# **Digging Through The Dirt**



## November 2013

Index/Commodity	As of Nov. 30th	Performance
S&P/TSX Venture	934.89	- 24.01
S&P/TSX Composite	13,395.40	+ 34.14
S&P 500	1,805.81	+ 49.27
Dow Jones	16,086.41	+ 540.66
Nasdaq Composite	4,059.89	+ 140.18
Gold (US\$/oz)	\$ 1,252.00	- \$ 70.70
Silver (US\$/oz)	\$ 20.03	- \$ 1.88
Copper (US\$/lb)	\$ 3.19	- \$ 0.10
Nickel (US\$/lb)	\$ 6.09	- \$ 0.50
Oil (US\$/barrel)	\$ 92.72	- \$ 3.56

In The Crosshairs	As of Nov.30th	Performance
True Gold Mining (TGM-V)	\$ 0.32	- \$ 0.01
Roxgold Inc (ROG-V)	\$ 0.45	- \$ 0.15
Macro Enterprises (MCR-V)	\$ 6.69	- \$ 0.03
New Zealand Energy (NZ-V)	\$ 0.315	- \$ 0.075
Cayden Resources (CYD-V)	\$ 1.10	- \$ 0.07
East West Petroleum (EW-V)	\$ 0.46	- \$ 0.15
Desert Star Resources (DSR-V)	\$ 0.20	+ \$0.035
Brilliant Resources (BLT-V)	\$ 0.07	- \$ 0.01

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http://www.pifinancialcorp.com/estatements.php

We hope to also have trade slips delivered electronically in the near future.

### **Updates**

IMPORTANT INFORMATION FOR ALL CLIENTS:

The last day for tax loss selling is December 24<sup>th</sup> for Canadian listed securities and December 26<sup>th</sup> for US listed securities. Once again PI Financial will be offering the opportunity to clients to liquidate small security positions for only the trade ticket charge of \$20 until said dates. The market value of the sales must be \$1,000 or less.

Please contact us today to review your account and any holdings you have which would qualify for this reduced commission.

East West Petroleum EW-V \$ 0.46

This month East West Petroleum announced they had finally received formal ratification of three blocks in Romania awarded to them in 2010. This now brings the company's gross acreage position in the Pannonian Basin region of western Romania to approximately one million acres across four blocks. According to the company "the Pannonian Basin is a proven oil and gas region with production from numerous conventional on shore discoveries". In October 2011, the company signed a farm out agreement on these blocks with Naftna Industrija Srbije (NIS), a Serbian multinational oil & gas company majority owned by Gazprom Neft. The terms of the agreement allow NIS to earn an 85% interest in all four blocks by covering 100% of the cost of a mandatory phase 1 and optional phase 2 exploration program. East West will retain a 15% carried interest during this time across all four blocks.

The mandatory and minimum phase 1 exploration program across all four blocks will include acquisition and interpretation of 2-D and 3-D seismic data and the drilling of three wells per block (12 in total) over the next two years. Seismic is currently underway on the Tria block in preparation for drilling. We can expect seismic to commence shortly on the other three blocks. The approximate cost of Phase 1 to NIS is a total of 60 million EUR. We view this farm out agreement with NIS as a pretty sweet deal for EW shareholders; providing shareholders exposure to the upside of an exploration program but essentially eliminating financial commitment.



East West Petroleum EW-V \$0.46

Also this month East West Petroleum announced, at the time, they had completed five days of the 15 day flow test on their first well (Cheal E-1). This well is part of a nine well drill program. It tested an average production rate of 600 boepd while under ¼ inch choke. Other wells in the Taranaki have typically used a larger choke (22/64 - 48/64 inch). The operator, TAG Oil, believes that this restrictive choke should allow for more reliable reservoir control and production optimization. This is positive, from our observations, since wells drilled in the Taranaki generally have initial long term production rates that are 50% of initial flush production rates. The implication here is that Cheal E-1 will likely come on stream at a rate that is greater than 50% of its flush production rate, which translates into a smaller decline over the first year. In the coming weeks shareholders can expect a flurry of news; drilling of Cheal E-4 to be completed and flow testing of Cheal E-2, E-3 and E-4. The timeline is expected to be three weeks between test flow results for each of these wells. We are anticipating a press release early December of initial production results from Cheal E-1, an announcement that Cheal E-4 is at TD and Cheal E-5 is being spudded.

New Zealand Energy NZ-V \$0.315

November was a busy month for New Zealand Energy as a company. Earlier in the month the company received approval to extend their Alton permit for an additional five years. However in order to extend the permit they were required to relinquish 50% of the permit as well as drill a second commitment well. The first commitment well is expected to be drilled Q1-2014 targeting a Mt. Messenger target. The company has a 65% working interest and is operator of the Alton permit. November 27th saw the announcement of the company's third quarter 2013 results. The company announced production of 11,958 boe, which works out to approximately 132 boepd. This is significantly lower than last quarter's production of ~206 boepd. Reasons for reduction in production include shut-in of a well for installation of artificial lift and shut-in of a well to replace rods. Both of these shut-ins were temporary. Disappointed to see the production numbers drop off but a positive was the increase in the field netbacks, ~\$ 59 per barrel (up from \$ 22). These rates of production wont get the market excited which brings us to the in progress 2013-2014 work program. Last month we made our readers aware that New Zealand Energy is in the process of reactivating six past producing Tikorangi wells on TWN Licenses. The company has not yet made the market aware of what production rate these wells have obtained however we can expect news out very shortly, maybe as soon as the first week of December. According to the company the "reactivations are proceeding as planned". As planned would indicate to us that the initial production rate from the reactivations would be at least 120 boepd net to NZ thus doubling their production rate. As has always been our view, it is vital that NZ successfully reactivate these six Tikorangi wells. It is important that they immediately generate positive cash flow from their operations allowing them to internally fund future drill programs.

