# Valuation Report





PSE: CSE

 Pasinex seems to have found the right mining projects which are hosted in the right geology as Turkey's underdeveloped mining sector still

The Company enjoys support from a powerful local partner, Akmetal group, with strong

Pasinex has interests in two former high-grade zinc mines, Pinargozu and Horzum. Both mines are dewatered, refurbished and ready for

 Drilling at Pinargozu has just found promising mineralization: one of the holes intersected 17 m at 39% zinc and 85 g/t silver. Based on these results and historic mining data, backed up by the piles of high-grade zinc material recently mined from Pinargozu, seen during the site visit, we tend to believe that the

project hosts a sizeable zinc resource.

presents high-grade opportunities.

experience in mining.

further development.

### Yuri Belinsky, BA, MA, Analyst July 3, 2014

### 0.140 Pasinex Resources Limited ("Pasinex" or "the 0.100 Company") is an exploration company with several zinc-lead and copper projects located in Turkey. 0.040

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Corporate Data				
Share Price (Jul 2, 2014)	\$0.125			
Fair Value, per share	\$0.30			
52-Week High-Low	\$0.17-\$0.03			
Shares Outstanding	70.7 M			
Market Capitalization	\$8.8 M			
Book Value (Mar 31, 2014)	\$0.82 M			

The Golcuk South target looks like a Basaltic Copper deposit with all necessary geological features and numerous copper oxide outcrops. The project is flat and accessible, and could thus become the Company's other target for near-term production.

We believe that investors already have some idea about a mineral resource in Pasinex's Pinargozu and Golcuk projects because the stock trades at a much higher multiple of the Company's book value of assets than comparable junior mining stocks. The successful drilling results and historical data confirm that the stock is not overvalued on Price/Book. In this situation, we decided to use our own NI 43-101 non-compliant estimate of the Company's resources for valuation.

Based on this estimate, the peer average EV/Resource multiple, coupled with an estimated value of stockpiles at Pinargozu and Horzum, yields the stock's fair value around \$0.30. The results of the current drilling of Pinargozu and planned drilling of Golcuk South in 2015 will be critical for the Company's market value as they could prove or disprove our in-house resource estimates.

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Pasinex owns several exploration-stage mining projects in Turkey. In this report, we cover the Company's key projects: Pinargozu, Akkaya, Golcuk and Dadak.

Pasinex's Projects			
Project, Location	Mineral	Ownership	Status
Sivas province			
Pinargozu	Zn, Pb, Ag, Cu	50% (50% Akmetal)	Former mine, new drilling
Horzum	Zn, Pb, Ag, Cu	5% (95% Akmetal)	Former mine, new drilling
Akkaya	Zn, Pb, Ag, Cu	50% (50% Akmetal)	Early-stage
Adana Province			
Golcuk	Cu	100%	Historical mine, new drilling
Afyon Province			
Dadak	Cu, Cu-Au	100%	Early-stage

## Investment Case

- Turkey remains underexplored due to high fragmentation of its mining sector and complexity of its geology. The country's mining industry is now being consolidated with the help of international mining firms, thanks to favorable regulatory policies. The complex geology presents opportunities for internationals to use their exploration experience in cooperation with local partners, like in the case of the Pasinex and Akmetal JV in Horzum.
- Thanks to strong support from the Turkish business group Akmetal and a group of key ٠ shareholders, Pasinex is among the few junior exploration companies which have not reduced their exploration efforts lately.
- Pinargozu is a former small zinc mine with no production records. Historical workings suggest mineralization similar to that at Horzum. During the site visit, we saw numerous showings of zinc oxides and sulphides in Pinargozu and Horzum mines, as well as two piles of zinc material mined at the projects which may have more than 4,000 tonnes altogether at up to 30% Zn. Drilling at Pinargozu started in May 2014 and already brought a 16.8 m intersection grading 39.0% Zn, 1.6% Pb and 85 g/t Ag in one hole.
- Based on size and grade similarities with the Horzum mine, we estimate that Pinargozu hosts at least 1.0 Mt zinc oxide at 25% Zn. This estimate is NI 43-101 non-compliant. If the results of the 2014 drilling show significant continuity of high-grade mineralization at Pinargozu, it may provide the basis for our resource estimate and become a major catalyst for the stock's value.
- Pasinex has refurbished two adits at the Pinargozu mine where the drilling is now occurring and which will be mined in the future. Both surface and underground infrastructure at Pinargozu is available to start development and production.
- Akkaya is a promising target because it has a larger area (1,000 m by 350 m) with high zinc and lead grades in soil than Pinargozu and Horzum. We expect that Pasinex will pay an increasing attention to Akkaya going forward.
- ٠ The Golcuk Main and West targets host numerous copper outcrops and evidence of historic copper mining with a slag pile from a pre-modern era copper smelting operation. Golcuk South hosts numerous copper oxide outcrops and has all the features of a Basaltic Copper Deposit. It spans across 700 m by 300 m and if copper mineralization there is at least 50 m deep, the project would host at least 20 Mt, possibly at 0.8% Cu. We take this as our inhouse NI 43-101 non-compliant estimate for the project.
- Being flat and hosting a supposedly shallow mineralization, Golcuk South is of primary interest for Pasinex among Golcuk targets. The Company plans to drill the project in late 2014 or early 2015.

