Executive Summary Brief

This version has been edited for public viewing
All valuation figures are as per the original report

An Update On The Gold And Rare Earth Bearing Placer Deposits Found On The Region A And Region B Rivers Department Of Cuzco, Peru

YANATILE

URUBAMBA

Prepared At
The Request
Of

Mr. Alberto DoCouto

By

A. David V. Heyl

International Consulting Geologist

March 7, 2002

REFERENCES

1) American metal Market (3/23/90)

2) Heyl, A.D.V. (1988): Microscope study of gold particles from a panned concentrate. (Gold Spirit)

3) Heyl, A.D.V. (1988): Composition of gravels of the Region A river (Cia. Minera Espiritu del Peru, S.A.)

4) Hilchey, G. (1988): Report on the Region A river properties of Cia. Minera Intercontinental, S.A. Cuzco department, Peru S.A. (Gold Spirit)

5) Maki, O. (1988): Report on the rare earth values of the Region A property, Cuzco, Peru .(CIA. Minera Espiritu del Peru, S.A.)

6) Mining Journal (3/2/90)

7) Ramirez, J.m. and Wels,T.A. (1984); A study for the development of small scale mining in the Region A valley, Cuzco, Peru.(Ingemmet)

8) RamirezJ.M.(1985): Estudio de minerales pesados y metales trazas de las arenas auiferas de ..., Cuzco.(Ingemmet)

9) Ramirez, J.M.(1985): Valonzacion aproximada or minerals basicos en las arenas de denuncios ... No. l a17, inclusive, ..., Cuzco, Peru.(INgemmet)

10) Ramirez. J.M. (1985): Estudio mineralogico de las arenas de ... (Fraccion pesada). (Ingemmet)

11) Sampsell. W.J. (1984): Report on the ... No.2 claim of Cia. Minera Intercontinental, S.A. (Cia.minera Rio Tierra, S.A.)

12) Shafer. R.E. (1983): Report on the placer gold prospect on the upper Region A river, ... district, Cuzco department, Peru. (Superior Oil)

Summary

This report in an update if the original 1990 report by the author on the Region A and Region B auriferious placer deposits that was presented at the U.N. conference on placer deposits in 1991 in La Paz, Bolivia. Since then there have been numerous occurrences in product market pricing, property ownership, operational history, Peruvian political stability, local logistics, and geologic knowledge.

Several companies have evaluated or operated on the Region A and Region B Rivers since 1990. Mr. Alberto DoCouto has been involved with the concessions named in the original report since 1997, when he optioned them. He has run operation and testing programs on the property since that time. In 2001 he acquired sole ownership the concessions in the original report and has requested this update.

The political and economic stability of Peru is much improved since 1990. Terrorism and corruption have been significantly reduced. The national infrastructure has been extensively repaired and modernized. Land ownership is being privatized and given title. The levels of private investment in Peru have greatly increased.

The local infrastructure has also improved. The entire length of the property now has an electric line traversing it. The current road from Cuzco is being widened and paved. The railroad to the local city, much of which was washed out during a flood in 1998, is planned to be rebuilt. The local hydroelectric plant, also affected by the 1998 flood will be reconstructed. The world-class local natural gas project is advancing downriver and in the future will provide abundant energy for industrial projects.

The property is centered on river placer gravel deposits in a region with an extensive history of placer gold mining. The river's gravel deposits are point bars on the river's floodplains. Rapid regional uplift and concurrent river down cutting has resulted in large abandoned paleoterraces, containing millions of cubic meters of gravel in them.

The width of the river's floodplain varies from 100 to 500 meters. The gravels do show a trend in the sizing of the sediment particles, decreasing downstream with the average largest size diameter of 1.65 m at ... to 0.35 m diameter in the area of the ... No. 2 concession. Roughly 65 – 70% of the river gravels in the area studied have greater than 10 mesh diameter and can easily be screened off, as the gravels have almost no clay content. The remaining sand fraction is readily concentrated into heavy mineral sand product.

The placer deposits are exceptionally consistent in gold and heavy mineral sand grades, as well as in the sediment type with which

they are deposited. The small gold particles sizes (200 mesh average) and flattened shapes make recovery techniques critical.

Geologically the one significant change since 1990 has been the demonstration that the floodplain gravels has a minimum depth of 10 meters on the ... 2 concession. This indicates that the resources of the property are potentially twice the 1990 estimate. Further exploration has the potential to prove an average depth of bedrock to 20 meters in the floodplains.

Otherwise, the levels of production were so limited as not to affect the amount of resources on the concessions. They remain at 115 million cubic meters for the indicated resource of floodplain gravels, and the geologic resource of 472.5 million cubic meters.

The results of various evaluations by companies on the property shown to the author consistently show gold grades at or above the 0.25 gm Au/m3 and three percent heavy mineral sands. These results confirm the grades reported in 1990 for the indicated resources.

Market prices for the potential products from the Region A and Region B River placers have variously increased or decreased in present value since 1990. The calculated value for indicated resource bank run material is now $18.77 per cubic meter of floodplain gravel, versus $15.42 in 1990. Additional minerals may also be present in economic values in the gravels. The indicated resource for the area studied has a value of $2.158 billion U.S. The gravels found upstream and downstream of the concessions have not been studied but contain a considerable volume of potential resource.