At month end, it was announced that the company had been awarded 100% interest in the East Cape permit. This permit consists of over one million acres, bringing NZEC's total control to over two million acres across four permits in the East Coast Basin. According to the company, "the East Coast Basin is considered to be highly prospective...There are more than 300 onshore oil or natural gas seeps in the East Coast Basin". The company is actively looking for a partner on their East Coast Basin permits. We believe the market is eagerly waiting to see the results from Tag Oil's (TAO-v) first well drilled in the East Coast Basin. At this point in time we are uncertain when we can expect results.

Macro Enterprises MCR-V \$6.69

This month end Macro announced their 2013 fiscal Q3 results and boy were they good! Macro continues to demonstrate exceptional growth year by year, quarter by quarter. The headline fiscal numbers are below. To provide some context we have included PI Financial analyst Jason Zandberg's estimates for the quarter as well as the results from Q3-2012. The numbers speak for themselves.

	2013 Third Quarter (Actual)	2013 Third Quarter (PI Estimates)	2012 Third Quarter
Revenue	\$ 60,056,000	\$ 47,458,000	\$ 34,861,000
EBITDA	\$ 14,283,000	\$ 11,631,000	\$ 9,776,000
Net Earnings	\$ 9,220,000	\$ 7,230,000	\$ 5,864,000

We look forward to seeing how the stock opens post numbers. It is difficult to say what the market's expectations are given there is very little coverage of the company and its shares. At present the only firm covering Macro is PI Financial though this could change very quickly. A company such as this can only go unnoticed for so long. We can probably anticipate research coverage to be initiated by one of the banks or an independent in the near future. Looking forward to the next three to six months, we impatiently await to see if the government of BC will approve any of the proposed LNG pipelines in Northern BC. There are strong indications that BC Premier Christy Clark is in favour of the pipelines (see below link to Globe and Mail article). Key to Macro's success in the short to medium term would be securing a contract for sections of these LNG pipelines. The implications could be very substantial for the company if they were awarded a contract. It is speculative at this point but is also a key driver in the company's "blue sky" potential. Expect to see Q4-2013 fiscal numbers released first week of March 2014.

http://www.theqlobeandmail.com/news/british-columbia/clark-to-push-Inq-partnerships-on-asian-trade-mission/article15542770/

Investing in resource securities involves financial risk; please consult with either Bill Whitehead, Adam Simmons or Justin Hayek before investing to ensure suitability and risk tolerances have been considered before you invest.

Alpha Minerals AMW-V \$6.15

Alpha and partner Fission Uranium Corporation continue exploration on their flagship PLS uranium project. On November 4 they announced that they were successful in hitting mineralized rocks west of the R00E zone on line 600W. This is significant in that it is the first significant hit west of the R00E zone and significantly extends the total potential strike length of the PLS mineralized system to over 1.5km. Hole PLS13-118 intersected 20m of composite weak to moderate mineralization. On November 12 a follow-up hole (PLS 13-121) intersected 16.8m of composite moderate to weak mineralization including 0.5m of off-scale mineralization up dip of hole PLS13-118 on line 600W. Additionally, low grade material was hit in a drill hole on line 585W with 8m composite mineralization. On November 27, Alpha announced that they were successful in expanding the 600W zone to 0m in strike length. Hole PLS13-124 hit 37m of composite mineralization on line 615W and hole PLS13-123 on line 585W hit 32.5m of total composite mineralization. These holes have been successful in demonstrating continuity of the uranium mineralization in the vicinity of line 600W, although the radioactivity responses appear to be weaker and more diffuse than at other zones to the east. On November 14, Alpha announced assay results from line 315E to 435E. Highlights of thee holes include PLS13-86 with 43m at 1.93% U<sub>2</sub>O<sub>2</sub> (line 330E), PLS13-85 with 22m at 0.93% U<sub>2</sub>O<sub>2</sub> (line 360E) and PLS13-78 with 30m at 0.60% U<sub>2</sub>O<sub>2</sub> (line 435E), each of these intercepts contained narrower high grade intervals. Additionally, low grade material was reported for drill holes PLS13-81 and -87A at lines 405E and 315E respectively. Lastly, on November 28 Alpha and Fission announced that they have received shareholder approval for their respective plan of arrangements. For Alpha, all of their shares are going to be acquired by Fission and their will be a spinout company of Alpha which will retain all of its non-PLS assets and approximately \$3m in cash. In poor market conditions Alpha and Fission continue to shine and this month continued to show increase strike length potential of the PLS system while reporting assays that confirm high grade uranium in the heart of the mineralized system at PLS.