## Valuation

To arrive at a fair value estimate for Pasinex, we use the comparable EV/Resource method. As peer companies, we use junior miners with comparable Zn and Cu projects in different jurisdictions.

As Pasinex's resource, we use our own in-house, NI 43-101 non-compliant, "blue-sky" resource estimate which is based on the historic mining data for the comparable Horzum Mine and exploration data from the Pinargozu project (see p 12) and our estimate of grade and size of mineralization at the Golcuk South target (see p 22).

We consider this approach warranted because Pasinex is currently trading at 10 times the book value of its mineral assets, or at a 190% premium to its peer companies on Price / BV Mineral Assets: investors are apparently assigning a higher value to the Company's assets than the one recorded on the books. In the absence of NI 43-101 resource estimates, we tried to quantify that value ourselves.

#### Comparable Analysis EV/Resource

Company	Project location	Stock Symbol	Stock Price	Shares O/S (M)	Market Cap (\$M)	EV (\$M)	Zn Eq (Mlb)	EV/Resource (\$/lb)
Canada Zinc Metals	Canada	(TSX.V: CZX)	\$0.38	147	\$56	\$44	14,742	0.003
Zazu Metals	U.S.	(TSX.V: ZAZ)	\$0.50	48	\$24	\$22	1,916	0.012
Rathdowney Resources	Poland	(TSX.V: RTH)	\$0.23	84	\$19	\$17	3,883	0.004
Foran Mining	Canada	(TSX.V: FOM)	\$0.18	83	\$15	\$10	3,309	0.003
Selwyn Resources	Canada	(TSX.V: SWN)	\$1.88	4	\$7	\$2	755	0.002
Zincore Metals	Peru	(TSX.V: ZNC)	\$0.13	41	\$5	\$7	11,353	0.001
Chieftain Metals	Canada	(TSX.V: CFB)	\$0.16	17	\$3	\$12	3,463	0.003
Weighted Peer Average							-	0.005

We believe that Pasinex deserves to trade in line with the peer average on EV/Resource (\$0.005/lb) because the Company boasts a high-grade formerly producing zinc project (Pinargozu) which, due to its existing surface and underground infrastructure, can be brought to production within a short timeframe. We expect that if further exploration confirms the presence of a resource similar to our in-house estimate, the Company's EV/Resource will reach this level.

At this EV/Resource, Pasinex's fair Enterprise Value is \$23.2 million. To this estimate of the fair EV, we add the Net Smelter Return on the stockpiled material at the Pinargozu (50% Pasinex share) and Horzum (5% Pasinex share) projects which appears to be Direct Shipping Ore: 2,700 tonnes at Horzum at 27% Zn, and 1,350 tonnes at 27% Zn at Pinargozu (the numbers are Company estimates, see pictures on p 28). The corresponding sum is \$605,000.

The resultant Net Asset Value (NAV) of the Company is 30 cents per share, based on the diluted number of shares, 80.6 million (p 30).

#### Sensitivity Analysis

EV/Resource	Resource (Mlb Zn Eq)	Potential EV (M)	Potential EV* (M)	Potential NAV (M)**	NAV Per Share (\$)
0.001	4,897	\$3.1	\$3.7	\$3.9	\$0.05
0.005	4,897	\$23.2	\$23.8	\$24.0	\$0.30
0.012	4,897	\$56.6	\$57.2	\$57.3	\$0.71

\* Including stockpiled material at Pinargozu and Horzum

\*\* NAV = EV - Debt + Cash

## Pinargozu

Pinargozu is potentially a high-grade, near-term zinc project. Historic mining data and new exploration data give hopes that the property hosts sizeable Zn oxide and sulphide mineralizations (so far, non - NI 43 101 compliant). Although the project is early-stage, it may take relatively short time until production due to its smaller scale (for its oxide part) and existing underground and surface infrastructure.

The property hosts a historic zinc oxide mine: a small surface and underground artisanal operation which in 1970s-1990s produced ore at around 30% Zn. There is a nearby Horzum mine (7 km to the south) which was one of the larger regional mines feeding ore to the Kayseri zinc smelter. It operated from 1974 to 1996, producing approximately 4.2 M tons of oxide ore grading 20%-30% Zn (non NI 43-101 compliant production figures). During its latter years of operation, Horzum Mine also mined sulphide ore with approximately one quarter of the total mine life production coming as sulphide ore.

The mountain at Pinargozu is 1,200 m high. Altogether, there are seven adits, with the highest adit at 1,000 m (the map below). Pasinex has refurbished two adits, at 677 m and 707 m above ground (see the picture).

Map of the adits



Source: Company

Entrance to the adit 677 at Pinargozu



Source: CHF

In the spring 2014, Pasinex carried out a comprehensive Ground Penetrating Radar (GPR) survey of the Pinargozu and Akkaya properties from both surface and underground. Altogether for the two properties, the survey identified 40 targets for drilling which commenced in late May 2014. Radar survey has never been done for steep slopes before and is thus harder to interpret. So far, it is evident that surveys from the surface are able to penetrate the ground to a depth of about 80 meters.



#### Map of the radar

Source: Company

A GPR survey can identify physical features and changes in rock properties which may relate to economic mineralization. At Pinargozu, the survey identified a structurally controlled system of cavities, faults, fissures and layers: on the picture below, a part of the rock has a clearly distinctive cavernous structure which is different from the structure of the nearby rock. A spot on the radar image is not necessarily a cavity but since there are caves, it likely represents a cave.



