THE MSA GROUP

Specialist Consultants to the Mining Industry

Red Crescent Resources Limited
Hakkari Zinc Project
Turkey

NI 43-101 Technical Report on the Hakkari Zinc Project, Turkey (Revised)

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Effective Date: 26 July 2013
Report Date: 26 July 2013

MSA Project No.: J2720

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IMPORTANT NOTICE

This report was prepared as a National Instrument NI 43-101 Technical Report for Red Crescent Resources Limited (RCR) by The MSA Group (Pty) Ltd (MSA), South Africa. The quality of information, conclusions and estimates contained herein is consistent with the level of effort involved in MSA's services, based on: i) information available at the time of preparation, ii) data supplied by outside sources, and iii) the assumptions, conditions, and qualifications set forth in this report. This report is intended for use by RCR subject to the terms and conditions of its contract with MSA. Except for the purposes legislated under Canadian provincial securities law, any other uses of this report by any third party is at that party's sole risk.

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1 SUMMARY

The Hakkari Zinc Project (HZP) is located in the Hakkari and Sirnak Provinces of south-eastern Turkey, close to the borders with Iraq and Iran. The HZP comprises three Operation Licenses (Licence 5, Licence 26 and the Pentagon Licence) and one Exploration License covering a cumulative area of 5 065.4 hectares and is located within a broad 30 km long east-west belt extending westwards from approximately 10 km west of the town of Hakkari.

Red Crescent Resources Limited (RCR) is the 100 per cent owner of Red Crescent Resources Holding Anonim Şirketi which has a fully vested 50% interest in the licenses through a Definitive JV Agreement with Seyitoğlu Madencilik, the original holder of the licenses, now held in an RCR subsidiary company called RCR Seyitoğlu Cinko Madencilik A.Ş. (RCR Zinc or RCRZ).

This assessment of the HZP is based on a review of information and data supplied by RCR, as well as observations gathered during several site inspections to the HZP during 2009 and 2010 with the most recent visit from 4-8 December 2010. RCR has not undertaken any material exploration activities on the HZP since the time of the last site inspection.

The project area is situated within the northern margins of the Arabian Platform within a north facing fold and thrust belt known as the Border Folds region. The fold and thrust belt comprises a sequence of marine platform carbonate dominated rocks and interbedded subordinate clastic units.

Non-sulphide zinc-lead mineralization appears to be restricted to a sequence of Triassic to Cretaceous shallow water "reef-type" limestones, with subordinate interbedded fine-grained rocks which have a variable clastic component. Mineralization outcrops within a series of thrust packages that have a general east-west trend and lie within a district of at least 60 km strike length. Mineralization is dominated by smithsonite and hemimorphite with variable amounts of iron oxide and subordinate hydrozincite and cerrusite in a matrix of calcite, barite and quartz. Mineralization varies in style from tabular zones of variable thickness (<0.5 m to 13 m) to cross cutting breccia zones to disseminated mineralization occupying pore spaces and fracture planes.

The presence of multiple mineralized zones, separated by metres to tens of metres, was confirmed during the 2010 exploration program and correlates with observations on adjacent licenses. The non-sulphide zinc-lead deposits and occurrences within the Hakkari project area are considered to represent supergene weathered derivatives of primary Mississippi Valley Type (MVT) zinc-lead sulphide deposits. Up to 6% sphalerite has been observed in samples from various stockpiles, while lead occurs as both cerrusite and galena. Sulphide-dominant mineralization has also been reported by small-scale operators in the district.

Although no modern systematic exploration has been historically carried out in this district prior to 2009, small-scale informal exploitation of high grade non-sulphide zinc-lead mineralized zones has been on-going for a long time. Old Roman workings testify to the exploitation of lead in the upper parts of these zones. Small-scale mechanized extraction (hydraulic excavators and dump trucks) has seen increased activity over the last five years in line with increased zinc demand from China. In excess of 600 000 tonnes of zinc-lead material have been officially recorded as sold under contracts through traders with typical grades (certified by SGS and Alfred Knight

Laboratories) ranging from 25% to 40% Zn and 4% to 8% Pb. A significant proportion of this material has been mined from areas adjacent to and between the RCR licenses.

During 2010, RCR executed a systematic exploration program geared at defining maiden, code-compliant mineral resources on two of its Licenses. The exploration program comprised mapping, grab and trench (channel sampling) and diamond core drilling. Data collection procedures implemented on the HZP are considered to be appropriate and adequate for an exploration program of this nature. Based on this, and the results of quality assurance and quality controls measures in place on the HZP project, it is concluded that the data generated are suitable for use in a Mineral Resource estimate.

A maiden Inferred Mineral Resource of 2.41 Mt at 1.92% Zn, 0.54% Pb and 1.67 g/t Ag at a cut-off grade of 0.5% is declared for License 5. Metal grades for the Pentagon License are encouraging but no mineral resources are currently declared for this license.

Preliminary metallurgical test work conducted on samples from stockpiles associated with adjacent small-scale mining operations has indicated that this material is amenable to direct acid leaching and RCR have demonstrated through gravitational concentrator testwork that concentration of mineralization by gravitational upgrading is feasible, with a 7.5% Zn feed being upgradeable to 22.5% Zn. A mobile heavy media separation plant located close to the Pentagon Licence and with a capacity of treating approximately 90 000 tonnes per year was hot commissioned for testing purposes in early July 2013.

The potential for defining additional new resources and upgrading currently-defined resources is regarded as significant. Higher grade zones have been identified on both the Pentagon Licence and in other areas on License 5. The latter are however subject to systematic sampling to establish bulk grades and will be tested systematically. Additionally, License 26 has been historically mined and a fast-tracked exploration program will be implemented in order to define a maiden mineral resource on License 26.

Extraction of high-grade non-sulphide zinc-bearing material from the Pentagon Licence has been reported by RCR in various press releases over the past 9 months. This material has been exported via Mersin Port in Turkey, with weight and assay certificates produced by SGS Supervise Gözetme Etud Kontrol Servisieri A.S. (SGS). Certificates viewed by MSA related to a total of 6 140 tonnes of material at an average grade of 23.44% Zn.

A recommended work program and budget is summarized in Table 26-1, with priority given to the Pentagon Licence owing to ease of access, proximity to the heavy media separation plant, and the potential to delineate a mineral resource base reflecting the higher grades that are exploited in workings in the vicinity.

RCR/RCRZ will commence focussed exploration in known areas of high grade zinc mineralization on the Pentagon Licence and License 5 at Hakkari once sufficient cash has been generated via the sale of direct shipping zinc bearing- and, or concentrated material from its heavy media separation plant at Hakkari. RCR/RCRZ will also continue to access the requisite funding from other sources.

2 INTRODUCTION

2.1 Scope of Work

The MSA Group (MSA) was commissioned by Red Crescent Resources Limited (RCR) to provide a NI 43-101 Technical Report on RCR's three Operation Licenses and one Exploration Licence located in south-eastern Turkey in which RCR holds, or has the right to acquire, a majority interest through its Joint Venture agreement with the Seyitoğlu family vested in an RCR subsidiary company called RCR Seyitoğlu Cinko Madencilik A.Ş. (RCR Zinc or RCRZ). These four Licenses together comprise the Hakkari Zinc Project (HZP).

This Technical Report has been prepared to comply with disclosure and reporting requirements set forth in National Instrument 43-101 Standards of Disclosure for Mineral Projects (NI 43-101), Companion Policy 43-101CP, and Form 43-101F1 of June 2011 and the CIM Definition Standards for Mineral Resources and Mineral Reserves adopted by the CIM Council in November 2010.

All monetary figures expressed in this report are in United States of America dollars (US$) unless otherwise stated. A glossary of all technical terms and abbreviations is attached as **Appendix 1**.

2.2 Principal Sources of Information

MSA has based its review of RCR's HZP on information provided by other independent parties from work commissioned by RCR, from RCR itself based upon actual relevant works completed, the 2010 MSA-managed exploration program as well as other relevant published and unpublished data. A listing of the principal sources of information is included at the end of this Technical Report. Site visits were made by the Qualified Person (QP) Mike Robertson during the period 26 July to 7 August 2009, 20 to 27 June 2010 and 13 to 18 August 2010, by Brendan Clarke and Mike Robertson from 16 to 30 March 2010, and by Mike Robertson, Brendan Clarke and Mike Hall (Qualified Person) from 4 to 8 December 2010 to the four licences comprising the HZP and forming the subject of this report. QP Certificates are included in **Appendix 2**. We have endeavoured, by making all reasonable enquiries, to confirm the authenticity and completeness of the technical data upon which the Technical Report is based. A final draft of the report was also provided to RCR, along with a written request to identify any material errors or omissions prior to lodgement.

The mineral properties that form the HZP are exploration projects, which have associated attached risks; however MSA considers, nonetheless, that the projects have been acquired on the basis of sound technical merit. The properties are also considered to be sufficiently prospective on the basis that significant quantities of non-sulphide zinc-lead mineralization have been extracted from informal small-scale workings exploited on related mineralized units on adjacent properties. Therefore, subject to varying degrees of exploration risk, the HZP warrants further exploration and assessment of its potential, consistent with the proposed programs by RCR.

Exploration and evaluation work program costs are summarised in Table 26-1. RCR has prepared phased exploration and evaluation work programs, specific to the potential of the license areas, which are consistent with the budget allocations. The projects have evolved on the basis of on-going exploration since October 2008 and MSA considers that the relevant areas have sufficient technical merit to justify the proposed programs and associated expenditure.

This Technical Report has been prepared on information available up to and including 26 July 2013.

2.3 Qualifications, Experience and Independence

MSA is an exploration and resource consulting and contracting firm, which has been providing services and advice to the international mineral industry and financial institutions since 1983. This report has been compiled by Mike Robertson and Mike Hall. Mr Robertson is a professional geologist with 24 years' experience, the majority of which has involved the exploration and evaluation of gold and base metal properties in Africa, the Middle East, Australia, Canada, Mexico, Russia and the CIS states.

Mr Mike Robertson is Principal Consultant with MSA, and a Professional Natural Scientist (PrSciNat) registered with the South African Council for Natural Scientific Professions. Mr Robertson has the appropriate relevant qualifications, experience, competence and independence to act as a "Qualified Person" as that term is defined in NI 43-101.

Mr. Mike Hall is a professional geologist with 29 years' experience. Mr. Hall has been involved in the design, execution and management of exploration programs, resource and reserve estimations and public reporting on a wide variety of mineral deposit types and commodities. Mr. Hall is Consulting Geologist – Mineral Resources with The MSA Group, a Member of the Australasian Institute of Mining and Metallurgy (AusIMM), is registered with the South African Council for Natural Scientific Professionals and is a Member of the Geological Society of South Africa (GSSA). Mr Hall has the appropriate relevant qualifications, experience, competence and independence to be considered a "Qualified Person" as that term is defined in NI 43-10.

Neither MSA, nor the author of this report, has or has had previously, any material interest in RCR or the mineral properties in which RCR has an interest. Our relationship with RCR is solely one of professional association between client and independent consultant. This report is prepared in return for professional fees based upon agreed commercial rates and the payment of these fees is in no way contingent on the results of this report.

3 RELIANCE ON OTHER EXPERTS

The HZP consists of a total of four granted Operation and Exploration Licenses, in which RCR holds a controlling right in terms of a Joint Venture (JV) agreement signed with the Seyitoğlu family. The licences cover an aggregate but non-contiguous area of 5 065.4 hectares and were issued in terms of the Turkish Mining Law, 2005.

Copies of the three Operation Licenses and one Exploration Licence have been viewed by the authors. Additionally, RCR has operational and exploration agreements on two of the licences (The Pentagon and Licence 26) with both licences having been transferred to RCR. Copies of these agreements are provided in **Appendix 3**.

The authors of this report are not qualified to provide extensive comment on legal and environmental issues associated with the HZP. Comment on legal and environmental issues is for introduction only, and should not be relied on by the reader.

The metallurgical test work documented in this report was undertaken under the direction of Mike Plaskitt, a professional metallurgist. An independent review of this work was conducted by Ewald H. O. Meyer, who is a Professional Engineer registered with the Engineering Council of South Africa and a Member of the South African Institute of Mining and Metallurgy, and together with his requisite relevant experience, is considered a Qualified Person in terms of NI 43-101.

4 PROPERTY DESCRIPTION AND LOCATION

4.1 RCR Exploration Licenses

The HZP is located in the Hakkari and Sirnak Provinces of south-eastern Turkey, close to the border with Iraq. The one RCR Exploration License (EL) and three Operation Licenses (OL's) are located in a broad 30 km long east-west belt extending from approximately 10 km west of Hakkari (**Error! Reference source not found.**). The four license areas cover a total area of 5 065.4 ectares. The licence attributes are summarised in Table 4-1.

Table 4-1
Summary data for the Licences comprising the HZP

Licence Name	Licence No.	Area (Ha)	Type	Granted	Expiry	Corner Coordinates (UTM WGS84 Z38N)	
						X	Y
Licence 5	55319	3 300.00	Operating Licence	09 May 2007	09 May 2017	357000	4154000
						363000	4154000
						363000	4146000
						357000	4151000
Licence 26	51260	258.75	Operating Licence	07 December 2007	07 December 2017	380150	4150850
						381000	4151500
						382850	4151300
						382000	4149750
Pentagon	73005	177.80	Operating Licence	03 October 2005	05 October 2015	371930	4151700
						373200	4151700
						373200	4150300
						371930	4150300
	200903906	1 328.85	Exploration Licence	06 August 2012	04 August 2014	379151	4147796
						379096	4144000
						378000	4144000
						373250	4147800

4.2 Mineral Tenure

A legally binding Framework Agreement (FA) was concluded and signed between the original license holders, the Seyitoğlu family company Seyitoğlu Madencilik, and RCR in 2009. A subsequent Definitive Agreement (DA) between RCR and Abdülkadir Seyitoğlu, Kadri Seyitoğlu, Melal Kazar (Seyitoğlu Madencilik or SM) was entered into to create a Joint Venture Company RCR Seyitoğlu Cinko Madencilik A.Ş. (RCR Zinc or RCRZ). The principal activity of this company will be the exploration and exploitation of zinc and associated lead resources to be defined within the strategy defined below. This agreement covers all but two of the HZP Licences (Licence 26 and The Pentagon), for which RCR currently has operational and exploration agreements in place with both licences having been transferred to RCR. The transfer of The Pentagon Licence has been executed through a transfer of the Licence from Merzigo to Ber Mining. Ber Mining has subsequently signed a transfer agreement of the Licence to Cifci, which has been transferred to RCR. Licence 26 has been transferred to RCR through an agreement with a group of local license holders (collectively referred to as KC). Copies of these agreements are provided in **Appendix 4.**

The agreement with the Seyitoğlu family comprises a number of key provisions. RCR has an immediate vested 50% interest in the HZP and has agreed to match the stated, but as yet un-audited historical costs of Seyitoğlu Madencilik by expending US$4.5 million over two years. RCR has already expended in excess of US$3.5m from funds raised in the private equity market in November 2009 and February 2010 and latterly during the pre-listing fund raising of September 2010. The two year period is defined as starting once the licenses have been transferred to the jointly owned company RCRZ. RCRZ commenced in Feb 2010, placing RCR's expenditure program on schedule.

The agreement sets out other milestones, including the expectation of the completion of a first Bankable Feasibility Study (BFS) within the two year period and this has been planned and budgeted for accordingly within the required capital raising undertaken to date. The minimum production set for a joint operation within the DA signed is 25 000 tonnes per annum, with a 50:50 profit share envisaged. The DA has no formal clauses governing the specifics of RCR's right to increase its ownership beyond 50%, although it is an accepted principle within the DA that post the matching of historical costs, capital requirements will be covered on the basis of "contribute or dilute" by shareholders.

A mobile heavy media separation plant located close to the Pentagon Licence was hot commissioned in early-July 2013, as part of the DA with the Seyitoğlu family.

4.3 Turkish Minerals Legislation

Minerals legislation in Turkey is governed by the **Mining Law No. 3213** published in the Official Gazette No. 18785 dated 15 June 1985, amended by **Law No. 5177** of June 2004. A further Amendment to the Mining Law was published in the Official Gazette on 24 June 2010 to regulate the details of the permitting process in the law and to amend other provisions of the Mining Law. The **Mining Law Implementation Regulation** was published in the Official Gazette No. 27751 dated 6 November 2010.

Under current Turkish mining legislation, 'underground resources' are subject to the exclusive ownership and disposition of the State and are not considered a part of the land where they are located. The State delegates its right for exploration and operation to individuals or companies for specific periods by issuing licenses subject to royalty payments to the State.

Only Turkish citizens and the companies established under Turkish laws specifically for mining purposes are entitled to hold mining rights. Foreign capital companies established in Turkey for mining purposes, like RCR, are entitled to hold mining rights as they are deemed Turkish Companies.

The Mining Law categorizes minerals in six groups:

- Sand and gravel [Group I(a)] and clay tile, cement tile or marl [Group I(b)];
- Grounded forms of stones such as calcite, limestone, granite [Group II (a)] and block stones or decorative stones such as marble, granite, travertine [Group II (b)];
- Salts in solution form that can be obtained from sea, lake and spring waters [Group III];

- Energy, metal and industrial minerals (including metals such as gold, silver, copper, brass…etc.) [Group IV];
- Precious metals and gem stones [Group V]; and
- Radioactive minerals and other radioactive substances [Group VI].

The Mining Law allows for overlapping licenses for different category minerals in the same area.

The General Directorate of Mining Affairs (GDMA), a unit of the Ministry of Energy and Natural Resources (MENR), is the authorized body to regulate the mining activities and issue mining licenses.

An **Exploration License** or **Certificate** (the license issued for the fifth group is named "certificate" in the legislation) is granted by the Mining Department in accordance with the area limitations stated in the Mining Legislation.

The exploration license has three-stages, as follows:

- "**Pre-exploration period**" is the first year after the issuance of the exploration license.
- "**General exploration period**" is the period of two years for Group IV mines and one year for other groups starting from the expiration of the pre-exploration period.
- "**Detailed Exploration Period**" (for Group IV and VI mines only) is the period of four years starting from the expiration of the general exploration period.

Obligations of an Exploration License holder are summarized as follows:

- <u>Duties and Security Deposit:</u> Payment of an annual duty as well as 1% of the annual duty times the hectares to be deposited as a security for each license, on an annual basis
- <u>Submission of Documents:</u> An annual report, including information regarding work done, the results thereof, and associated expenditures, must be submitted to the Mining Department.

The exploration licenses obtained prior to the Amendment shall be subject to the previous regime, where an exploration license is granted for three-year term and the term of the exploration license may be extended for certain mines (i.e. Group IV) for another two years. If the license holder fails to conduct sufficient exploration activities within the three-year period, the license will be terminated.

Before the end of the exploration license period, the license holder must apply for an **Operation License** or **Certificate**. If the exploration license holder fails to apply for an Operation License at the end of the license term, the exploration license shall be terminated and the security deposit shall be forfeited. An Operation License is an instrument granting the license holder the right to operate a mine under the Mining Legislation.

The term of an Operation License/Certificate for the first group of minerals may not be less than five years and for the other groups may not be less than ten years. The term of an operation license/certificate may be extended, but may not exceed 60 years.

The license holder may continue exploration activities during the operation period. If the license holder fails to identify the mine reserves within five years (for Group IV mines) and three years (for other groups) upon issuance of the license, the license area shall be divided.

Obligations of an Operation License holder are summarized as follows:

- Duties and Security Deposit: Payment of an annual duty as well as 1% of the annual duty times the hectares to be deposited as a security for each license, on an annual basis, and based on the longevity of the license.
- Submission of Documents: All technical documents, sales information form, and activity information form relating to operational activities for the year must be submitted to the Mining Department by the end of April each year.
- Royalty: Royalties to be paid by the license holder are for Group IV minerals are as follows:
  - Group IV (excluding gold, silver and platinum) 2%
  - Group IV (gold, silver and platinum) 4%

The royalty will be levied by an addition of 30% for mining activities conducted on State owned lands. Additionally, license holders obtain a 50% relief on royalties in the event that the extracted ores are processed in Turkey.

In addition to an Operation License, an **Operation Permit** is required to start production activities. An Operation License covers the area in which the mining activities will be conducted and provides the legal right to use the licensed area whereas the Operation Permit gives the license-holder the right to operate the mine. Operating activities are required to commence within 1 year upon receiving the Operation permit. Failure to commence operations is subject to a penalty of 10% royalty on annual production.

In essence for RCR this means normally its liability would be a 1% royalty on any zinc, lead or other by-product metal or industrial mineral which, in the case of RCRZ is barium sulphate. However as a result of government's commitment to socio-economic development in south-eastern Turkey a special dispensation is given to investors and RCR will enjoy an initial royalty free period of up to 10 years.

The ownership of mineral rights does not cover the ownership of surface rights where the mineral resources are located. It is necessary to create a usufruct or easement right over the mineral exploration area in order to carry out any mining activities. Other legal options to utilize privately-owned lands are purchasing or leasing.

In terms of the 2010 Amendment to the Mining Law, extensions to Exploration Licenses can only be granted upon the supply, from the company, of an exploration report documenting mapping and sampling results and an inferred mineral resource. For the conversion of Exploration Licenses to Operation Licenses, the requirements are:

- Preparation of detailed topographical map of the study area which shows drill holes, sampling points and trenches

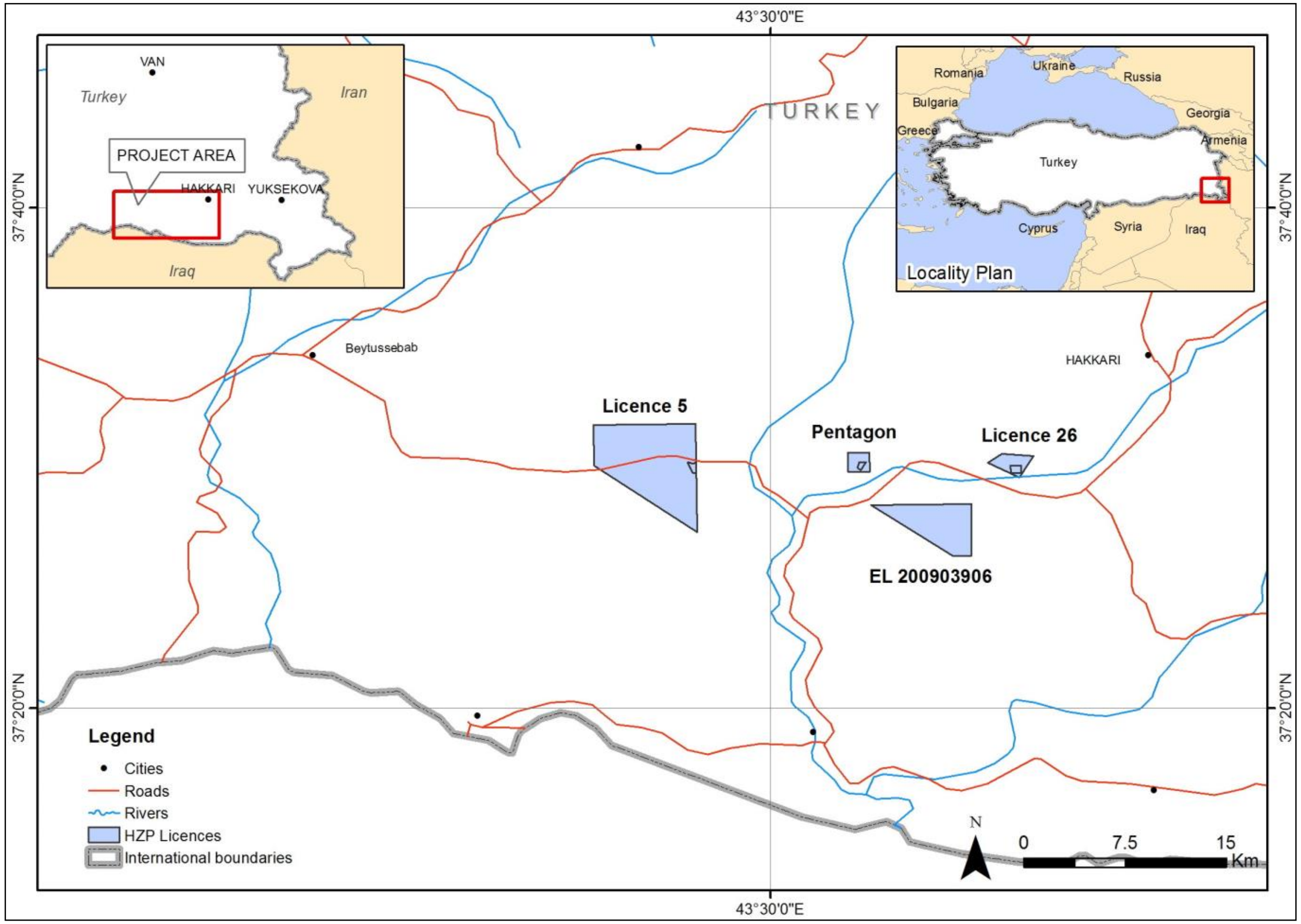
- Exploratory activities i.e. mapping, sampling, trenching and drilling must have been conducted on the License
- Samples must be sufficient in number and nature and spread to be considered representative
- Detailed geological, geochemical and geophysical maps must be provided, along with geological cross sections
- Three dimensional resource modelling must be carried out
- An indicated/measured resource statement must be prepared.

