade of 300ppm for the rest of the mine life. This hypothesis is yet to be proved, but is an important factor in Crossland's modelling and assessment. BDA recommends that proving, or disproving, this higher grade potential should be a significant focus of the next field work programme. Crossland's 2014 budget of A$170,000 for the drilling of 100 reconnaissance aircore holes is considered appropriate to initiate this programme. BDA recommends that industry standard QA/QC approaches be adopted for all future drill and sampling programmes including duplicate sampling, submission of certified samples, duplicates and blanks within the batches submitted for assay. Periodic 'third-party' testing using alternative accredited laboratories should also be carried out. The independent check data and the laboratory internal checks should be subject to routine statistical analysis to ensure that appropriate standards of precision and accuracy are being maintained. This work should not have a material impact on the overall cost of the drilling programme.

- BDA recommends that a specialist independent group be engaged to undertake the resource estimation, though Crossland geologists should maintain the major role in terms of geological interpretation of the deposit boundaries and distribution. BDA estimates that an independent data audit and resource estimation would cost around A$40-50,000.

- Once appropriate areas have been identified and resource drilling has been carried out, BDA suggests that bulk sampling should be considered over the potentially mineable widths. BDA suggests that a large diameter bucket rig with a 500-900mm bucket be considered for such a task, allowing the extraction of several bulk samples over the full thickness of the resource in several locations. This work will also provide valuable mining and hydrological data. If a bucket rig is not readily available then an excavator could be used, but this has the disadvantage of only sampling the upper few metres of the alluvials. BDA suggests that around A$100,000 be budgeted for a bulk sampling exercise, post the resource infill drilling stage.

- Although the proposed mining operation should be a fairly straightforward bulk earthmoving operation to a relatively shallow depth, BDA recommends that, as a minimum, conceptual mine designs and materials handling plans be incorporated in the next level of study. It is recommended that preliminary mine planning be undertaken to ascertain how the mining sequence can be balanced with maintaining higher grades to the process plant in the initial period of the operation. BDA estimates that the work required to prepare a preliminary mine plan and schedule would cost around A$35-45,000 if carried out be an independent consulting group.

- It is recommended that more metallurgical testwork for the wet and dry plants as well as for the refinery be conducted using samples representative of the deposits to be mined and of the feed grades expected. Systematic process testwork should be carried out on the bulk samples including screening, spiral testing, and magnetic and electrostatic separation to test and further develop and refine the proposed plant design and confirm the recovery factors. BDA suggests that a sum of approximately A$70,000 be budgeted for the next stage of follow-up metallurgical testwork.

- Detailed testwork is recommended on the planned refinery processes including the removal of radioactive minerals to ensure a saleable concentrate. Due consideration needs to be given to the handling of the more radioactive mineral streams and the disposal of the waste component. BDA suggests that this programme be incorporated in the A$70,000 metallurgical testwork budget suggested above.
- Marketing and offtake discussions should be undertaken with interested parties to ensure that markets are available for the projects products and to incorporate appropriate cash flow estimates in the economic modelling.
- Environmental studies are already underway; infrastructure studies should focus on the major items of access to an adequate supply of groundwater and power supply, including access to an appropriate supply of natural gas. The current and ongoing environmental monitoring studies are budgeted at A$95,000 for 2014**.** Initial infrastructure studies would not require a material budget, but once the project progresses past the scoping study stage detailed groundwater investigations will be required to confirm a source of project process water. BDA suggests that an initial amount of A$50,000 be budgeted for groundwater investigations.

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