Horzum UltraGPR (from surface), penetration to 80 m



These caves could be filled with zinc oxide, just like at the historic Horzum zinc/lead mine which is only 7 km along strike from Pinargozu and has the same geology (see the two pictures above).



Source: Company

### Geology

The Horzum region hosts numerous carbonate replacement zinc deposits (CRD). Many of them, including the Horzum mine, have been mined for zinc oxide. Both Pinargozu and Akkaya have the features of this type of mineralizations. CRD lead-zinc deposits contain high-grade (the grade at Horzum mine reached 30% Zn) lead and zinc oxide and sulphide material hosted within carbonate formations (limestone at Horzum). CRD bodies range from 0.5 Mt to more than 20 Mt of ore, for instance, Horzum Mine produced 4.2 Mt of oxide zinc ore between 1974-1996.

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At Pinargozu and Akkaya, Pasinex primarily expects to find CRD mineralizations because of the structural nature of rocks in those areas. See the pictures from the Pinargozu mine of what looks like zinc oxide material (covered with clay) in a void and on the wall. During the site visit, we witnessed the piles of mineralized material at Horzum and Pinargozu (p 28) which were visibly high-grade zinc material and which, according to Pasinex, between them have 4,050 tonnes at 27% Zn (see p 4).

Cave with zinc oxide at Pinargozu



Source: CHF



Zinc oxide (white material) and galena (lead sulphide, shiny) in a cave at Pinargozu

Source: CHF

CRD mineralizations were brought to the sedimentary carbonate basins by igneous activity which caused hot fluids to react with the carbonates through the fault lines (the cartoon below). Mineralized material in such deposits fills and replaces open spaces and any porous units in dolomite or sandstone may host it. Pasinex hopes to find zinc in the caves discovered at Pinargozu.

#### General CRD setting





To map the tectonics and structure of the Pinargozu and Akkaya properties, Pasinex hired international geological consultants. See the highly faulted structure of the Horzum area on the map below.





Source: Company

CRD ore bodies tend to be compact, fairly uniform plug-like or chimney-like replacements of their host carbonates. If the mineralization is explored carefully and the locations of the replacements are mapped, targeted mining could bring high-grade ore, which Pasinex is aiming at. During adit refurbishment at Pinargozu, high grade zinc ore (up to 30% Zn) was found near the adits.

### Drilling and resource estimate

The program of underground and surface drilling at Pinargozu (22 holes altogether) started in late May 2014 (see the picture from an underground drill site). Drilling is targeting the locations where zinc oxide ore was mined previously as well as the caves identified by the UltraGPR survey. The holes are planned to be quite short, 30 m - 120 m, because the mineralization is close to the surface at the former mining sites and caves are close to the adits. The map shows the drill holes, locations of surface GPR survey profiles and targets identified within them.

The first four boreholes drilled, PPU14-05, 06, 14 and 15, targeted a downward continuation of ore mined from the 707-level adit. The first three holes were blank while the hole PPU14-15 brought 16.8 m of mixed oxide and sulphide Zn/Pb/Ag material grading 39.0% Zn, 1.6% Pb and 85 g/t Ag. Such high grades and significant length (open at depth) and width (two to four meters) confirm that there is still a large accumulation of mineralization at Pinargozu.

Diamond drill at Pinargozu



Source: CHF





Source: Company

Assuming that up to 0.5 Mt of zinc oxide at around 30% Zn was mined at Pinargozu and that there is a system of voids throughout the reef, which are similar to the previously ore-bearing voids at Pinargozu and at the Horzum mine, we consider it possible to estimate the resource at Pinargozu based on the historic mining information for both projects. Moreover, the mineralization in the hole PPU14-15 is at the same stratigraphic level as in the Horzum mine, while, according to Pasinex, mineralization in the hole appears to be richer in lead and silver than at Horzum.

Since Pinargozu and Horzum mountains are similar in size (previously mined areas at Horzum and Pinargozu up to 250 m in height) and that at Pinargozu much less material has been mined, it seems safe to assume that Pinargozu hosts at least 1.0 Mt zinc oxide at 25% Zn, as compared to 4.2 M tons of zinc oxide grading up to 30% Zn that was mined at Horzum.

Since CRD chimney-like deposits are considered to form close to their igneous "creator intrusions" there may be a massive zinc sulphide mineralization further down. This is the case at Horzum Mine where about 1 Mt of zinc sulphide ore was mined at greater depths, for which there was a small floatation plant. Given usual sizes of zinc CRD projects, there could be 10 Mt - 30 Mt at 7%-10% Zn of zinc sulphide material at Pinargozu. This resource, if discovered, would greatly add to the Company's value.

First four holes drilled in 2014



Source: Company

## Akkaya

The Akkaya property looks very promising as it has a larger geochemical footprint than the Horzum and Pinargozu properties. Soil and infill grid sampling surveys, which Pasinex carried out in 2012, showed presence of strong and large-size (1,000 m by 350 m) Zn/Pb anomaly. Altogether, the Company has collected 848 soil samples and 168 rock samples. In soil samples, average background Zn grade was 250 ppm (0.025%), while in anomalous zones it reached 7,000 ppm (0.7%). Pb grades in rock samples were in the range 4,000 ppm -7,000 ppm (0.4%-0.7%).