Turkey's policies regarding environmental protection and development are based on the harmonisation of policies and solutions with both European Union and international standards, reinforcement of existing legislation, improvement of environmental management, prevention of pollution and increasing awareness of environmental issues. However, mineral exploration activities are no longer subject to an environmental impact assessment report but must lodge an environmental compliance plan (ECP). The New Law also provides that the Ministry of Environment and Forestry shall finalise the environmental impact assessment transactions for other mining activities within three months following the application. Although this amendment aims to shorten the time spent on bureaucratic transactions, the New Law does not provide any remedy for failure to finalise applications within the required time.

SRK Danişmanlik ve Mühendislik A.Ş. (SRK) have conducted an environmental assessment of RCR's licenses and have concluded that no environmental fatal flaws exist (SRK, 2010). They do, however, highlight the development of hydropower dams downstream in the Zap river valleys as a point that requires consideration, and they additionally note the presence of some ecologically sensitive habitats along the Zap valley. Neither the authors, nor MSA are qualified to provide an opinion regarding the environmental status of the licenses.

Figure 4-1

Location of the RCR HZP licenses in Turkey



5 ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE AND PHYSIOGRAPHY

5.1 Accessibility

The nearest airport to the license areas is located in Van, approximately 200 km north-northwest of Hakkari (**Error! Reference source not found.**). Major road-works are currently in progress, ausing some delay, but it is anticipated that these will be completed within the next few years, providing double-lane freeway access from Van to Hakkari. There are regular scheduled commercial flights between Van and other major Turkish cities. A new airport is also being constructed at Yüksekova, approximately 50 km to the east of Hakkari, which will provide quicker access to the HZP (Figure 4-1).

Access to the license areas is good, with a double-lane sealed road from Hakkari following the course of the Zap River through the license areas. Sealed roads extend to within 5 km of each of the license areas, and all licenses are accessible by maintained gravel roads.

5.2 Climate and Physiography

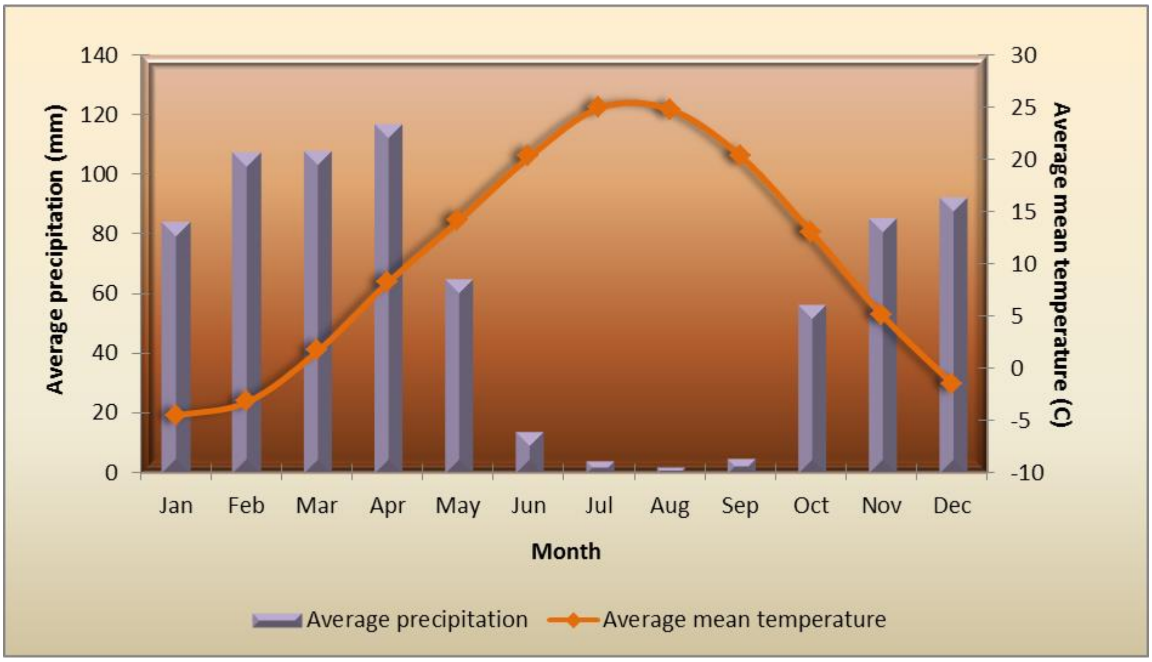
The climate in the Hakkari area varies significantly between summer and winter (Figure 5-1). During the summer months (May to August), maximum temperatures readily exceed 40°C. Winter, with associated snowfalls, extends from November to early-March, with mean temperatures generally below freezing. During this period, surface exploration is hampered due to access problems associated with snow cover. The summer months are also the driest, with the bulk of precipitation occurring from October to April (autumn, winter and spring months). During the winter months, the bulk of the precipitation occurs as snow.

As Figure 5-2 illustrates, the licenses are located within rugged mountainous terrain, with elevation differences between the river valley floors and mountain tops in excess of 400 m. Outcrop is generally excellent allowing for ease of geological and structural mapping. The steep topography does not present a major problem to the companies currently undertaking small-scale mining in these areas. Well-constructed road systems allow access to these informal mining sites. Other exploration methods, such as drilling from underground drives would not be impacted by the topography.

5.3 Local Resources and Infrastructure

Electricity generation and reticulation is handled by Vangolu Elektrik Dagtim (a subsidiary of the TEDAS, the Turkish electricity company). Power lines extend along all of the main roads and since all license areas are within 5 km of the main roads, there is power available within 5 km of the license areas. Several villages are present within the license areas and all have access to electricity. Water is abundant and is supplied by the Hakkari Municipality (Turkish – Hakkari Belediyesi), who draw from the numerous rivers in the area. Several rivers are present within the licenses, including the Zap River that flows parallel to the main road leading southwards from Hakkari (Figure 4-1). Telecommunication infrastructure is good, with cellular telephone coverage throughout the license areas. Several dams are being constructed in the lower reaches of the Zap River valley, close to the Iraqi border, with the aim of providing hydro-electric energy to the region.

Figure 5-1
Average climatic conditions in Hakkari



Source: http://www.dmi.gov.tr/veridegerlendirme/il-ve-ilceler-istatistik.aspx?m=HAKKARI)

Figure 5-2

Typical examples of the topography of the licence areas

6 HISTORY

During Roman and medieval times, the non-sulphide zinc ores known as “lapis calaminarius”, “calamine”, “galmei” or “galman” in the Latin-, French-, German-, and Polish-speaking worlds, respectively, were used as source materials for the production of brass (a zinc-copper ± tin alloy) throughout Europe and the Mediterranean regions.

There are many examples of Roman underground mining galleries in the area of interest on the HZP, as for example shown in Figure 6-1. Although these excavations appear to have been focussed more on the upper lead-rich portion of the mineralized zone, it is quite likely that zinc has been sporadically mined around Hakkari for at least 2 000 years. However, the difficulties in beneficiation of smithsonite ores containing 10% to 20% Zn and complex ores containing zinc oxide, silicate, and clays from lack of available extraction technologies, led to large bodies of non-sulphide zinc material being ignored until very recently (Hitzman et al, 2003).

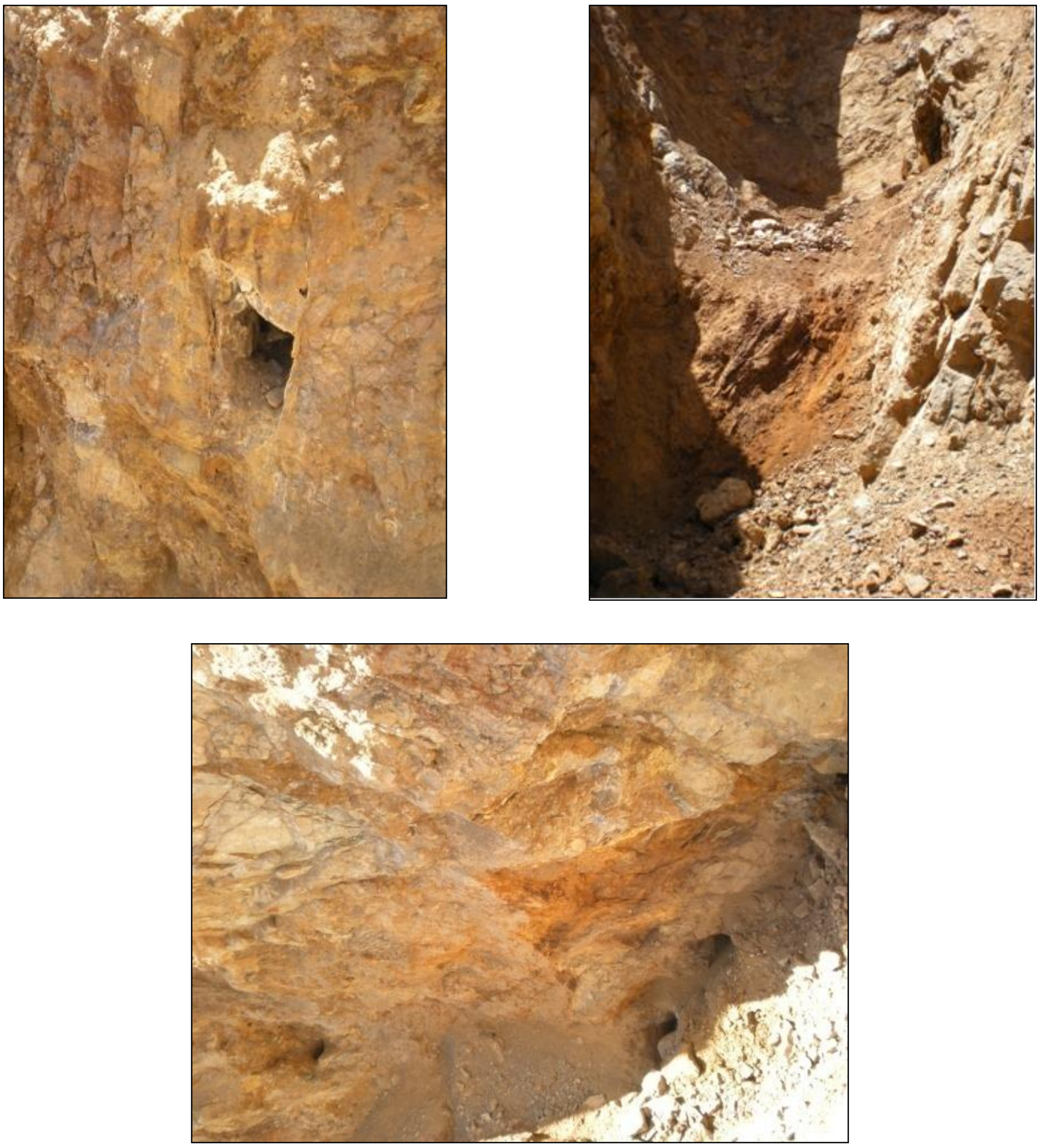
Current informal small-scale mining activities are underway on mineralized zones located between Licence 5 and the Pentagon Licence. Apart from this and similar small-scale mining excavations within the Hakkari area, no records of any previous systematic mineral exploration activities exist.

On licenses currently held by RCR and others, some of which are contiguous and adjacent to the RCR licenses, small-scale mining activities have been on-going for many years. These have seen increased activity over the last 5 years in line with increased commodities demand from China. In excess of 600 000 tonnes of zinc-lead ores have been officially recorded as sold under contracts through traders with typical grades (certified by SGS and Alfred Knight laboratories) ranging from 25% to 40% Zn and 4% to 8% Pb. A significant proportion of this material has been mined from areas adjacent to and between the RCR licenses. Mining activities on adjacent properties are discussed more fully in Section 23 Adjacent Properties.

This is significant as it points to the potential of the areas of the HZP under investigation, especially in the light of the unusually high grades encountered. Relatively small tonnages are required to be mined, beneficiated and refined to produce significantly economic volumes of base metal products.

Figure 6-1

Examples of Roman gallery tunnels in recently excavated open pit



7 GEOLOGICAL SETTING AND MINERALIZATION

7.1 Regional Geology

The project area is situated within the northern margins of the Arabian Platform (Figure 7-1) that forms part of the Alpine-Himalayan Orogenic Belt (AHOB). This first developed in the Jurassic and continues to evolve to the Present. The AHOB is traditionally subdivided into four tectonostratigraphic domains: from north to south these are the Pontides, Anatolides, Taurides and Border Fold or Arabian Platform regions (Figure 7-1).

The south-eastern AHOB in the project area is characterised by north-vergent fold-and-thrust tectonics with the overriding Taurides separated from the weakly deformed Arabian Platform by the Bitlis suture/thrust (Yigit, 2009).

The rocks of the south-eastern Arabian Platform beneath the Bitlis Thrust can be generally described as a package of autochthonous north-facing folded and thrusted marine platform carbonate-dominated rocks and interbedded subordinate clastic units (Figure 7-2). The northward younging sedimentary succession has been duplicated by a major east-west striking, south directed thrust structure, with licenses 1 to 11a situated in the upper thrust package and license 12 in the lower thrust package (Figure 7-2).

7.2 Property Geology

According to the 1:500 000 scale geological map (Günay and Şenel, 2002), the geology underlying the current study areas consists of 15 sedimentary units ranging in age from the Precambrian-Cambrian boundary to the Paleogene (Figure 7-3). Inspection of the 1:500 000 scale map legend points to several units being diachronous whilst others are separated by major hiatuses. The mapping also shows some lateral discontinuity of sedimentary units, apparently the result of primary facies variations and/or paleotopography rather than tectonic movements.

The target zinc-lead mineralized bodies of the Hakkari region are restricted to the t2k1 neritic limestones (ranging from mid-Triassic to early Cretaceous in age) and are interpreted to have been effective fluid conduits. The t2k1 limestone consists not only of shallower water “reef” type limestones, but also fine grained rocks with a variable clastic component. These dolomitic to cherty rocks have varying bedding thickness from approximately 1 cm to over 1 m and are often stacked as interlayered units of more massive layers alternating with more fissile layers.

The zinc-lead mineralized zones are present as multiple layers ranging in thickness from a few centimetres to a few metres that display visible iron-oxide enrichment and generally weather negatively in relation to the indurated dolomites that are present in the hangingwall and footwall and as interlayered units

Figure 7-1

Geological setting of the HZP area (after Yigit, 2009)

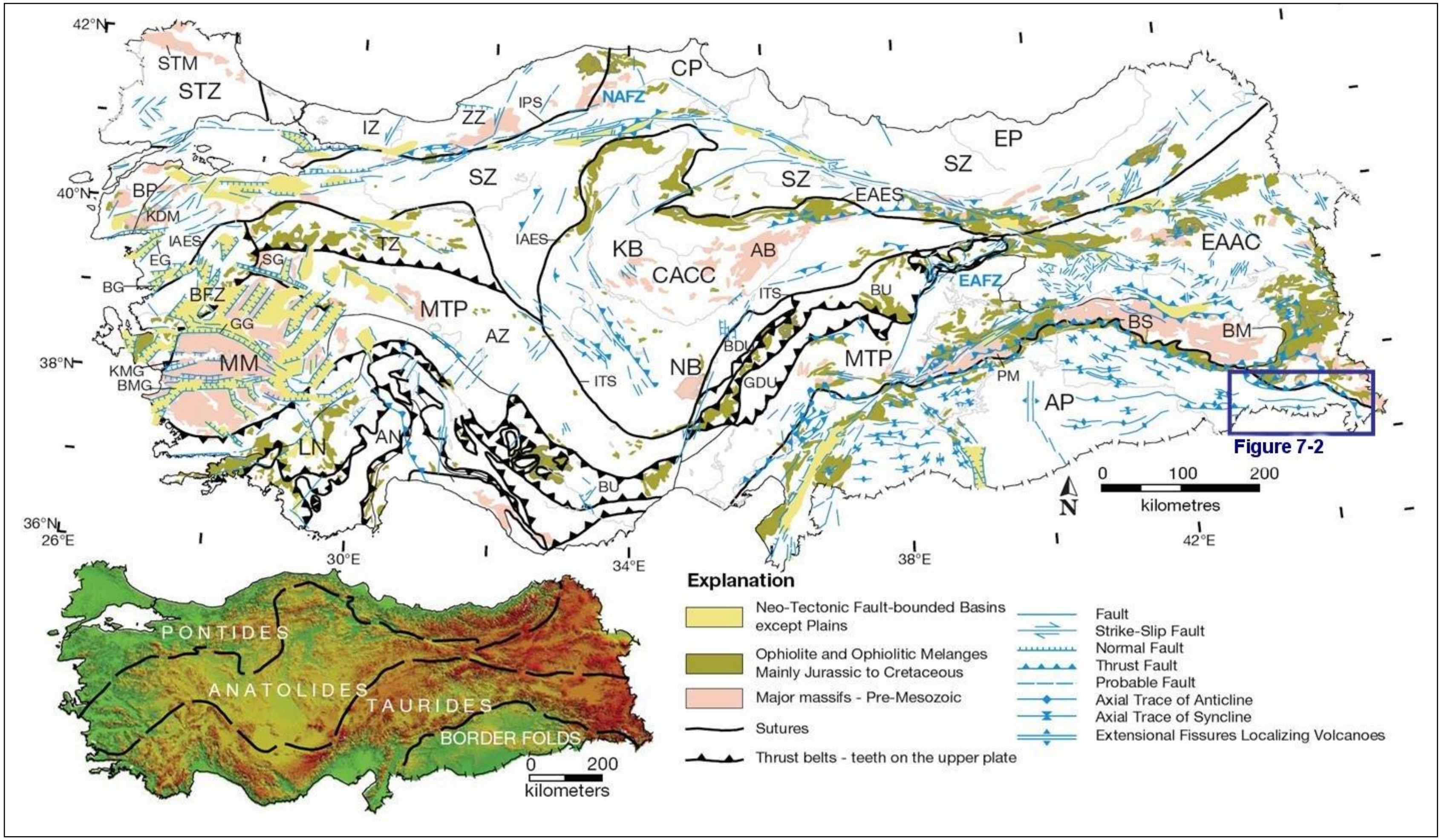


Figure 7-2

Regional Geological Setting of the RCR HZP licenses (after Günay and Şenel, 2002)

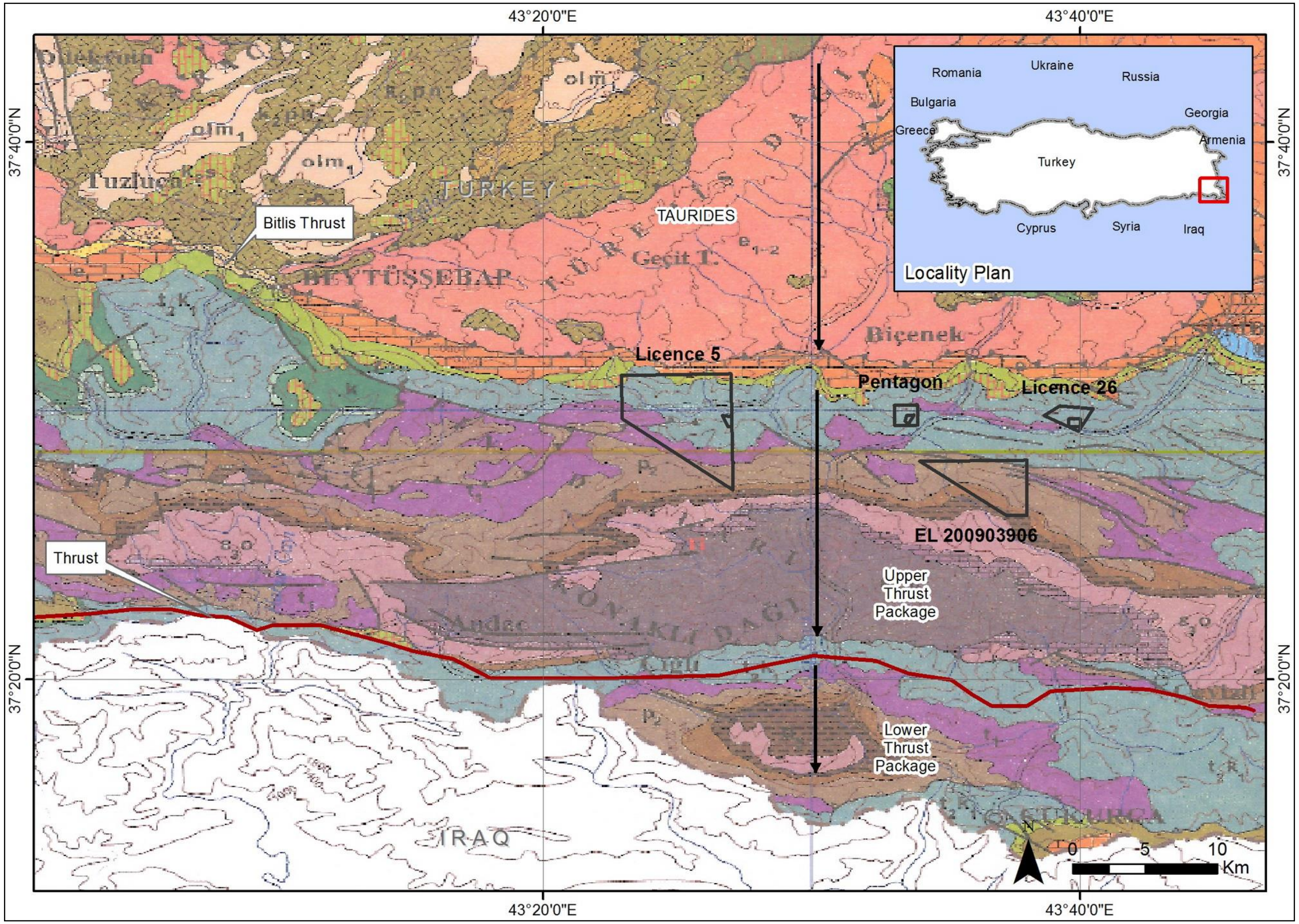
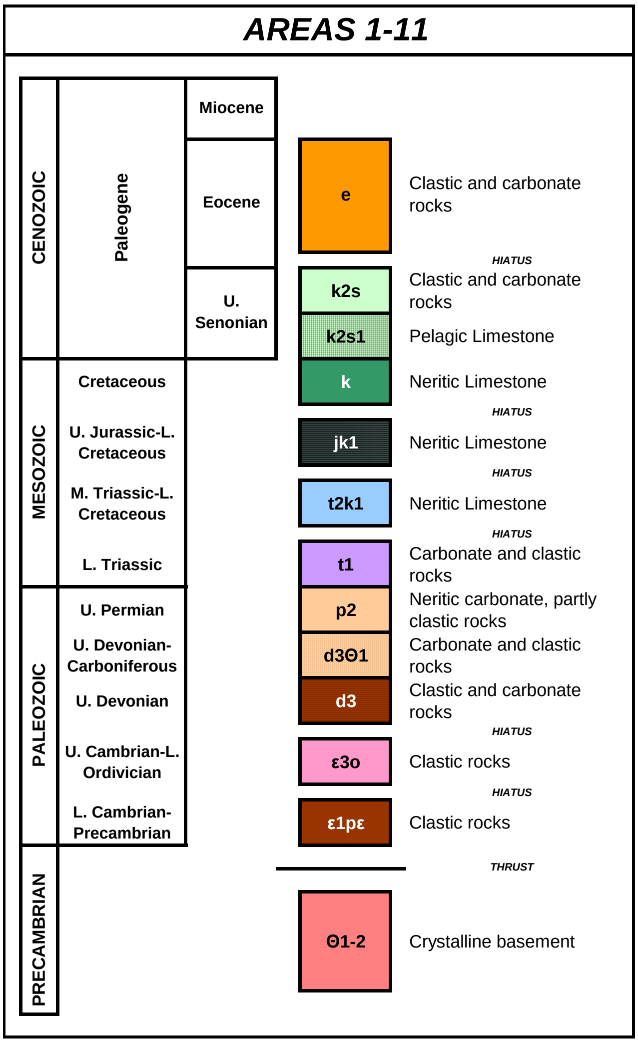


Figure 7-3
Generalised stratigraphy of project area (after Günay and Şenel, 2002)



Zinc mineralization is generally hosted in a more porous "reef limestone" or breccia unit flanked by indurated to cryptocrystalline dolomite or cherty dolomite (Figure 7-4). Both the host limestone and cryptocrystalline hanging- and footwalls are usually structurally deformed, with the more competent dolomitic wall rocks typically exhibiting brittle deformation and the mineralized horizon exhibiting ductile to brittle-ductile behaviour (Figure 7-4). Partial dissolution of the mineralized horizon, presumably by the mineralising fluids, is also commonly observed.

Further details are given in Sections pertaining to Mapping, Trenching and Drilling.

Figure 7-4
Brittle fracturing of the dolomite host-rock (left) and possible folding and deformation within the mineralized horizon (right).

7.3 History of Zinc Mining in the Hakkari Area

As discussed in Section **Error! Reference source not found.**, small-scale near-surface xploitation of the zinc ores has been occurring for an estimated 2 000 years in the area. No official estimates of historical zinc production from the area exist, although information from local operators suggest hundreds of thousands of tonnes have been extracted at an average grade typically in the region of 25% Zn. This has been officially recorded in recent times, and more specifically in the last four to five years. Within the latter period more than 600 000 tonnes of zinc-lead ores have been mined and sold to traders with SGS certification.

7.4 Style of Mineralization

The mineralization at HZP best conforms to Hitzman's (2003) direct-replacement deposit type derived from the oxidation of a MVT deposit. These deposits tend to be mineralogically simple and are dominated by the zinc hydroxides of smithsonite, hemimorphite and hydrozincite.