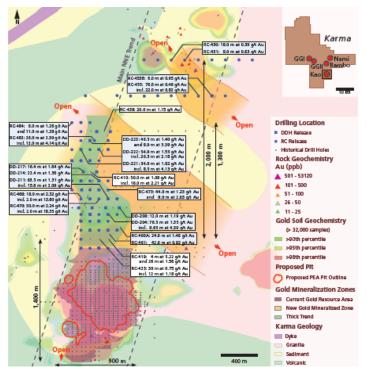
True Gold Mining TGM-V \$0.32

Over the month of November True Gold announced exploration results from the north Kao area on the Karma project and continued the completion of the feasibility study, which is due out before the end of the year. They also announced their quarterly results, but for the purposes this newsletter we will not comment on the quarterly as it covers the last three months of updates provided in previous issues of this newsletter. On November 3 True Gold announced the results of their continued exploration in the north Kao area. Highlights include (all reported values are gold) 18m at 2.39g/t, 18m at 2.32g/t, 30m at 2.24g/t, 33.95m at 1.62g/t, 54.90m at 1.55g/t, 46.5m at 1.40g/t, 76.5m at 1.35g/t, 63.53m at 1.31g/t and 44m at 1.23g/t. These are all selected intercepts of some of the better drill holes drilled in this area. However, they do form a coherent NNW trend and appears to show continuity of the Kao system for at least another 1.5km north of the Kao proposed pit (Figure 1). Although the spacing of the drill holes is not adequate enough for measure or indicated status, True Gold has demonstrate that the mineralized system at Kao continues to the north and that at least double the reported volume of rocks at Kao are mineralized and contain similar grades, if not slightly higher grades than previously outlined at Kao. Any resource updates will not likely to be accounted for in the much anticipated feasibility study. True Gold anticipates that the result of their feasibility study will be reported before the end of 2013. I anticipate that the results of their feasibility study will be in line with their PFS and given that True gold continues to demonstrate substantial upside and ability to increase their oxide gold ounces I believe this to be one of the most attractive asset out there. Whether True Gold ultimately mines this or is bought out and the fact that they appear to be hit slightly by tax los selling make this an attractive investment.

A friend of this newsletter, Tommy Humphreys, recently conducted an interview with Dr. Mark O'Dea, Chairman of True Gold Mining. The interview is featured on Tommy's website CEO.ca. In the interview Mark O'Dea discusses his philosophy and why True Gold's Karma project truly stands out. Below please find a direct link to the phone interview conducted by Tommy Humphreys and Shannon Nelson of CEO.ca

## http://ceo.ca/mark-odea-podcast/

Figure 1. Drilll hole locations and selected assays in the north Kao area.



Cayden Resources CYD-V \$1.07

Cayden continues to explore their El Barqueno project and negotiate with Goldcorp for the sale of lands immediately south of Goldcorp's Los Filos mine. At El Barqueno no results were reported for November. However, we anticipate that results of follow-up holes will be announced within the first week of December. In a meeting with Cayden in late November, they indicate that they have generated additional targets on the El Barqueno project for drilling and that they are starting to get a better handle on where cross-structures are located on the property. The importance of this is that these areas may be where the structures blow out into wider intervals. I suspect that the next round of results will contain some good and bad intercepts, but this should be anticipated as the company is still trying to understand the nature of the mineralized systems and their structural controls. I look forward to these results and hope that they are able to pull together a couple of ore grade intercepts. At Morelos Sur, Cayden is still in negotiations with Goldcorp over the potential sale of land that Cayden holds immediately south of the Los Filos mine. The significance of this ground is twofold. One, it contains mineralized rock and two in order for Goldcorp to properly mine the deeper parts of their Los Filos mine they will require this land package simply to mine their own gold in the Los Filos mine. Although I would like the negotiations to be moving quicker, Cayden is dealing with a major mining company, which are generally known as slow to react, so we can forgive them on that front. That said, Cayden is looking to have a deal done for Q2 to Q3 2014. Given that they just sold some ground to Goldcorp that is barren for a little less than \$17M we anticipate that this ground is worth substantially more to Goldcorp.