Introduction

For the last two decades various companies have examined, explored and mined on the gold and heavy mineral sand river placer deposits of the Region A and Region B Rivers in the department of Cuzco, Peru. The main area of focus has been the river, floodplains and terraces downstream of the provincial capital of ... for a distance of 110 km, to the small town of ... . In 1990 the author wrote a report summarizing the findings of the mining activities on twelve contiguous mining concessions covering 48 km of river valley. This report was presented at the U.N. conference on placer deposits in 1991 in La Paz, Bolivia. Mr. Alberto DoCouto, the new owner of the mining concessions documented in the 1990 report, recognized the need to document the changes in product market value and geological investigation that have occurred since 1990. This report was written at the request of Mr. DoCouto.

The information for this report was compiled from several sources, including reports by the ... Instituto Geologico, Minero Y Metallurgico

(Ingemmet) and various companies that have evaluated, controlled or owned the property since the early 1980's. It also includes information from the personal observations and experiences, which the author accumulated from more than eight months of work on the property in 1987 and 1988, as well as many subsequent visits.

Location and Geography

The property is located ... in the department of Cuzco, Peru. ... The nearest major town ... [has] a population of over 10,000 persons, ... to the south of the area studied. The area of the property studied was ever 45 km long and covered over 5,000 hectares.

The topography of the area is quite rugged and mountainous with 1,000 to 2,000 meters of vertical relief from valley floor to the ridge tops. Floodplains of the rivers lie at the elevation of 800 meters above sea level. The floodplains of the rivers range from 100 to 500 meters wide, average 200 to 400 meters wide. The climate is tropical with more then 90 cm of annual rainfall and the vegetation is typical of the higher altitude jungles. A rainy season lasts from December through March, though its start and finish can vary widely. The remainder of the year is dry. Temperatures have averages of 25-30 degrees centigrade. During the rainy season travel can sometimes be interrupted by flooded streams, landslides, and fallen trees. The area has a large amount of small farmers producing coffee, cacao, fruits and coca.

The political and economic stability of Peru is very much improved since 1990. The country was suffering from several years of corrupt and inept leadership. Terrorist movements had gained control of large portions of the countryside and the situation was chaotic. With the vigorous military actions of the ... government starting in 1990 and the accompanying reforms in all domestic laws and government, terrorism and corruption has been significantly reduced The national infrastructure has been extensively repaired and modernized. Land ownership is being privatized and given title after a few decades of being in a socialistic limbo. The levels of private investment in Peru are orders of magnitude above that of 1990, when most private capital was not interested in Peru. The current leadership ... has continued the commitment of improving Peru through building programs and attracting foreign investment. The most prominent of these is the [nearby] multibillion-dollar ... natural gas project.

History

The local ... Indians have panned gold from the Region A and Region B Rivers for thousands of years. The area was not settled by Hispanics until the mid-1800's although the Jesuits founded a mission ... during colonial times. Until the early 1960's the last outpost of Hispanics was at ....

There had been no mechanized mining operations in the claim area before the 1980's. Small tonnage, underground precious and base metal mines have operated earlier in this century. Local residents continue to use basic panning and sluicing methods for collecting gold from the rivers.

In 1983 Superior Oil Company optioned the property area, which had been filed in the previous two years. It was planned to develop a 10,000 cubic meters/day dredging operation. Subsequently, Mobil Oil acquired Superior Oil and dropped all mining operations.

In the subsequent years a half dozen small companies with limited resources have leased and operated on the property. The principal reasons for the interest in this area were the presence of gold mineralization, decent logistics and the excellent grades of heavy mineral sands. In 2001 Mr. Alberto DoCouto acquired the property.

Infrastructure

Since 1990 the local logistics have notably improved. Then the roads and services were rarely maintained and showed the strong deterioration from neglect. The current road from Cuzco is being widened and paved. The area road system accommodates 25-ton trucks. The road... that traverses the property along the rivers is now better maintained. The narrow gauge railroad from Cuzco... has been privatized and many much needed improvements are being made. This railroad system continues from Cuzco to the Pacific Ocean .... Much of the railroad was washed out ... during a flood in 1998, and is planned to be rebuilt with government assistance.

The local hydroelectric plant, also affected by the 1998 flood is planned to be reconstructed. The present power source is the new ... hydroelectric plant near Cuzco. The entire length of the property now has an electric line traversing it, when in 1990 the power lines ended at .... [the nearest major town]. The telephone system... has been modernized with fax, telex, satellite and Internet links.

The world-class ... natural gas project is being advanced by foreign investors further downriver from the property and in the future it will provide abundant energy for industrial projects in the Region A River valley. It is planned that a gas pipeline would be constructed up the valley to Cuzco and then to the southern coast.

Many materials are readily available out of .... Food, fuel, wood, steel, cement and many spare parts for vehicles are easy to find, unlike a decade ago. There are not many heavy equipment contractors in ... but there is in Cuzco. Local machinists can fabricate many items [nearby] ..., and shipping time.. can be less than two days for small items to five days by truck. As in the past operations personnel availability depends on the position. Unskilled laborers are abundant at low wages of less than

$300/mo. Professional personnel would likely need to be recruited from major cities or mining operations.

Regional Geology

The gold and heavy mineral sand bearing placers of the property were formed in the eastern part of the Andean cordillera bordering the Amazon basin. The oldest knows rocks are early to late Paleozoic metasediments. These weakly metamorphosed argillites, slates, cherts, limestones, and sandstones often rich in hydrocarbons. The three to five kilometer thick assemblage were deposited along strike of a miogeosyncline receiving sediments from the Precambrian age continental craton to the east.