We expect that due to Akkaya's large size and promising Zn and Pb grades in the soil, the property will be among the Company's priority targets for drilling, which could happen even this year, subject to financing.



Soil geochemistry results: Zn

Soil geochemistry results: Pb

Source: Company

## Other types of mineralization at Horzum

The Horzum region may also host zinc-bearing skarns and Mississippi Valley type (MVT) mineralizations. CRD deposits are usually richer in Zn and Pb than the other two types. Skarn deposits are guite similar to CRDs, although they locate closer to the intrusion and are rich in Zn, Co, Pb. MVT deposits are usually less deep than CRDs as they occur in platform carbonate sequences, and rarely contain copper. There is evidence of MVT mineralizations in the northern Adana region (which includes the Horzum region).

## Golcuk

### Golcuk Main and West Geology

Basaltic copper deposits form in basaltic rocks (after plate collision in the Golcuk area, rebound occurred and basaltic lava came up through the cracks) which are fractured by faulting (the Golcuk project is located close to the large, long-lived, North Anatolian Fault, see the cartoon below).



### Geological Setting Equivalent to Golcuk's Basaltic Copper Deposit Setting

Source: Company

Permeable basaltic rock can act as a sponge into which intrusive hot water can introduce copper and other metals, where they may precipitate. Intrusive structure of rocks is very evident in the project's area – see the pictures of hills in the area, which were taken during the site visit, with characteristic layers of different rocks.





Source: CHF



Source: CHF

Apart from structured rocks, this area hosts other promising signs for red-bed copper deposits. These deposits form in yellow or "red" host rocks. Altered yellow rocks are common in the area (see the picture taken during the visit). The yellow coloration of the rocks is the result of hot intrusive water.

### Yellow ("red") rocks



Source: CHF

Basaltic copper mineralization is most concentrated in volcanic rocks which are crossed by faults or fractures. In such mineralizations, copper-bearing minerals often form cross-cutting veins which are evident at Golcuk Main and West. On the next picture, see a high-grade copper bornite vein. Green mineral epidote around the vein is an alteration mineral which often forms halos around the bornite, and is useful during prospecting because it is relatively easy to see.

#### Copper in bornite at Golcuk Main



Source: CHF

### Past Mining

Golcuk's Main and West targets host numerous shallow workings attributed to the Romans and 18th-19th century miners. The mine sites still exhibit rocks rich in copper oxides grading about 5% Cu which were discarded previously.

### Old mine on the project



Source: CHF

As a proof of former mining and metallurgical activities, the Main target hosts a slag pile. In the pile, many rocks bear copper inclusions as the ancient miners did not achieve a complete slag/metal separation.

Ancient slag pile



Source: CHF

## Golcuk Main and West Exploration

Starting from 1970's, previous owners conducted a number of surface geochemical surveys on Golcuk which covered about 30% of the property. The surveys delineated two copper anomalies on Main and West targets, in association with visible copper mineralization (see the map), grading up to 5% Cu.

#### Geochemical anomalies at Golcuk



Source: Company

Until 2007, 20 diamond drill holes were drilled on Golcuk's Main target by previous owners. Several of them had significant copper intersections: in three holes there were 13 m - 32 m intervals grading 1.2% Cu - 2.6% Cu at 10 m - 100 m depths. In December 2012, Pasinex drilled two diamond drill-holes which targeted the same rock units on the Main target as previous drilling. The most significant intercept in the first drill hole was 9.7 m at 2.97% Cu, at around 200 m depth. The Company did not intersect significant mineralization in its second hole.

When Pasinex acquired the property, its exploration licence had expired and it was already three years into a mining licence stage. Under the mining licence, Pasinex has to mine at least 900 tonnes annually. The Company has mined 900 tonnes of what looks like copper oxide (malachite) at the Main Zone and now has a stockpile on the project. Pasinex believes that this material is readily leachable when the project starts producing.



Past and current drill holes at Golcuk Main

Source: Company

In late 2013 - early 2014, Pasinex carried out a ground magnetics survey over Golcuk. The results show variability in the magnetic signatures of the units constituting the volcanic and volcaniclastic rocks within which the centers of copper mineralization at Golcuk occur (map below).

Pasinex's geologists invested a great deal of effort in mapping the linear features on the project's terrain and creating a Digital Terrain Model: see the red and black lines on the map representing localized faults. The crossings of the fault lines potentially are promising to host mineralization.



Golcuk Ground Magnetics

The exploration results testify that copper at Golcuk is in basalt and in contact of basalt and other rocks. The map below shows geological mapping at Golcuk: six of the nine known copperbearing targets, from Golcuk South to Baykus, lie near the contact of basalt and andesite or limestone/tuff. The Company plans to explore the control between basalt and andesite further.

### Golcuk Detailed Geology



Source: Company

Source: Company

The exploration results show that, on the Main and West targets, host rock is basalt while copper minerals are oxides (malachite) at surface and sulphides at depth (bornite and chalcocite). This kind of composition should have good metallurgical characteristics. Its main advantage is scarcity of pyrite in sulphide material. Presence of pyrite in copper ore makes metallurgy more difficult and expensive as it requires heating (smelting). On the contrary, bornite and chalcocite can be easily either floated or leached (dissolved). Basalt is of medium toughness and not so difficult to grind while bornite and chalcocite are coarse and easy for floatation. Malachite, bornite and chalcocite are easily leached, unlike pyrite.

