

4 June 2014

## **AGREEMENT WITH VALE S.A. FOR EVALUATION AND DEVELOPMENT OF MAJOR TITANIUM DEPOSIT, BRAZIL**

Iluka Resources Limited (Iluka) today advised that it signed a Joint Development Agreement (JDA) and Intellectual Property Agreement (IPA) with Vale S.A. for the staged evaluation and potential development of the major titanium mineral bearing deposit located at Tapira in Minas Gerais State, Brazil (the Tapira complex). Refer Figures 1 to 3 for location and deposit information.

The Tapira intrusive complex is host to large volumes of titanium-bearing minerals: anatase (titanium dioxide or  $TiO_2$ ), ilmenite ( $FeTiO_3$ ) and perovskite ( $CaTiO_3$ ), which occur in association with Vale's existing phosphate mining operations. The JDA and IPA agreements will provide Iluka with the opportunity to undertake geological and metallurgical research programmes with a view to the development of a long life, large scale titanium feedstock operation.

The first phase involves a scoping study, including a series of geological and technical evaluations, a market assessment, and the determination of the preferred pilot plant design. This first phase is expected to take approximately fifteen months to complete.

Subsequent phases are dependent on the results of Phase 1 and include: the evaluation, construction and operation of a pilot plant; pre-feasibility and definitive feasibility studies for a commercial plant; and ultimately the construction and operation of a commercial scale plant.

In consideration for funding the first phase, pilot plant and feasibility studies, Iluka has secured options to participate, up to a maximum of 49 per cent equity, in a joint venture with Vale, as well as preferential options on other potential large scale titanium dioxide deposits within Vale's portfolio.

David Robb, Iluka's Managing Director stated: "Iluka's involvement provides the company with the opportunity to participate in the potential commercialisation of one of the largest known undeveloped titanium mineral deposits. The approach is an example of Iluka's additional emphasis on alliancing and joint venture activities to identify and potentially develop new mineral resources needed over the long term by the mineral sands industry. The company is pleased to have Vale as its partner."

According to Roger Downey, Vale's Fertilizers and Coal Executive Director: "The agreement with Iluka brings a partner with the expertise to add value and seek alternatives for faster development of the Tapira Titanium Project."

## Information about the Deposit

The Tapira complex, is a variably weathered, layered carbonatite<sup>1</sup> intrusive, approximately six kilometres by eight kilometres in extent covering an area of approximately 35 square kilometres. The complex hosts minerals of phosphorous and titanium. The valuable minerals that are subject to the JDA, IP Agreement and potential Joint Venture Agreement consist of anatase and ilmenite, with a suite of co-products containing rare earth oxides (largely in the light and medium categories) along with significant quantities of magnetite. The commercial viability of the valuable minerals remains subject to further study during the agreed joint development.

Figure 1 – Location Plan for the Tapira Project in the State of Minas Gerais, Brazil.

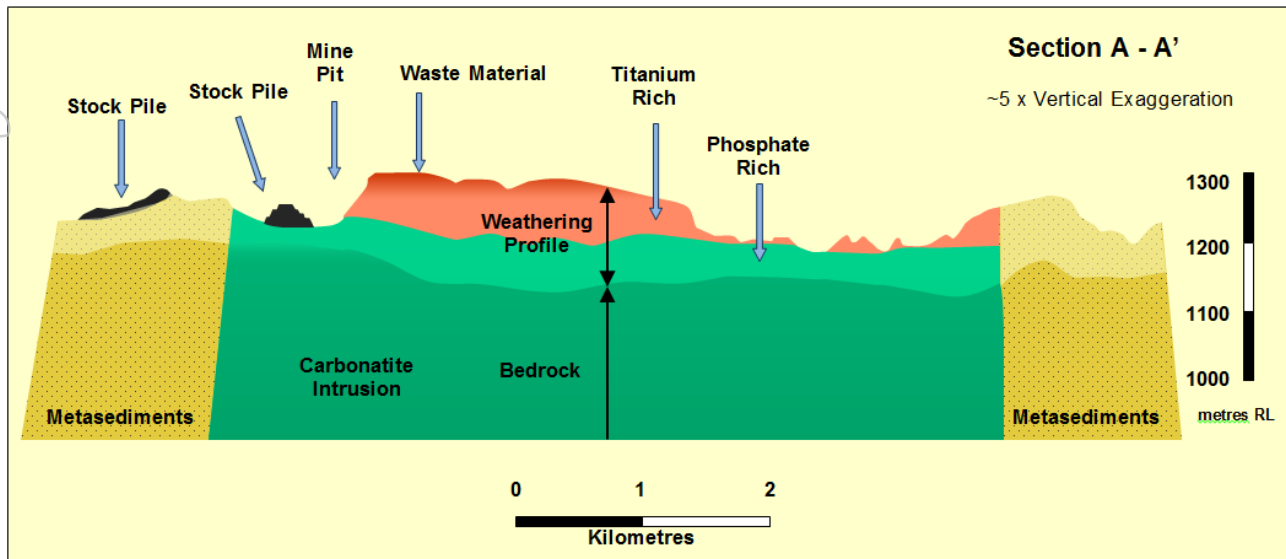


The materials of interest within the Tapira complex are present as roughly horizontal layers of varying thickness as illustrated schematically in Figure 2 and can be summarised as:

- surficial barren material ranging from 10 to 50 metres, which averages about 20 metres in true thickness;
- a weathered zone elevated in anatase, ilmenite, rare earth oxides and magnetite, typically ranging from 10 to 40 metres thickness and averaging about 25 metres true thickness;
- an apatite-rich zone, or a source of phosphates, up to 80 metres thick; and
- igneous bedrock.

<sup>1</sup> Carbonatites are carbonate mineral enriched igneous intrusions. They are variable in mineral composition, but often contain minerals such as apatite, magnetite and barite and can be rare-earth element enriched.

Figure 2 – Tapira complex schematic cross section. The approximate location of A – A' is shown on Figure 3.



Two Exploration Targets exist at Tapira – in situ material and stockpiled material. The first is represented by the in situ weathered zone material containing elevated anatase and ilmenite. This target has been extensively tested historically and a total of 976 vertically orientated diamond core holes have been drilled for a total of 81,140 metres. The drill holes have an average spacing of approximately 150 by 150 metres and the location of the drill holes is shown in Figure 3. Sample intervals range from 0.01 to 60 metres, averaging about four metres. The titanium dioxide (TiO<sub>2</sub>) content of a total of 21,785 samples from the diamond core has been derived from whole rock XRF analysis.

**Exploration Target – In Situ Material**

Based on the results of these historical exploration activities, preliminary modelling of the in situ material by Iluka has estimated an Exploration Target of 1 to 1.5 billion tonnes of material with an estimated TiO<sub>2</sub> content of 12 to 15 percent for the Tapira in situ deposit. The potential quantity and grade of titanium mineral described in the Exploration Target for the in situ deposit is conceptual in nature with insufficient supporting metallurgical test work to estimate a Mineral Resource. It is the objective of further exploration and supporting test work to establish reliable data for mineral distribution and recovery, and quality and subsequently the estimation of a Mineral Resource.

Representative cross sections of the Tapira in situ Exploration Target and summary tables of the associated mineralised intersections are presented in Figures 4 and 5 and Tables 1 and 2. Representative sections and mineralised intercepts have been presented as it is impractical to provide a comprehensive table of all the data. Appendix A to this notice addresses the reporting requirements in Table 1 of the JORC Code applicable to the Exploration Results referred to in this notice in relation to the Tapira in situ Exploration Target.