During the orogenies of the Permian and Mesozoic large granodioritic plutons intruded into the Paleozoic metasodiments in the area of the present Region A and Region B River drainage's (fig. 2). These plutons formed the ... batholith. It was uplifted during various Tertiary orogenic phases. The intrusion of the plutons and the general compression and uplift of the Andean cordillera caused deformation, metamorphism and thrust faulting of the Paleozoic sediments. With time erosion has exposed the plutons from the sedimentary cover.

Numerous, small vein systems containing precious (including platinum group) and base metal occur in both the plutons and the metasediments. In addition porphyry, skarn and disseminated precious metal types of mineralization have been observed by the author in the region. The auriferous quartz veins found in the region typical of a much larger belt of these hypoabyssal deposits contained in the metasediments that extends on the eastern side of the Andes. The gold deposited into the river gravels is the result of the erosion of the large granodioritic batholith and the surrounding slate and skarn belt. This erosion exposed the numerous deep seated, hypo abyssal gold veins and auriferous base metal deposits. The heavy minerals are physically separated by erosion from the granodioritic and skarn rocks. The eroded gold particles from these veins typically have high fineness, which is reflected in the fineness found in the placer deposits of 0.93 - 0.96. The closest geologic comparisons are the veins and placer deposits of the Mother lode belt of California and the Eastern Australia gold belt. The heavy mineral sands were also physically separated by erosion from the granodiortic intrusions and skarns.

Placer Geology

The Region A and Region B River canyons probably started down cutting in their present locations it the early Tertiary time, 50 - 65 million years ago. Regional uplifting and glaciation (paleoglacier activity has been documented in the area down to at least 3,000 meters elevation) caused the rapid erosion of 1 to 4 km deep canyons into the country rock. The two rivers above the property have a watershed of over 30,000 square km. The Region A's headwaters are more than 300 km to the south, at an elevation of over 6,000 meters elevation. Changes in the rate of uplift and in the climate have also changed the rate of erosion, alternately switching the rivers from down cutting to building floodplain deposits. These changes in erosion rates caused the formation of large gravel paleoterraces. Some paleoterraces were abandoned by the often rapidly down cutting river and remain on the sides of the canyons. One large paleoterrace opposite the village of ... measures one km long by one half km wide and one quarter km. high and contains over 100 million cubic meters of auriferous gravels. Vegetation and landslides commonly well conceal the paleoterraces.

The width of the rivers floodplains increase downriver from an average of 200 meters at the south end of the property to an average of over 400 meters at the northwest end of the property. The range in floodplain width is from 30 to 1,000 meters. The average depth to bedrock is unknown but it is conservatively estimated at 10 meters. The only test known of by the author to have reached 10 meters depth terminated in river gravels. It is located on the ... No. 2 concession (Ramirez 9).

The river sediments are primarily gravels, comprising 90% of the floodplain sediments volume. The remaining 10% of the sediments are flood sands, usually lower in gold values than the gravels.

The sizing of the river sediments changes rapidly. At ...., 46 km upriver from the southern concession boundary, the size of the largest boulders averages 1.65 m in diameter. In the southernmost concession, this maximum size has decreased to one meter in diameter. At the ... No. 2 concession, 30 km downstream from the southernmost concession, the average maximum size has further decreased to 0.35 m diameter.

The river gravels have five main sorting sizes, all with rounded to well rounded clasts. Thirty percent of the river gravels by volume are large cobbles, 12 cm or larger in diameter, with 20 % of this fraction being flattened by erosion, developing a plate-like look. The next smaller size fraction are coarse pebbles containing 15% of the sediments by volume. The pebbles are 1 to 8 cm in diameter and 40 % are flattened. The next size fraction is of fine pebbles, 2 mm to 1 cm in diameter, composing 25 % of the sediments by volume. This fraction contains 70% flattened clasts (table 1).

Table 1: Region A 1 River Sediment Fractions

Size Fraction	Diameter	Percentage	Flattened	Composition Metased/P1uton/Qt
Large Cobble	> 12 cm	30%	20%	55/40/5
Coarse Pebbles	1 – 8 cm	15%	40%	55/40/5
Firm Pebbles	2 mm – 1 cm	25%	70%	70/25/5
Sand and Silt	< 2 mm	29%	< 10%	10 Rk/35 Qtz/55 Min
Clay	< 300 mesh	1 %	n.a.	n.a.

Sand and silt make the fourth size fraction. This is the key size fraction containing the economic mineralization. Less than 2 mm in diameter, it comprises an average of 29 % of the sediment volume. It has less than 10 % of its particles flattened. The last sorting size is clay, and it comprises 1 % or less of the river sediments volume, making the sediments clay poor, which is important in placer mining operations (Heyl, 3).

The sediments composition also changes with the sorting sizes. The large cobble and coarse pebble sized fractions are 55 % metasediments, 40 % plutonic, and 5 % quartz vein. The fine pebble fraction is 70 % metasediments, 25 % plutonic, and 5 % quartz vein. The sand and silt fraction is composed of 10 % combined rock fragments (metasediments and platonic rocks), 35 % quartz, 35% feldspars, 5.5% magnetite, 2 % ilmenite, 1.5 % zircon, and 11 % various other minerals (Heyl, 3 and Ramirez, 10).