Many of the attributes and textural features of MVT and non-sulphide zinc-lead deposit models are observed in the sites visited. These observations confirm that the dominant mineralization style is that of large-scale and pervasive supergene alteration of primary MVT style sulphide mineralization on a regional scale, with the formation of supergene non-sulphide zinc-lead deposits.

Zinc-lead mineralized horizons are reportedly traceable for several kilometres within a district of at least 60 km strike length; however individual occurrences display varied geometries as indicated below. Examples of the various mineralization styles observed are indicated below and in Figure 7-5.

- Tabular replacement zones of variable thickness, width and strike extent, conformable with respect to host strata.

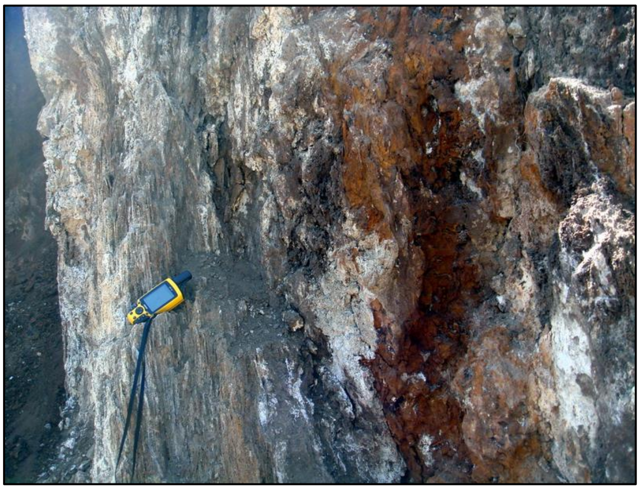
- Pods parallel to bedding.
- Crosscutting breccia zones which may be interconnected, with open space filling of mineralization.
- Solution collapse zones and breccias, particularly areas of enhanced solution activity. These may produce mineralized bodies with irregular geometry.
- Disseminated mineralization occupying original pore spaces, primarily within breccias.
- Remobilized mineralization along fracture and joint planes.

Based on work conducted to date by RCR and on observations from adjacent small-scale workings, in general terms a 15 m to 35 m thick zone of multiple oxidized zinc-lead mineralized layers is observed as illustrated in the examples in Figure 7-6. A 2 m to 10 m thick massive mineralized layer is typically present towards the base of this zone, and is overlain by thinner mineralized layers separated by massive to thinly bedded limestone and dolomite, which are in places brecciated and/or vuggy. Discontinuous mineralized stringers and pods as well as remobilized mineralization along fractures and joint planes, are also observed. Small-scale mining in the district has traditionally focused on thick high grade mineralization; the existence of multiple mineralized layers within a potentially bulk mineable zone has only recently been recognized.

Significant variations in iron content are observed between the various non-sulphide zinc-lead deposits. Primary differences in iron content may reflect different pulses of the original mineralizing fluids. In weathered supergene deposits, iron is the most mobile and hence widely distributed element, with zinc intermediate and lead the least mobile. The amount of iron in the system is also a reflection of the original host rock composition, abundance of original iron sulphides, and amount of iron contained in sphalerite (which can vary from yellow through red to brown to black (marmatite) in colour depending on the iron content).

Evidence for several stages of zinc-lead mineralization and leaching are evident, with many sites showing mineralization being more porous and iron-rich in the upper parts (Figure 7-7). For example, the massive smithsonite mineralization is in places partially leached to form porous red-brown smithsonite and hemimorphite. Further leaching in places has resulted in a porous network of hematite-goethite dominated iron oxides.

Figure 7-5
Mineralization styles observed on RCR licenses



Massive smithsonite+hemimorphite mineralization (with surficial white hydrozincite coatings) and adjacent iron oxide leached zone

Pinnacle of massive smithsonite mineralization; note large-scale drag folding along below thrust plane in the background

Alternating smithsonite+hemimorphite and iron oxide zones

High grade smithsonite zone overlain by partially leached iron oxide zone exposed in underground workings

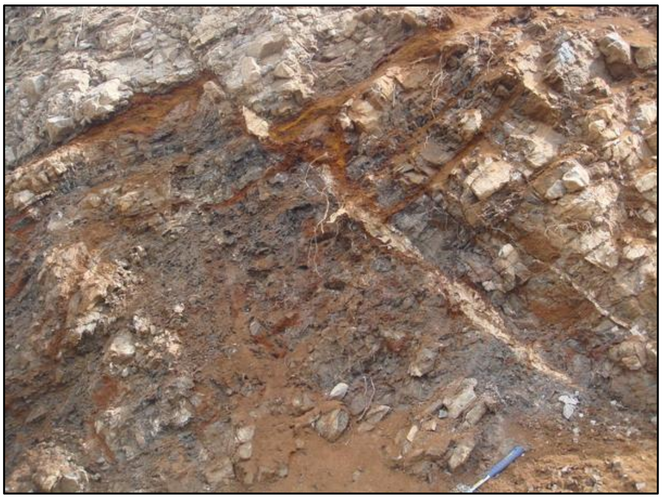
High grade smithsonite mineralization overlain by partly leached iron oxide zinc mineralization

Thick zone of massive to semi-massive mineralization within a dolomite breccia

Massive replacement-style mineralization within altered rock after possible (algal) laminated dolomite

Disseminated iron oxide zinc mineralization in dolomite breccia

Zinc gossan



Remobilization of mineralization along joints and fractures

Figure 7-6

Multiple mineralized layers/zones of oxidized zinc-lead mineralization

Massive 5m wide mineralized zone and subparallel hanging wall mineralized layers to the right (close to eastern boundary of license 5)

Multiple mineralized layers in the footwall to the mineralized zone in the photo above (note geologist for scale, mineralized zones indicated by arrows)

Figure 7-7
Cross-sectional view of a subvertical to overturned mineralized zone along a thrust surface. The lowermost (left) portion is dominated by Zn (clearly visible as white smithsonite / hemimorphite), the mineralized-zone then becomes enriched in Fe and Pb richer higher up (to the right). This location represents the steeply dipping portion of one of the many thrust packages in the area.

8 DEPOSIT TYPES

The age, structural and shallow marine/platform carbonate dominated setting of the project area makes the region an attractive target for Mississippi Valley Type (MVT) zinc-lead sulphide mineralization.

Some zinc-lead sulphide mineralization has recently been identified in the licenses adjacent to the HZP area. The ongoing exploitation and mining (albeit on a small scale) of high grade zinc (as high as 40%) and lead (as high as 8%) non-sulphide material is already suggestive of the development of either supergene or hypogene zinc oxide mineralization, the former related to a buried sulphide parent.

- Supergene deposits form primarily from the oxidation of sulphide-bearing deposits (often MVT) and are typically dominated by smithsonite ($ZnCO_3$), hydrozincite ($Zn_5(CO_3)_2(OH)_6$) and/or hemimorphite ($Zn_4Si_2O_7(OH)_2.H_2O$)) (Hitzman *et al*, 2003). Three subtypes have been recognized: direct replacement deposits, wall rock replacement deposits and karst fill deposits, of which several combinations have been identified (Hitzman *et al* 2003) (Figure 8-1). All three types may be present within a single deposit. Hypogene deposits are dominated by zinc silicates and oxides and are divided into two types: structurally controlled deposits comprising of irregular pipes and veins dominated by willemite (Zn_2SiO_4) and stratiform deposits comprising Mn rich lenses of franklinite ($(Zn, Fe, Mn)(Fe, Mn)_2O_4$) and willemite (Hitzman *et al* 2003).

An MSc dissertation describing the lead isotope geochemistry of zinc-lead deposits in Turkey was completed by Ceyhan in 2003. Results from this study suggest that the zinc occurrences in the Hakkari area are stratiform and Mesozoic in age, suggesting a syngenetic type of mineralization.

Following field examination of numerous mineralized exposures within the project area during the course of the site visits, it is concluded that the major style of zinc-lead mineralization comprises supergene alteration of primary MVT-type zinc-lead deposits. An understanding of the characteristics and geological setting of MVT deposits will therefore assist in understanding the distribution of, and extensions to, known non-sulphide zinc-lead deposits and in further exploration targeting within the project area.

The typical characteristics of MVT deposits are described in Paradis *et al* (2007) and are summarized as follows:

- Primary MVT deposits are stratabound, carbonate-hosted sulphide bodies, composed predominantly of zinc and lead, occurring as sphalerite and galena respectively. The deposits occur mainly in dolomite (less frequently limestone) as open-space fillings, breccias (crackle, mosaic, rubble, solution collapse), structures within interconnected paleokarst networks, replacement of the carbonate host rock, and as sulphide and gangue minerals occupying primary carbonate porosity. At the deposit scale, mineralization-controlling features are commonly zones of solution collapse breccias.
- They are located in platform carbonate settings, typically in relatively undeformed orogenic foreland rocks, commonly in foreland thrust belts, and rarely in rift zones. Deposits are commonly located close to a carbonate shelf margin, at the transition into slope and

basinal shale facies. MVT deposits account for approximately 25% of the world's known zinc and lead resources.

- Major basement faults influence the alignment of deposits within districts, while subsidiary faults tend to create zones of weakness with subsequent dissolution and karsting.
- Orebodies typically occur in clusters within mineralized districts which can extend to hundreds or thousands of square kilometres. An example is the Cornwallis district in Canada which hosts at least 25 deposits containing 75 orebodies. Individual orebodies are generally <2 Mt, are zinc dominant, with grades seldom exceeding 10% zinc + lead combined (Figure 8-2 and Figure 8-3).
- Individual mineralized bodies vary in geometry and are often interconnected. Host structures are commonly zones of highly brecciated dolomite which range from concordant features controlled by individual strata, to discordant features developed over tens of metres across sedimentary strata (Figure 8-4). MVT orebodies are therefore stratabound on a district scale, but typically discordant on a deposit scale.
- Style of mineralization ranges from zones of massive replacement, to open space filling of breccias and fractures, to disseminated clusters of crystals that occupy pore spaces.

Figure 8-1

Exploration Models – Supergene Zinc Oxide (after Heyl and Bozion, 1962)

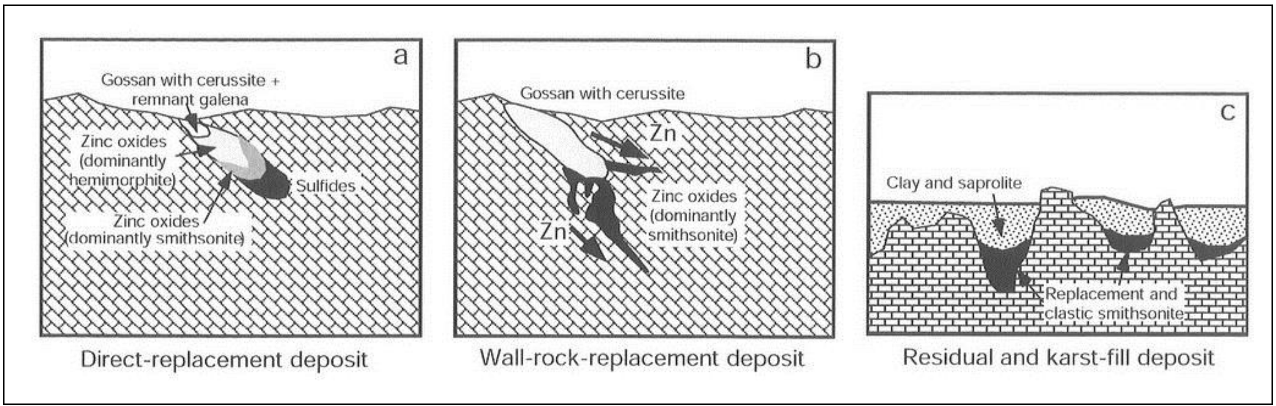


Figure 8-2
Grade-tonnage plot for Canadian and worldwide MVT deposits with contained metal content shown on diagonal lines (after Paradis *et al*, 2007)

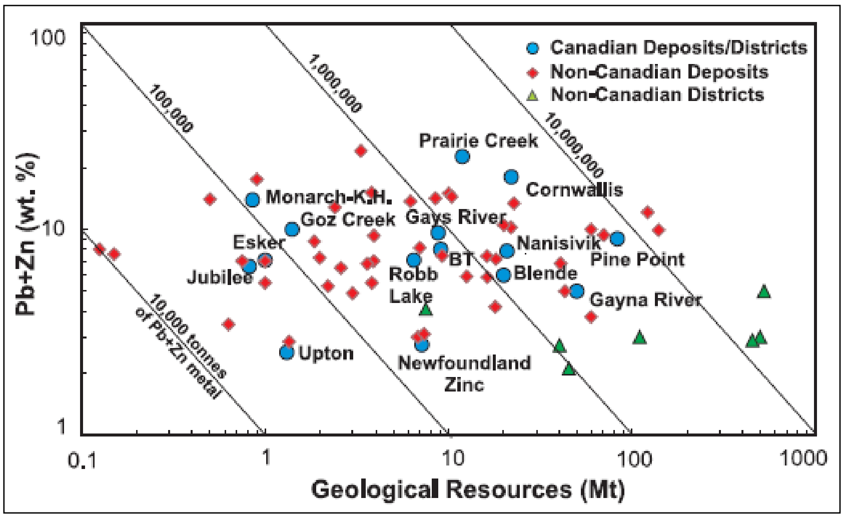


Figure 8-3
Histograms of zinc and lead grades for Canadian and worldwide MVT deposits (after Paradis *et al*, 2007)

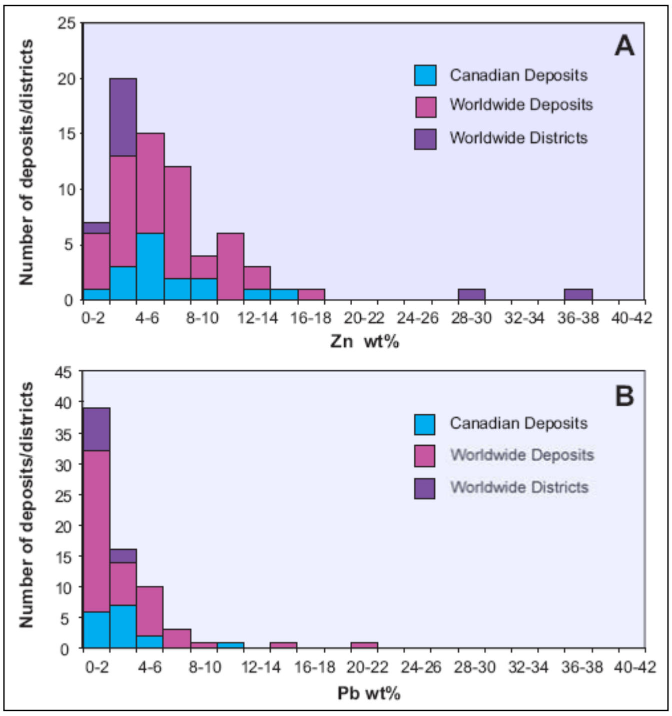
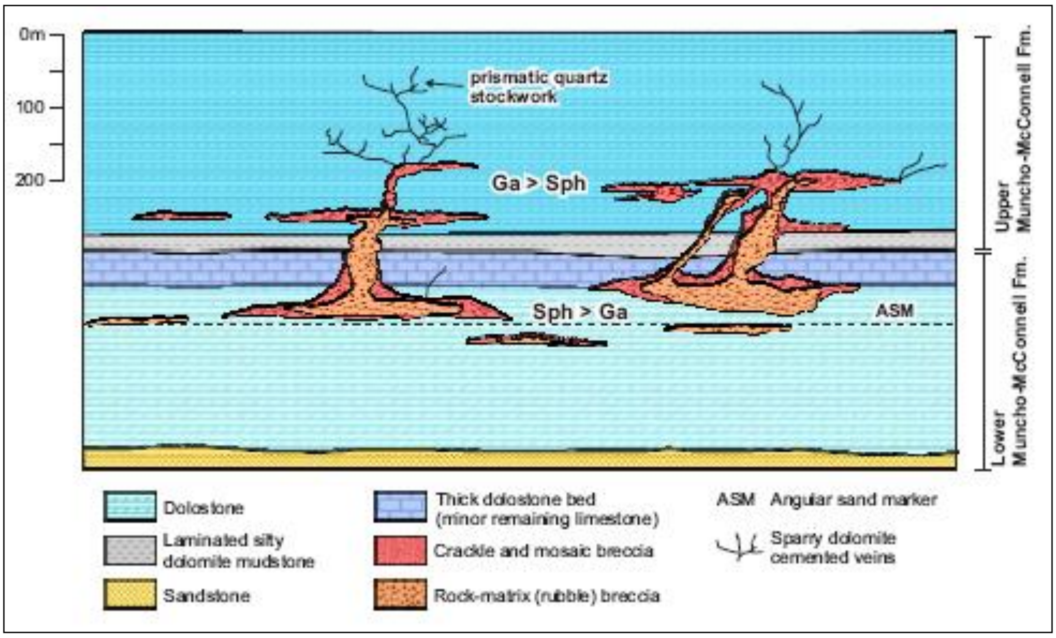


Figure 8-4

Schematic representation of MVT-hosted zinc-lead mineralization (after Paradis *et al*, 2007)



Supergene non-sulphide zinc-lead deposits are formed through the reactivity of acidic, oxidised zinc-lead rich fluids derived from oxidative destruction of zinc-lead bearing sulphide bodies with high reactive carbonate wall rocks (Hitzman *et al* 2003). The formation of these deposits depends on:

- The size and mineralogy of the pre-existing zinc-lead sulphide deposit,
- Exposure of the sulphide deposit to a seasonal fluctuating water table,
- Degree of primary porosity and secondary fault and fracture density, to permit movement of migrating oxidised ground waters,
- A suitable neutralising trap site for deposition of secondary zinc and lead minerals.

According to Boni and Large (2003) the critical geological features for the oxidation of primary (MVT) sulphides and preservation of the secondary zinc minerals include:

- Tectonic uplift subsequent to primary sulphide mineralization, promoting the oxidation and the development of karst systems.
- Brittle fracture of the host rocks promoting the flux of oxidising fluids and mobilisation to favourable depositories
- The presence of sufficient iron sulphide in the primary mineralization as an important control during oxidation, for the generation of acid required for the leaching and transport of zinc.

Characteristic features of non-sulphide supergene zinc-lead deposits include:

- Features of MVT deposits, as described above, are inherited by supergene deposits.
- Supergene formation through oxidative alteration of a zinc-lead sulphide bearing precursor deposit, typically a MVT deposit.
- The major secondary zinc minerals are smithsonite, hydrozincite, hemimorphite and sauconite, with smithsonite the most stable under atmospheric weathering conditions. Deposits may be mineralogically and metallurgically complex.
- Deposits are preserved in various states. Direct replacement deposits are essentially zinc-lead rich gossans. Original iron sulphide rich deposits may produce enough acid to extensively leach secondary zinc minerals in the near-surface environment.
- Ore textures are varied and often complex and range from massive to brecciated to disseminated, with vuggy to dense mineralization. The most common ore texture is breccia, Several stages of secondary zinc mineralization are normally present, reflecting multi-cyclic oxidation and leaching.
- The grade and tonnage of deposits is a reflection of the primary zinc-lead content; however significant upgrading of parts of these systems is common. A tabular summary of known supergene zinc-lead deposits is contained in Hitzman (2003). Significant deposits in Turkey and the surrounding region are summarized in Table 8-1. The largest known oxide deposit of similar grade characteristics is Angouran in Iran which is hosted in the Zagros fold and thrust belt, an extension of the "Border Folds" belt in south-eastern Turkey in which the HZP area lies.

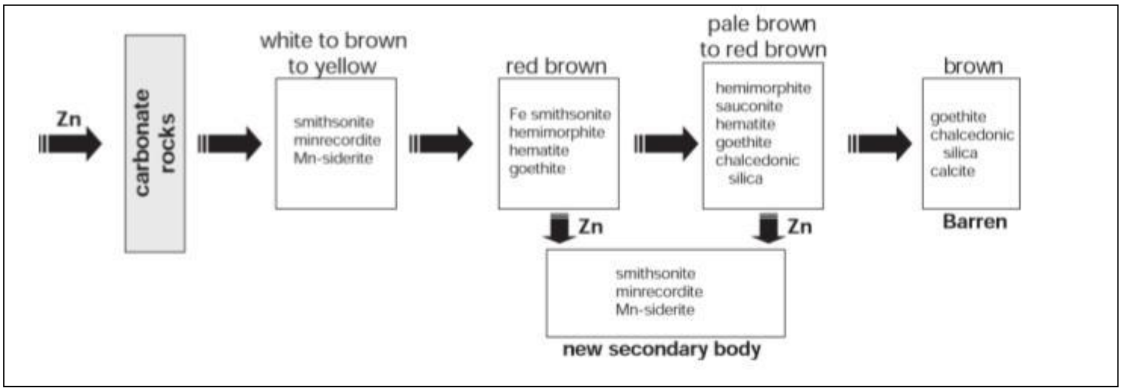
Table 8-1
Grade-tonnage attributes of supergene zinc-lead deposits in Turkey and the surrounding region (historical estimates) (source: Hitzman *et al*, 2003)

Deposit	Location	Sulphide historical estimate	Mixed Oxide-Sulphide historical estimate	Oxide historical estimate
Zamanti District	Turkey			6 Mt at 26% Zn
Angouran	Iran	14.5 Mt at 26.6% Zn, 4.6% Pb	2 Mt at 31% Zn, 4% Pb	3.2 Mt at 38% Zn, 2% Pb
Mehdiabab	Iran		218 Mt at 7.2% Zn, 2.3% Pb, 51g/t Ag	
Irankuh	Iran	15 Mt at 4% Zn, 2% Pb	4 Mt at 7% Zn, 1% Pb	14 Mt at 12% Zn + Pb
Kuh-e-Surmeh	Iran	2 Mt at 7% Zn, 4% Pb		0.8 Mt at 19% Zn, 7% Pb

As little is known about the mineralogy, structural setting and style of emplacement of the zinc-lead oxide mineralization in the HZP area, it is difficult (at this stage) to define exactly the appropriate mineralization style. However the direct association of significant iron grades (due to the presence of goethite and hematite after iron rich sulphides) with that of zinc and lead (determined from assays carried out on ROM ore produced as well as visually, from photographs), suggest either wall rock replacement or direct replacement of a precursor MVT type sulphide orebody (Figure 8-5).

Figure 8-5

Exploration Models – Mineralogy observed in progressive wall rock replacement (after Hitzman *et al* 2003)



9 EXPLORATION

As at the date of this report, RCR's exploration activities on the license areas have comprised a comprehensive desktop study, reconnaissance mapping and sampling on various licenses, and detailed mapping, sampling, trenching and diamond drilling on selected licenses. This work was undertaken on eleven licence areas, some of which have since expired. These licence areas included the current Licence 6 and Pentagon Licence. These activities are elaborated on below.

9.1 Desktop Evaluation and Remote Sensing Exercise

In May 2009, RCR commissioned MSA to undertake a desktop evaluation of 11 of RCR's zinc-lead licenses. The objective of the desktop study was to integrate as much available data as possible in order to prioritise and define target areas for a follow up field validation visit. Geological maps of varying scales, published papers and reports, high resolution satellite imagery (QuickBird), ASTER satellite data, JERS radar data and Google Earth software were used during the study.

The study was effective in obtaining a high level understanding of the geology, structure and potential to host zinc-lead mineralization in the 11 license areas. Results of this study were reported in Venter and Robertson (2009).

9.2 Mapping

9.2.1 Pre-2010 Exploration Field Season Mapping

In 2009 and early 2010, limited mapping of mineralization and country rock were undertaken and activities focussed on License 5 and the Pentagon Licence. Interpretation of mapping results suggest a series of thrusts developed oblique to the main Bitlis thrust and potential transcurrent offsets of the mineralized zones. In the area of current small-scale mineralized zone extraction on the Pentagon Licence a series of mineralized zones, spaced about 50 m apart was found. A mineralized anticlinal structure developed on License 5 was delineated with a width (i.e. half wavelength) of approximately 2 km. Of significance is the strike extent of the mineralized horizon. Each mapped portion (either major thrust surface or flanks of a fold structure) could be traced for over 1 km.

Reconnaissance mapping by RCR on License 5 revealed the presence of a west-northwest trending fold system, with a wavelength in the order of 1 km. The fold system is bounded to the north by a major apparent dextral shear system that trends northwest and is therefore oblique to the fold axial traces (Figure 9-1). As in most of the other license areas, the mineralized zones tend to weather negatively in relation to the footwall and hangingwall sequences (Figure 9-2).

Figure 9-1

Schematic reconnaissance structural map of License 5, showing bedding traces (red lines), structural observation points (red dots with associated dip directions) and mineralized zone exposures (orange dots).