Figure 3 – Tapira complex outline and drill hole locations within the in situ Exploration Target area (Section A - A') is presented in Figure 2).

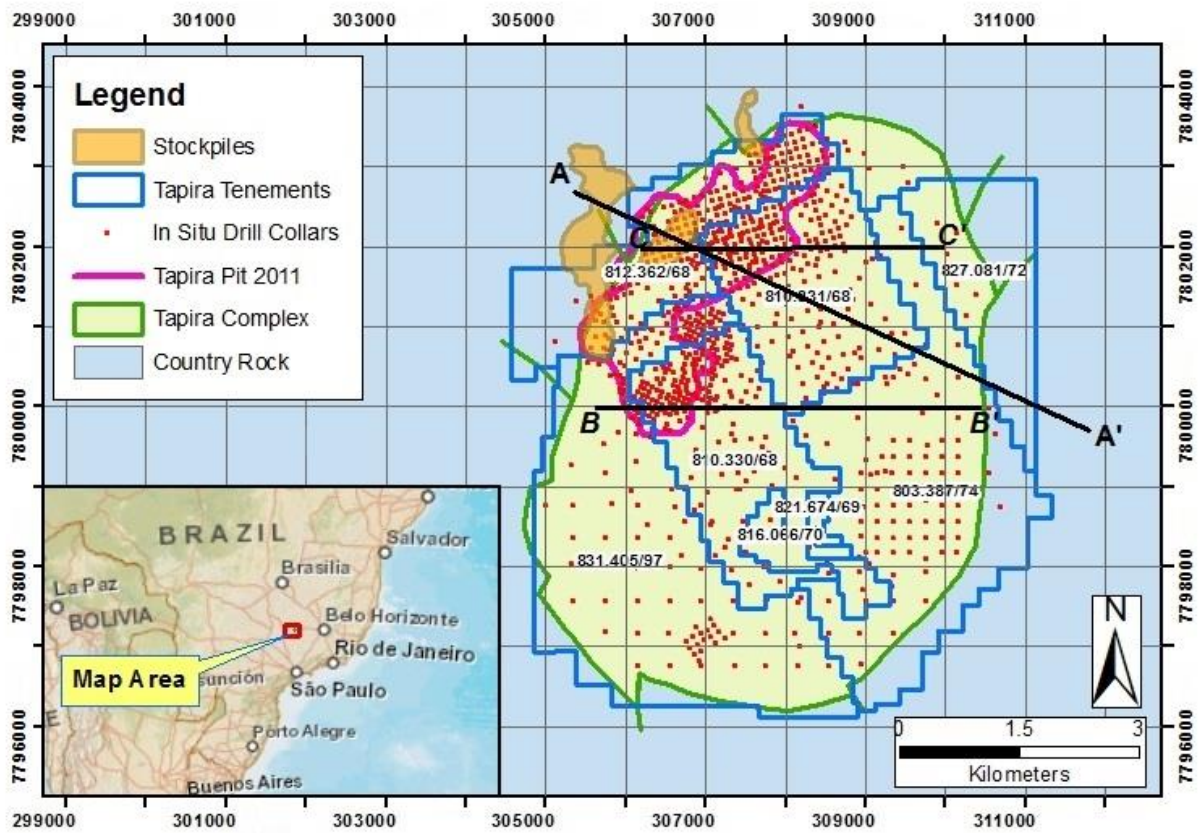


Figure 4 – Cross section (B - B') at 7,800,000 metres north showing TiO<sub>2</sub> percentage in drill holes and interpreted TiO<sub>2</sub> enriched weathered zone.

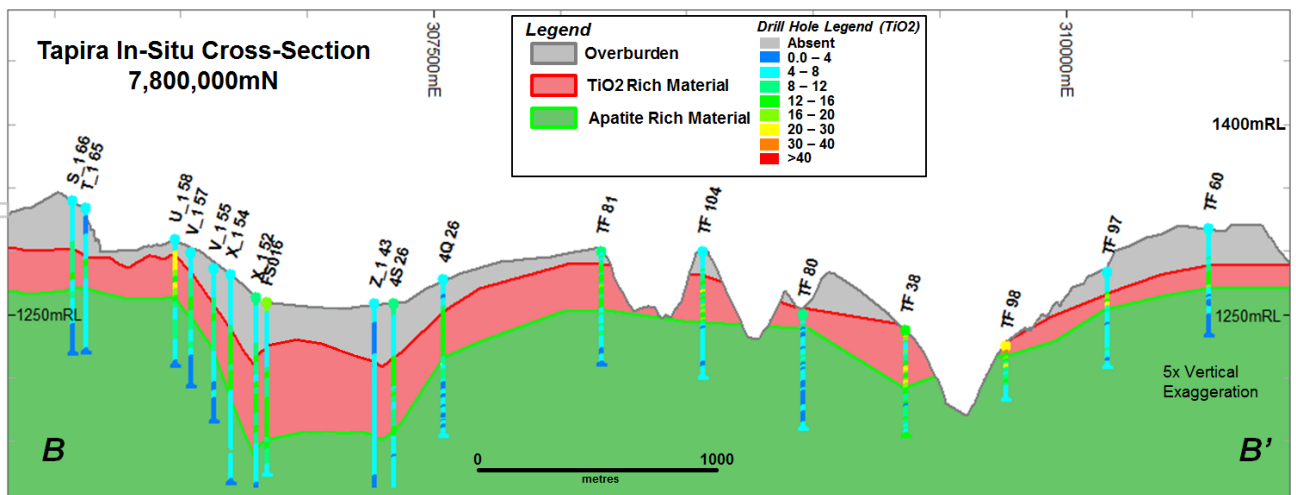


Table 1 – Summary of length weighted average TiO<sub>2</sub> percentage from intersections of the elevated TiO<sub>2</sub> mineral bearing weathered zone on section 7,800,000 metres north.

Tapira In-Situ Cross-Section 7,800,000mN								
BHID	Project	Easting	Northing	RL	Intercept From (m)	Intercept To (m)	Intercept Length (m)	Average TiO <sub>2</sub> (%)
S_166	Tapira	306074	7800002	1299	37.99	67.99	30	7.8
T_165	Tapira	306130	7799972	1289	41.71	61.71	20	10.8
U_158	Tapira	306482	7800027	1298	9.7	44.7	35	21.3
V_157	Tapira	306543	7799995	1280	15.6	52.05	36.45	11.2
V_155	Tapira	306634	7800028	1258	24	54	30	11.0
X_154	Tapira	306699	7799994	1237	41.15	96.15	55	10.5
X_152	Tapira	306799	7800018	1214	46.95	121.25	74.3	11.9
FS016	Tapira	306846	7799981	1224	33	96	63	10.9
Z_143	Tapira	307271	7800010	1205	50	110	60	6.1
4S26	Tapira	307345	7799980	1212	44	99.4	55.4	11.3
4Q26	Tapira	307540	7800000	1251	24	61	37	13.9
TF 81	Tapira	308165	7799978	1290	8	45	37	8.4
TF 104	Tapira	308566	7799978	1280	18	55.4	37.4	12.3
TF 80	Tapira	308965	7799978	1248	0	10.2	10.2	9.6
TF 38	Tapira	309368	7799977	1235	0	48	48	14.6
TF 98	Tapira	309765	7799978	1223	0	6	6	26.8
TF 97	Tapira	310165	7799978	1266	16	26.3	10.3	18.1
TF 60	Tapira	310566	7799982	1288	28	46	18	12.9

Figure 5 - Cross section (C - C') at 7,802,000 metres north showing TiO<sub>2</sub> percentage in drill holes and interpreted TiO<sub>2</sub> enriched weathered zone.