The rivers are braided due to their heavy sediment load and meander on the floodplains, with sediments being deposited as point bars (Hilchey, 4). The rivers continually erode the outside curves of their meanders, and continually deposit sediments on the inside curves where velocities are lower (fig. 4). This process of erosion and deposition creates a river channel that becomes serpentine with time. Occasionally during major floods the rivers jump their banks on he floodplain and start a new, straighter main channel. It is also during major floods when thick deposits of send and silt, without the larger fractions, are deposited high upon the floodplain. The coarser fractions are usually deposited in a slanted manner, so that the lowest part of the stone is pointed upstream, parallel to the flow of the water (Heyl, 3). This creates a natural riffling that traps smaller particles and gold between the coarser fractions.

The river floodplain sediments are cemented poorly due to the low clay content. This eases the mining and screening of the material. The paleoterraces, however, have been exposed to air over a long period of time, and are partially cemented by limonite and hematite. These iron oxides are derived from magnetite, ilmenite, and pyrite found in the sediments.

Above the confluence of the Region A and Region B Rivers the Region A River averages 30 meters wide and the Region B averages 15 - 20 meters wide. Below their confluence the Region A averages 50 meters wide. The rivers elevation can fluctuate 3 - 5 meters with the seasons, but during both the dry and rainy seasons there are areas that can be worked by mechanized equipment. The river gradients are about 5 meters per km, which is steep, but much less than upriver when it averages 20 meters per km. This change in gradient, along with the aforementioned widening of the river's floodplains, is very significant. These two factors decrease the river velocity and create a sediment trap below the confluence of the rivers.

Gold Deposits

Fine sized gold flakes are found distributed throughout the river gravels on the property (Heyl 2, Shafer 12). Results of seven years of sampling and processing over 5,000 m3 in volume of bank run gravels at several places on the property from 1983 to 1990 established an average, minimum bank run grade of 0.1 gms AWm3 of gravel. The lowest grades reported were 0.02 -0.03 gm Au/m3. Highest grades were over 7 gm Aulm3. Local minors achieve an average recoverable bank run grade of 0.5 -1.0 gm Au/m3, although this is by their knowledge of higher grading areas. The companies that have operated on the property report mining in areas with grades of 1 - 2 gm Au/m3, and usually with the gold grades increasing with depth (Sampsell, 11). This I can confirm by personal experience.

However, little testing has been done below the depth of 2 meters, and except for one location, no testing below the depth of four meters. It is well known to be typical in poorly consolidated placer deposits such as the property has for the gold grade to increase with depth approaching the bedrock. The 1990 estimated indicated resource grade for the floodplain gravels is 0.25 gm Au/m3. The more optimistic 1990 estimated geologic resource grade is 0.5 gm Au/m3 for the floodplain gravels. The testing of the paleoterraces was insufficient and does not permit a more definite grade than a geologic resource grade of 0.1 gm Au/m3 (Table 2). The results of various evaluations by the companies on the properties floodplains shown to the author consistently reported gold grades at or above the 0.25 gm Au/m3 and three percent heavy mineral sands as reported in 1990 for the indicated resource grades.

Table 2: Gold Grades

Average Minimum Floodplain	Indicated Resources Floodplain	Geologic Resource Floodplain	Geologic Resource Paleoterraces
0.1 gm Au/m3	0.25 gm Au/m3	0.5 gm Au/m3	0.1 gm Au/m3

It should be noted that then are no reserve grades given above. This is for the reason that very little of the property had been tested sufficiently to warrant being called reserves. Only a hall dozen small, shallow blocks of floodplain totaling 1.9 million cubic meters of bank run gravel had the sampling density that would allow them to be called proven and probable reserves. They had an average grade of 0.1 gm Au/m3.

The gold particles usually are flattened flakes less than 20 mesh in size, with abundant particles of less than 60 mesh (Fig. 5). The size fraction of minus 100 to 200 mesh has 29.5 % of the total weight of the gold (Heyl 2, & Sampsell 11). The gold has a fineness of 0.93 - 0.96 % (Sampsell 11). The gold is well disseminated in both the sands and gravel. The upstream ends of any of the river point bar deposits contain higher grade zones.

The methodology of sampling and processing is particularly important, given the fine particle size. About 65 - 70 % of the river gravels in the area studied had greater than 10 mesh diameter, so it can easily be screened off as the gravels have almost no clay content. The remaining sand fraction is readily concentrated, but the small gold particle sizes (200 mesh average) and flattened shapes makes processing and recovery techniques critical. The lack of significant clay content greatly aids the separation and concentration at the gold and heavy minerals.

The studies conducted by the author used square pits of 1.5 m per side. The pits were dug on lines with 25 meter spacing between pits, 100 meter spacing between lines. The quantity of 10 liter buckets filled with bank run from each measured volume was noted per 0.5 m depth or change in the sediments, as necessary. Cross sections would be mapped for each pit, noting where each sample lot was taken from. Each man would average 1- 2 cubic meters of bank run per day in excavating. Crews averaged 30 men. Excavation would continue until water became too great to handle, usually at 3 m depth. The bank run would be carted in wheelbarrows to the site where the processing would be done along the river's edge. Each sample lot would be processed separately. Tailings would be constantly tested. The combined recovered and tailings values became the determined grade for the sample.

Many different techniques have been used for processing the gold for this area, including large sluices with pumps, tables, jigs, and wheel spirals. The problem with all of these is that the gold size and shape make it quite susceptible to losses due to high water flow rates and poor operation techniques. The author has found that the method of the locals is quite effective, achieving close to 50 % recoveries. They use a wide, short wooden sluice with plastic and burlap. They gently screen off the coarser sizes and carefully pour water over the gravels with a slow rate of flow. The rough concentrates are then panned with excellent technique. A unique, portable aluminum sluice with a three tier switchback design was also found to be very affective using pumps, allowing higher rates of productivity. It is thought that a centrifugal concentrator designed for production conditions, such as the Falcon concentrator, should do an excellent job in processing gold from the sand fractions in a mining operation.