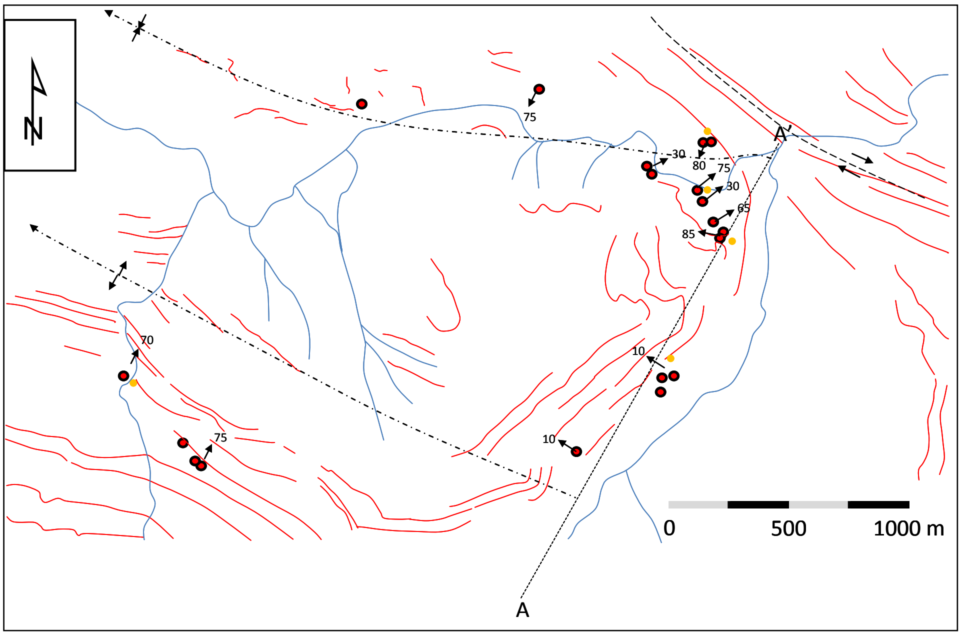


Figure 9-2

Competent, erosion resistant dolomitic hangingwall forming a cliff on License 5. The mineralized zone weathers negatively and outcrops in the vicinity of the geologists

9.2.2 2010 Exploration Season Mapping

Detailed follow-up geological mapping was carried out on both License 5 and the Pentagon Licence during the 2010 exploration season. Key mapping activities included:

- Collection of structural measurements throughout the License areas with specific focus on the central portion of License 5 and the immediate surroundings of the area of currently active extraction on the Pentagon Licence.
- Delineation of mineralized horizons throughout the stratigraphy within the areas of interest.

RCR acquired an InnovX handheld XRF analyser during the course of the program which was used to obtain preliminary grade assessments on grab samples collected in the field.

Mapping on the Pentagon Licence identified several poorly developed mineralized horizons but was unable to extend the known mineralized zone beyond the extents of the current area of extraction activities due to extensive scree cover. Mapping observations strongly suggest that the steeply-southward dipping mineralized zone on the Pentagon shallows in dip to the south where it has been partially opened up in small-scale shallow underground workings (Figure 9-3).

Mapping on License 5 was successful in delineating and extending the known extents of mineralisation on the License, both in the gently dipping area that was subsequently drilled, and further to the west and north where new discoveries of steeply dipping mineralisation were made (Figure 9-4). Collectively, mapping delineated a strike extent of ~2.5 km of mineralisation, of which ~1.2 km was drill tested during the 2010 program (Figure 9-5). In addition, a steeply dipping mineralized zone in the southern part of the licence has been delineated by mapping. Mapping in the gently-dipping central part of License 5 partially delineated the outcrop position of the upper mineralized zone intersected in drillholes and described in Section 10.1.

Figure 9-3

Structural data and grab-sample results from the Pentagon Licence

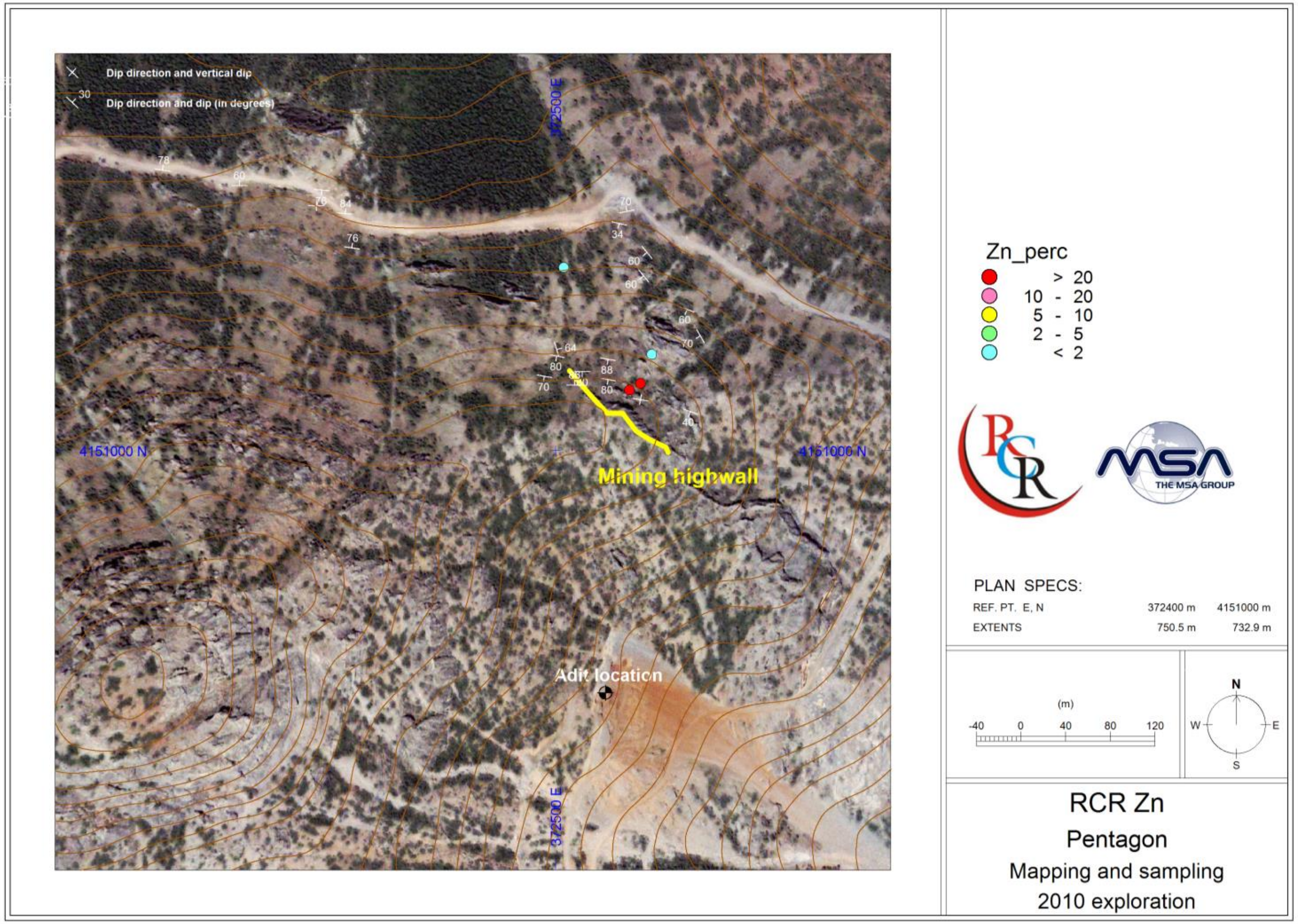


Figure 9-4

West-facing view from outside License 5, showing the projected continuation of the mineralized zone onto the license (the northern steeply dipping zone). Grab samples running in excess of 15% Zn have been collected from this zone on License 5, which has been mined outside of the license in the immediate foreground

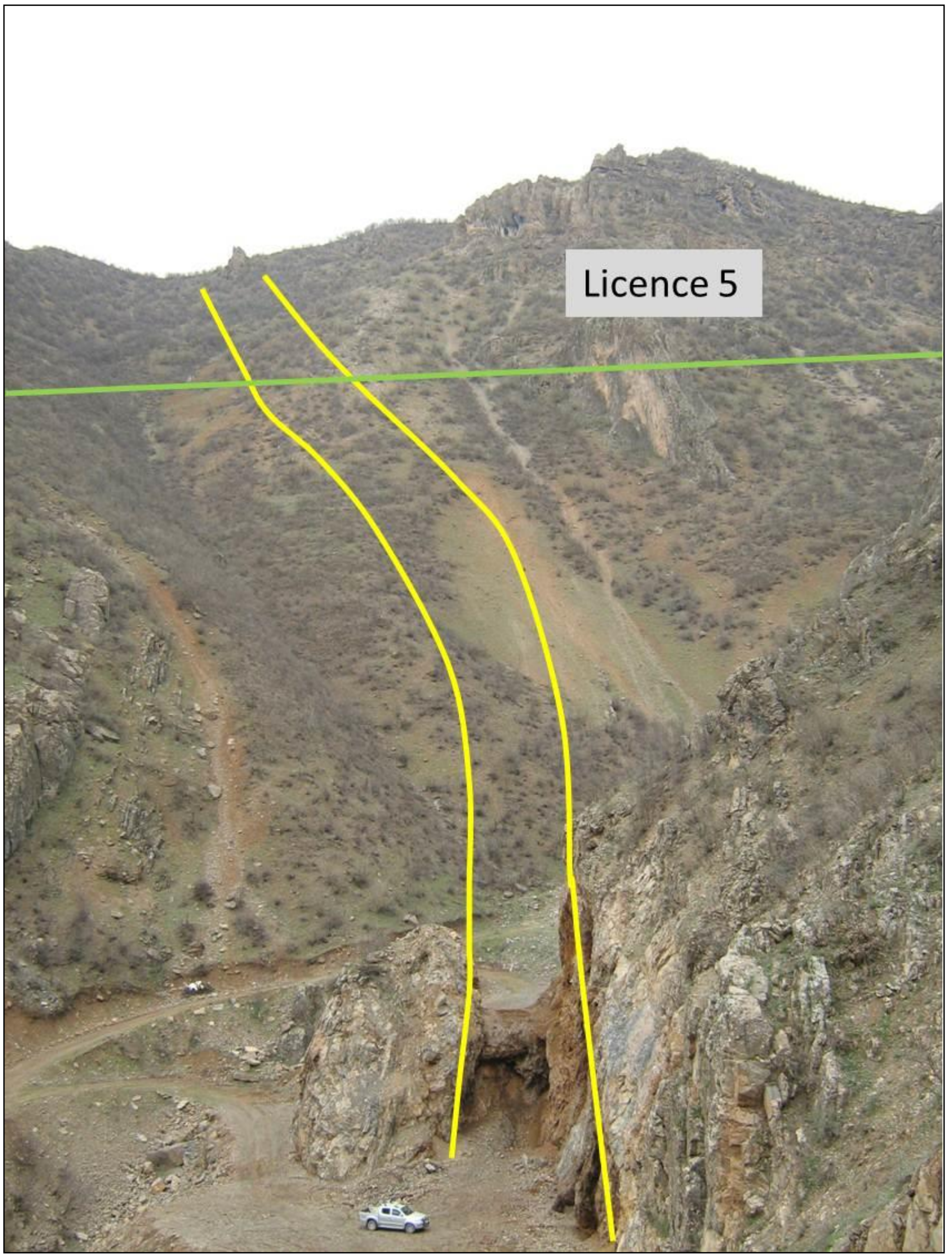
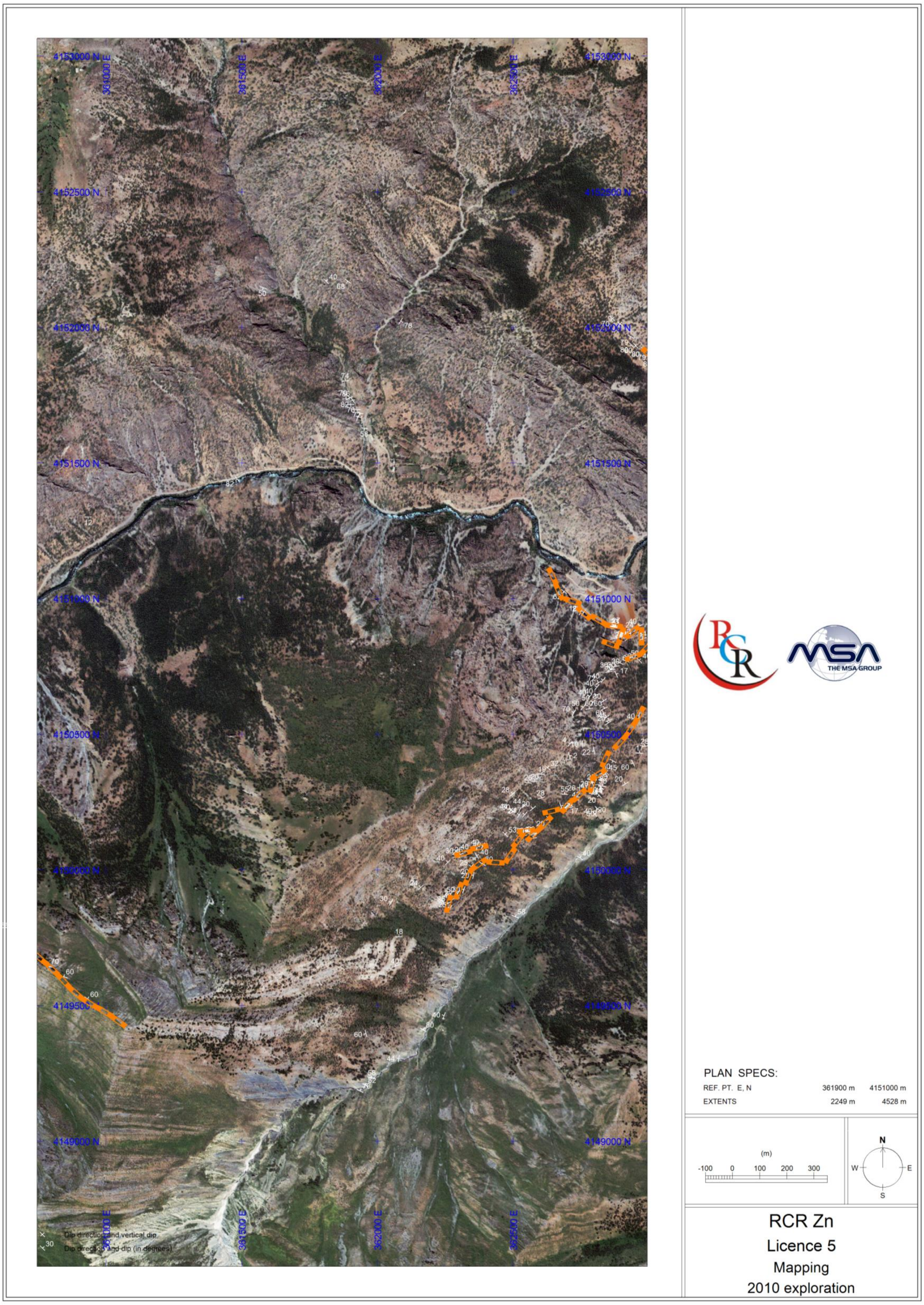


Figure 9-5

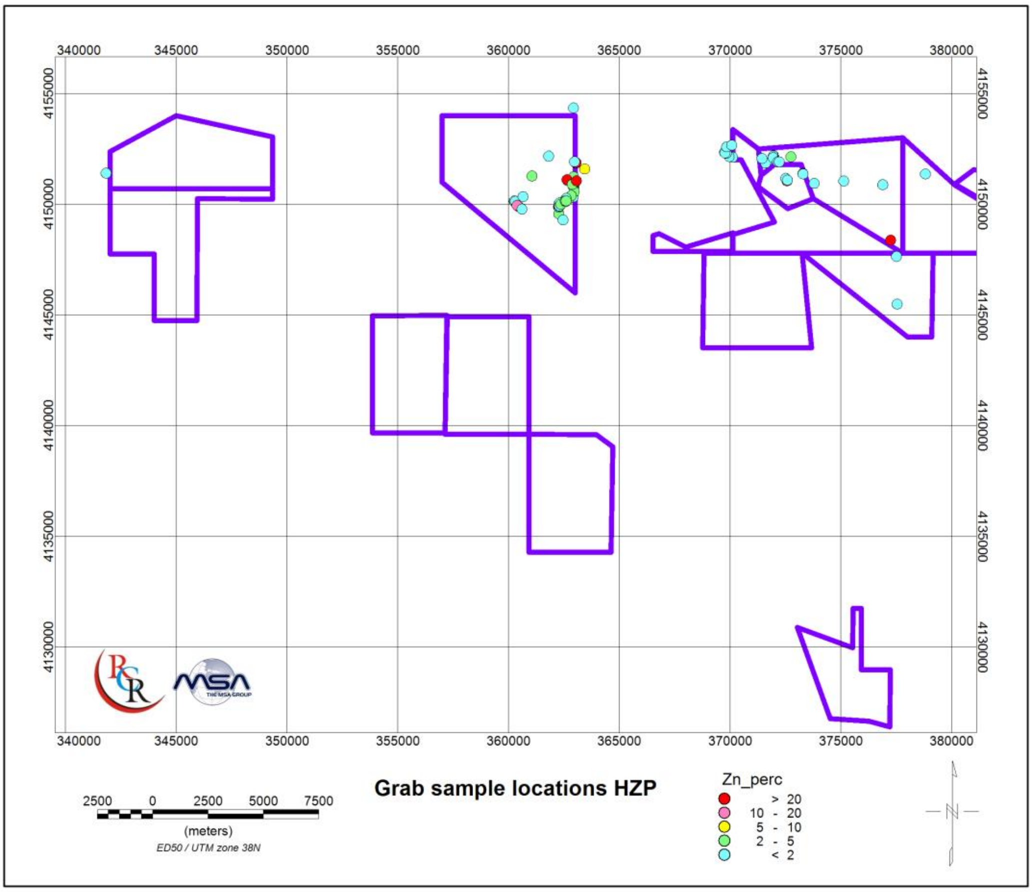
Mapped mineralisation and structural measurements on License 5, overlain on QuickBird imagery. The southern steeply dipping mineralized zone is shown in the southwestern part of the image.



9.3 Grab Sampling

A grab sample campaign was conducted over several of the RCR licence areas during 2009 and 2010, along the general strike of stratigraphy hosting non-sulphide zinc mineralization. The distribution of these samples across the licences held by RCR in 2010 is shown in Figure 9-6. Sampling is discussed more fully under Section11.

Figure 9-6
Location and results of 110 rock chip samples collected within the HZP



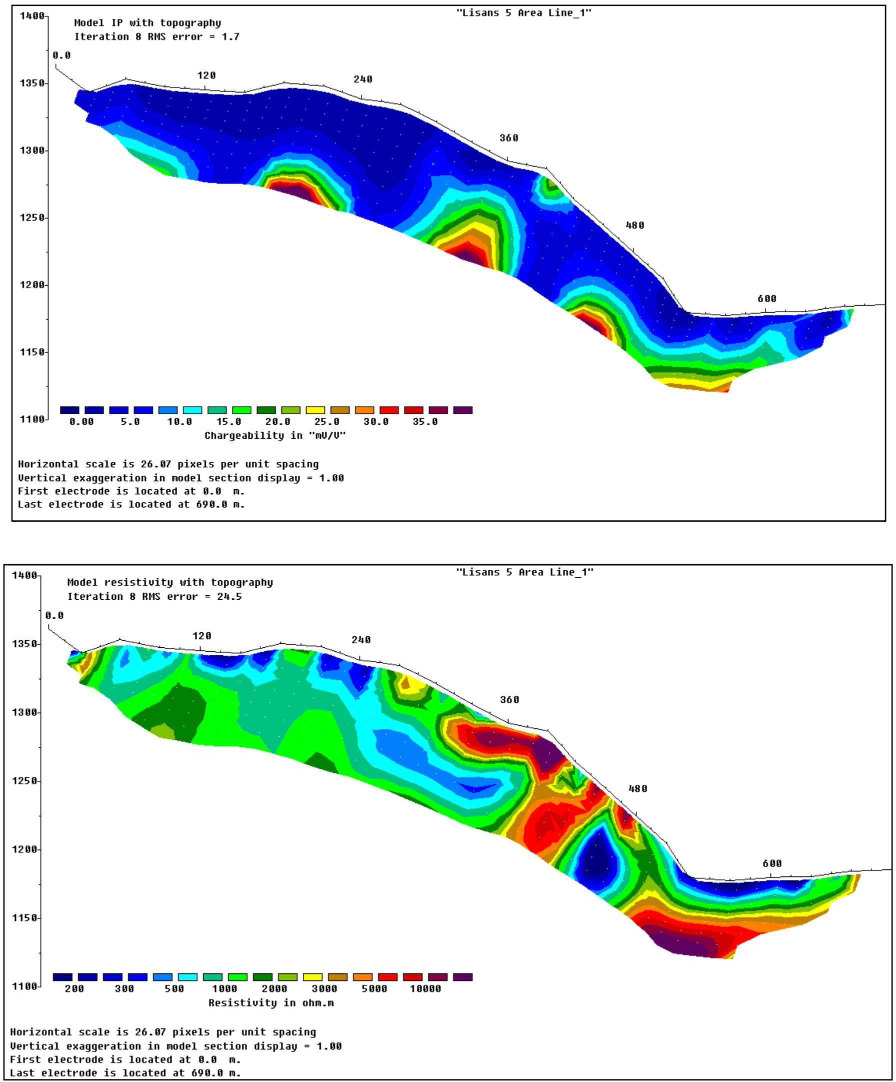
9.4 Geophysics

Three ground Induced Polarisation (IP) lines were surveyed across selected areas on License 5 and the Pentagon Licence. On License 5, a 690 m line was surveyed, trending NNW, and centred over boreholes 5DD002 and 5DD003. A second line was run over the steeply dipping zone mapped in the northeast of License 5. On the Pentagon Licence, a 600 m long NE-striking line was surveyed over holes PENDD001, PENDD003 and PENDD004. An example of one of the processed geophysical IP lines is shown in Figure 9-7.

The results, particularly the chargeability sections, indicate the presence of deeper anomalies that remain to be tested and could potentially represent suphides at depth. Little to no correlation is noted between mineralized oxide intersections in boreholes and anomalous IP responses, which is to be expected for the oxide (and hence non-conductive) nature of the mineralisation. Shallow responses may be the result of conductive groundwater localised along structural features.

Figure 9-7

West-facing chargeability (upper image) and resistivity (lower image) sections centred on boreholes 5DD002 and 5DD003 on License 5



9.5 Trenching

Trenching was only conducted on License 5 during the 2010 exploration campaign. A total of 9 trenches and 1 road cutting (5RC001) were excavated, mapped, photographed and sampled, for a total length of 474.90 m (Table 9-1). Trenches were sited on the basis of mapping and grab sampling assay results and were used to provide surface control to deeper borehole intersections. Trenches were mechanically excavated by excavator, and oriented as close as normal to strike as possible (Figure 9-8). In many cases, steep topography inhibited optimal siting of the trenches and alternative positions had to be established on the basis of actual field conditions. The road cutting (5RC001) was oriented subparallel to strike and although it was sampled, the results of this sampling were not included in the resource estimation due to uncertainties in ascertaining true mineralized widths. Channel sampling was conducted across the exposed mineralized material with the orientation of channel samples governed by the disposition of the mineralisation in relation to the trench (Figure 9-9). Trench start and end points were surveyed using a differential GPS upon completion of the trenching exercise.

Table 9-1
Summary of trenching on License 5

Trench ID	Start date	End date	Length	Start Easting	Start Northing	Start Elevation	End Easting	End Northing	End Elevation	Plunge	Azimuth
5RC1001	2010/06/11	2010/06/19	262.50	362696	4150229	1496	362856	4150438	1465	-10	211
5TR001	2010/10/28	2010/10/28	25.00	362558	4150109	1523	362553	4150133	1528	-10	300
5TR002	2010/10/29	2010/10/30	27.00	362297	4149897	1629	362292	4149906	1636	-25	310
5TR003	2010/10/30	2010/10/31	32.00	362352	4149989	1602	362345	4150000	1605	-25	300
5TR004	2010/10/31	2010/11/10	40.00	362444	4150007	1566	362441	4150007	1561	-35	2
5TR005	2010/12/01	2010/12/01	21.80	362597	4150274	1547	362611	4150287	1554	16	28
5TR006	2010/12/01	2010/12/01	35.00	362601	4150150	1515	362596	4150186	1516	16	28
5TR007	2010/12/07	2010/12/07	16.00	362833	4150359	1463	362829	4150307	1463	10	4
5TR008	2010/12/09	2010/12/09	5.00	362858	4150453	1455	362859	4150449	1452	10	82
5TR009	2010/12/10	2010/12/10	10.60	362985	4150849	1320	362969	4150859	1306	10	338
		Total length	474.90								

Dip-corrected grade calculations are tabulated below (Table 9-2). It is evident that the trenching program was only partially successful in exposing the entire width of the mineralized zone/s, accounting for the narrow width of most of the trench intersections. In all cases, however, access constraints prevented extension of the trenches to obtain complete intersections across the mineralized zones. The highest grades were obtained in 5TR008 and 5TR009 and demonstrate, together with drillholes 5DD002 and 5DD003, that high grade non-sulphide zinc mineralization is present in the fold hinge of the antiform further described in Sections 10.1.