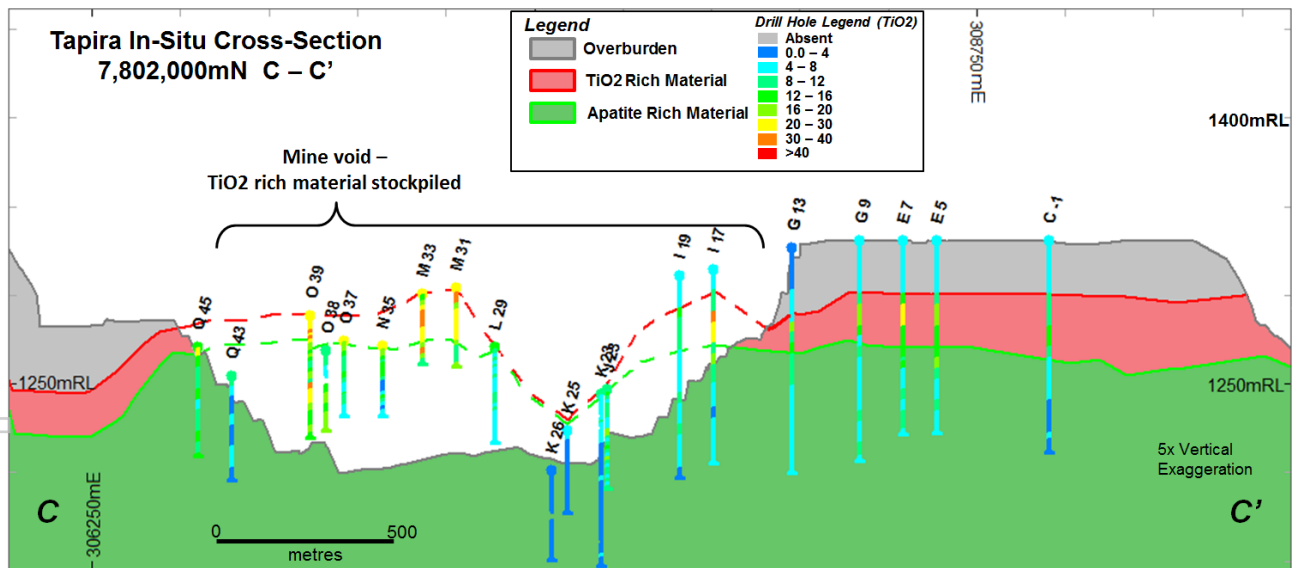




Table 2 – Summary of length weighted average TiO<sub>2</sub> percentage from intersections of the elevated TiO<sub>2</sub> mineral bearing weathered zone on section 7,802,000 metres north.

Tapira In-Situ Cross-Section 7,802,000mN								
BHID	Project	Easting	Northing	RL	Intercept From (m)	Intercept To (m)	Intercept Length (m)	Average TIO2 (%)
G 13	Tapira	308229	7801983	1281	42	60	18	14.7
G 9	Tapira	308420	7802025	1297	30	54	24	14.5
E 7	Tapira	308545	7801977	1297	30	60	30	17.2
E 9	Tapira	308450	7801947	1298	30	54	24	14.6
C -1	Tapira	308957	7801999	1297	30	66	36	12.0

### Exploration Target – Stockpiled Material

The second Exploration Target is represented by 70 to 100 million tonnes of stockpiled material grading 12 to 15 percent TiO<sub>2</sub>. The potential quantity and grade described in the Exploration Target for the stockpiled material is conceptual in nature. There has been insufficient exploration and supporting metallurgical test work to estimate a Mineral Resource and it is uncertain if further exploration will result in the estimation of a Mineral Resource.

The material containing the anatase, ilmenite, rare earth oxides and magnetite has been purposefully stockpiled since the inception of mining of the underlying apatite (P<sub>2</sub>O<sub>5</sub> rich) material in 1978. The Exploration Target for the stockpiled material is based on previous exploration activities by Vale. The volume of material has been estimated from stockpile surveys. Also, a combined total of 561 vertically orientated auger and diamond core holes totalling 10,008 metres were drilled on the stockpiles during 2003 and 2004 the locations of which are shown on Figure 6. Five metre composite samples were subjected to several stages of crushing, attritioning and magnetic separation to produce a TiO<sub>2</sub> enriched mechanical concentrate. The mechanical concentrate derived from this process was analysed by XRF methods which support the TiO<sub>2</sub> grade estimate of the Exploration Target. The percentage of stockpiled material recovered to the TiO<sub>2</sub> enriched mechanical concentrate and the TiO<sub>2</sub> content of this mechanical concentrate have been recorded by Vale and are reported in the cross sections and tables shown below.

Representative cross sections of the Tapira Stockpiles Exploration Target are presented in Figures 7, 8 and 9 and summary of the associated mineralised intersections are given in Tables 3, 4 and 5. Representative sections and mineralised intercepts have been presented as it is impractical to provide a comprehensive table of all the data. Appendix B to this notice addresses the reporting requirements in Table 1 of the JORC Code applicable to the Exploration Results referred to in this notice in relation to the Tapira Stockpile Exploration Target.

Figure 6 – Location of diamond core and auger holes drilled by Vale on the Tapira stockpile Exploration Target. The location of the stockpiles in relation to the Tapira in situ material is shown on Figure 3.