Heavy Mineral Sands Containing Rare Earths

The Region A and Region B river gravels and sands contain a significant amount of heavy mineral sands (H.M.S.). The "black sands" contain valuable metals in economic grades. The heavy mineral sands are named such as they are comprised of minerals that have a significantly higher specific gravity, or mass, than the gangue minerals such as feldspars, micas, and quartz. The heavy mineral sands of the property contain several potentially economic minerals containing such elements as Zirconium, Titanium, the Rare Earths, Scandium, Iron, Tungsten, the Platinoids, Niobium, Tantalum, and Thorium. The property's heavy mineral sands are found in a range of 1 -10 % of the bank run volume. The indicated resource grade of the heavy mineral sands is 3 % of the bank run volume. The geologic resource grade is 5 % of the bank run volume (Table 3).

The heavy mineral sands are characterized by not being rounded by erosion and are usually less than 0.5 mm (- 40 mesh) in diameter (Heyl 3). The volume percentages of the potentially economic minerals contained within them include 40 % magnetite (Iron), 20 % ilmenite (Titanium), and 15 % zircon (Zirconium, possibly the Rare Earths and Thorium) (Heyl 3). The minerals identified to date that comprise the remaining 25% of the heavy mineral sands include combined apatite, monazite, & sphene equal to 10% (all three carry Rare Earths) rutile (Ti), hematite (Fe), wolframite (W), cassiterite (Sn), augite, pyrite (Au), and hornblende (Fig. 6) (Heyl 2 & Ramirez 10).

Table 3: Heavy Mineral Sand Volume Grades

Average Minimum Floodplain	Indicated Resource Floodplain	Geologic Resource Floodplain	Geologic Resource Paleoterraces
3% H.M.S 1.36% NM H.M.S	3% H.M.S 1.36% NM H.M.S	5% H.M.S 2.26 NM H.H.S	3% H.M.S 1.36% NM H.M.S

Typically in heavy mineral sands deposits the magnetic fraction is not considered because of its limited economic value. The other heavy minerals with non economic grades are also not considered. Usually the minerals ilmenite, rutile, zircon, apatite, monazite and sphene are normally described as the non magnetic, economic fraction (NM H.M.S.) of the heavy mineral sands (Table 3). In Australia, the principal producer of heavy mineral sands in the world, H.M.S. mines produce from reserves grading 0.3 - 0.5 % NM H.M.S./m3 of bank run volume. The Region A and Region B Rivers have notably higher grades of the NM H. M. S. fraction.

The NM M.M.S. fraction as calculated for the property is composed of the black mineral Ilmenite, with an indicated resource grade of 0.6 % of the volume of bank run gravels, followed by Zircon in euhedral, transparent pink or white crystals with an indicated resource grade of 0.46% of the volume of the bank run gravels. The Rare Earth bearing minerals apatite, monazite and sphene, (and possibly zircon - Ramirez 8) are present with an indicated resource grade of 0.3 % of the volume of the bank run gravels. Note that analysis indicates a range of 0.1 -0.4% R.E. oxides, averaging 0.2% R.E. oxides (Maki 5).

Table 4: Indicated Resource Floodplain Non Magnetic Heavy Mineral Sand Grades

Ilmenite	0.6% Bank Run Volume	1.062 Bank Run Weight	21.24 kg Ilmenite/m3
Zircon	0.46% Bank Run Volume	0.745% Bank Run Weight	14.90 kg Zircon/m3
R.E. Minerals	0.3% B.R. Volume	0.567% Bank Run Weight	11.34 kg R.E. Min/m3
	1.36% B.R Volume	2.374% Bank Run Weight	47.48 kg/m3

Of particular interest is the unique aspect of the tenor of the Rare Earth metals found on the property. The Rare Earths are 16 elements divided by industry in four "Light" (La, Ce, Pr, & Nd) and 12 "Heavy" (Pm, Sm, Eu, Gd, Tb, Dy, Ho, Er, Tm, Yb, Lu, & Y) Rare Earths. The tenor (the proportion of elements to one another) of the Rare Earths is much higher in the "Heavy" elements than any other deposits published grade in the world. The two principal types of Rare Earth deposits mined today, bastnaesite and beach sands containing monazite and apatite, respectfully contain "Heavy" Rare Earths in tenors of 1 - 2 % and 3 - 7%. In comparison, studies found the property's Rare Earths tenor at 31- 36 % (Fig.8).

Resources

The resources of the property are contained within an area of 48 km in length and up to one km in width (Fig. 2). The ... concessions have indicated resources volume of auriferous floodplain gravels measuring 29 km long. averaging 200 m wide, and 10 meters deep. This volume contains 58 million cubic meters of bank run gravel. The ... concessions have an indicated resource volume of auriferous floodplain gravels measuring 19 km long, averaging 300 meters wide, and 10 meters deep. This volume contains 57 million cubic meters of bank run gravel.

The large size of the property and the constant changing of companies leasing the concessions have restrained the amount of evaluation work done on the property. Sampling and production on the floodplains mainly have been confined to limited, intensely worked areas separated by distances of one half to five km.

This past work had proven and probable reserves of 1.9 million cubic meters of bank run gravels grading 0.1 gm Au and 3 % H.M.S./m3. These reserves were developed by pit excavations on measured grids or by production excavations with varying dimensions, totaling over 5,000 m3 in volume of bank run gravels. Both types of excavations were up to 4 m deep and averaged 2 m depth. The reserves have not been included in the figures of this report due to their small size in comparison to the total resources of the property.