Table 9-2
Dip-corrected grade takeouts for License 5 trenching

Trench	From (m)	To (m)	True Width (dip corrected) (m)	Zn (%)	Pb (%)	Ag (ppm)	Total width stratiform mineralisation intersected (m)
5TR001	10.20	12.83	2.13	2.6	0.2	1	2.13
5TR002	6.20	7.70	0.92	1.6	0.1	3	0.92
5TR003	6.60	8.40	0.73	2.2	0.3	4	0.73
5TR004	4.66	9.00	1.72	0.6	0.0	1	1.72
5TR005	8.30	9.80	1.35	1.3	0.3	2	1.35
5TR006	11.00	26.00	11.28	2.1	0.4	1	11.28
5TR007	1.60	9.80	3.34	1.8	0.4	10	3.34
5TR008	2.00	4.35	1.99	13.7	1.2	2	1.99
5TR009	7.20	8.90	1.18	4.7	6.7	1	1.18

Figure 9-8
Trench plan of License 5, showing trenches in relation to mapped mineralization (orange) and bedding dip/strike measurements

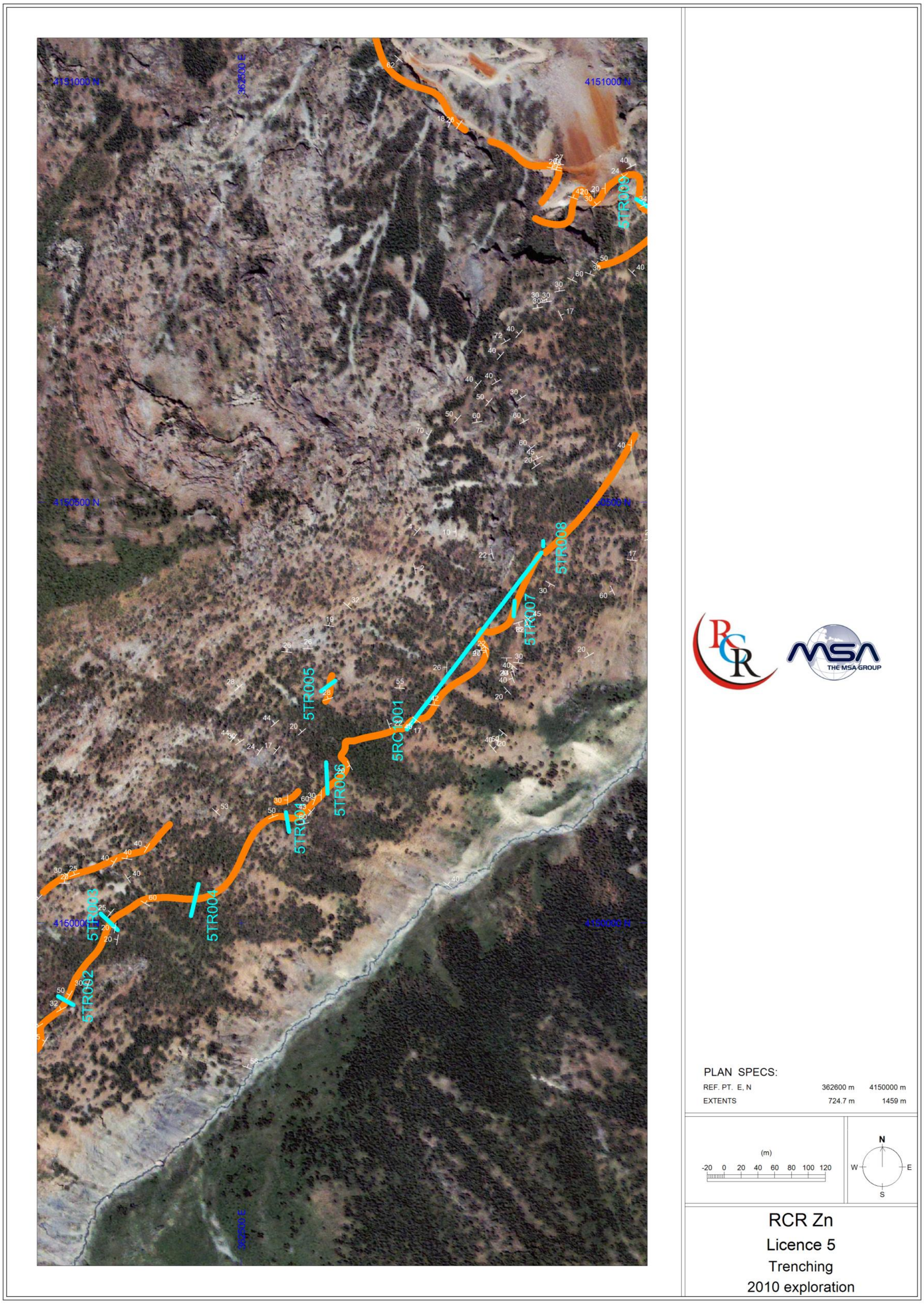


Figure 9-9
Example of an excavated trench on License 5 (left) and marked-up exposed face ready for channel sampling (right)

9.6 Extraction of Zinc-bearing Material

The RCR/RCRZ strategy is to focus on small scale exploitation of high grade non-sulphide zinc mineralization on it's Operating Licenses and to use the revenue to fund further exploration. In line with this strategy, RCR decided to exit from some of the lower potential Exploration Licenses previously held in the Hakkari area. RCR has also applied for extension of some of the Exploration Licenses. However there is no certainty that RCR will be successful in this regard.

As will be noted in RCR press releases over the past 9 months RCR has been successful in producing and selling direct shipping zinc material from the Pentagon Licence to zinc smelters/refineries. This material has been exported via Mersin Port in Turkey. Sampling (and subsequent analysis) of this material was carried out by SGS Supervise Gözetme Etud Kontrol Servisieri A.S. (SGS) during loading of the material into containers, according to international standards. Assay and weight certificates issued by SGS were supplied by RCR to MSA for review and are shown in Table 9-3.

Table 9-3
Summary figures from SGS assay and weight certificates

Date of SGS Certificate	Tonnes	Average Grade (%Zn)
2012-11-15	1 113.74	28.59
2012-12-31	2 177.66	23.17
2013-02-22	1 670.13	22.30
2013-03-27	1 178.18	20.71

10 DRILLING

Diamond core drilling was carried out on both License 5 and the Pentagon Licence during the 2010 exploration season. A single rig was contracted from Spektra Jeotek, a Turkish drilling company based in Ankara (Figure 10-1). Drilling commenced on 19 June 2010 and was halted on 18 December 2010 when heavy snow restricted drill site access. A total of 2118.40 m was drilled, the vast majority (~2000 m) drilled at HQ diameter and using a triple tube core barrel. Core logging was conducted according to the project standard operating procedures and all data was captured into a Microsoft Access exploration database. Wherever possible, logging (including core recovery logs, lithology and geotechnical logs) was done at the rig, with sampling carried out at the coreshed outside Hakkari. All inclined boreholes were surveyed with a FlexIT® downhole survey tool operated by Spektra Jeotek. Hardcopy survey data were supplied to the geologists on site at nominal 50 m intervals. A summary of the drilling statistics is supplied in Table 10-1.

Table 10-1
Summary drilling information

Borehole ID	Start date	End date	End of Hole (EOH)	Easting	Northing	Elevation	Inclination	Azimuth
5DD001	2010/06/19	2010/06/24	100.00	362692.36	4151020.25	1191.04	-90	0
5DD002	2010/06/25	2010/06/28	52.70	362984.25	4150865.25	1293.25	-90	0
5DD003	2010/06/28	2010/06/30	56.00	362983.25	4150865.25	1293.25	-60	181
5DD004	2010/07/02	2010/07/21	144.00	362861.95	4150715.33	1382.13	-90	0
5DD005	2010/07/07	2010/07/17	100.20	362861.49	4150715.91	1382.42	-60	190
5DD006	2010/07/27	2010/08/01	100.00	362581.64	4150252.64	1519.64	-90	0
5DD007	2010/08/05	2010/08/13	200.00	362644.02	4150353.12	1535.55	-90	0
5DD008	2010/08/14	2010/08/19	146.50	362643.00	4150352.14	1536.74	-60	220
5DD009	2010/08/20	2010/08/23	100.00	362875.77	4150849.86	1272.06	-90	0
5DD010	2010/08/26	2010/08/27	51.40	362688.19	4151028.83	1198.02	-90	0
5DD011	2010/08/29	2010/09/06	200.30	362476.76	4150193.75	1572.87	-90	0
5DD012	2010/10/31	2010/11/20	231.10	362644.24	4150355.19	1535.59	-60	45
5DD013	2010/11/21	2010/12/06	199.90	362642.43	4150348.19	1536.71	-60	135
5DD014	2010/12/09	Abandoned 2010/12/21	11.30	362852.16	4150520.01	1424.34	-90	0
		Total meterage Licence 5	1693.40					
PENDD001	2010/10/01	2010/10/02	20.30	372598.06	4151048.59	1643.03	-90	0
PENDD002	2010/10/03	2010/10/04	35.80	372597.46	4151045.27	1643.11	-45	200
PENDD003	2010/10/04	2010/10/06	31.90	372555.76	4151058.93	1638.02	-90	0
PENDD004	2010/10/07	2010/10/08	46.20	372590.86	4151047.24	1642.48	-45	240
PENDD005	2010/10/08	2010/10/09	61.50	372556.89	4151057.69	1637.95	-50	250
PENDD006	2010/10/09	2010/10/10	28.60	372522.57	4151083.80	1625.02	-45	225
PENDD007	2010/10/10	2010/10/11	38.00	372509.09	4151087.08	1621.41	-45	220
PENDD008	2010/10/11	2010/10/12	17.20	372508.53	4151086.06	1621.29	-75	220
PENDD009	2010/10/12	2010/10/13	13.50	372521.67	4151088.60	1624.87	-45	180
PENDD010	2010/10/14	2010/10/18	132.00	372519.53	4151058.36	1650.45	-90	0
		Total meterage Pentagon	425.00					

Drilling was conducted on a single-shift (12 hours), 7 day a week basis with extended breaks taken in August and September for the Ramadan and Bayram holidays. Average drilling advance was 11.34 m/shift.

10.1 License 5

Drilling on License 5 commenced on 19 June 2010 and continued until 6 September 2010, whereafter the rig was mobilised to the Pentagon Licence. The rig recommenced drilling on License 5 on 31 October and continued until the close of the program due to inclement weather on 18 December 2010. A total of 1693.40 m was drilled on License 5 in fourteen boreholes (Figure 10-2), which includes 76.79 m (uncorrected for dip) logged as mineralized zone (MZ). Typical MZ intersections are shown in Figure 10-3. Approximately 800 m of planned drilling was not completed.

Eleven of the fourteen boreholes intersected MZ. Strip logs displaying lithology and Zn, Pb and Ag grades were compiled for all fourteen holes using Geosoft Target software, and are included as Figure 10-4 to Figure 10-10. Definition of drill targets was achieved through a combination of surface mapping and sampling, structural geological analysis and trenching where appropriate. Access restrictions imposed by the extremely steep topography resulted in multiple, variably oriented boreholes being drilled from the same collar position. Hole 5DD001 did not intersect MZ although this was ascribed to potential core loss in a particularly friable zone between 20 and 30 m. The initial 30 m of 5DD001 were not drilled using a triple tube corebarrel and the hole was twinned by 5DD010 from the same collar position (using a triple tube core barrel) and intersected a narrow MZ from 26.20 to 27.40 m. Borehole 5DD011 failed to intersect any recognisable mineralized zone whereas 5DD014 had to be stopped prior to completion due to adverse weather conditions and associated unsafe access conditions with the onset of heavy winter snowfall.

Drilling on License 5 revealed the presence of two discrete mineralized zones (upper and main), each comprising a number of mineralized horizons interstratified with calcareous host rocks. Mineralized widths are variable from a few centimetres to a few metres and although the spacing of drill holes in the 2010 field season does not allow for continuity of individual mineralized layers to be established with confidence, both the upper and main mineralized zones are continuous within the drilled area. Grade persistence in the hanging- and footwall is commonly associated with localised structural remobilisation of the mineralisation along fractures, faults and breccia veins.

Dip-corrected significant (>1 m true width, >1% Zn) intersections are provided in Table 10-2. It is evident that the highest grade intersections are found in the northernmost holes, which are interpreted to fall on or near a major antiformal hinge that can be traced across the river valley to the north (Figure 10-11). Full details on the sampling methodology and assay technique are provided in Section 11.

Table 10-2
Significant intersections (dip-corrected) from License 5

Borehole	From (m)	To (m)	True Width (dip corrected) (m)	Zn (%)	Pb (%)	Ag (ppm)	Total width stratiform mineralisation intersected (m)
5DD002	6.54	10.51	2.37	4.6	4.4	3	7.67
	25.10	31.35	4.42	3.1	2.6	3	
5DD003	13.91	24.24	7.30	3.6	1.2	1	12.09
	31.59	34.00	1.70	4.9	4.0	4	
	48.05	49.60	1.10	6.3	1.7	1	
5DD004	68.76	77.30	6.11	1.4	0.1	1	7.12
5DD005	54.00	55.60	1.13	2.3	0.2	1	9.83
	60.20	72.50	8.70	1.7	0.4	1	
5DD006	52.22	54.10	1.54	3.1	1.6	4	5.18
	60.90	65.65	3.64	1.6	0.2	2	
5DD007	150.48	153.10	2.01	2.0	0.1	1	2.01
5DD008	51.18	53.25	1.79	3.8	0.2	1	5.12
5DD009	50.30	56.38	4.98	3.5	0.4	3	11.88
	60.60	70.30	6.90	3.0	0.9	1	
5DD012	184.50	191.25	4.47	2.1	0.8	1	5.62
5DD013	186.30	190.20	2.17	2.2	1.4	10	5.01
	License 5 average		3.77	2.7	1.0	2	

Figure 10-1
Diamond drilling rig on License 5

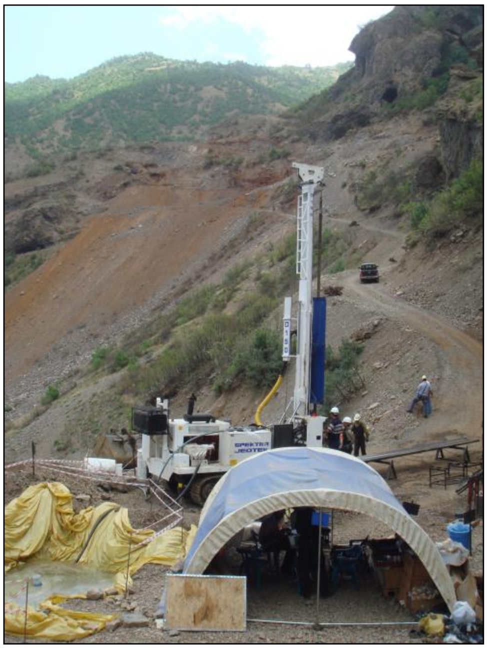


Figure 10-2
Borehole collars and traces on License 5, draped on QuickBird imagery. Contour interval is 20 m

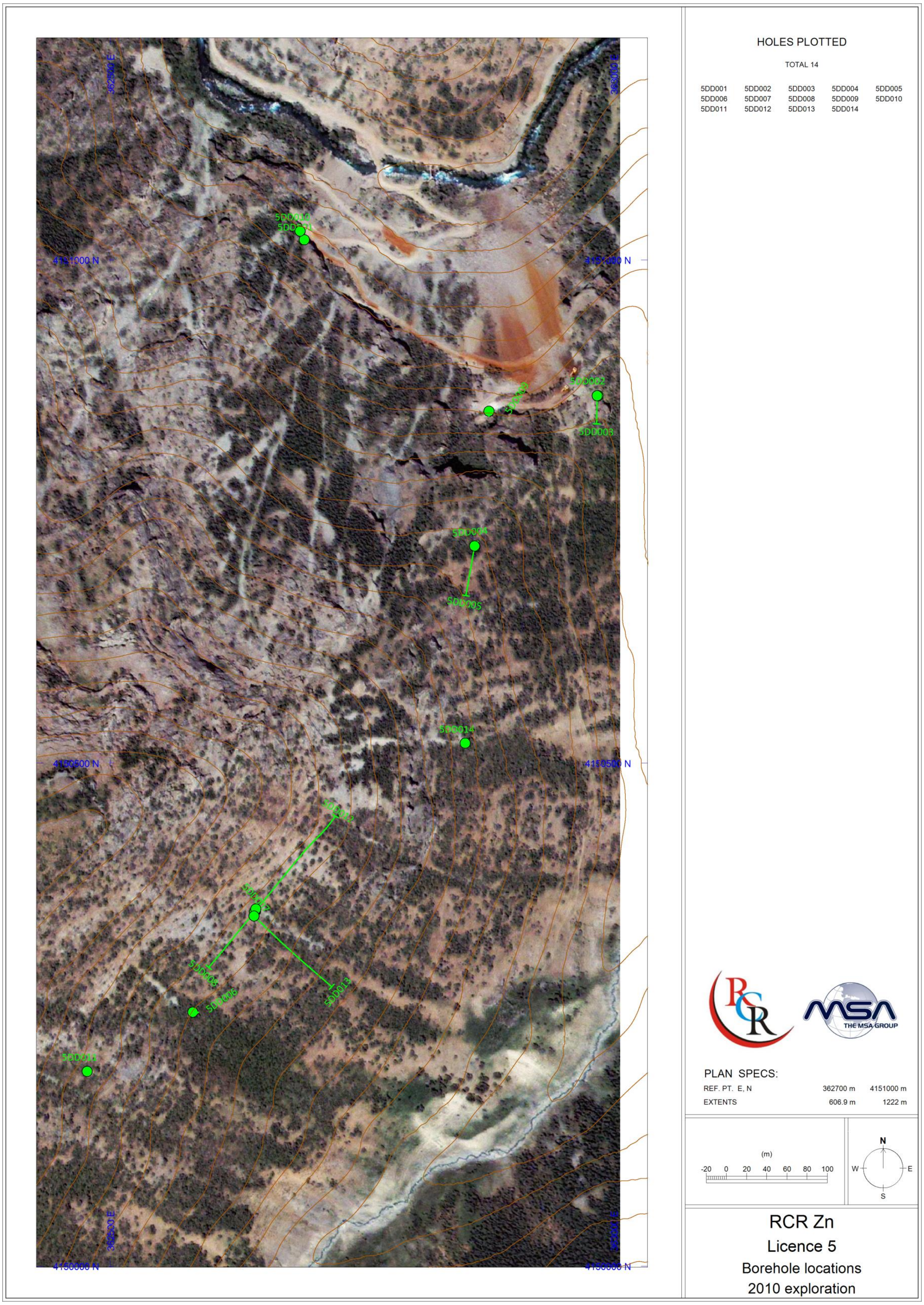
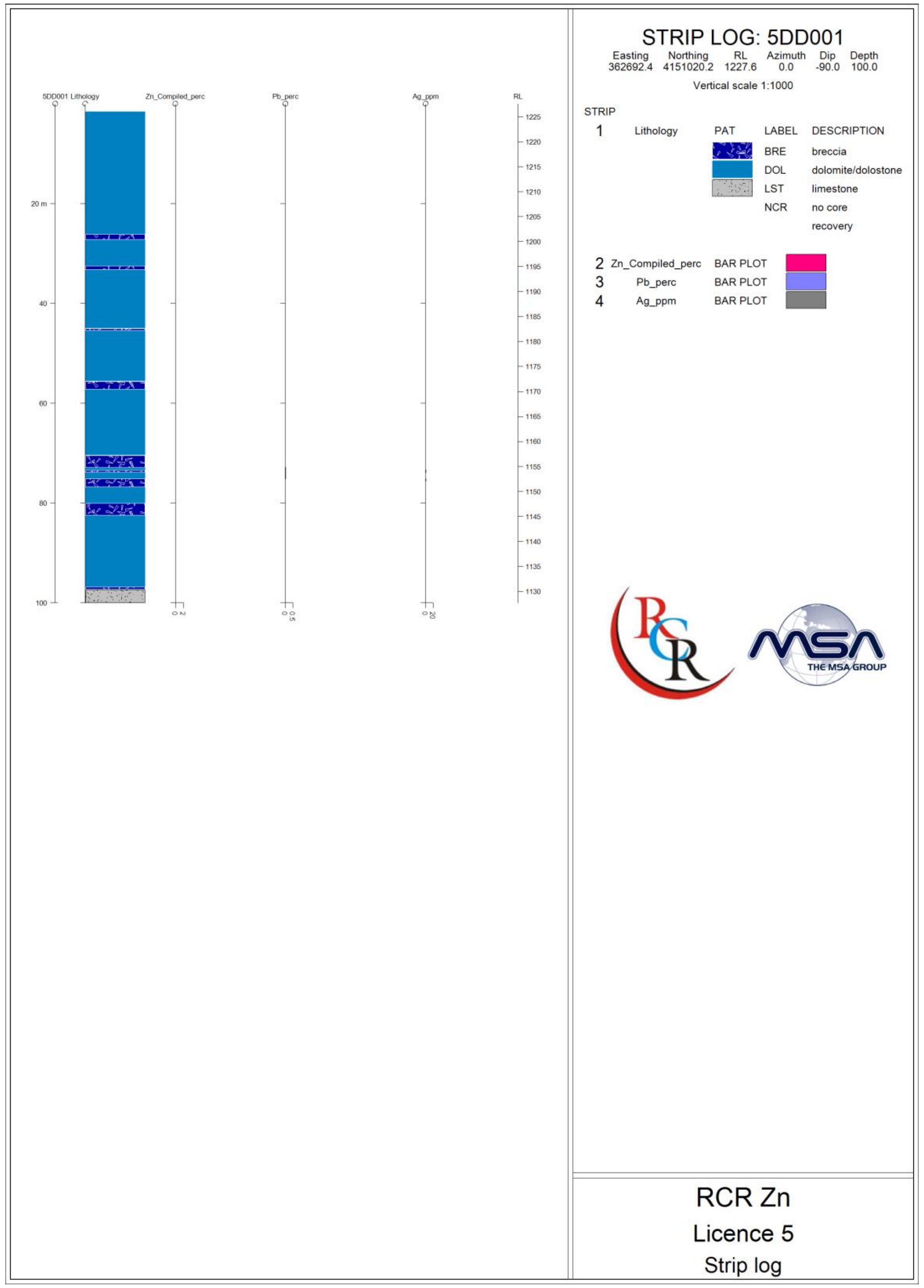


Figure 10-3

Core photograph of typical oxidised and variably friable mineralized material (MZ) intersected on License 5 from boreholes 5DD002 and 5DD003

Figure 10-4

Strip logs from 5DD001 and 5DD002, showing lithologies logged and Zn, Pb and Ag assay results