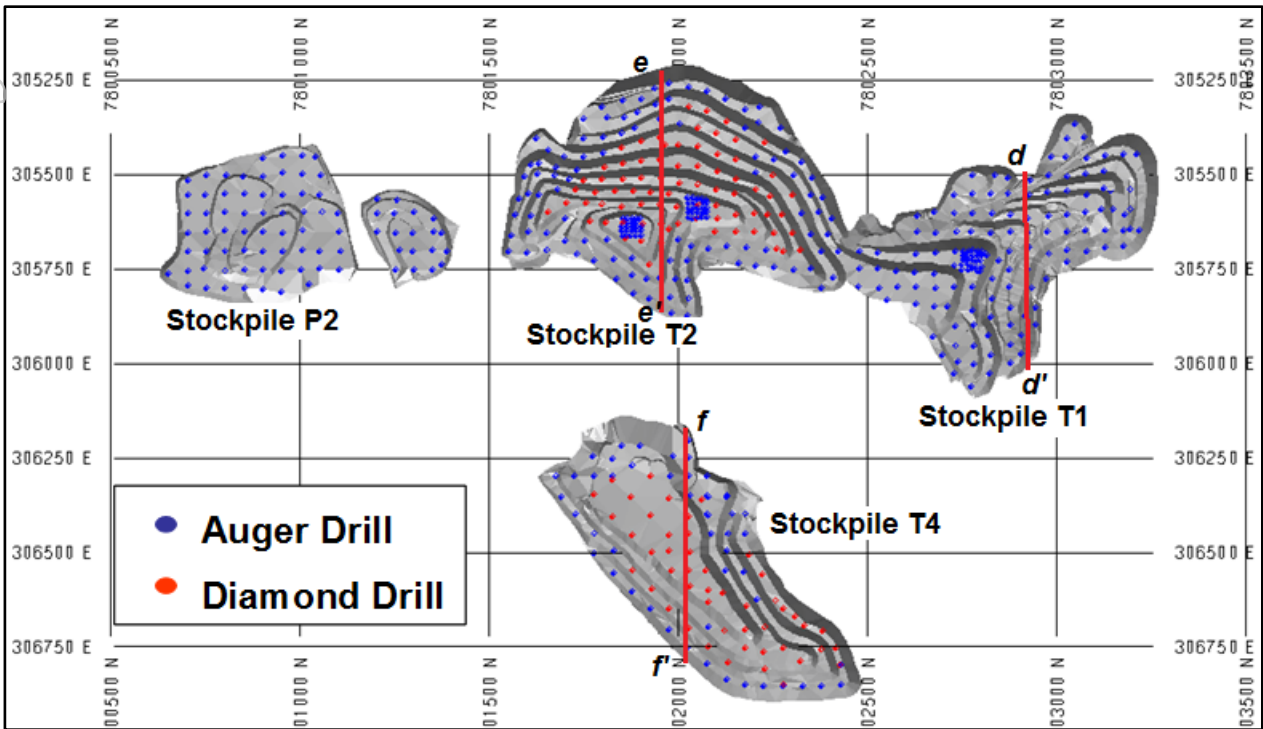


Figure 7 - Cross section (d - d') at 7,802,875 metres north showing the percentage of sample reporting to the mechanically enriched concentrate and the TiO<sub>2</sub> percentage in that concentrate for drill holes from the Tapira Stockpile Exploration Target.

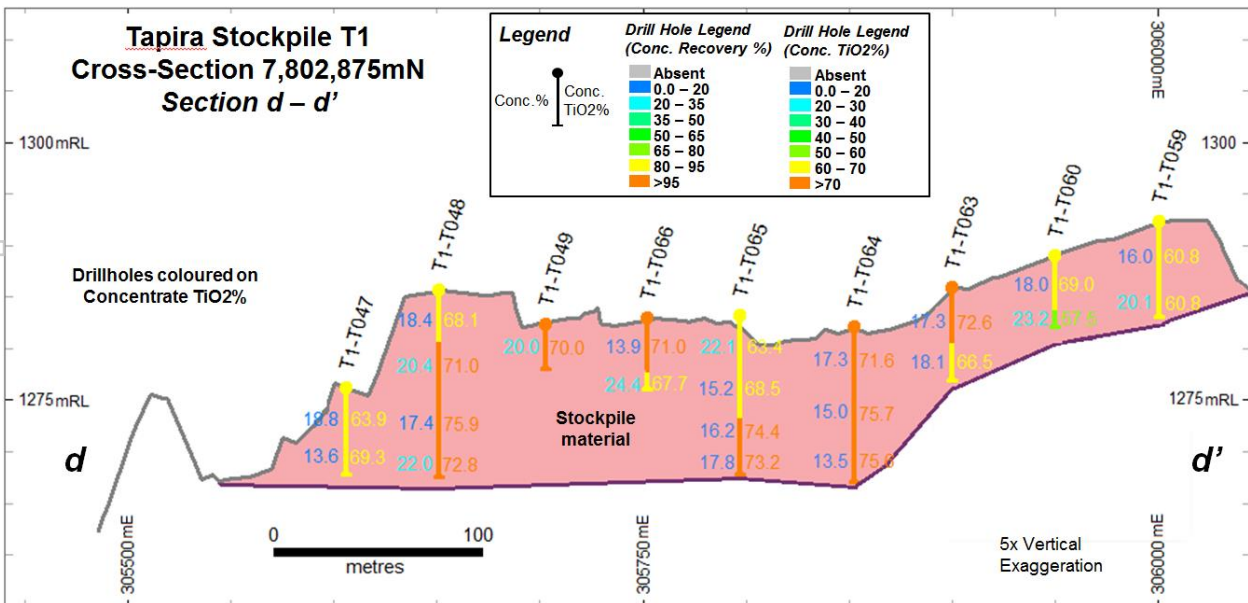


Table 3 – Summary of length weighted average intercept results for percentage of concentrate recovered and TiO<sub>2</sub> grade in concentrate from drill samples of the Tapira Stockpile Exploration Target, 7,802,875 metres north.

Tapira Stockpile T1 Cross-Section 7,802,875mN									
BHID	Project	Easting	Northing	RL	Intercept From (m)	Intercept To (m)	Intercept Length (m)	Average Conc. Recov %	Average Conc. TiO <sub>2</sub> (%)
T1-T047	Tapira	305607	7802877	1274	0	8.1	8.1	16.8	65.9
T1-T048	Tapira	305652	7802878	1283	0	17.7	17.7	19.2	71.9
T1-T049	Tapira	305703	7802874	1280	0	4.3	4.3	20.0	70.0
T1-T066	Tapira	305753	7802874	1280	0	6.5	6.5	16.3	70.3
T1-T065	Tapira	305798	7802874	1281	0	17	17	17.8	69.3
T1-T064	Tapira	305853	7802877	1279	0	15	15	15.2	74.3
T1-T063	Tapira	305901	7802876	1283	0	8.5	8.5	17.6	70.1
T1-T060	Tapira	305950	7802877	1286	0	6.25	6.25	19.1	66.7
T1-T059	Tapira	306001	7802878	1290	0	8.85	8.85	17.8	60.8

Figure 8 - Cross section (e - e') at 7,801,950 metres north showing the percentage of sample reporting to the mechanically enriched concentrate and the TiO<sub>2</sub> percentage in that concentrate for drill holes from the Tapira Stockpile Exploration Target.