Given depths of the best drilling intercepts at Golcuk Main, the prospect may need to be mined from underground. In this case, a target grade would need to be 2% Cu - 4% Cu. Since historic drilling brought 1% Cu - 3% Cu grades over many meters, a 2% Cu target may be feasible.

Currently, Pasinex divides its time and resources between Horzum and Golcuk properties as 80/20. Later in the year, this should change to 50/50. In particular, the Company plans to drill the Golcuk Main and West targets towards the year end.

### Golcuk South and Funlu

Pasinex believes that the Golcuk South target, which was discovered by the Company in 2012, is epithermal and associated with the Kosedag Pluton which is located to the south of the Golcuk Licence. At least one of the dykes at Golcuk South is a monzonitic intrusive, which could be related to porphyry-type intrusions (related to the Kosedag Pluton). On Golcuk South, we found intrusive igneous rocks with large, well-formed mineral crystals set in a groundmass of finer-grained crystals which porphyry deposits are associated with.

#### Igneous rock at Golcuk South



Source: CHF

During the site visit, we witnessed copper oxide (malachite) disseminated in agglomerates (pebbles) at the surface in numerous locations across the whole 700 m by 300 m Golcuk South target (see the picture). Pasinex believes that mineralization in the pebbles precipitated after consolidation of the host basaltic volcaniclastics. Petrological investigations are underway to find how this mineralization was formed.

Pasinex CEO Steve Williams pointing at malachite outcrop at Golcuk South



Source: CHF

Pasinex has carried out channel and outcrop sampling at Golcuk South and Funlu prospects (see the maps). At Golcuk South, the length-weighted, average copper value for all the channels sampled was 0.41% Cu with cluster averages ranging 0.21% Cu - 0.70% Cu and single samples reaching 3.47% Cu (determined by SGS Ankara). Outcrop samples, which were collected on the Funlu prospect, ranged 0.10% Cu - 1.70% Cu, determined by Pasinex's Niton XRF laboratory in Turkey.





Source: Company

### Valuation Report

Based on these results and our own observations of the outcrops and mineralized seemingly highgrade material at both Golcuk Main and South, we believe that the entire Golcuk property merits sub-surface exploration by drilling. Pasinex now considers the total width of the Golcuk licence, which spans 7.6 km, from Funlu in the east to New West in the west, as possibly a copper-rich mineralization. Golcuk South would be among the Company's immediate choices as the target is plain and the mineralization there is expected to be close to surface. At the same time, Pasinex plans to start the new phase of drilling this year with Golcuk West for which it has a drilling licence. The Company has applied for a drilling licence for Golcuk South and is likely to start drilling it in 2015.

Being a smaller open-pittable target, Golcuk South would need at least 20 Mt of material at 0.8% Cu (0.5% Cu recovered) to be economic. We assume this target as our in-house, non - NI 43-101 compliant resource estimate for Golcuk South which should be taken with caution because Golcuk South is early-stage and has not even been drilled yet.

The size of Golcuk South, 700 m by 300 m, may host 20 Mt - 40 Mt of material, considering the depth of 50 m. For comparison, big porphyries hosting 100s of Mt have 0.3% Cu - 0.4% Cu grades. The oxide copper material visible at Golcuk South may be suitable for leaching,

## Dadak

Dadak is Pasinex's other property with porphyry potential (gold and gold/copper). Prior to 2012, the Turkish government identified the property as being hosted in porphyrytic intrusive rocks or Miocence volcanic rocks, of the kind that host the Kisladag project (about 100 km to the west of Dadak) which has 412 Mt at 0.78 g/t Au, for a total of 10.2 Moz Au. Pasinex thus believes that Dadak may be prospective for large economic porphyry gold and gold/copper mineralizations.

 •Kisladag

 0
 40

 80

 Kilometers

Dadak (black) and Kisladag projects

Source: Company

In 2012, the Company carried out a rock geochemistry survey which returned up to 10,000 ppm Cu (1.0% Cu) in some samples (see the map). The most anomalous mineralization on the property seems to strike North-East to South-West in the South-Eastern part. Pasinex is considering possibility to acquire the neighboring licences which are currently in the government's hands.

Soil survey at Dadak



Source: Company

We expect that because the project is a porphyry and may thus involve high-cost exploration, and is also at very early stages, Pasinex will not focus on it this year.

## Turkey: Regulatory Environment and Geology

## Macro Environment

The current prime minister of Turkey, Recep Erdoğan, has been in power since 2003. He has been credited for the strong performance of the Turkish economy as the inflation has since dropped from more than 30% to 5%-10%, foreign direct investment exceeded \$100 billion and exports increased ten-fold to \$152 billion in 2012. After some cooling in 2012, when the country's GDP grew by 2.2%, in 2013, the GDP grew by 4.0%.

Much of the growth has been the result of the credit expansion. This has been reflected in an explosive development of infrastructure, which stimulates interest in base metal projects. In particular, since 2003, the number of airports doubled to 50, the length of freeways more than tripled to 19,500 km and high-speed railways were introduced; construction of an undersea rail tunnel and a 1.9 km bridge has started.

Presently, there are some concerns that this credit-driven expansion may grind to a halt due to prospective growth of interest rates in developed countries. Turkey's central bank already increased interest rates this year from 7.8% to 12.0% on the back of higher inflation, devaluation of the lira and to prevent foreign capital flight which is currently affecting emerging markets.