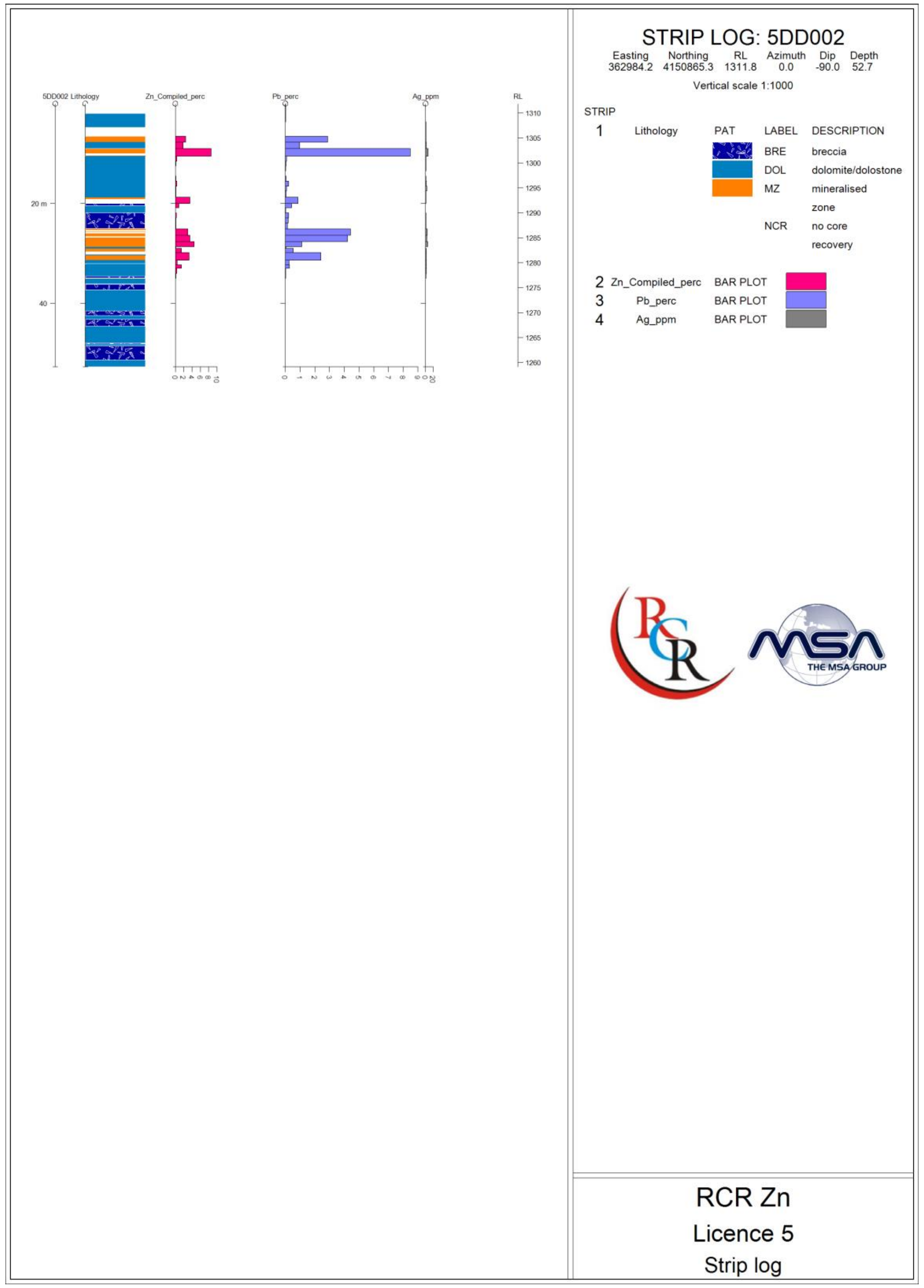
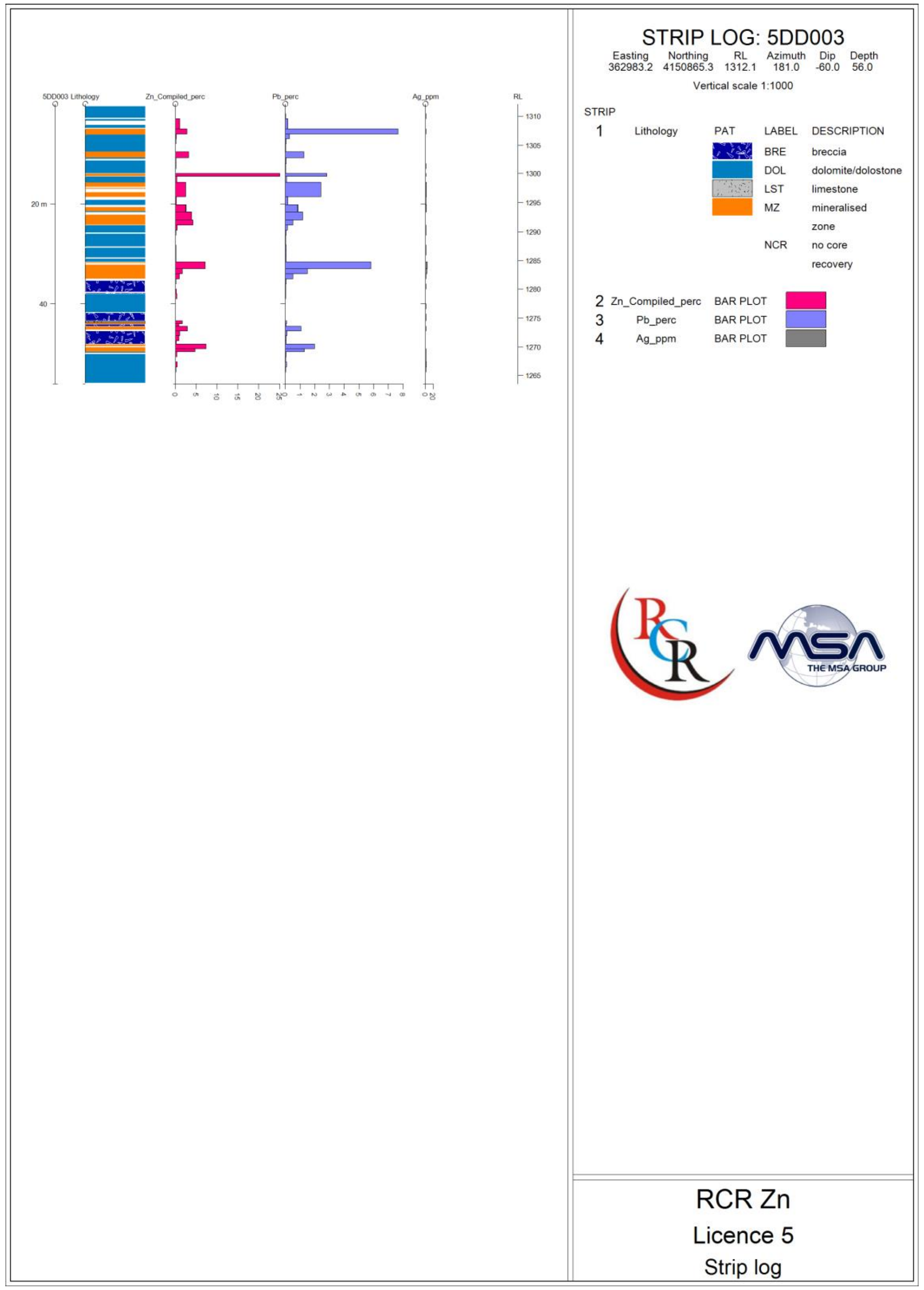


Figure 10-5

Strip logs from 5DD003 and 5DD004, showing lithologies logged and Zn, Pb and Ag assay results



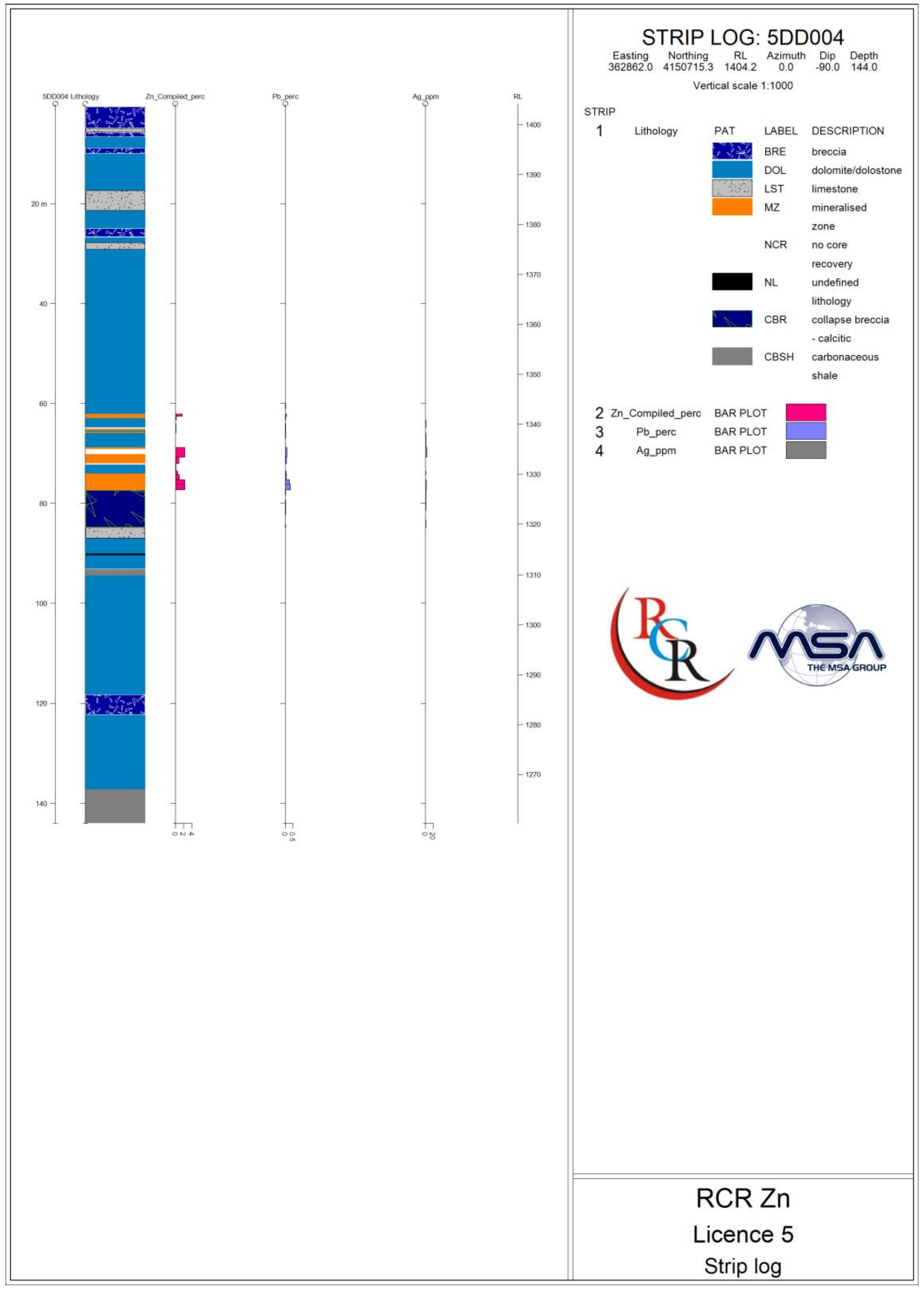
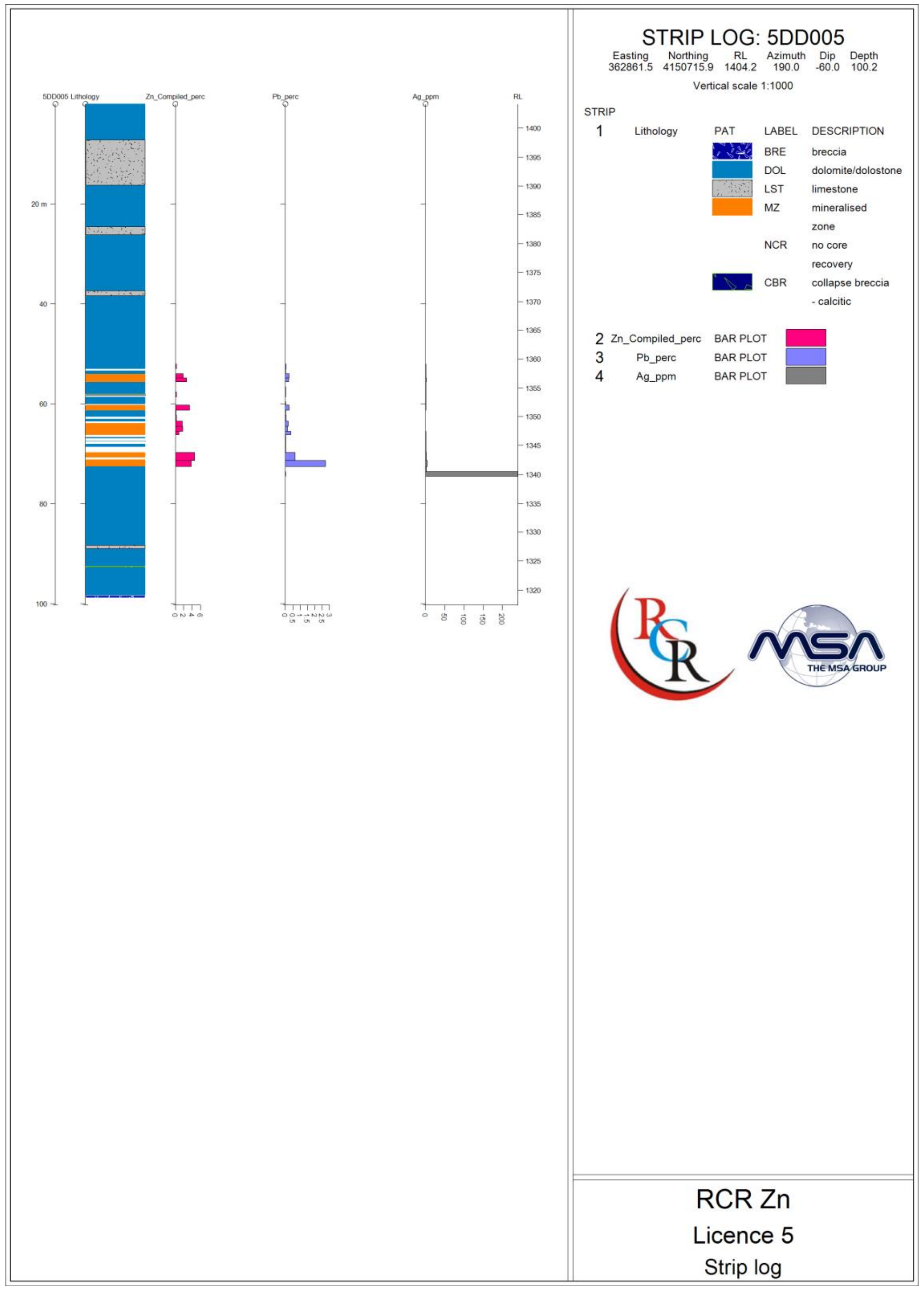


Figure 10-6

Strip logs from 5DD005 and 5DD006, showing lithologies logged and Zn, Pb and Ag assay results



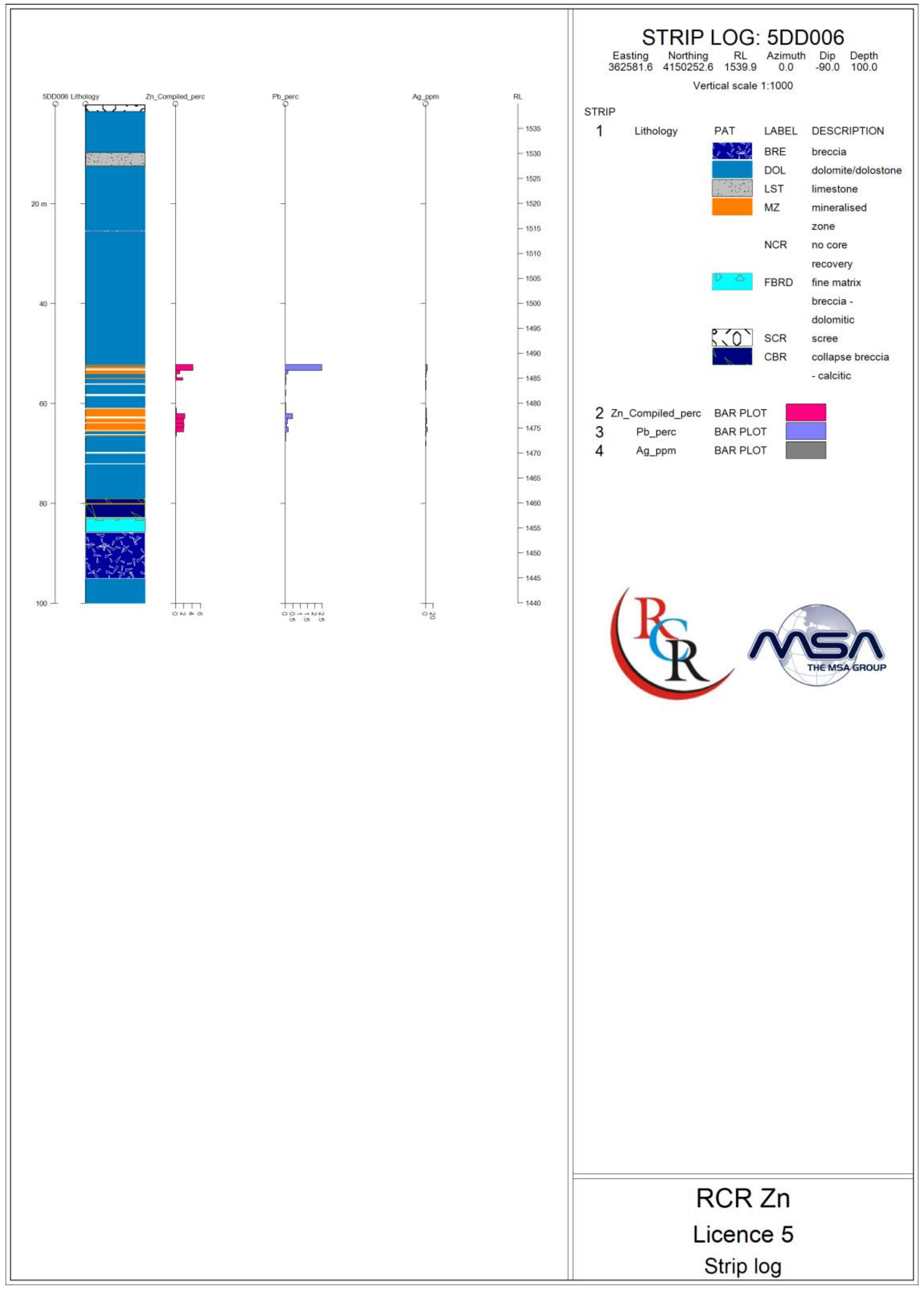
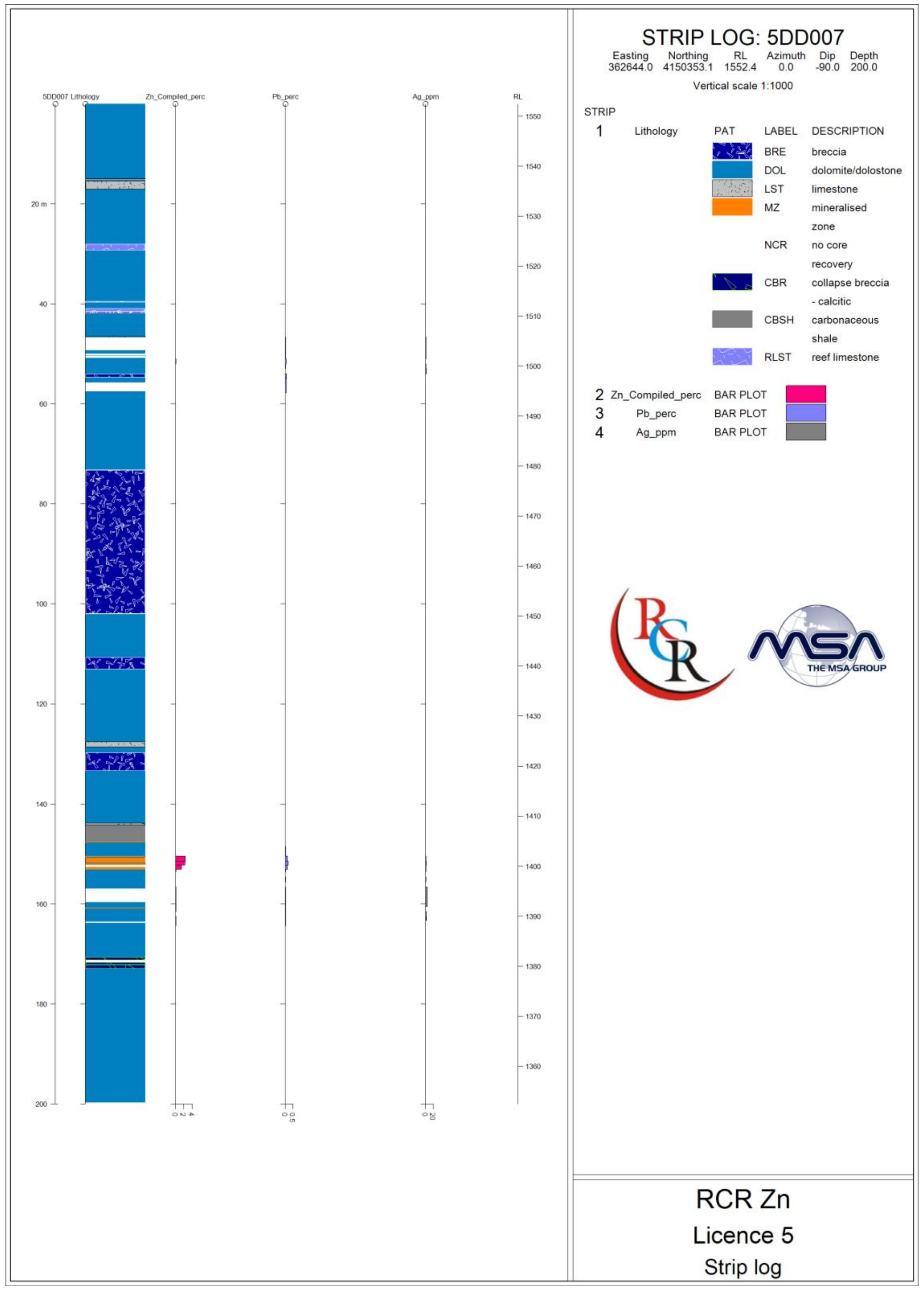


Figure 10-7

Strip logs from 5DD007 and 5DD008, showing lithologies logged and Zn, Pb and Ag assay results



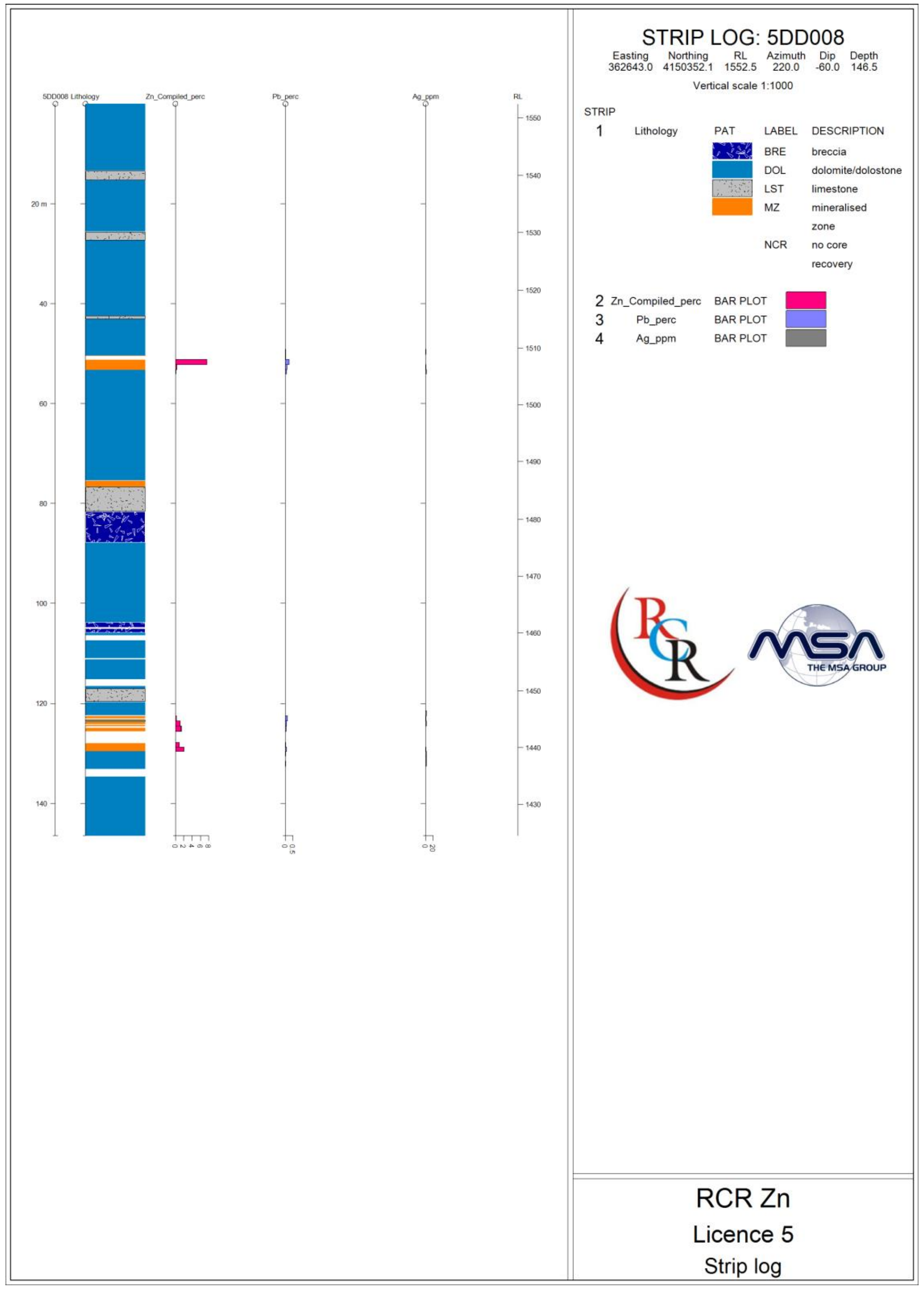
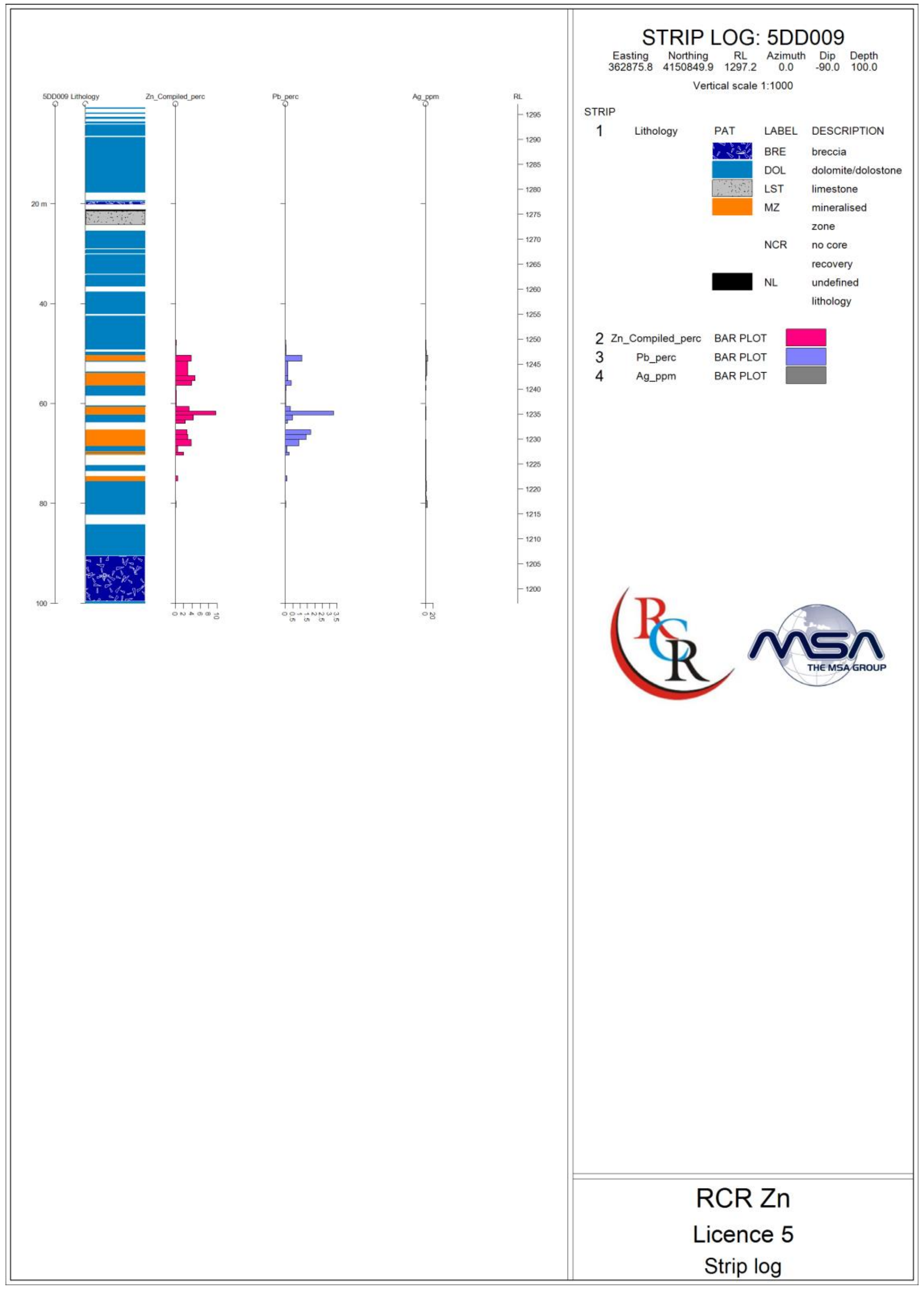