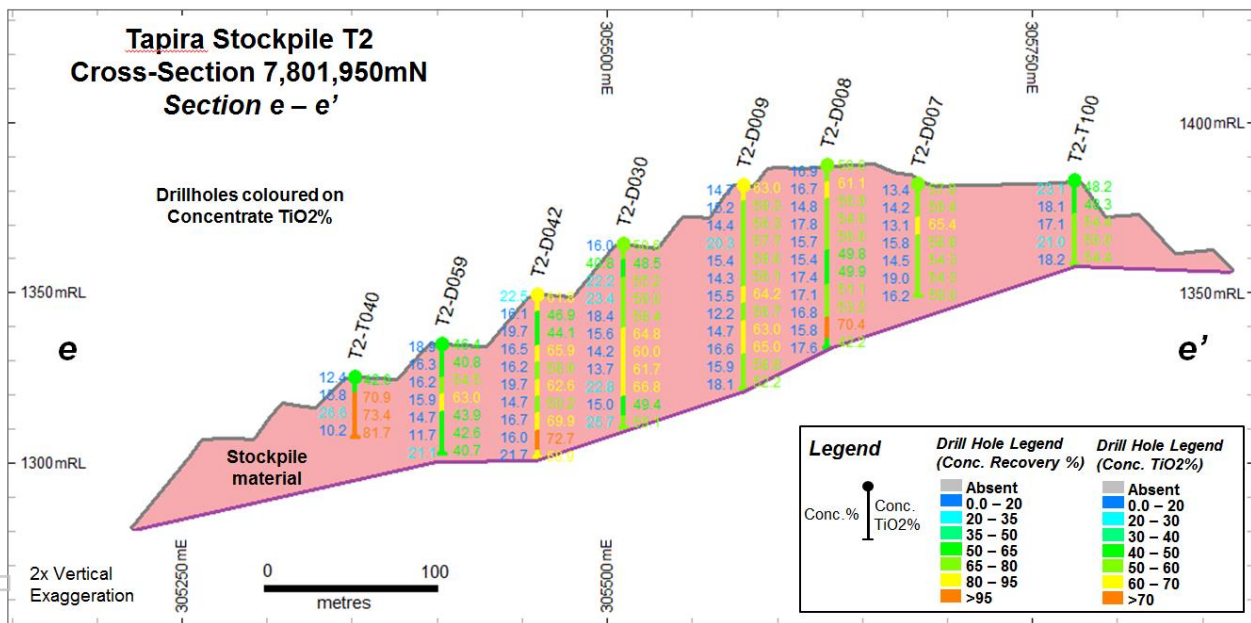




Table 4 – Summary of length weighted average intercept results for percentage of concentrate recovered and TiO<sub>2</sub> grade in concentrate from drill samples of the Tapira Stockpile Exploration Target, 7,801,950 metres north.

Tapira Stockpile T2 Cross-Section 7,801,950mN									
BHID	Project	Easting	Northing	RL	Intercept From (m)	Intercept To (m)	Intercept Length (m)	Average Conc. Recov %	Average Conc. TiO <sub>2</sub> (%)
T2-T040	Tapira	305352	7801949	1323	0	16.9	16.9	17.3	64.3
T2-D059	Tapira	305403	7801949	1332	0	31.45	31.45	15.9	48.2
T2-D042	Tapira	305460	7801949	1347	0	46.9	46.9	17.7	59.6
T2-D030	Tapira	305510	7801953	1362	0	53.2	53.2	20.6	57.5
T2-D009	Tapira	305581	7801949	1379	0	60	60	15.6	59.3
T2-D008	Tapira	305630	7801952	1385	0	52.4	52.4	16.5	55.7
T2-D007	Tapira	305683	7801954	1379	0	31.8	31.8	15.1	58.4
T2-T100	Tapira	305776	7801949	1380	0	24.2	24.2	19.5	52.2

Figure 9 - Cross section (f - f') at 7,802,025 metres north showing the percentage of sample reporting to the mechanically enriched concentrate and the TiO<sub>2</sub> percentage in that concentrate for drill holes from the Tapira Stockpile Exploration Target.

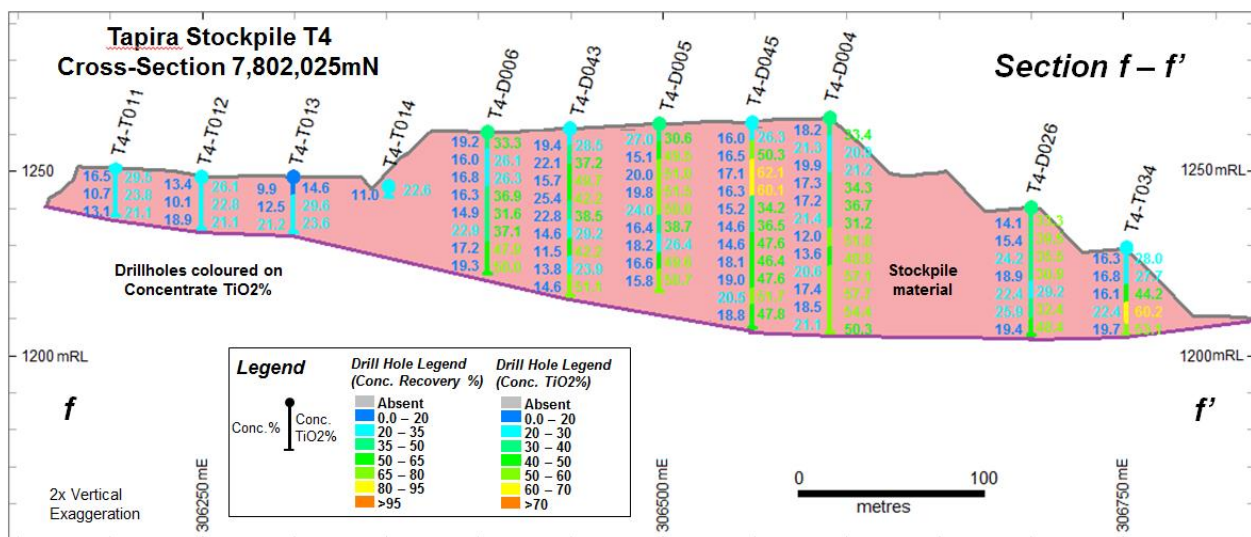


Table 5 – Summary of length weighted average intercept results for percentage of concentrate and TiO<sub>2</sub> grade in concentrate from drill samples of the Tapira Stockpile Exploration Target, 7,802,025 metres north.

Tapira Stockpile T4 Cross-Section 7,802,025mN									
BHID	Project	Easting	Northing	RL	Intercept From (m)	Intercept To (m)	Intercept Length (m)	Average Conc. Recov %	Average Conc. TIO <sub>2</sub> (%)
T4-T011	Tapira	306203	7802026	1249	0	11.8	11.8	13.5	25.8
T4-T012	Tapira	306250	7802025	1246	0	13.25	13.25	13.5	23.6
T4-T013	Tapira	306300	7802025	1246	0	14.8	14.8	14.4	22.6
T4-T014	Tapira	306351	7802030	1244	0	3	3	11.0	22.6
T4-D006	Tapira	306405	7802025	1258	0	37.1	37.1	17.7	35.1
T4-D043	Tapira	306450	7802025	1259	0	45.85	45.85	17.7	38.3
T4-D005	Tapira	306499	7802028	1260	0	45.95	45.95	19.1	45.5
T4-D045	Tapira	306549	7802027	1260	0	56	56	17.0	46.4
T4-D004	Tapira	306591	7802028	1262	0	56.1	56.1	18.0	40.9
T4-D026	Tapira	306700	7802025	1238	0	34.1	34.1	20.1	35.3
T4-T034	Tapira	306351	7802030	1244	0	22.3	22.3	18.1	41.4

### Mineral Resource Evaluation

Notwithstanding the extensive drilling and exploration undertaken by Vale, Iluka is yet to undertake an independent assessment to support a Mineral Resource or Ore Reserve statement in accordance with the guidelines of the JORC Code 2012. Iluka plans to undertake due diligence programme comprising research of historical data, drilling, assaying and metallurgical test work to support a suitable Mineral Resource estimate over the next 12 months. The project involves a range of technical and market risks that are subject to assessment throughout the phased process agreed with Vale.

The information in this report relating to Exploration Results and Exploration Targets is based on information compiled by Mr David Sleigh who is a member of the Australasian Institute of Mining and Metallurgy and a full time employee of Iluka Basil Mineração Limitada. David Sleigh has had sufficient experience which is relevant to this style of mineralisation to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves' (JORC Code). Mr Sleigh consents to the inclusion in the report of matters based on his information in the form and context in which it appears.