Politically, Turkey remains dominated by Erdoğan's Justice and Development Party. Despite political protests in 2013-2014, some observers believe that Erdoğan may be elected President later this year or become prime minister for a fourth consecutive term.

We do not consider Turkey's short- to medium-term economic and political risks as material for the future of the Pasinex's projects because global fundamentals for base metals consumption remain strong (see p 32-34).

## Mining Regulatory Environment

The current government has been rather supportive of the mining industry and foreign investment in mining. The country's Commercial Code allows repatriation of profits and there is no import duty for new mining and processing equipment. Foreign individuals and companies are allowed to own Turkish legal entities which in turn can own mining rights. Under Turkish laws, employers are required to employ five Turkish employees for each foreign employee.

Turkey's Mining Law was amended in 2010 and introduced a more detailed and monitored licensing regime which also ensured greater investment commitment. Tens of thousands of mining licences, which were in the hands of individuals and small businesses, and could not be used properly, were revoked and subsequently auctioned off. This set off the process of consolidation of mining licences which enjoyed a significant turnout of investors, including Pasinex.

This process suffered a setback in early 2013 when the Turkish Government froze licence transfers and permitting. After the freeze, which lasted for more than 12 months, licence fees (an application fee, an annual licence fee and a guarantee fee in the amount of one per cent of the annual licence fee per hectare) were raised 2-3 times, while it is expected that NSR rates for base metals projects will be raised from 2% to 3%-4% or more. Although apparently this freeze raised fears about potential future volatility of the regulatory environment, there are expectations that after the latest changes the environment will be stable for some time.

In Turkey, there are two types of licenses for mining projects: an exploration licence (valid for up to seven years) and a mining licence (valid for at least ten and up to sixty years). Each type of licence has its own investment and operating conditions, while mining companies have to submit reports about their compliance with the licence conditions. The Company's Golcuk and Pinargozu projects are at the mining licence stages, according to which they need to annually produce 10% of the output stated in the permit application or pay a state royalty for inactivity. Golcuk has already mined 900 tonnes of material. The mining licence gets cancelled if production does not take place or falls below the agreed level for three years within a five year period (except for unexpected circumstances).

Apart from licenses, to hold exploration, development and mining activities, certain operating permits are needed, such as an environmental impact assessment (EIA) certificate, forestry drill permits and others.

In terms of land types, the Company's projects occupy forestry (Pinargozu, Akkaya, Golcuk) and farm (Golcuk) lands. Forestry lands are state-owned and governed by the Forestry department of the Ministry of Economy. Farm lands belong to individual farmers.

## Country and Regional Geology

Thanks to its complex geology, Turkey is rich in natural resources: it holds 2.5% of the world's industrial mineral resources (NI 43-101 non-compliant) and produces at least 60 different metals and minerals. At the same time, the complexity of the country's geology requires significant exploration efforts and geological knowledge to unlock full potential of a mineralization.

This is, in particular, where such western mining companies as Pasinex add value to Turkey-based projects. To the Horzum project, which is owned jointly with a Turkish business group Akmetal, Pasinex brings knowledge and experience in modern exploration methods and metallurgy of base metals, and zinc and copper in particular. Their knowledge is based on exploration and development of base metals projects in different geologies (see management bios on p 35), which fits Akmetal's experience in local mining well. In particular, the topography over which the Pinargozu GPR surveys were undertaken, is quite steep which necessitated specialist data reduction techniques. Akmetal's origins are in mining, the group currently employs 1,200 miners at three mines in Turkey.

Turkey's complex geology is also a reason, along with the formerly highly fragmented nature of the universe of mining licences, for the Turkish mineral wealth remaining underexplored and underdeveloped, and the country boasting some high-grade mineral projects.

Turkey is a tectonic island as the process of formation of the great Alpine belt is still continuing on the Anatolian peninsula: the African Plate is converging with the Eurasian Plate and the Anatolian Plate is moving west and southwest. These movements are occurring along two major faults, the North Anatolian Fault and the East Anatolian Fault, and numerous smaller faults. Due this plate tectonics configuration, Turkey is one of the world's more active earthquake regions.

The Company's two key properties, Horzum and Golcuk, are located close to the major fault lines. In particular, see the structural map for the Horzum property's area (p 10). This kind of highly faulted geology needs thorough exploration to understand its structural reality. To increase effectiveness of the exploration, Pasinex hired consultants to draw the fault structures.



Source: Wikipedia, CHF



Piles of sulphide Zn (reportedly at 27% Zn) and lead from Horzum and Pinargozu

Source: CHF

Stockpile of malachite at Golcuk South



Source: CHF

Pasinex's lab at the Pinargozu project



Source: CHF

## **Financial Review**

We estimate Pasinex's burn rate in the 12 months preceding March 31, 2014 at just above \$630,000, up 6% from the year 2013, which reflects the Company's active efforts in Turkey. As of March 31, 2014, Pasinex had less than \$80,000 in cash. We estimate that the Company will need to raise at least \$1.0 million in the nearest months to replenish its working capital and continue its exploration program. We assume that the financing will be done on average at 16 cents per share that would add 6.3 million shares. We also take into account 3.6 million warrants which expire in December 2014 and July 2015 and which are more likely to be exercised in the near future. The resultant diluted number of shares, which we use for valuation purposes, is 80.6 million as compared to the current basic number of shares 70.7 million.