Figure 10-8

Strip logs from 5DD009 and 5DD010, showing lithologies logged and Zn, Pb and Ag assay results



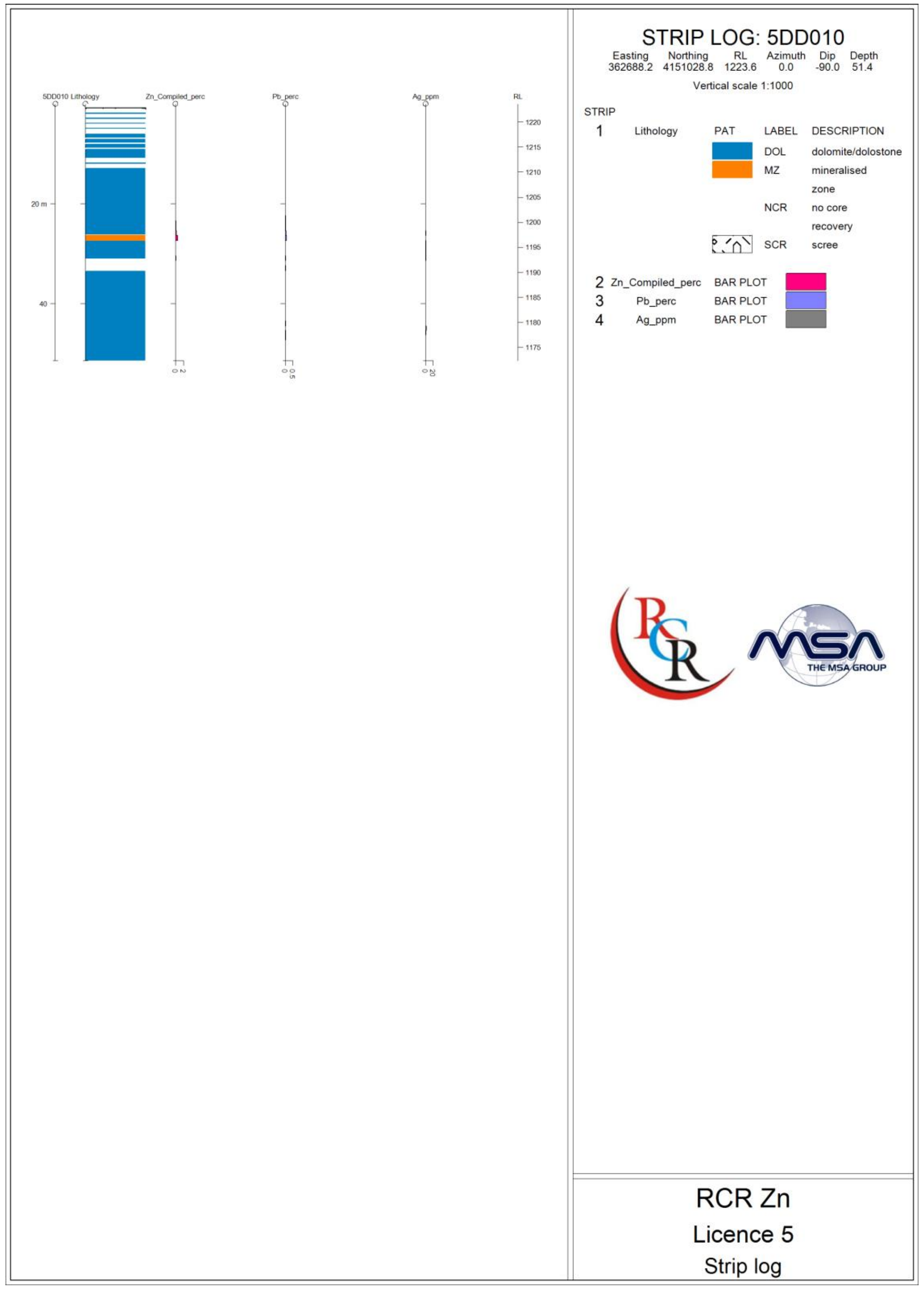
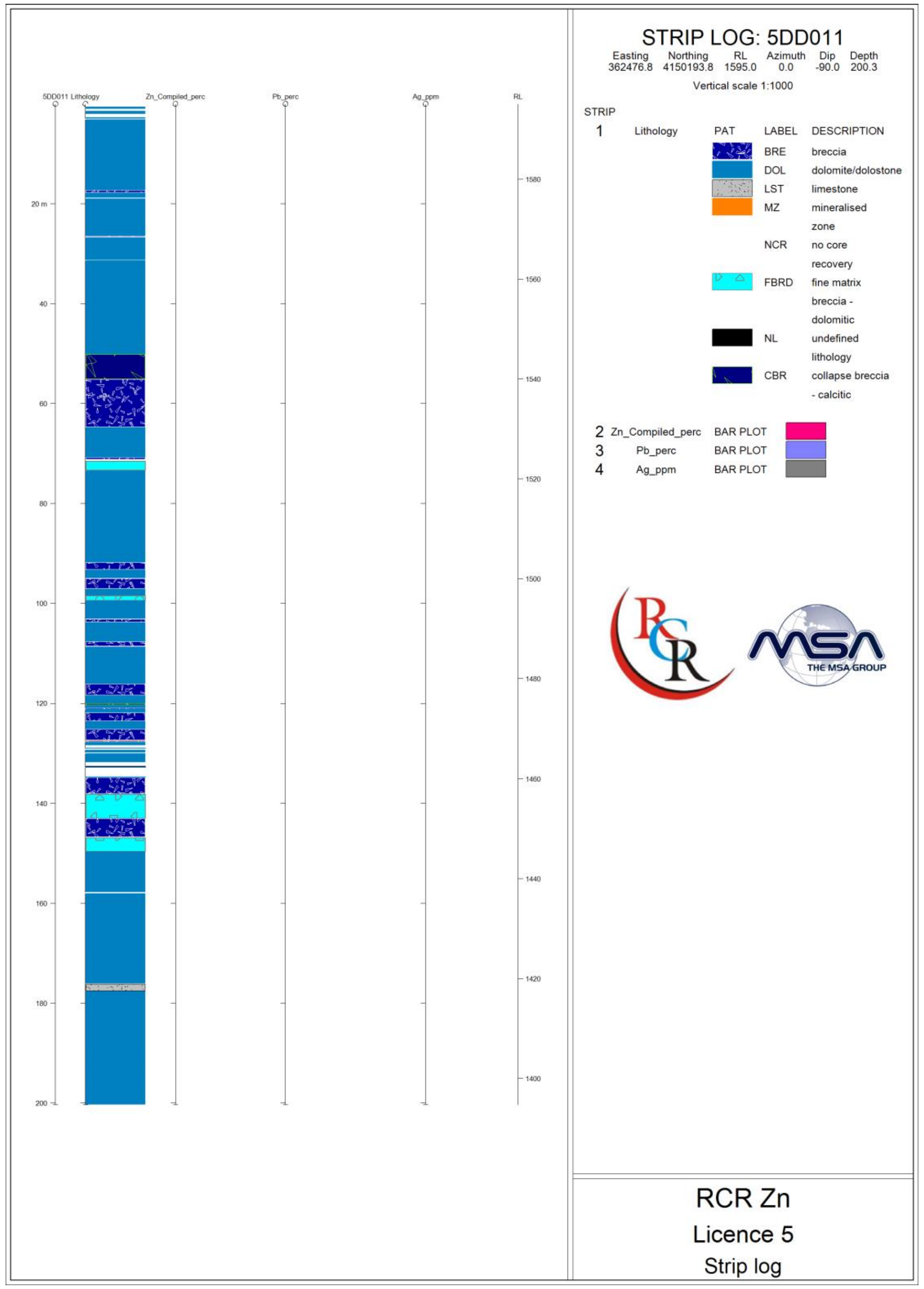


Figure 10-9

Strip logs from 5DD011 and 5DD012, showing lithologies logged and Zn, Pb and Ag assay results



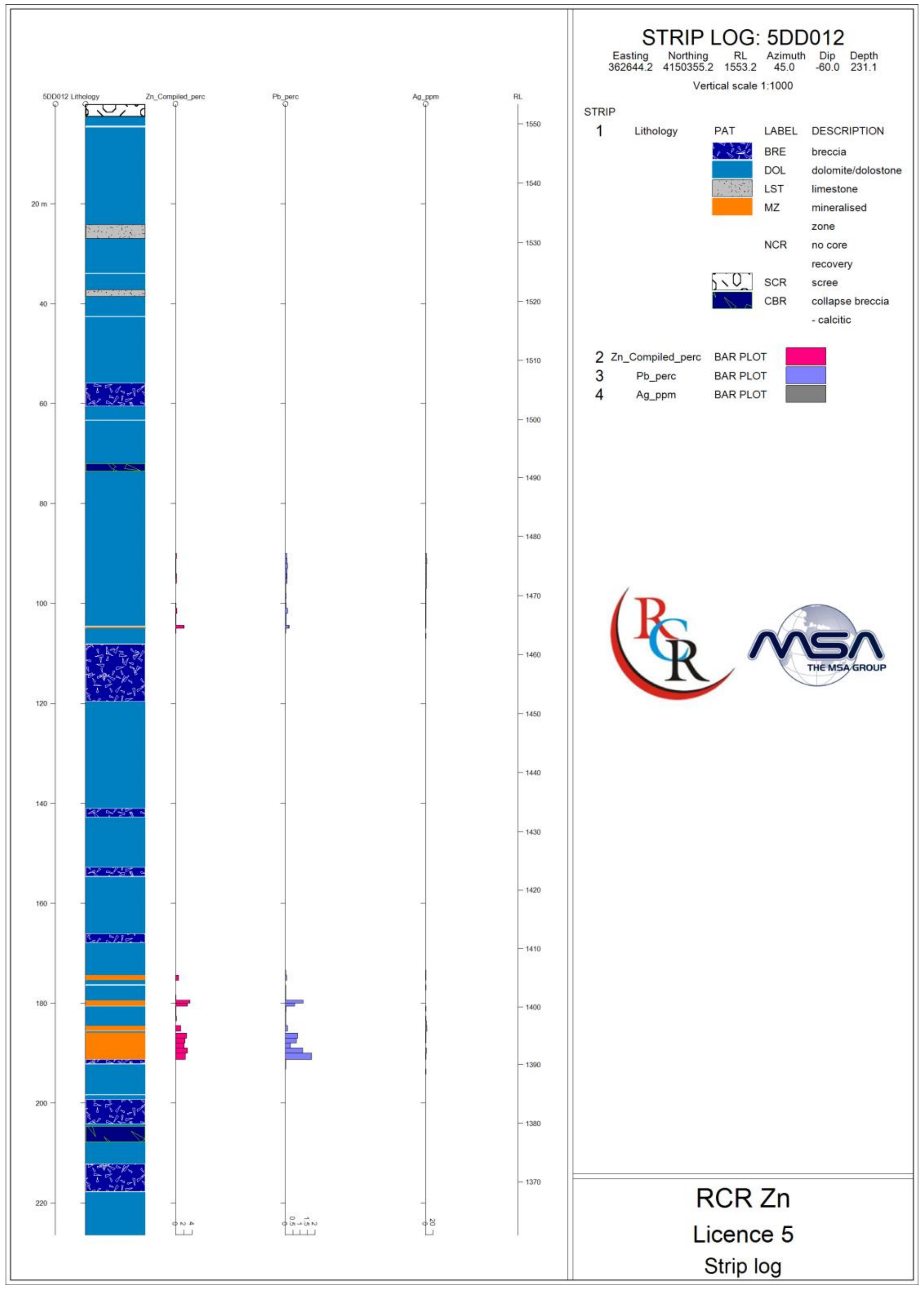


Figure 10-10

Strip logs from 5DD013 and 5DD014, showing lithologies logged and Zn, Pb and Ag assay results

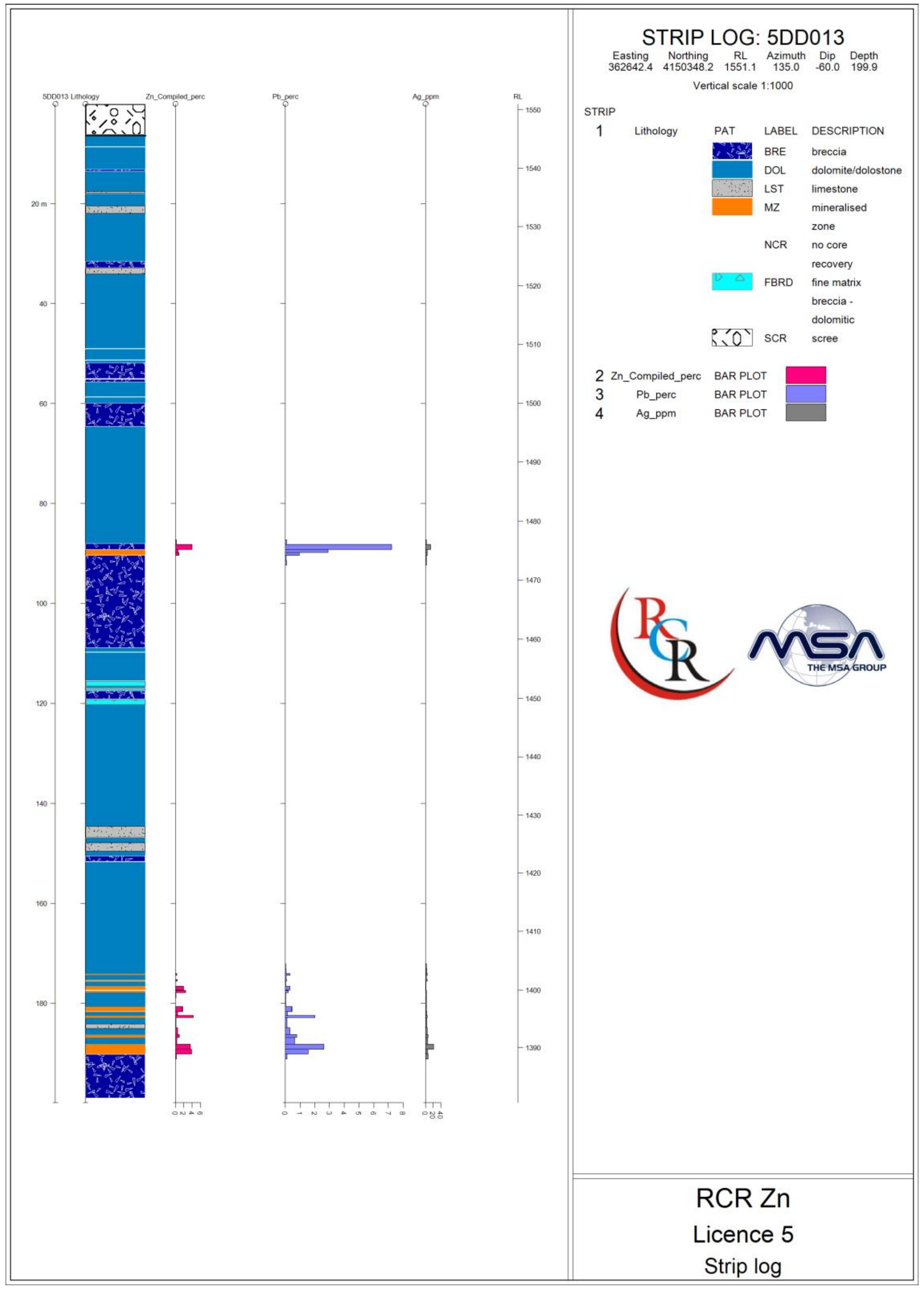
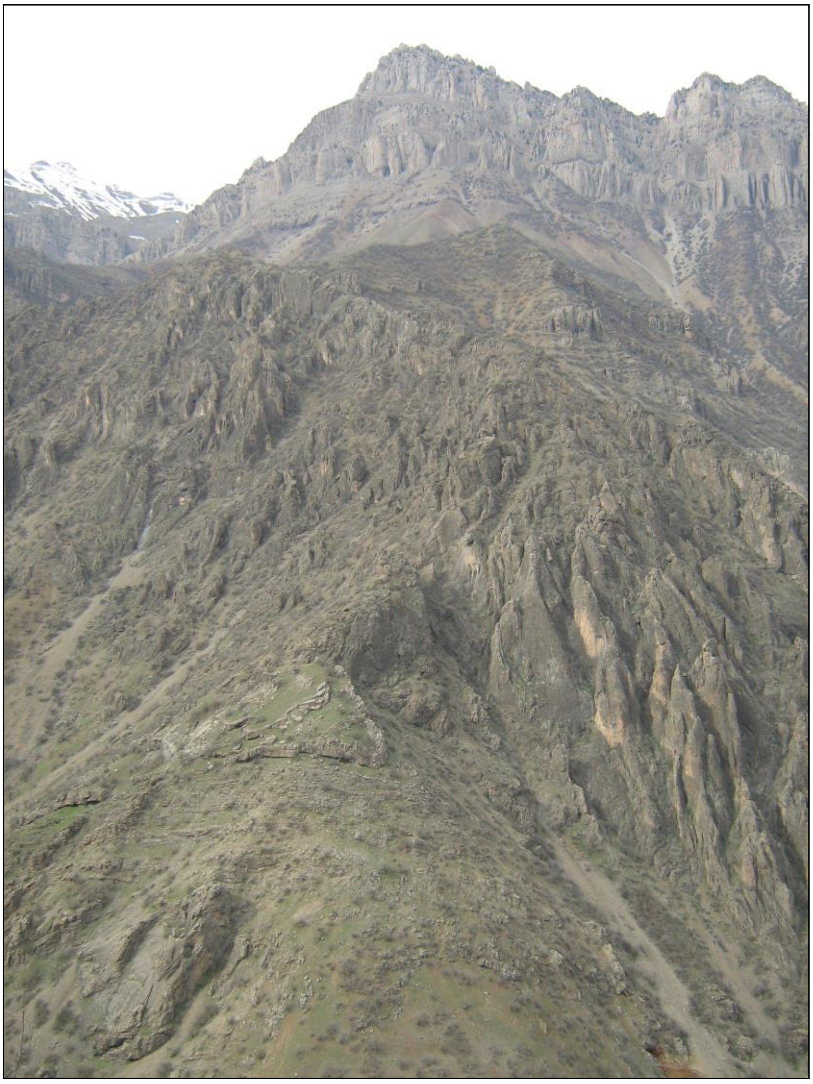


Figure 10-11
North facing view from a vantage point south of 5DD003 showing antiformal axis developed in the foreground. Small workings are present in the bottom right of the photograph



10.2 The Pentagon Licence

Drilling on the Pentagon Licence commenced on 1 October 2010 and was completed on 18 October 2010. A total of 425 m was drilled in 10 boreholes, including 57.10 m (uncorrected for dip) of MZ. The locations of the holes drilled in the Pentagon Licence are shown in Figure 10-12. Seven of the ten boreholes intersected MZ. The drilling strategy at the Pentagon Licence was heavily constrained by access and the existing highwall resulting by small-scale extraction acitivities (Figure 10-13). As a result, many of the holes were collared in mineralisation. PENDD001 was inadvertently collared in the footwall of the main MZ, whereas several of the holes had to be collared in the footwall and drilled at a marginally shallower angle than the mapped dip of the MZ in order to obtain an inverted intersection. Holes PENDD007 and PENDD008 did not intersect the MZ and are interpreted to have been collared immediately to the west of a fault zone that has displaced the MZ to the south i.e. upslope. Generally, the mineralized material intersected in the Pentagon boreholes is significantly more competent than the frequently friable material intersected on License 5. Typical examples of mineralized intersections are shown in Figure 10-14. Strip logs for holes PENDD001-PENDD008, compiled using Geosoft Target, are shown in Figure 10-15 to Figure 10-18.

The 2010 drilling campaign failed to definitively identify discrete upper and main mineralized zones, although outcomes of preliminary geological modelling (Section **Error! Reference ource not found.**) suggest potential for an upper mineralized zone on the Pentagon Licence as yet, poorly delineated.

Significant intersections (> 1 m width, >1% Zn) are tabulated in Table 10-3. The anomalously wide intersection in PENDD003 is difficult to interpret given the limited amount of drilling that was undertaken on the Pentagon Licence. It is, however, evident that Zn and Ag grades on the licence are significantly higher than on License 5 whereas Pb grades are similar to License 5.