One observation from the data is that it shows a remarkable consistency in the general floodplain gravel composition and the grades of gold and heavy mineral sands contained in them. The grade of gold also appears to increase with depth. These three factors has allowed the large lateral projection of grade from the areas intensely worked to construct the indicated resource of the property. The entire length and width of the floodplains were allowed into this resource. A depth of 10 meters was used, over twice the depth of the deepest evacuations at the time. Since then one excavation area has confirmed gravels extend to that depth. The indicated resources of the floodplains consist of 115 million m3 of gravel having a bank run grade of 0.25 gm Au and 3 % H.M.S./m3 (Fig. 9).

The geologic resources are estimated using geologic knowledge of the property but have limited sample and measurement data available thus inferences must be made as to grades and volumes. The important differences in the estimation between the two resource types was to infer a greater depth for the gravels an additional 5 meters depth in the floodplains and to include the terrace deposits. The grades for gold and heavy mineral sands were also increased for the geologic resource. The geologic resources (including the indicated resources) for the floodplains is 172.5 million m3 of bank run gravels with a grade of 0.5 gm Au and 5 % H.M.S./m3. The paleoterraces have a geologic resource of 300 million m3 of gravel grading 0.1 gm Au and 3 % H.M.S./m3. The total combined geologic resource for the property is 472 million m3 of gravel grading 0.25 gm Au and 3.7 % H.M.S./m3.

The one significant change since 1990 has been the demonstration that the floodplain gravels have a minimum depth of 10 meters on the ... 2 concession. This means that the indicated resources of the property potentially could be doubled, increasing their thickness from 10 to 20 meters. Otherwise, the levels of production were so limited as not to significantly affect the amount of resources on the concessions.

The amount of indicated resource from the 1990 report was 115 million cubic meters. The geologic resource, including both floodplains and terraces was 472.5 million cubic meters. With further exploration work it is very likely that the indicated resources of the area could be greatly increased in depth. The gravels found upstream and downstream of the area reported on in 1990 have not been examined but are believed to have a considerable volume and should contain economic values.

from Vista Continental David Hayl

Commodity Market Valuations

The river places deposits of the area have several different minerals that are potentially economically recoverable if mined. These include Gold, Zircon (Zirconium), Ilmenite (Titanium), Rutile (Titanium) and the Rare Earth bearing minerals Monazite, Apatite, and Sphene. Other potentially economic minerals that are present in undetermined amounts are the Platinoids (Platinum, Palladium, Iridium), Columbite-Tantalite (Niobium,Tantalum,Scandium), Magnetite (Iron), Wolframite (Tungsten), and Cassiterite (Tin).

It was previously reported in 1990 that the river gravels for the area had indicated resource grades for bank run material of 0.25 gm Au/m3 with a volume of 3% heavy mineral sends per cubic meter Including bank run grades of 0.46% Zlrcon/m3, 0.8 % Ilmenite/m3 and 0.3 96 /m3 of rare earth bearing minerals. The combined nonmagnetic heavy minerals had a bank run grade of 1.36%/m3. Geologic resource grades were 0.5 gm Au/m3 with 5% heavy mineral sands per cubic meter including 0.77% Zircon/m3, 1% Ilmenite/m3 and 0.5%/m3 of rare earth bearing minerals. It is not felt that a change in the grades is yet warranted, but as new data is obtained changes in grades may be necessary.

In 1990 the previously calculated potential market values for the bank run material of the indicated resource in the studied concessions were $3.21 in Gold/m3 (@ $400 /oz Au), $6.51/m3 in Zircon ($486.27/tonne), $1.20/m3 in Ilmenite (@ $67.33/tonne), and the combined values of the rare earth oxides $4.50/m3. The former total value of the indicated resource was $15.42/m3. Market prices for the potential product from the Region A River placers have variously increased or decreased in present value since 1990.

It should be noted that the weight content of the H.M.S. in the Bank Run gravels has been calculated by a different method than in the 1990 report. The old report used the weight of the metal oxides, being 1.43 times heavier than the individual metallic elements. In this report the calculation method was changed to what is felt to be a more correct one. The volume percentage of H.M.S. contained in the Bank Run gravels was used as before, but then the differences in mineral density (Specific Gravity) between the normal gravel waster material and each individual H.M.S mineral was calculated so as to determine the correct proportion of weight each mineral has in a cubic meter of Bank Run gravel.

In the previous report the value for each individual R.E. oxide was used with its grade of the Bank Run. In this report the grades of the R.E. bearing minerals (Monazite, Apatite, and Sphene) are used with the Monazite concentrate pricing ($730 tonne). This is because there are only a few analyses for the R.E. oxides and the R.E. bearing mineral grades data is much more extensive and thus more accurate to determine value.

The present calculated value for the indicated resource bank run material is now $18.77 per cubic meter of floodplain gravel. This change is due to the updating of the market values for the products in the indicated resource. The new calculated potential market values for the bank run material of the indicated resource in the studied concessions are \$2.41/m3 in Gold (@ \$300 /oz Au). \$5.96/m3 in Zircon (@ \$400/tonne), \$2.12/m3 in Ilmenite (@ \$100/tonne), and the combined values of the rare earth oxides as a monazite concentrate (@ \$730/tonne) is \$ 8.76/m3.