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APPENDIX A

**JORC Table 1: Tapira Insitu Exploration Target  
Section 1 Sampling Techniques and Data**

Criteria	Commentary
<b>Sampling Techniques</b>	<p>A 25 or 50% split of diamond core was taken from typical intervals of 2 To 6 metres. The core was split using conventional splitting tools appropriate for the soft nature of the weathered material being sampled. Full details on what techniques was used to collect and core handling are largely unknown.</p> <p>Diamond coring was used to obtain material which was sampled on intervals ranging primarily from 2 to 6 metres. A 25 or 50% split of the core was taken by splitting with a chisel or knife wedge. The sample was then crushed, split and pulverised. XRF analysis was then carried out on a pressed powder disk for a suite of elements. Details of the sample preparation are again largely unknown.</p>
<b>Drilling Techniques</b>	<p>Diamond coring was used to obtain PQ or HQ diameter core. All holes were drilled vertically which is perpendicular to the geology and mineralisation.</p>
<b>Drill Sample Recovery</b>	<p>All core was logged but no indication of the core recovery is recorded. Anecdotal evidence from viewing the remaining core indicates recovery was good. Remaining core is securely stored undercover on site at Tapira.</p> <p>Reports on the drilling and associated logs state a 25 or 50% split of the core was taken to ensure representative samples were collected, but this cannot be absolutely verified.</p> <p>There is no information to indicate a relationship between sample recovery and sample grades.</p>
<b>Logging</b>	<p>The core has been geologically logged and supplied to Iluka in pdf format . The logging is generally comprehensive with out significant detail.</p> <p>Logging is both qualitative and quantitative in nature. It is based on the percentage of mineral species present and the nature of their granular relationships.</p>
<b>Sub-sampling techniques and sample preparation</b>	<p>Core was split using a splitter chisel which was deemed appropriate given the friable nature of the material.</p> <p>The mineralisation is hosted in a friable weathered material representing weathered carbonatite. The sampling technique is considered appropriate for this type of material.</p> <p>Minimal QAQC has been undertaken and these data are not currently available. However reports indicate the rigour of QA/QC is not commensurate with contemporary resource industry practices, although there is adequate laboratory QA/QC which lends a measure of confidence to the analyses reviewed.</p> <p>No information is known of, or has been presented to test the representivity of the samples. Ongoing due diligence test work will be carried out to obtain samples for QA/QC purposes.</p> <p>Samples collected from a 1/4 or 1/2 core would be of adequate size to represent the mineralisation being tested.</p>
<b>Quality of assay data and laboratory tests</b>	<p>XRF analysis has been used to determine material grades and is considered to be an appropriate analysis technique for the analytes being tested.</p> <p>No information is known on the type and make of XRF machine used in the analysis of the Tapira samples.</p> <p>No QA/QC information has been seen, so the accuracy of the assay data cannot be confidently stated. It is intended that QA/QC will form an integral part of Iluka's due diligence.</p>

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**JORC Table 1: Tapira Insitu Exploration Target  
Section 1 Sampling Techniques and Data**

Criteria	Commentary
<b>Verification of sampling and assaying</b>	<p><i>No verification of significant intercepts has been undertaken by independent personnel.</i></p> <p><i>There are a small number of coincidentally located drill holes known to exist from Tapira but it is uncertain these were designed as proper twinned holes and no analysis of "twinned" data has been sighted.</i></p> <p><i>The method of data recording and data entry is not known. The assay data for the insitu drilling has been provided to Iluka in csv files retrieved from GEMCOM software. It is unknown whether this data is originally sourced from a more traditional storage system.</i></p> <p><i>No adjustment of assay data has been done or known of.</i></p>
<b>Location of data points</b>	<p><i>The method used to determine the collar positions is unclear although contemporary surveying practices have been carried out at the Tapira site since the inception of mining by Fosfertil in 1978.</i></p> <p><i>The data is presented in a UTM system linked to the National Brazilian Datum.</i></p> <p><i>The topographic control is represented by 5 metre contours which is deemed adequate for the current study.</i></p>
<b>Data spacing and distribution</b>	<p><i>Drill holes have been drilled on a variety of grid spacings from as close as 100 by 50m to as much as 500 spacing in some areas.</i></p> <p><i>At this point in time only an Exploration Target has been reported, for which the drill spacing is considered adequate.</i></p> <p><i>No sample compositing has been done.</i></p>
<b>Orientation of data in relation to geological structure</b>	<p><i>All drilling has been done vertically which is perpendicular to the mineralisation</i></p> <p><i>The mineralised intercepts represent true mineralised widths.</i></p>
<b>Sample security</b>	<p><i>The remaining core is stored in a secure, purpose built facility at the Tapira site</i></p>
<b>Audits or reviews</b>	<p><i>Iluka is not aware of any audit or review of the sampling technique.</i></p>

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**JORC Table 1: Tapira Insitu Exploration Target  
Section 2 Reporting of Exploration Results**

Criteria	Commentary
<b>Mineral tenement and land tenure status</b>	<p>A consortium of Vale and VALE FERTILIZANTES (VF SA) hold the mining concessions with respect to VF's Tapira phosphate mine located near Tapira, Minas Gerais, Brazil. 8 mining concessions exist over the Tapira Complex that pertain to the consortium and being the principal tenements listed for the JDA between Vale and Iluka. These are: 810.330/1968 (holder - Vale SA), 810.331/1968 (holder - VF SA), 812.362/1968 (holder - VF SA), 821.674/1969 (holder - VF SA), 816.066/1970 (holder - VF SA), 827.081/1972 (holder - VF SA), 803.387/1974 (holder - Vale SA) and 831.405/1997 (holder - VF SA).</p> <p>The tenements (mining concessions) are deemed secure under the terms of the JDA. The mining concessions do not list an expiry date. This is being investigated.</p>
<b>Exploration done by other parties</b>	<p>Exploration has been carried out over an extended period of time from the 1970's. A large amount of the exploration has been done by Fosfertil which was largely directed at testing the underlying phosphate rich material. Vale have retained the rights to the titanium mineralisation.</p>
<b>Geology</b>	<p>The mineralisation is represented by enrichment of TiO<sub>2</sub> bearing minerals (Ilmenite and Anatase) hosted in a weathered carbonatite intrusion. The ilmenite and anatase are believed to be the result of alteration of perovskite during tropical weathering processes.</p>
<b>Drill Hole Information</b>	<p>A total of 976 vertically orientated diamond core holes for a total of 81,140 metres have been completed on the insitu weathered carbonatite. Holes vary in depth from a few metres to 211 metres. The holes have been drilled over a wide range of dates, campaigns and by a number of different companies. A total of 21785 sample intervals have been subjected to XRF analysis for a variety of elements including Ti, Fe Ca, P, Mg, Al and Si. Only about 50% of the samples have been analysed for Fe, Al, Si and Mg but virtually all have been analysed for Ti, Ca and P.</p> <p>The drilling is contained within an area bounded by 7,796,770 to 7,803,755 metres north and 305,015 to 310,711 metres East. The collar RL varies from 1000.2 to 1355 metres</p> <p>All holes have been drilled vertically but no down hole surveys have been done to confirm the exact orientation. The sample interval length typically averages 3.5 m but is commonly 2, 5 or 6 metres. The depth to the TiO<sub>2</sub> mineralised layer varies from 0 to 40 m.</p> <p>Given the large volume of drill data intercept results are not tabled. Intercept results in conjunction with the typical cross sections are presented in the main text of the associated announcement.</p>
<b>Data aggregation methods</b>	<p>The mineralised material is typically defined by TiO<sub>2</sub> grades &gt;9% and CaO &lt;4%. Some internal waste material may be included in intersections to allow a coherent mineralised horizon to be interpreted.</p> <p>The intercept grades are estimated as length weighted averages.</p> <p>No metal equivalents have been used in the reporting of drill intercepts</p>
<b>Relationship between mineralisation widths and intercept lengths</b>	<p>The mineralisation is typically sub horizontal and as such the drill intercepts from the drill holes, which are all vertical, represent true mineralised widths.</p>
<b>Diagrams</b>	<p>Typical cross sections and tabulation of the associated drill intercepts are presented in the text of the associated announcement. A drill hole location plan, representative cross sections and the associated drill intercepts are given as there is too much information to be comprehensively reported.</p>
<b>Balanced reporting</b>	<p>Typical cross sections and tabulation of drill intercepts have been presented to provide a balanced representation of the exploration data.</p>