Barisan Gold Corp. BG-V \$0.35

On November 5 Barisan announced assay results from a follow up drill program from results presented in December 2012 and November 2008 on their Upper Tengkereng Project in Indonesia. The results did not disappoint. Hole UTD-003 returned 904m of 0.41g/t Au and 0.25% Cu over its entire length. This included a 262m interval of 0.81g/t Au and 0.49% Cu starting at a depth of 428m. As a reminder, the holes reported in December 2012 yielded 691m of 0.4g/t Au and 0.3% Cu (UTD-002) and in November 2008 which yielded 646m of 0.39g/t Au and 0.21% Cu. Indications from the logging of these holes suggest that the majority of the intercepts were within phyllic and quartz-sericite altered rocks and towards the bottom of the hole passed in chlorite altered rocks. What this tells us is a couple of things. Firstly, none of the holes have been drilled into what would be consider the most productive style of alteration and therefore with the information gained from the three holes drilled to date Barisan could vector into the higher temperature assemblages and potentially yield higher grades. Second, near the edge of their mapped diorite porphyry the alteration gets into chlorite altered rocks. This is typically an assemblage that is observed on the flanks of porphyry deposits and thus they drilled through the side of the system in hole UTD-003. This defines the NE edge of the system at depth and suggests that chlorite-bearing assemblage will not contribute much to the grade of the system. Hole UTD-004 is currently being drilled and appears as though it has been designed to test the guts of the system where higher temperature assemblages should occur. Based on how the market has reacted on no news in the past week (up nearly 60%) I'd hazard a guess that they were successful in hitting long runs of Cu-Au mineralization in UTD-004, as would be expected based on how they have drilled it. A word of caution though is that in Aurich porphyry deposits the Au grades will likely not increase as much as Cu grades when higher temperature alteration assemblages are encountered. Nonetheless, Barisan has been successful in outlining a potentially large system that appears to have a fair amount of room to grow. Reason being for a "fair" amount of room to grow is that the porphyry intrusion complex as mapped presently is not over large measuring approximately 500m by 400m in surface area. Had this discovery not been made in Indonesia I believe that Barisan would be trading at much higher levels. However, given the political instability in Indonesia at the current times it would be very difficult to put a new porphyry deposit into production. Nonetheless from a geological perspective it is a significant find and we will track the company going forward.

#### Cordoba Minerals Corp. CDB-V

\$0.52

November 20th Cordoba Minerals released results for their maiden (~600m) drill program at the San Matias project in Colombia. The results include:

DDH-001: 48.61m @ 1.00% Cu and 1.21g/t Au DDH-002: 73.32m @ 0.84% Cu and 0.74g/t Au DDH-003: 46.6m @ 1.31% Cu and 0.86g/t Au DDH-004: 101.1m @ 1.00% Cu and 0.65g/t Au

All four holes reported are drilled on the eastern margin of a Cu-Au surface geochemical anomaly (both from soils and trenching) that spans an area of approximately 1000m by 800m. The surface geochemical anomaly is coincident with a magnetic high in the eastern portion of the anomaly and a magnetic low on the western margin (further discussed below). Closure of the acquisition of the San Matias project by Cordoba is still not complete, but they have a signed binding agreement with Minatura Group and Sabre Metals. Closure of the deal is subject to number of conditions, including approval by the shareholders of Cordoba and Sabre, completion of a financing by Cordoba, preparation of a National Instrument 43-101 compliant technical report, and approval by the TSX Venture Exchange (see the Aug. 1, 2013 news release for further details on the agreement). Once closed Cordoba will own 100% of the project. As of the morning of November 20th the stock is up 32% to \$0.70 from yesterday's close of \$0.53. Approximately three weeks ago the stock ran from \$0.30 to a high of \$0.80, this may indicate that some visual estimates or observations may have reached the market prior to the day's release.

**Geology:** The announced drill holes are located on the eastern margin of the Montiel showing, which is one of several surface geochemical anomalies located on the property (Figure 1). The rocks that were intercepted in drill core are described as follows:



"Initial drilling at Montiel tested porphyry-related mineralization below copper-gold soil anomalies and artisanal workings in an area of deep tropical weathering. Drilling intersected high grade zones of copper-gold mineralization hosted by a diorite porphyry that contains strong potassic style alteration and various orientations of sheeted quartz-magnetite veins with chalcopyrite-bornite mineralization and minor zones of K feldspar within vein margins and secondary biotite. Lesser calc-sodic alteration is also noted as trace actinolite and albite alteration zones, largely in basaltic wallrocks and inclusions. At least one later phase of chalcopyrite veining overprints the sheeted quartz-magnetite veins.

A second, more felsic intrusive mineralized phase has also been identified which contains lesser quartz-magnetite veining associated with chalcopyrite and pyrite and a more well developed dissemination of chalcopyrite-pyrite. Potassic alteration, as secondary biotite, is well developed along with minor zones of chlorite-epidote alteration.

Within the diorite porphyry, zones of intense sheeted quartz veining often reaches over 90% replacement of the intrusive host rock associated with strong potassic alteration and copper-gold mineralization. The nature of mineralization and related alteration encountered at Montiel is similar to those of other large and elite high-grade copper-gold porphyry deposits."

So what can we take from this? There are multiple phases of mineralization and intrusive events in the same location, which is a key for developing large porphyry systems globally. The alteration and vein types are consistent with being in the deeper and hotter parts of the system where bornite has started to appear, likely upgrading what has been eroded away above. In the context of Figure 1 all four holes were drilled in a small area on the eastern margin of the surface anomaly. The western part of the surface anomaly has also been trenched yielding results of 30m @ 1.00% Cu and 0.20g/t Au, 48m of 0.34% Cu and 0.69g/t Au, in an area of non saprolitic cover. The eastern and western margins are separate by approximately 800m of saprolitic cover which has also been trenched and yielded results of 100m @ 0.30% Cu and 0.14g/t Au and 98m @ 0.20% Cu and 0.10g/t Au. This bodes well for the western and eastern margins to be connected into one continuous system as the Cu should be leached to some degree in the saprolitic rocks while Au may be subject to physical dispersion. The key difference between the eastern and western margins of the surface geochemical anomaly is the eastern sits in magnetic high whereas the western sits in a magnetic low (Figure 2). There are many possible explanations for this including that the western margin may be dominated by the more felsic intrusion type associated with lesser magnetite or that it is characterized by a completely separate fluid event. Regardless the western margin has outcroppings through the saprolite that have been trenched and show similar surface grades to the eastern margin of the surface geochemical anomaly.