Additional minerals may also be present in economic values in the gravels. Other potentially economic minerals identified in undetermined amounts in the river gravels are the Platinoids (Platinum, Palladium, Iridium), Columbite-Tantalite (Niobium, Tantalum, Scandium), Wolframite (Tungsten), and Cassiterite (Tin). Limited analysis by Rare Metals Corp. in 2002 indicate Scandium values potentially at the level of \$2.00/m3 of bank run. Scandium is associated with Niobium and Tantalum minerals so it is likely that these elements could be present in commercial amounts also.

With a potential market value of \$18.77/m3 the indicated resource is \$2.158 billon U.S. worth (Fig.11). This resource contains an estimated 28,750 kg of gold, 1.71 million T of Zircon, 2.44 million T of Ilmenite and 260,700 T of Rare Earth Oxides. The floodplain geologic resource has a potential value of \$ 32.08/m3 and worth \$5.534 billion U.S. The paleoterraces geologic resource has a potential value of \$17.32/m3 and worth \$5.196 billion U.S. The total potential worth be the combined geologic resources would be \$10.73 billion U.S.

Conclusions

Mr. DoCouto now controls a significant portion of the Region A River valley. The area of the exploration and mining concessions has a strongly indicated potential for containing economically recoverable river placer mineralization. The rest of the river valley has similar geology and mineralization and should likely hold similar values. Extensive testing and exploration will be required to define reserves on this large property position with over 48 km of river placer deposits. But it must be held in mind that the majority of the area has never been explored.

Over the last decade the logistics, political and legal aspects of the property have greatly improved. The market prices of some of the products for the property have decreased, and others have increased. Overall the indicated resource value for the bank run gravels of the studied area of the property have increased 18%, at a high value of $18.77/m3. A typical Australian heavy mineral sand mine will have an average bank run grade of 0.3%/m3 combined Zircon, Ilmenite and rare earth minerals. This compares quite favorably to the potential economics of the Region A and Region B Rivers placer deposits with a bank run grade of combined, nonmagnetic heavy minerals of 1.36%/m3, plus gold. The total indicated resource value for the area is $2.158 billion U.S. The total potential value for the property's geologic resource is $10.73 billion U.S.

A. David V. Heyl
International Consulting Geologist,
Evergreen, CO USA
March 7, 2002

APPENDIX A

Calculations Of Floodplain Indicated Resources Heavy Mineral Weights And Potential Values

Ilmenite:

0.6 % Bank Run Vol. x 1.77 (difference between Specific Gravity of Ilmenite @ 4.7 and Quartz gangue @ 2.5) = 1.062% Bank Run Weight x 2 T/m3 = 21.24 kg/m3 Bank Run
$100 / T Ilmenite Conc. x 1.062% Bank Run Weight = $1.06/T Bank Run x 2 T/M3 = $ 2.12/m3 Bank Run

Zircon:

0.46 % Bank Run Vol. x 1.62 (difference between Specific Gravity of Zircon @ 4.3 and Quartz gangue @ 2.65) = 0.745% of Bank Run Weight x 2 T/m3 = 14.90 kg/m3 Bank Run

$ 400 / T Zircon conc. x 0.745 % Bank Run Weight = $ 2.98 /T of Bank Run x 2 T/m3 = $ 5.96/m3 Bank Run

Rare Earth Minerals:

0.3 % Bank Run Vol. x 1.89 (difference between Specific Gravity of Monazite @ 5.0 and Quartz gangue @ 2.65) = 0.567% Bank Run Weight x 2 T/m3 = 11.34 kg Monazite/m3 Bank Run

$0.73 / kg Monazite conc. x 11.34 kg Monazite/m3 Bank Run = $ 8.28/m3 Bank Run

Typical Monazite R. E. Oxide concentrate = 60 % Rare earth Oxide content;
11.34 kg monazite/m3 Bank Run x 60 % R.E. Oxide content = 6.8 kg R.E. Oxide/m3 Bank Run

*Market price for a typical Monazite concentrate product

Total Potential Market Value For Floodplain Indicated Resource Bank Run Gravels

Gold	**$ 2.41/m3**
Ilmenite	**$ 2.12/m3**
Zircon	**$ 5.96/m3**
Rare Earth Oxides (Monazite)	**$ 8.26/m3**
	$18.77/m3

a.L.V.H.

APPENDIX B

Calculations Of Floodplain Indicated Resources Heavy Mineral Weights And Potential Values

Ilmenite:

1.0 % Bank Run Vol. x 1.77 (difference between Specific Gravity of Ilmenite @ 4.7 and Quartz gangue @ 2.5) = $ 1.77% Bank Run Weight x 2 T/m3 = 35.41 kg/m3 Bank Run

$100/ T Ilmenite Conc. x 1.77% Bank Run Weight = $1.77/T Bank Run x 2 T/M3 = $ 3.54/m3 Bank Run

Zircon:

0.77 % Bank Run Vol. x 1.62 (difference between specific Gravity of Zircon @ 4.3 and Quartz gangue @ 2.65) =1.24% of Bank Run Weight x 2 T/m3 = 24.84 kg/m3 Bank Run

$ 400 / T Zircon Conc. x 1.24 % Bank Run Weight = $4.96 /T of Bank Run x 2 T/m3 = $ 9.92/m3 Bank Run

Rare Earth Minerals:

0.5 % Bank Run Vol. x 1.89 (difference between Specific Gravity of Monazite @ 5.0 and Quartz gangue ® 2.65) = 0.945% Bank Run Weight x 2 T/m3 = 18.90 kg Monazite/m3 Bank Run