**JORC Table 1: Tapira Insitu Exploration Target  
Section 2 Reporting of Exploration Results**

Criteria	Commentary
<b>Other substantive exploration data</b>	<i>No further significant exploration data is known of for the Tapira insitu Exploration Target. TiO2 enriched material that has been stockpiled by Fosfertil as part of a mining agreement with Vale has been drilled and a number of composite samples from this drilling have been subjected to metallurgical analysis to liberate a TiO2 enriched mechanical concentrate. The results of this are discussed in the attached Table 1 information relating to the Tapira Stockpiles Exploration Target. As part of the initial evaluation of the Tapira Project by Vale, a pilot plant was run over a period of several years in an effort to prepare an SR equivalent product from stockpile material.</i>
<b>Further work</b>	<i>The dimensions of the TiO2 enriched zone within the Tapira weathered carbonatite are reasonably well constrained so no further extensions to the current mineralisation are expected or will be pursued. Work planned includes a program of diamond core drilling on the insitu deposit which will provide samples for QA/QC, grade confirmation and metallurgical testwork.</i>

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APPENDIX B

**JORC Table 1: Tapira Stockpiles Exploration Target  
Section 1 Sampling Techniques and Data**

Criteria	Commentary Stockpile
<b>Sampling Techniques</b>	<p>Samples have been collected from auger and diamond drilling, pit surface sampling and pilot plant sampling. Sampling intervals down the drill hole vary from 0.05 metres to 6.4 metres, however samples below 0.5 of a metre were rejected. This resulted in a mean sampling interval equal to 4.65 and standard deviation equal to 0.95. The sampling campaign was conducted as close to a regular 5 metre intervals as possible, with adjustments made for the last interval.</p> <p>Mininamal QAQC has been undertaken and these data are not currently available. However reports indicate the rigour of QA/QC is not commensurate with contemporary resource industry practices, although there is adequate laboratory QA/QC which lends a measure of confidence to the analyses reviewed as part of the drilling, assaying and stockpile modelling.</p> <p>Diamond and auger drilling was used to collect as close to a regular 5 metre intervals as possible. These 5m samples were crushed and subject to gravity and magnetic separation to yield a concentrate rich in anatase. This concentrate was subject to XRF analysis to determine the content of TiO<sub>2</sub>, Al<sub>2</sub>O<sub>3</sub>, SiO<sub>2</sub>, CaO, MgO, Fe<sub>2</sub>O<sub>3</sub>, P<sub>2</sub>O<sub>5</sub>, U, Th, Ce, La, Y, FeO.</p>
<b>Drilling Techniques</b>	<p>Drilling of the stockpiles has been completed using auger core and diamond drilling techniques. Generally the auger drilling has been carried out on the thinner portions of the stockpiles whilst the diamond drilling has been used to drill the thicker areas. The diameter of the diamond drilling was 63.5 mm (NQ) and the auger was 76.2 mm.</p>
<b>Drill Sample Recovery</b>	<p>The drill core and auger samples were geologically logged. No information has been supplied from Vale reports to Iluka indicating core recovery.</p> <p>Sampling of drill core and auger intervals was generally on a quarter core basis - with some half core sampling undertaken. A knife wedge and mallet was predominantly used due to the weathered state of the core.</p> <p>There is no relationship recorded between core and auger sample recovery and grade, as grade was determined on a mechanical concentrate of individual samples.</p>
<b>Logging</b>	<p>The drill holes were geologically logged to a level considered suitable to support appropriate mineral resource estimation. These logs occur in PDF format and are situated on Iluka's geology directory in Perth.</p> <p>Logging is both qualitative and quantitative in nature. It is based on the percentage of mineral species present and the nature of their granular relationships.</p> <p>All stockpile material has been logged to the knowledge of Iluka.</p>
<b>Sub-sampling techniques and sample preparation</b>	<p>Sampling of drill core intervals was generally on a quarter core basis - with some half core sampling undertaken. A knife wedge and mallet was predominantly used due to the weathered state of the core.</p> <p>Sampling of auger core intervals was generally on a quarter core basis - with some half core sampling undertaken. A knife wedge and mallet was predominantly used due to the weathered state of the core.</p> <p>The material is contained within stockpiles which bears a poor correlation to primary in-situ material. Although the sample preparation technique is considered suitable for the stockpiles the recovery assay results are considered poorly representative of the material itself.</p> <p>Mininamal QAQC has been undertaken and these data are not currently available. However reports indicate the rigour of QA/QC is not commensurate with contemporary resource industry practices, although there is adequate laboratory QA/QC which lends a measure of confidence to the analyses reviewed as part of the drilling, assaying and stockpile modelling.</p> <p>No information is known of, or has been presented to test the representivity of the samples. Ongoing due diligence test work will be carried out to obtain samples for QA/QC purposes.</p> <p>The samples collected are adequate size for the best possible representation of the mineralisation being tested.</p>

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Section 1 Sampling Techniques and Data**

Criteria	Commentary Stockpile
<b>Quality of assay data and laboratory tests</b>	<p><i>The samples have been tested by pressed pellet XRF on a mechanical concentrate. This partial analysis is considered industry standard for titanium assay and is the most appropriate technique.</i></p> <p><i>No information has been supplied to Iluka for geophysical tools, spectrometers, handheld XRF instruments, etc, and the parameters used in determining the analysis.</i></p> <p><i>Minimal QA/QC has been undertaken and these data are not currently available. As such the accuracy of the assay data cannot be confidently stated. It is intended that QA/QC will form an integral part of Iluka's due diligence.</i></p>
<b>Verification of sampling and assaying</b>	<p><i>Iluka's due diligence investigations in 2008/9 involved analysis of 6 bulk samples collected from 3 stockpiles. Although this did not verify individual drillhole grades, it did indicate that TiO<sub>2</sub> within the stockpiles was present in the volumes and grades previously reported by Vale.</i></p> <p><i>There are a small number of twinned holes (less than 1% of the total holes) drilled. However it is not clear from historic reporting whether these are for the in situ material or the stockpiles</i></p> <p><i>The primary data has been supplied and stored in an Access Database. Primary data collection, entry and verification has occurred in several campaigns since the late 1970's. This information has not been supplied however it is assumed the methodology varied considerably throughout this time.</i></p> <p><i>No adjustment of assay data is known of.</i></p>
<b>Location of data points</b>	<p><i>All holes are vertical and although it has not been stated that down hole surveys are not completed, that is the assumption.</i></p> <p><i>All surveys and grids are conducted in UTM grid based on the National Brazilian Datum .</i></p> <p><i>The control of ore deposition on the stockpiles is carried out based on total station topographic survey information. Survey information was received for the topography surfaces of the stockpiles at the time of the stockpile resource estimation.</i></p>
<b>Data spacing and distribution</b>	<p><i>The drill hole spacing for the stockpiles is dominantly 50 x 50 metre, with 3 clusters of close-spaced ~10 x 10 metre spaced drilling for the purpose of geostatistical investigations involving variography.</i></p> <p><i>At this point in time only an Exploration Target has been reporting, for which the drill spacing is considered adequate.</i></p> <p><i>No sample compositing has been done to delineate downhole intervals for geological logging. However samples of 5m intervals that do not conform to geological logs have been composited for concentrate recovery test work and XRF assay of the concentrate.</i></p>
<b>Orientation of data in relation to geological structure</b>	<p><i>There is no geological structure to the stockpiles. Therefore the orientatation of drill holes bears no control over sample bias.</i></p> <p><i>There is no geological structure to the stockpiles. Therefore the orientatation of drill holes bears no control over sample bias.</i></p>
<b>Sample security</b>	<p><i>The remaining core is stored in a secure, purpose built shed/facility in Tapira.</i></p>
<b>Audits or reviews</b>	<p><i>A review was carried out by TZMI in 2004 with the final report issued in September 2005. This review was titled "Technical Audit of Tapira Synthetic Rutile Project" Report Number 454/200T. This was an extensive and exhaustive review that covered much of the technical detail of the project and extensively looked at the processing and marketing of the Tapira Project. The geology and mining sections were brief and functional for the scope of the report.</i></p>