Conclusions: Given the example of Solvista (SVV-V), also in Colombia, which intersected similar grades, but had a much smaller surface footprint, this system has the potential to develop into a large singular porphyry center. This may result in longer lived positive momentum in the stock when compared to Solvista. Going forward, for Cordoba, they will likely attain similar grades out of the western portion of the surface anomaly, the big unknown and what could separate them from the pack in Colombia is: what is the nature of mineralization between the eastern and western margin under the saprolitic cover? If it is low grade separating two small high grade centers, well we can expect the same as with other projects in Colombia. If however the system is at least semi-continuous the Montiel showing could actually develop into a large system. Infrastructure, topography, access to water and power are all good in this part of Colombia making the project favorable given a significant resource can be developed. As far as current porphyry stories, the prospectivity of the San Matias project ranks certainly behind Timok and probably behind Barison Gold's recent discovery in Indonesia but certainly ahead of the likes of Colorado Resources North Rok project. However, Barison's discovery will be forever hampered by an unfriendly mining jurisdiction in Indonesia. In addition to the potentially larger size than the likes of Solvista, the company is led by CEO and Chairman, Simon Ridgway, a well healed mining executive and recognized mining financier who has had former and current successes which include Fortuna Silver. In a meeting with Cordoba management, they indicated that after the merger with Sabre there will be approximately 40M shares outstanding in the merged company. Additionally, they will have to make a \$4M dollar payment on closing in order to secure 100% of the asset. As of now, Sabre has \$1M cash and Cordoba \$3M. Therefore they company will be required to raise money in order to continue drilling this prospective ground. We also are unsure if the company will roll back upon the completion of the deal with Sabre so establishing a valuation is difficult at this point until the asset is held entirely within Cordoba. In the meantime Cordoba is conducting an IP and RAB survey over the saprolitic rocks between the east and west portions of the established mineralized porphyry centre. This survey will go a long way in establishing whether this is one of the typical segmented series of porphyry mineralization as observe in most Colombian porphyries or if it is a continuous system over a great volume of rock. We will continue to watch this story but not jump in until we can establish what the final structure of the company is going to he.

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Figure 1: Location of east and west margin, diamond drill holes and trench samples.

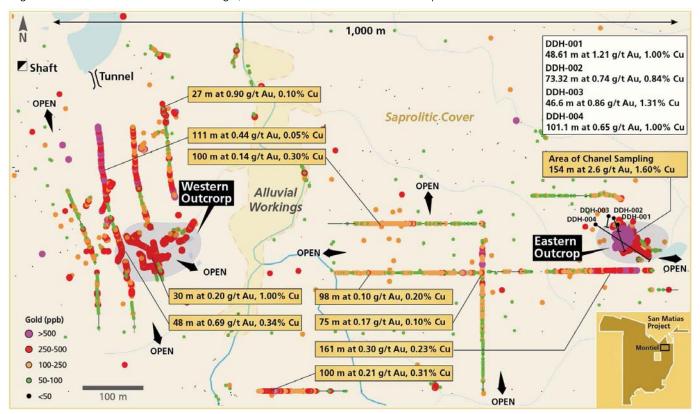
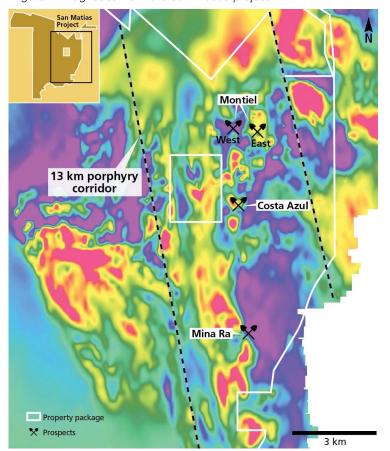


Figure 2: Magnetics from the San Matias project



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## Desert Star Resources (DSR-V) \$0.20

#### Field visit notes and thoughts by Adam Simmons

#### Overview

Desert Star was featured in our October edition of the newsletter. In early November I visited their projects in Arizona (Red Top, Copper King and Copper Springs) and New Mexico (Oro). In a nut shell what I took away from the field visits was that all of the projects definitely have surface exposures of rocks that characteristically comprise the tops of porphyry systems or the distal alteration affects of porphyry systems at Red Top, Copper King and Oro. Copper Springs is more of a conceptual play, but is situated in the heart of the Miami-Globe district and has substantial upside. After nearly a year of reviewing projects the company has finally put together a pool of projects, all of which have substantial upside and big company appeal. Realistically, it is a bit fortunate for Desert Star that the market conditions are so terrible; otherwise they probably would not have had the opportunity to acquire projects with substantial upside in a proven district that major