#### Statement of Income/(Loss)

(C\$)	9 months Dec. 31 2012	Year End Dec. 31 2013	12 months Mar. 31 2014
Revenues	-	-	-
Administrative fees	112,500	150,000	150,000
Consulting and management fees	354,933	335,861	377,448
Office and general	28,986	34,831	31,228
Professional fees	82,974	74,713	72,677
Other expenses	271,452	239,549	226,969
Net income/(Loss)	(850,845)	(834,954)	(858,322)
Other comprehensive income/(loss)	(164,271)	(342,017)	(358,973)
Comprehensive income/(Loss)	(1,015,116)	(1,176,971)	(1,217,295)

#### Cash Flow Statement

(C\$)	9 months Dec. 31 2012	Year End Dec. 31 2013	12 months Mar. 31 2014
Net Income/(Loss)	(1,011,952)	(1,103,805)	(1,144,129)
All Non-Cash Adjustments	195,898	302,410	415,073
Cash Flow from Operations	(816,054)	(801,395)	(729,056)
Capital Expenditures (Properties)	(459,612)	(379,211)	(369,311)
Other Investing Items	(76,662)	139,373	(95,240)
Free Cash Flow	(1,352,328)	(1,041,233)	(897,171)
Working Capital Changes	168,203	30,686	90,879
Cash Flow before Financing	(1,184,125)	(1,010,547)	(806,292)
Equity Financing	321,388	557,556	673,339
Change in Cash	(862,737)	(452,991)	(132,953)
Cash, Beginning of the Period	1,372,530	496,927	208,980
Effect of exchange rate	(12,866)	2,101	3,256
Cash, End of the Period	496,927	46,037	79,283

### **Balance Sheet**

(C\$ 000′s)	Dec. 31 2011	Dec. 31 2012	Jun. 30 2013
Cash	496,927	46,037	79,283
Amounts receivable	54,489	34,899	8,961
Other current assets	202,156	116,399	82,496
Mineral Properties	774,399	826,003	912,014
Other Long-term Assets	116,672	82,743	78,137
Total Assets	1,644,643	1,106,081	1,160,891
Current Liabilities	253,192	279,045	342,901
Shareholders' Equity	1,391,451	827,036	817,990
Total Liabilities & Equity	1,644,643	1,106,081	1,160,891

### Warrants Outstanding

Exercise Price	Number	Expiry Date	Status	Potential Equity
\$0.15	1,650,000	December 21, 2014	In-the-Money	\$247,500
\$0.16	1,948,750	July 2, 2015	Out-of-the-Money	\$311,800
\$0.10	1,934,615	December 11, 2016	In-the-Money	\$193,462
Total	5,533,365			\$752,762

### **Options Outstanding**

Exercise Price	Number	Expiry Date	Status	Potential Equity
\$0.10	1,500,000	March 14, 2019	In-the-Money	\$150,000
Total	1,500,000			\$150,000

Source: Company, CHF Capital Markets calculations

## Zinc Market

Zinc is currently among the "hottest" metals: its price has grown more than 12% in the past three months and is at the 16-months high. The recent growth of the price has been attributed to the global zinc market deficit which grew from 17,000 tonnes in the first three months of 2014 to 107,000 tonnes as of April.





As a sign of a weakening supply/demand surplus, which this year actually transformed into the deficit, the warehouse inventories of zinc at the London Metal Exchange, where around 60% of the global zinc stock is held, have been gradually dropping since late 2012 and are now at the 2010 levels.





It is generally expected that, in the next three years, ten zinc mines will be closed, which produce around 2.0 Mt per year or about 15% of the global zinc mine output. The closures include the Brunswick and Perseverance mines in Canada, the Century mine in Australia, and the Lisheen mine in Ireland. At the same time, life of some of these mines (like the Century mine) may be extended for a couple of more years or even longer. There are also a number of new zinc mines being built by several companies, including Canadian Zinc, Donner Metals and Trevali Mining.

Currently, there are differing opinions as to whether the new and extended projects will be enough for the zinc market to maintain equilibrium. We believe that capital constraints may become a restrictive factor for some of the new projects with capex requirements of more than \$300 million. This should create a window of opportunity for smaller and less capital intensive zinc projects like Pinargozu.

The global demand for zinc is mainly (up to 60%) driven by its use to protect steel from corrosion (galvanizing). Growth of steel intensity, due in particular to infrastructure projects and higher use of cars, in the developing world, including China and India, promises to raise demand for zinc. Two growth areas of zinc applications, health (dietary supplements, cold remedies, etc.) and fertilizers, are becoming key areas of demand.

If the rate of growth in global zinc demand exceeds the rate of growth in supply, which now seems to be a more likely scenario, zinc price could rise strongly. For instance, analyst Helen O'Cleary of the global commodity research firm CRU expects that the zinc price will double by 2020 to about US\$2.0/lb. We estimate that higher-grade projects like Pinargozu will be profitable even at lower price levels.

## Copper Market

Copper is among the worst performing commodities this year: at US\$3.16/lb, it is down about 6% year-to-date. Copper is an infrastructure- and manufacturing-driven metal, and it bounced up from its low level in late March at US\$2.92/lb on the rising demand from increasing growth in the USA housing (US April housing permits reached a 6-year high) and auto markets, and an increase in worldwide manufacturing.