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**JORC Table 1: Tapira Stockpiles Exploration Target  
Section 2 Reporting of Exploration Results**

Criteria	Commentary Stockpile
<b>Mineral tenement and land tenure status</b>	<p>A consortium of Vale and VALE FERTILIZANTES (VF SA) hold the mining concessions with respect to VF's Tapira phosphate mine located near Tapira, Minas Gerais, Brazil. 8 mining concessions exist over the Tapira Complex that pertain to the consortium and being the principal tenements listed for the JDA between Vale and Iluka. These are: 810.330/1968 (holder - Vale SA), 810.331/1968 (holder - VF SA), 812.362/1968 (holder - VF SA), 821.674/1969 (holder - VF SA), 816.066/1970 (holder - VF SA), 827.081/1972 (holder - VF SA), 803.387/1974 (holder - Vale SA) and 831.405/1997 (holder - VF SA).</p> <p>The tenements (mining concessions) are deemed secure under the terms of the JDA. The mining concessions do not list an expiry date. This is being investigated.</p>
<b>Exploration done by other parties</b>	561 holes were drilled into the stockpiles by Vale, for 10,008 metres and 2,108 samples across 4 stockpiles - P2, T1, T2 and T4. These holes were drilled as part of a geo-statistical evaluation in 2003-4 and to supply samples for geometallurgical evaluation.
<b>Geology</b>	The stockpiles have been compiled since the mine start up by Fosfertil in 1978. Since 1990, Vale have had partial control over the creation of stockpiles, and have attempted to discretely stockpile TiO <sub>2</sub> rich material in accordance with their requirements. Therefore, there is a very loose correlation between the stockpiled TiO <sub>2</sub> rich material and its place of extraction within the Tapira complex. However low confidence is given to the prediction of grade, tonnage and quality of the stockpiled material based on its area of extraction alone. The style of mineralisation is the concentration of TiO <sub>2</sub> via the leaching of Ca from perovskite to produce anatase, within the Tertiary weathering profile of a carbonatite complex.
<b>Drill Hole Information</b>	<p>561 holes were drilled into the stockpiles by Vale, for 10,008 metres and 2,108 samples across 4 stockpiles - P2, T1, T2 and T4. Holes vary in depth from a few metres to 61.6 metres. These holes were drilled as part of a geo-statistical evaluation in 2003-4. A total of 2108 sample intervals have been subjected to attritioning, gravity and magnetic separation, upon which the concentrate has been subject to XRF analysis for a variety of elements including Al<sub>2</sub>O<sub>3</sub>, SiO<sub>2</sub>, CaO, MgO, Fe<sub>2</sub>O<sub>3</sub>, P<sub>2</sub>O<sub>5</sub>, TiO<sub>2</sub>, U, Th, Ce, La, Y, FeO.</p> <p>The drilling is contained within an area bounded by 7,803,276mN to 7,800,621mN and 305,217 to 306,929mE.</p> <p>The collar RL varies from 1219.14 to 1388.09 metres ASL.</p> <p>All holes have been drilled vertically but no down hole surveys have been done to confirm the exact orientation.</p> <p>Sampling intervals down the drill hole vary from 0.05 metres to 6.4 metres, however samples below 0.5 of a metre were rejected. This resulted in a mean sampling interval equal to 4.65 and standard deviation equal to 0.95. The sampling campaign was conducted as close to a regular 5 metre intervals as possible, with adjustments made for the last interval. The depth to mineralised material is erratic, and is not bound by geological Holes vary in depth from a few metres to 61.6 metres.</p> <p>Given the large volume of drill data intercept results are not tabled. Intercept results in conjunction with the typical cross sections are presented in the main text of the associated announcement.</p>
<b>Data aggregation methods</b>	<p>Length weighted averages have been used to report exploration results. Averages of the entire stockpile drill hole have been used.</p> <p>No assumptions for metal equivalence have been made.</p>
<b>Relationship between mineralisation widths and intercept lengths</b>	<p>Length weighted averages of the entire stockpile drill hole have been used in reporting.</p> <p>There is no geometry of the mineralisation with respect to the drill hole angle.</p> <p>There is no geometry of the mineralisation with respect to the drill hole angle. As such, this statement does not apply.</p>

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**JORC Table 1: Tapira Stockpiles Exploration Target  
Section 2 Reporting of Exploration Results**

Criteria	Commentary Stockpile
<b>Diagrams</b>	<i>Typical cross sections and tabulation of the associated drill intercepts are presented in the text of the associated announcement. A drill hole location plan, representative cross sections and the associated drill intercepts are given as there is too much information to be comprehensively reported.</i>
<b>Balanced reporting</b>	<i>Typical cross sections and tabulation of drill intercepts have been presented to provide a balanced representation of the exploration data.</i>
<b>Other substantive exploration data</b>	<i>Vale have worked on producing 1) a mechanical concentrate and 2) a beneficiation process for the production of synthetic rutile. The process for the production of mechanical concentrate involved attritioning, magnetic and gravitational separation. Iluka will conduct additional test work in 2014. Throughout this processing, key deleterious minerals and contaminants have been identified. These include but are not limited to crandalite, monazite, apatite, perovskite, magnetite, hematite, martite, P2O5, Nb2O5, U, Th and Ca.</i>
<b>Further work</b>	<p><i>Iluka plans to conduct a series of test drill holes to retrieve suitable sample for metallurgical test work. This will be completed in order to ascertain 1) concentrate recovery, 2) suitability for product development streams. 2,750 metres of drilling are planned for both the in situ deposit and stockpiles, of which 275m have been allocated to the stockpiles.</i></p> <p><i>The stockpiles will only expand according to the agreement between Vale and VF of which Iluka is not privy to the information. There is no geological continuity within the stockpile material, therefore a geological interpretation is not relevant.</i></p>

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