## **Company Statistics**

November Close	\$0.20
Change from October	-\$0.0.35
Shares o/s basic	20,849,068
Shares o/s FD	37,175,574
Market Cap (\$C millions)	\$4.17
Cash (\$C millions) <sup>1</sup>	\$0.15
Debt (\$C millions )	\$0.50

#### Management

Vince Sorace	President & CEO
Dr. Alan Wainwright	Chief Geologist
Dan MacNeil	Project Acquisition/Development
Gavin Cooper	CFO

mining companies are working in. When looking for porphyry deposits you want to see: 1) oxidized intrusions 2) water bearing intrusions 3) grade in appropriate alteration facies 4) a sizeable footprint and 5) evidence for multi-phase intrusions and associated hydrothermal systems. All of these projects have attributed of 1, 2, 4 and 5 above but thus far attribute 3 is not known. This is simply because the projects are exposed in the tops of the systems at surface in alteration assemblages that often contain low values of copper. Therefore, deep drilling (300-800m) is required on all projects. While this may scare some people I will caution you on this fact: gone are the days of finding exposed porphyry systems at their productive levels at surface in mature districts. The way forward will be to identify overlooked tops of systems and drilling under the typically unproductive tops of the systems or venturing into less mature and often politically risky jurisdictions. With the company burning on fumes in terms of their cash position they will need to work hard to acquire financing for the continued exploration of their projects. At this point Desert Star is open to all options including optioning out projects, merging and/or an equity financing.

#### **Project notes**

#### Red Top

Red Top is a copper porphyry project located approximately 10km NW of Resolution (Figure 1). The project is one of three properties optioned from Eurasian Minerals in this district. Deal terms to earn 100% is similar for all three projects (Red Top, Copper King and Copper Springs), in that DSR is earning 100%. To earn 100% DSR has a payment schedule that is goals oriented in addition to 350,000 shares of DSR up front and \$30,000 after the first 1,000m of drilling and exploration expenditures of \$2.85M over five years, only \$100k of which is required to have been spent in the first year. The project as it sits today is drill ready. The project is highlighted by a ~1,000m by 400m wide quartz-sericite alteration zone, within which there is a smaller zone of pyrophyllite-dicite alteration (Plate 1). These alteration assemblages are coincident with a Cu and Mo in rock anomaly. The post to syn-porphyry volcanic rocks are tilted in a way that would suggest that the system is tilted to the NW. Historic drilling on the project focused on potential supergene enriched zones and was drilled on the eastern parts of the alteration zone. Thus the historic holes were unsuccessful in properly evaluating the system as they would have drilled through the side of the

system, if the inferred tilt direction is correct (Figure 2). The company indicates that they would like to drill a 500-800m hole targeting the western part of the alteration zone to test the potentially deeper and higher temperature parts of the system.



Plate 1: Pyrophyllite-dicite altered intrusions and Proterozoic host rocks within quartz-sericite-pyrite alteration (Field of view approx 350m)

There are some indications that an IP survey may help in their targeting, however, given that the alteration assemblage of quartz-sericite contains a fair amount of pyrite (~>1%), thus we already know that there will be a chargeability high in this area. Therefore, in my opinion an expensive IP survey is not required in this case for the purposes of displaying a fancy image that you already know exists. This is unquestionably the top of a porphyry system; the only unknown is: what will it grade when they encounter the higher temperature parts of the system? Expected depth to the productive zone would be along the lines of as little as 200m and as much as 800m depth. It is quite



amazing to me that a massive alteration zone characteristic of the tops of porphyry deposits sitting in a very mature porphyry mining district sat as open ground as little as 4 years ago.

#### Copper King

This project is located immediately south of the Red Top project and consists of a large (>1km) alteration system coincident with Cu-Mo in rock chips (Figure 1). Porphyry dykes contain quartz-sulphide veins with quartz-sericite alteration overprints. Like at Resolution, calc-silicate alteration and associated copper mineralization is present in carbonate rocks. Adjacent to the project is a marbleized limestone quarry (Plate 2). Although this project is in close proximity to Resolution, outcrop evidence shows that north from Resolution alteration intensity dies out and then picks back up into Mn-serpantine altered limestone and finally into the marble guarry adjacent to the Copper King project. This indicates that there is a separate heat engine that drove the marblization of the limestone within this guarry. Based on the consistent tilts of rocks observed at Red Top and Resolution and assuming that it remains consistent between the two projects, that heat engine should be on the Copper King ground. However, many possibilities exist including that the marble was developed on the flank of the heat engine or that the heat engine is directly under the marble and this are in not tilted like the surrounding areas (Figure 3). Of course these are end member

possibilities and the heat engine and potential porphyry system lies somewhere in between. This property is not currently drill ready and requires geophysics, geological mapping and surface sampling. Although some additional targeting is required, previous surface sampling shows

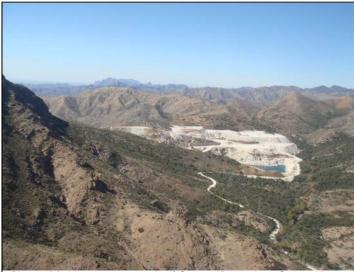


Plate 2: Marble quarry at margin of Copper King project. Copper King immediately behind marble quarry. Quarry is approximately 400m across

that there is copper in rock low level anomaly on Copper King that covers a ~6km by 4km area, within which is a 4km by 1km Mo anomaly, all flanked by marble and serpentine-Mn alteration to the SE. As with the Red top project, Copper King has substantial upside, but at the cost of what will likely turn out to be 300m-800m drill holes to test the system at depth after all of the additional targeting is completed.