$ 0.73/ kg Monazite conc. x 18.90 kg Monazite/m3 Bank Run = $ 13.80/m3 Bank Run

Typical Monazite R.E. Oxide concentrate = 60 % Rare earth Oxide content:

18.90 kg monazite/m3 Bank Run x 60 % R. E. Oxide content - 11.34 kg R. E. Oxide/m3 Bank Run

*Market price for a typical Monazite concentrate product

Total Potential Market Value For Floodplain Geologic Resource Bank Run Gravels

Gold	**$ 4.82/m3**
Ilmenite	**$ 3.54/m3**
Zircon	**$ 9.92/m3**
Rare Earth Oxides (Monazite)	**$ 13.80/m3**
	$ 32.08/m3

APPENDIX C

Calculations Of Floodplain Indicated Resources Heavy Mineral Weights And Potential Values

Ilmenite:

0.6 % Bank Run Vol. x 1.77 (difference between Specific Gravity of Ilmenite (@ 4.7 and Quartz gangue @ 2.5) = 1. 062% Bank Run Weight x 2 T/m3 = 21.24 kg/m3 Bank Run

$100 / T Ilmenite Conc. x 1.062% Bank Run Weight = $1.06/T Bank Run x 2 T/M3 = $ 2.12/m3 Bank Run

Zircon:

0.46 % Bank Run Vol. x 1.62(difference between Specific Gravity of Zircon @ 4.3 and Quartz gangue @ 2.65) = 0.745% of Bank Run Weight x 2 T/m3 = 14.90 kg/m3 Bank Run
$ 400 / T Zircon Conc. x 0.745 % Bank Run Weight = $ 2.98 /T of Bank Run x 2 TIm3 = $5.96/m3 Bank Run

Rare Earth Minerals:

0.3 % Bank Run Vol. x 1.89(difference between Specific Gravity of Monazite @ 5.0 and Quartz gangue ® 2.65) = 0.567% Bank Run Weight x 2 T/m3 = 11.34 kg Monazite/m3 Bank Run

$0.73 / kg Monazite conc. x 11.34 kg Monazite/m3 Bank Run = $8.28/m3 Bank Run

Typical Monazite R.E. Oxide concentrate = 60 % Rare earth Oxide content; 11.34 kg monazite/m3 Bank Run x 60 % R.E. Oxide content = 6.8 kg R.E. Oxide/m3 Bank Run

*Market price for a typical Monazite concentrate product

Total Potential Market Value For Paleoterraces Geologic Resource Bank Run Gravels

Gold	**$ 0.96/m3**
Ilmenite	**$ 2.12/m3**
Zircon	**$ 5.96/m3**
Rare Earth Oxides (Monazite)	**$ 8.28/m3**
	$ 17.32/m3

APPENDIX D

1988 Rare Earth Oxide Analysis And Present Market Values

a.E.V.4.

R.E. Element	PPM Oxide	Market Price/kg 99.9 % R.E. Oxide	Value/m3
Lanthanum(La)	230	$ 4.70	$ 1.08
Cerium (Ce)	460	$11.62	$ 5.35
Praseodymium (Pr)	40	$6.80	$ 0.27
Neodymium (Nd)	230	$18.50	$ 4.25
Promethium (Pm)		$ 6.00	
Samarium (Sm)	330	$ 10.45	$ 3.45
Europium (Eu)	7	$320.00	$ 2.24
Gadolinium (Gd)	20	$ 9.30	$ 0.19
Holmium (Ho)	2		
Erbium (Er)	12	$324.00	$ 3.89
Thulium (Tm)	1	$1000.00	$ 1.00
Terbium (Tb)	3	$196.00	$ 0.59
Dysprosium (Dy)	15	$ 30.10	$ 0.45
Ytterbium (Yb)	12	$235.00	$ 2.82
Lutetium (Lu)	1	$2900.00	$ 2.90
Yttrium (Y)	125	$22.85	$ 2.86

* Scandium not Listed

Fig. 10

VALUES PER CUBIC METER OF BANK RUN

(IN U.S. DOLLARS)

	Gold	Ilmenite	Zircon	R.E Oxides	Total
Floodplain Indicated Resource	2.41	2.12	5.96	8.28	18.77
Floodplain Geologic Resource	4.82	3.54	9.92	13.80	32.08
Paleoterraces Geologic Resource	0.96	2.12	5.96	8.28	17.32
Total Geologic Resources	2.37	2.64	7.41	10.30	22.72

Fig. 11

TOTAL POTENTIAL RESOURCE VALUE

(In millions of U.S. Dollars)

Floodplain Indicated Resource Bank Run Gravels

Gold	$ 277.15
Ilmenite	$ 243.80
Zircon	$ 685.40
Rare Earth Oxides (Monazite)	$ 952.20
	$2158.55

Floodplain Geologic Resource Bank Run Gravels

Gold	$ 831.45
Ilmenite	$ 610.65
Zircon	$1711.20
Rare Earth Oxides (Monazite)	$ 2380.50
	$ 5533.80

Paleoterraces Geologic Resource Bank Run Gravels

Gold	$ 288.00
Ilmenite	$ 636.00
Zircon	$1788.00
Rare Earth Oxides (Monazite)	$2484.00
	$5196.00

Combined Geologic Resource Bank Run Gravels

Gold	$ 1119.45
Ilmenite	$ 1246.65
Zircon	$ 3499.20
Rare Earth Oxides (Monazite)	$ 4864.50
	$ 10729.80