Copper Price (US\$3.16/lb June 27, 2014)

At the same time, according to the Wall Street Journal, one-third or more of Chinese copper imports is used as collateral for loans from Chinese and foreign lenders. This creates "false" demand and makes the price of copper vulnerable to the Chinese regulatory changes in the short-term. Some analysts see this as an additional risk for the price of copper which is already suffering from the slow-down of growth in China and expectations of a 9% rise in global supplies of copper over the next two years coming mostly from Chile and Africa. In particular, Goldman Sachs expects that copper prices will fall to US\$2.80/lb by the year end while some other analysts are predicting the price of US\$2.75/lb over the next two years.

Other analysts have higher short-term targets: Barclays expects that in the second half of 2014, the price will be around US\$3.17/lb. As reasons for the higher price, Barclays quotes copper supply cuts, which have amounted to 270,000 tonnes year-to-date, and believes that the copper market fundamentals are balanced and stocks are comparatively low. The bank expects a strong recovery in Chinese economic growth which would in turn prevent a copper market surplus. Moreover, Barclays points at several new copper projects facing delays, with the biggest impact on supply expected in 2017-18, when the market could tighten substantially.

We support the forecast of a strengthening Chinese copper demand half of which comes from infrastructural projects. The recent decision by the State Grid Corp of China to increase investment in power grid construction by 20% with an aim to cut air pollution and readjust the country's energy structure should support copper demand. Infrastructure programs in other developing countries should also create new copper demand. Some analysts, which forecast stronger demand and tighter supply, expect that the price of copper will rise to US\$4.25/lb by the end of 2015.

We believe that if Pasinex finds a significant resource at Golcuk South (at least 20 Mt at 0.8% Cu), this project, being flat and open-pittable, could well prove to be economic even at current or slightly higher copper prices. As a benchmark, Barclays estimates US\$3.15/lb as an incentive price for copper miners.

## Management

**Steve Williams, MBA,** *CEO:* Steve Williams has worked in the mining industry since 1976 in milling operations in Australia and Canada. He worked 20 years with SGS Lakefield Research in Canada and Chile in both metallurgical project management and business management, finally becoming Managing Director for SGS Canada, a company with about 1,300 employees in Canada. Steve has authored many technical papers and in 2004 he became a CIM Distinguished Lecturer and in 2008 a CIM Fellow, for his work in geometallurgy. Steve Williams graduated with a Bachelor of Applied Science (Extractive Metallurgy) from the Western Australian School of Mines and an MBA from Tulane University.

**Clinton Smyth, P. Geo**, *VP Exploration*: Clinton Smyth has 35 years of experience in the minerals industry, working in Africa, Asia, Australia, Mexico and Canada. From 1975-2000 he worked for Anglo American Corporation in exploration, resource evaluation and mining. He served as VP of Exploration in Australasia, and as VP Exploration in Africa. He led the team which discovered the Buzwagi gold deposit in Tanzania. He led the group responsible for resource evaluation in Anglo American's New Mining Business Division, responsible for the Navachab and Sadiola gold deposits, as well as for the Skorpion zinc deposit, the Uitkomst nickel deposit, and the Namaqua Sands mineral sands deposit. He served as VP Exploration for Dome Ventures Corporation and Miocene Metals Ltd., and is currently on the board of Dolly Varden Resources. Mr. Smyth has a MSc. in Geochemistry (Cape Town) and an MSc. in Computer Science (London, UK).

## Board of Directors

**David Hodge**, *Director:* David Hodge has extensive background in business that includes many years of experience in the management and financing of publicly traded companies. Mr Hodge's strengths lie in leadership and imaginative direction. His success has been founded on a belief in team building, consultation and strong leadership, as well as a willingness to incorporate expert advice into a viable working enetrprise. Mr. Hodge also serves on the Board of Directors for Zimtu Capital Corp., Western Potash Corp. and Commerce Resources Corp.

**Paul Chow,** *Director:* Paul Chow brings more than 12 years experience in the Canadian capital markets. He has served as a director and officer of several Canadian public and private companies in the past, focusing primarily in mining and oil and gas. Mr. Chow has played an integral role in overseeing the start-up and management of companies such as Rock Tech Lithium Inc. and Hill Top Resources Corp. He also acted as CEO of Sunburst Oil and Gas Corp. – a private oil exploration company. Currently, Mr. Chow is serving on the board of Meridex Software Corp.

**Sven Olsson,** *Director:* Sven Olsson has over 10 years of experience in the European financial community with a particular focus on mineral exploration. Mr. Olsson brings to the Company a network of contacts within the European financial communities as well as media. Mr. Olsson is also on the Board of Directors of Zimtu Capital Corp. and Commerce Resources Corp.

Steve Williams, MBA, President: see previous section.

## **Qualified Person**

Clinton Smyth, P. Geo, is the designated Qualified Person for all Pasinex's projects.



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## Yuri Belinsky, BA, MA Analyst

Yuri Belinsky has 12+ years of experience in the investment and financial industry. He built his research and analysis career having worked for several brokerages and equity research organizations, including *e*Research (Toronto) and Fundamental Research Corp. (Vancouver). As an analyst, Yuri has made his specialty in the mining industry. He has a BA degree in Economics and an MA in Social Research and Evaluation. At CHF, Yuri provides an analytical viewpoint for CHF clients and valuation reports to communicate more effectively to analysts as well as sophisticated brokers and investors.

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