#### Copper Springs

The Copper Springs project arguably has the highest potential of all the Arizona projects on Desert Stars books. The largest hurdle that they will face is that the rocks are covered under >500m of unconsolidated basin fill sediments. Thus the target here constitutes a blind target. The evidence that suggests that there is a big prize to be had here will take some explanation. I will try my best at this. Figure 4 shows that there are three ENE-trending porphyry trends. There are currently two trains of thought in Miami porphyry district: 1) that each of the mineralized systems represents its own porphyry system that intruded near vertical and remains in tact and; 2) that there are two and possibly three porphyry systems that have been extended in a ENE direction. That these all represent singular porphyry systems would indeed be a curiosity from a geological perspective. It would be extremely rare that such a high density of individual porphyry systems were emplaced in such a small area, the likes of which are rarely, if ever observed. The alternative is that the systems have been extended in the ENE direction so much that they have become dismembered. I prefer the latter situation and will outline why. To the west on the three trends the systems are characterized by relatively low grades within coarse muscovite and K-feldspar alteration. This alteration assemblage is characteristic of deep and hot assemblages in most porphyry deposits globally, an example of this would be Pinto Valley or Carlota Mines. This represents the "root zones" of the dismembered porphyry systems. Working our way to the east the deposits change in character to K-feldspar and biotite overprinted in the eastern most portions by sericite assemblages. On a global basis this typically represents the most productive parts of the porphyry systems. Not surprisingly, the grades and sizes of the deposits in this region (the "core zone") increase substantially. Deposits that are representative of the dismembered core zones include Miami-Inspiration and Miami-East. The furthest east of the zones is the "roof" portions of the dismembered porphyry bodies. Alteration assemblages in this region are characterized by guartz-sericite transitioning into dicite-pyrophyllite assemblages to the east. Copper bearing systems in this area are typically either lower grade bulk tonnage porphyry style deposits (e.g. ?Copper Cities?) or high grade sulphide veins of intermediate to high sulphidation character (e.g. Old Dominion). This distribution of alteration and deposit styles alone should be enough to lead somebody to believe that the systems have been dismembered in ENE direction such that the roots are exposed in the west and roofs in the east. Further evidence of this stretching direction is provided by the work of Dr. Dave Maher as part of his Ph.D. study. In this study he looked at the contacts between premineral batholith units and the country rock that they intruded. Using the contact and mapped faults he was able to establish that the stretching direction was in a ENE direction and successfully reconstructed the batholith. This then allowed him to reconstruct the porphyry systems at the Pinto Valley and Miami systems back into only two separate and unique porphyry systems. They then applied this model to what is known in the Copper Springs trend where the largest root system is present, an example of this is Morgan Peak, and the largest roof system is exposed, an example of this is Old Dominion. What appears to be missing from these systems is the productive core part of the system. Desert Star postulate that is simply due to it being covered by 500m-1000m of basin filled sediments after the porphyry system formed and was extended. Additionally we know that BHP has been drilling numerous holes just over the Copper Springs northern boundary for much of the year under ~700m of post mineral cover. The red dot on the eastern part of the Copper Springs property represents a cased rotary hole down to ~450m. This hole never reached



bed rock but hit significant native Cu in the sediments. The previous operator cut the hole short due to running out of money during the drill program. Desert Stars plan would be to re-enter this hole and continue drilling in addition to two drill holes to the south. Obviously this is big money and big company type exploration, so in an ideal world Desert Star can option this one out and have a major do the spending on this ground. Even though the prize is big and all indications are that there is a significant system below the Copper Springs project, it will be expensive to drill and comes with great drilling risk.

#### Oro Project

The Oro project is located in SW New Mexico (Figure 1) and was optioned from Southern Silver. DSR is earning in to 70% of the project for \$225k cash over first 6 months, \$3m in exploration expenditures over 3.5 years for 51% and an additional 19% for \$3M over the following 3 years. DSR did a good job here in recognizing the potential for a porphyry system, whereas previous operators were fixated on surrounding skarn type mineralization. During my site visit it was confirmed that they have a very large quartz-sericite alteration footprint flanked by high grade copper bearing skarn systems. Some more work is required here to figure out the best way to drill this target, but upon visual inspection of drill core from the skarn systems it appears as though the system is tilted to the NE based on chlorite assemblages overprinting K-feldspar assemblages in one drill hole. This project is similar to the Red Top project in that the alteration likely represents the roof of a porphyry system and the only question really is: what does it grade in the more productive and hotter zones. Also like the Red top project an IP survey would be of no help due to the high abundance of pyrite within the quartz-sericite altered zone.

#### Other Projects

Desert Star has two other Carlin style projects located in Nevada but they were not visited during this field trip and are not a focus of this write-up.

#### **Potential Triggers**

Upcoming exploration programs and potential partnerships on projects

#### Conclusions

While these assets represent what some would call conceptual targets I would rank them into the real target group. Reason being is that we already know that these projects (aside from Copper Springs) have exposed on surface alteration associated with Cu-Mo on surface within porphyry intrusions. Therefore the system is real. The only unknown is the grade and volume of the potentially more productive alteration zones. As the targets require deep drilling it will be more costly to find anything on the projects. Additionally, these projects have big company appeal due to location and infrastructure and other known ore bodies in the region. Based on this I expect that one or more of these projects will be optioned to a major and an additionally equity financing will be required to fund their other projects. I know there are a certain portion of investors that don't like the deep targets, but this is the way of the future if we want to continue mining copper in stable jurisdictions. Regardless if a large system with approximately 0.8% Cu can be found it will be bought and put into production in this location even if it is deep. Need proof, look no further than the Resolution Copper Project.

## **Risk Factors**

- Deep drilling presents drilling risk
- Cost of drilling is high due to depth of drill holes, though is slightly offset due to the relatively low cost per meter in this part of the world
- Required financing for DSR
- As with any exploration targets there may not be an ore body, though I believe that these projects all have increased chances of hitting something significant compared to most other exploration targets. That said, the chances are still low.

Figure 1. Location of the Eurasian optioned projects in Arizona.

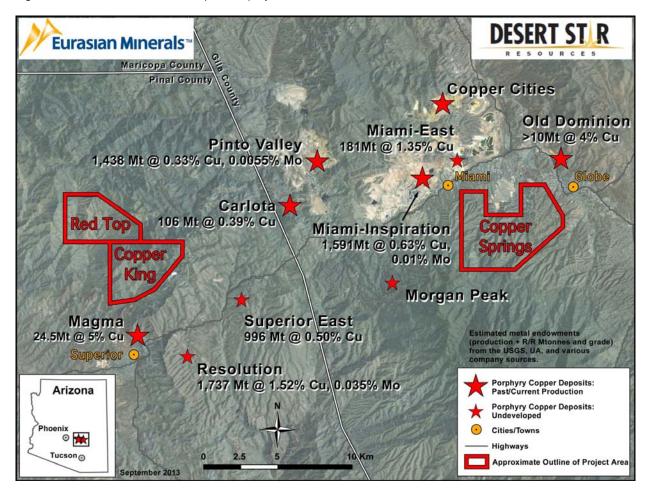


Figure 2. Idealized cross-section through the Red Top project

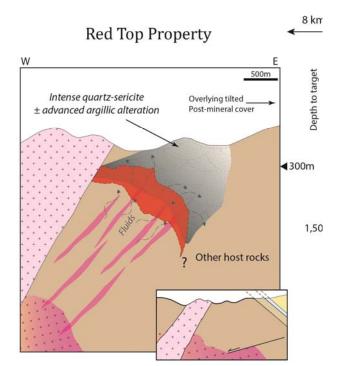
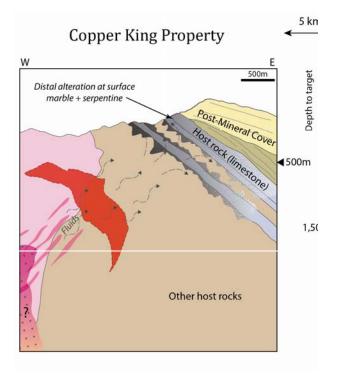


Figure 3. Idealized cross-section through the Copper King project



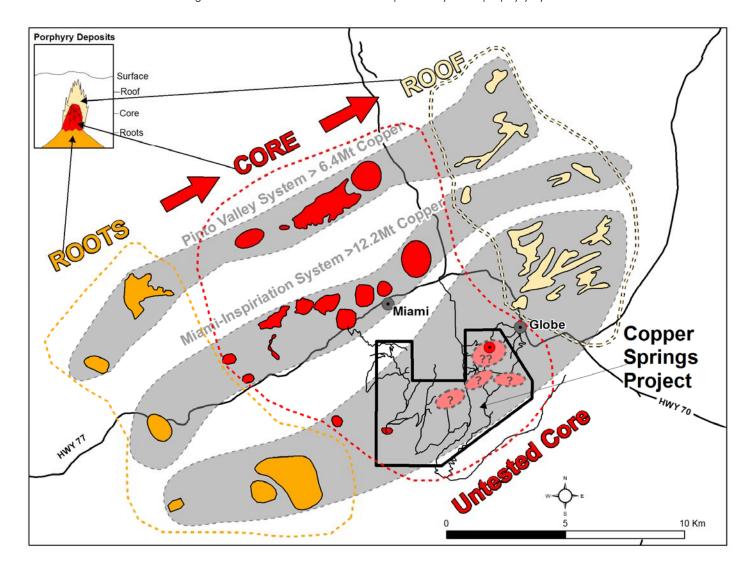


Figure 4. NE-SW extension of two and potentially three porphyry systems

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