Table 10-3
Significant intersections (dip-corrected) from the Pentagon Licence

Borehole	From (m)	To (m)	True Width (dip corrected) (m)	Zn (%)	Pb (%)	Ag (ppm)	Total width stratiform mineralisation intersected (m)
PENDD002	12.70	26.50	3.57	3.9	0.5	4	3.57
PENDD003	8.70	27.70	10.90	3.8	1.0	79	10.90
PENDD004	1.17	3.90	1.37	9.8	0.6	19	2.41
	9.80	11.90	1.05	17.3	0.5	6	
PENDD005	0.00	2.50	1.06	7.9	3.0	82	2.32
	8.50	11.50	1.27	5.8	0.9	40	
PENDD006	11.40	14.10	1.55	38.8	1.8	15	1.55
PENDD009	8.90	10.90	1.00	22.5	3.8	32	1.00
PENDD010	122.50	127.30	1.24	17.7	2.6	18	3.62
Pentagon average			2.56	9.0	1.2	58	

Figure 10-12

Borehole collars and traces on the Pentagon Licence, draped on Quickbird imagery. Contour interval is 20 m

Figure 10-13

Remnant highwalls comprising hangingwall (right) and footwall (left) contact zones to the partially extracted mineralized zone on the Pentagon Licence. The zone dips steeply to the south (right)

Figure 10-14
Core photographs of typical intersections from the Pentagon (holes PENDD006 and PEND010)

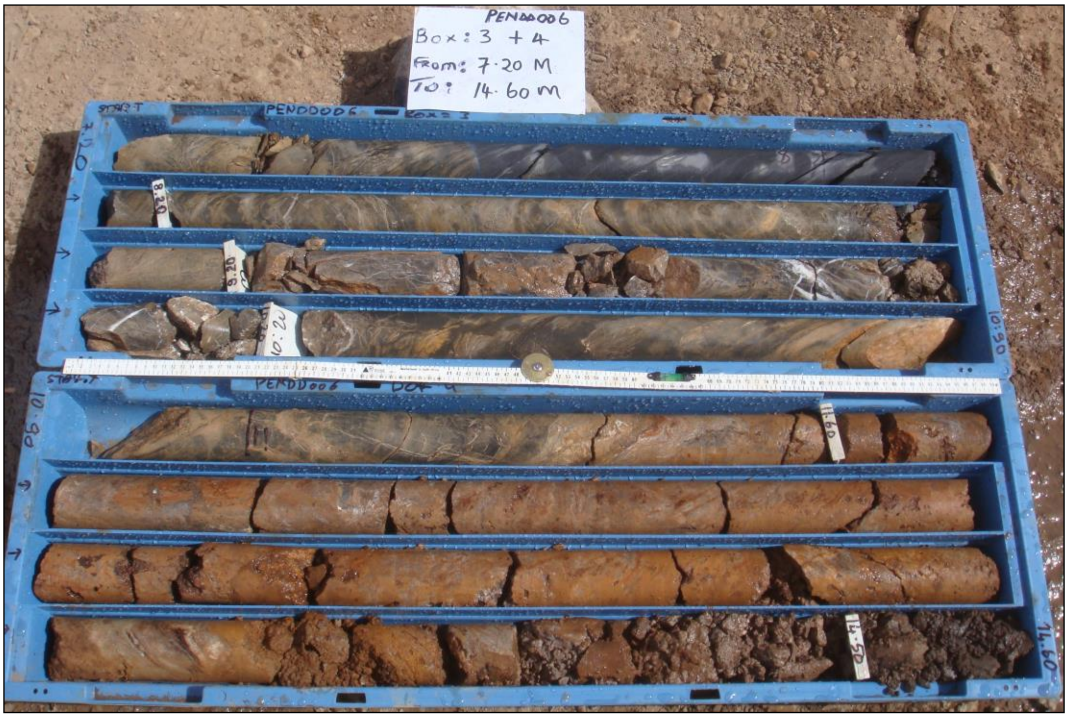


Figure 10-15

Strip logs from PEND001 and PEND002, showing lithologies logged and Zn, Pb and Ag assay results

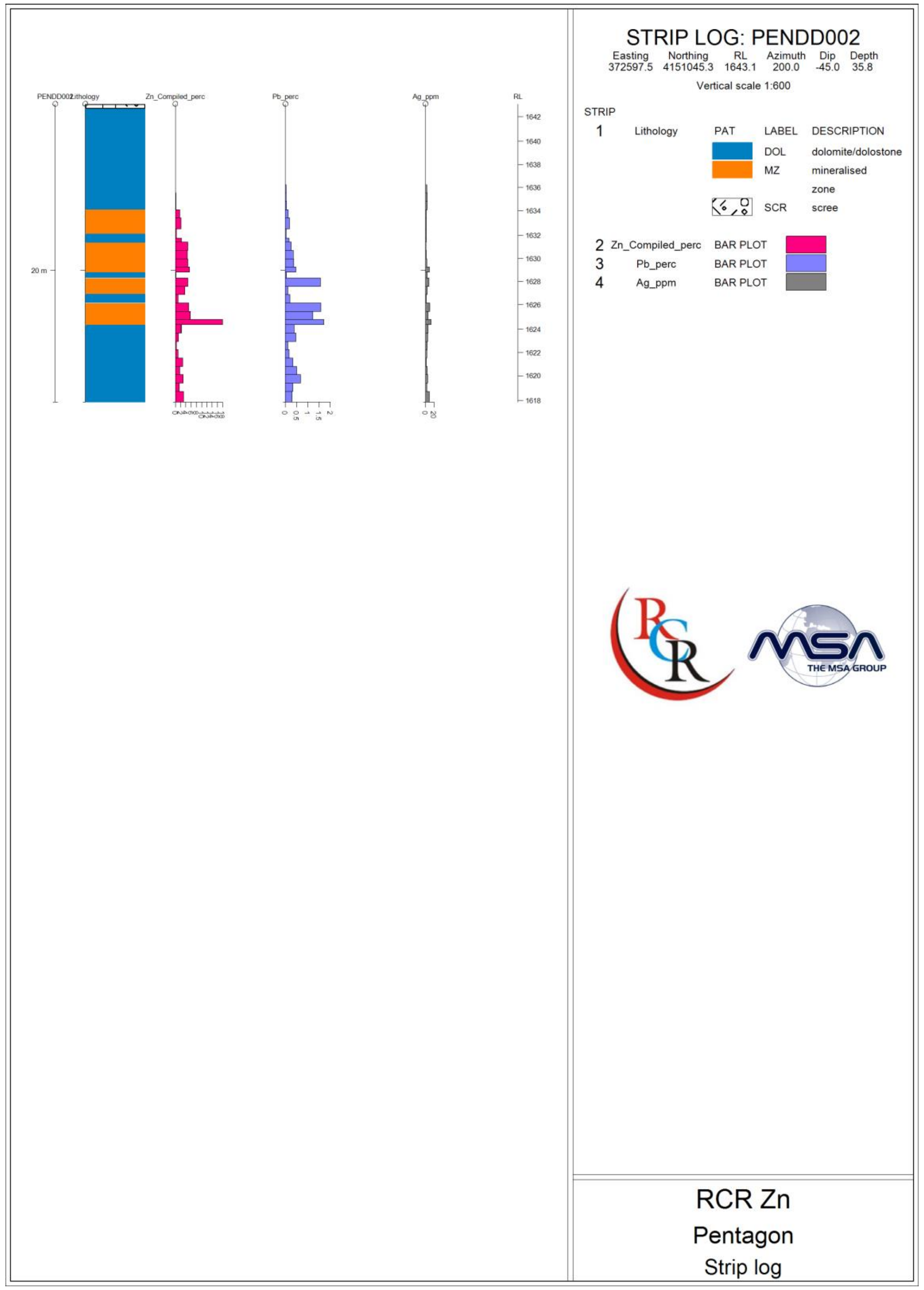


Figure 10-16
Strip logs from PEND003 and PEND004, showing lithologies logged and Zn, Pb and Ag assay results

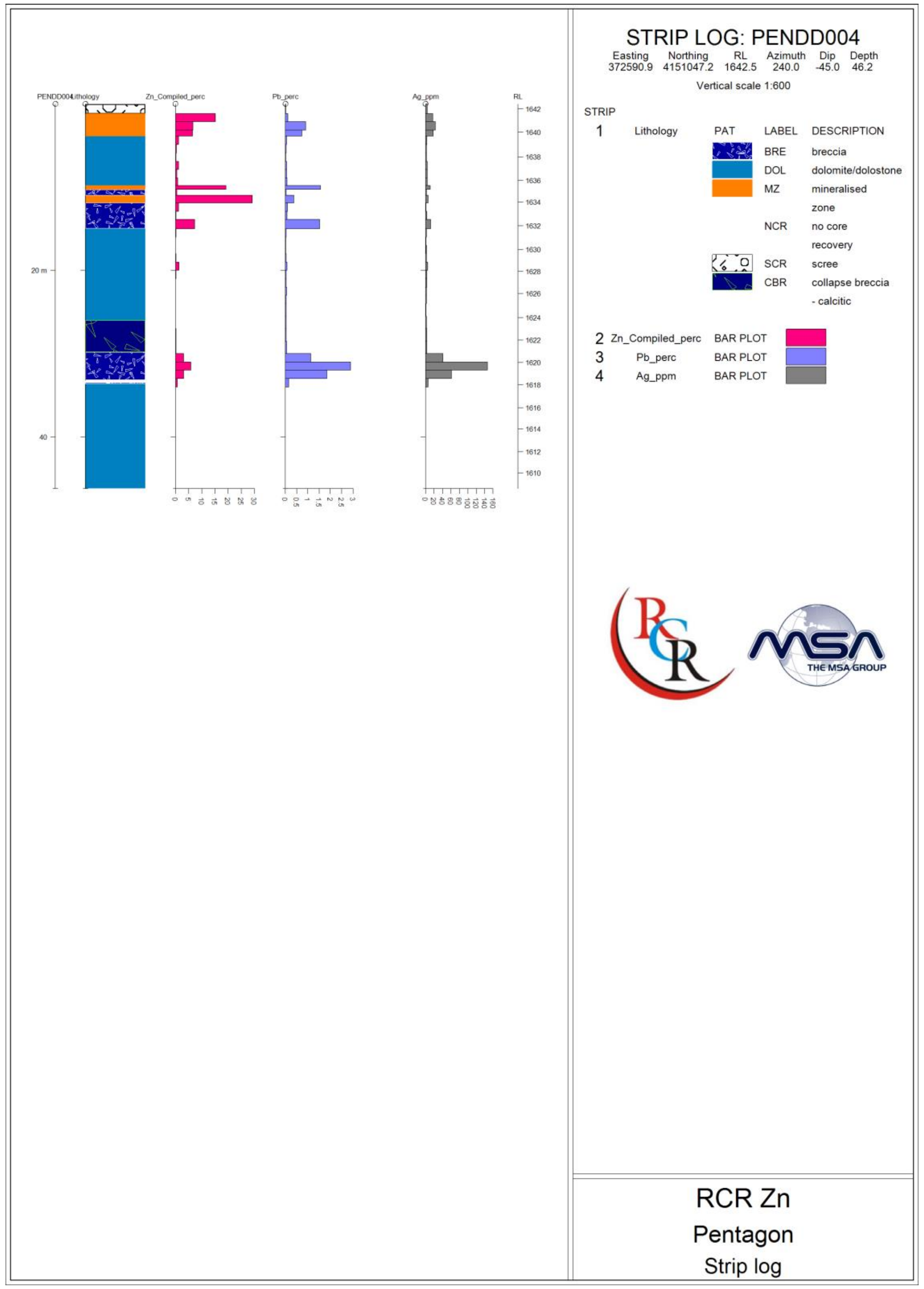
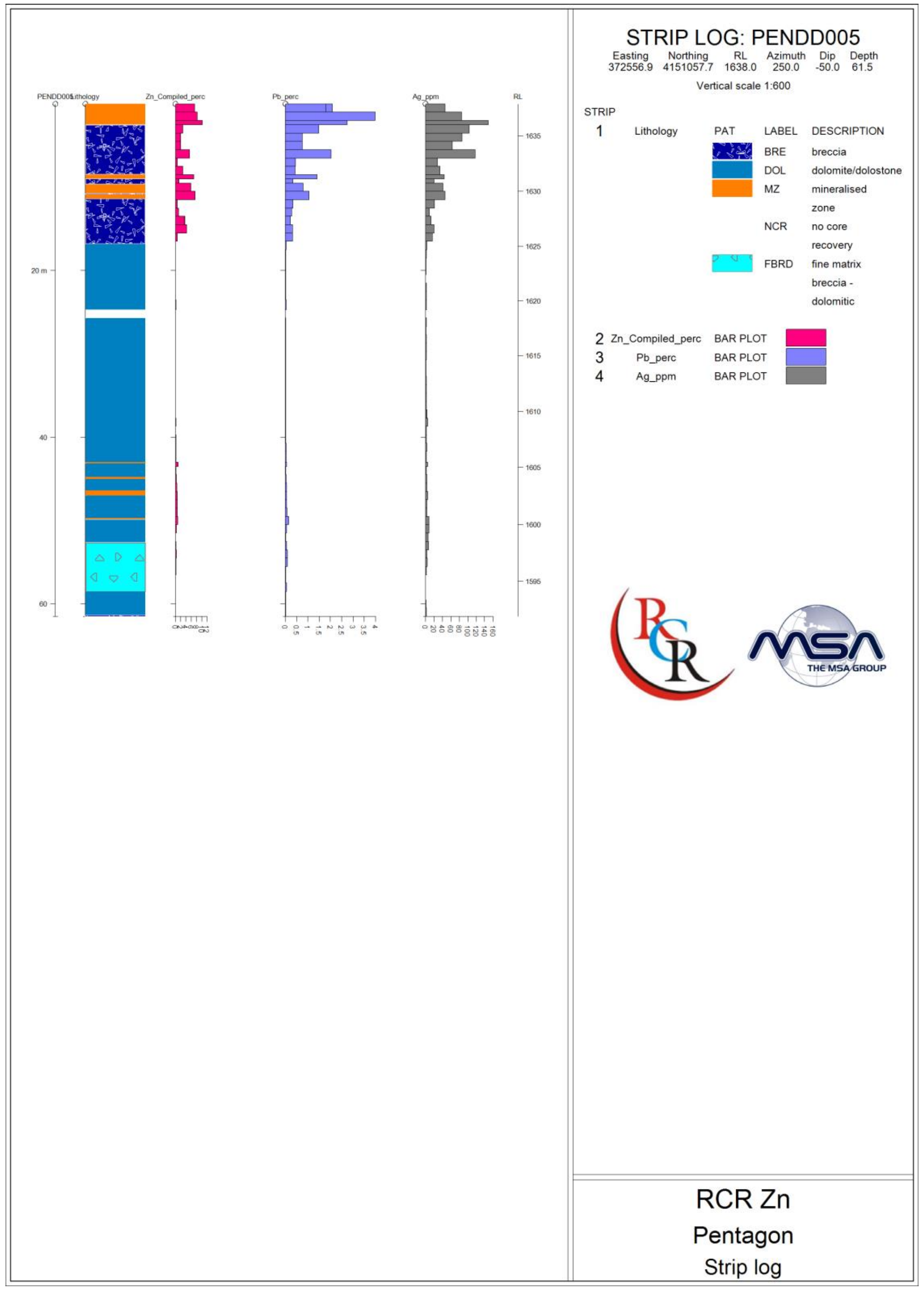


Figure 10-17

Strip logs from PEND005 and PEND006, showing lithologies logged and Zn, Pb and Ag assay results



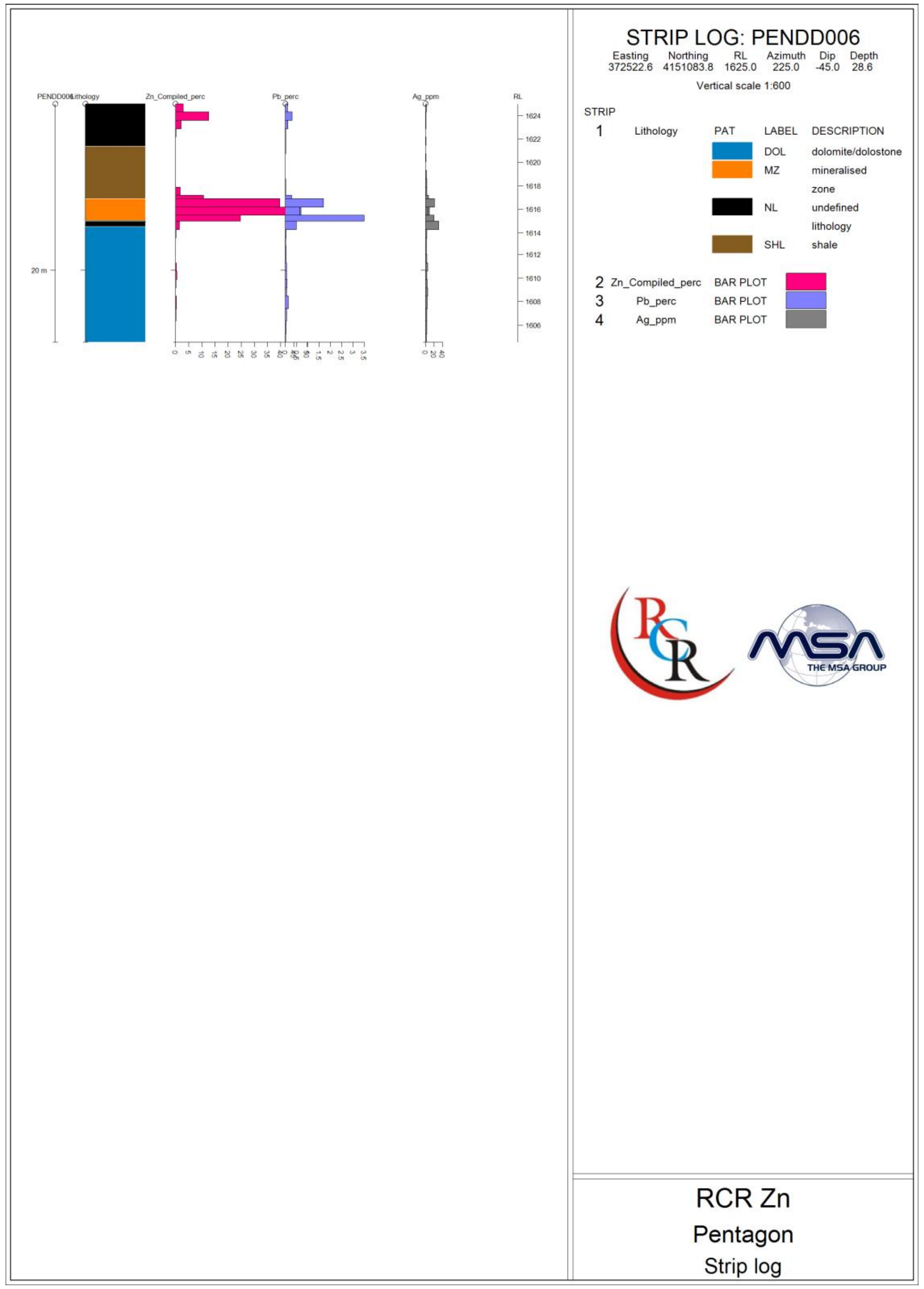
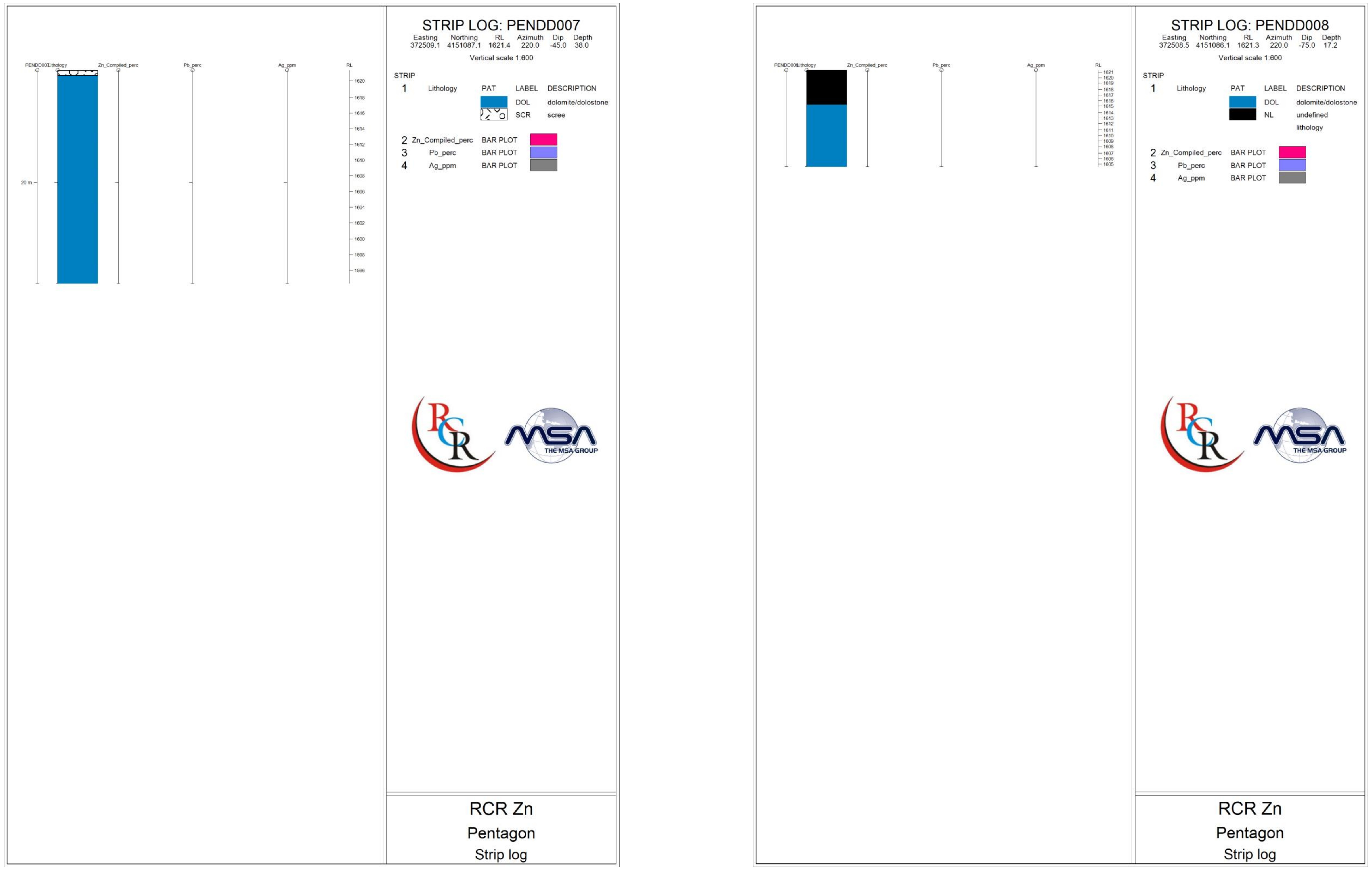


Figure 10-18

Strip logs from PEND007 and PEND008, showing lithologies logged and Zn, Pb and Ag assay results



11 SAMPLE PREPARATION, ANALYSES AND SECURITY

11.1 Type of Samples Collected

Five groups of sample subtypes have been collected during exploration of the HZP and are discussed separately below:

- Grab samples from stockpiles and mineralized outcrops for metallurgical testwork.
- Grab samples collected during the mapping program
- Channel samples collected during trenching. These were collected according to the MSA SOP's and are considered representative and have been used in the resource estimation exercise with the exception of a channel-sampled roadcut that was oriented subparallel to strike (5RC001) in which it was not possible to ascertain the true thickness of mineralized intersections.
- Drill core samples from the diamond drilling program that were collected for grade determination by assay techniques outlined in Section **Error! Reference source not ound.**. These were collected according to the MSA SOP and involved collection of half-core samples (after splitting with a diamond saw) over the mineralized intervals at a nominal sample width of 1 m.
- Drill core samples from the diamond drilling program that were collected for mineralogical analysis at the Natural History Museum in the United Kingdom

11.1.1 Stockpile Samples

A total of 6 stockpile samples have been collected by RCR from roadside stockpiles from activities adjacent to RCR's licenses or from artisanal operations on RCR licenses. These samples are not considered representative of mineralisation on the HZP as they have undoubtedly been subjected to crude pre-concentration by the operators.

11.1.2 Mapping Grab Samples

A total of 94 outcrop grab samples have been collected during the course of mapping on the HZP. Grab samples typically comprise visibly mineralized material and, mining wherever possible, samples of 1-2 kg mass were collected and placed in sample bags with a duplicate ticket book number that is cross-correlated in the MSA database with the outcrop locality number. Although the samples are not representative of the bulk grade of the mineralized zone, high grade grab samples were used in conjunction with structural data to site trenches for representative channel sample collection. Grab samples were analysed with the InnovX handheld XRF prior to laboratory dispatch to rapidly obtain indicative grade results.

11.1.3 Channel Samples

A total of 233 routine channel samples totalling 220.58 m (uncorrected for dip) were collected from the excavated trenches on License 5 and submitted for analysis. Friable samples were split using a riffle splitter such that a representative subsample was retained on site and field duplicates could be prepared. Of the 233 collected samples, 102 of the samples were from the main or upper mineralized zone, for a total uncorrected width of 94.37 m. The remaining samples comprised dolomitic and brecciated units from the hangingwall and footwall and, in several instances, middling units between mineralized layers.

11.1.4 Drill Core Samples

A total of 562 routine drill core samples for a total width (uncorrected for dip) of 538.44 m were collected from borehole cores from License 5 and The Pentagon. Competent drill core was split using a diamond saw and half-core samples bagged and tagged using duplicate ticket books. Incompetent sample material was split using a rigid plastic sheet to approximately half the sample interval in the coretray, with one half collected and bagged for laboratory submission and the balance retained in the core tray. Field duplicates were created by splitting the half-core submitted to the laboratory into two quarter cores. Of the 562 routine samples submitted to the -laboratory, 147 of these were logged as mineralized zone with the balance comprising mineralized brecciated units in the footwall or hangingwall and middling units between mineralized horizons.

The HZP drill core is securely stored in a core shack facility just outside Hakkari. The PVC core trays are stored in racks within a lockable shed (Figure 11-1).

Figure 11-1
Core storage facility located immediately outside Hakkari

11.1.5 Mineralogical samples

A suite of samples spanning various grades and compositions was selected for mineralogical analysis under instruction from staff at the The Natural History Museum in the United Kingdom. These samples are tabulated in Table 11-1.

Table 11-1
Sample types and numbers submitted for mineralogical analysis

Intersection types		
1	Low grade oxide (<5%)	5
2	Oxide 5-12% Zn	6
3	Oxide 18-25% Zn	5
4	V high grade 25-48% Zn	5
5	Fe-rich (43-58% Fe)	5
6	Mineralized dolomites and breccias	5
	Total	**31**

11.2 Sample Preparation and Density Determinations

All samples were submitted to ALS Chemex in Izmir for preparation which comprised crushing to 70% <2 mm and pulverising of 1 000 g to 85% passing 75 µm , prior to being dispatched to Vancouver for assay by method ME-OG62 (4-acid digest with ICP-AES finish) for Ag, Bi, Cd, Fe, Mg, Mn, Mo, Pb, S and Zn. Overlimit (>30% Zn) assay results were flagged and these sample pulps reanalysed using method ME-OG62h (a dilution technique). Cu and Cr were included in earlier assay requests but results returned values at or below the respective detection limits and these elements were removed from the analytical suite.

Density determinations were carried out on all samples in the field using the Archimedes principle. The dry mass of a sample (in air) is ratioed against its mass when immersed in water to determine its density relative to water (which has a density of 1 g/cm^3. For friable samples, the sample was wrapped in clingfilm prior to immersion in order to ensure sample integrity although it was noted that this method resulted in incomplete sample immersion due to trapped air bubbles and therefore likely under-reports sample density. MSA recommend that field-based determinations of density should be carried out using a volume-replacement technique on in-situ mineralized material. This would involve extraction and weighing of a known volume of material in order to determine bulk density.

11.3 Quality Assurance and Quality Control

Appropriate quality assurance and quality control (QAQC) monitoring is a critical aspect of the sampling and assaying process in any exploration program. Monitoring the quality of laboratory analyses is fundamental to ensuring the highest degree of confidence in the analytical data and providing the necessary confidence to make informed decisions when interpreting all the available information. *Quality assurance* may be defined as information collected to demonstrate that the data used further in the project are valid. *Quality control* (QC) comprises procedures designed to maintain a desired level of quality in the assay database. Effectively applied, QC leads to identification and corrections of errors or changes in procedures that improve overall data quality. Appropriate documentation of QC measures and regular scrutiny of quality control data are important as a safeguard for project data and form the basis for the quality assurance program implemented during exploration.

In order to ensure quality standards are met and maintained, planning and implementation of a range of external quality control measures is required. Such measures are essential for minimising uncertainty and improving the integrity of the assay database and are aimed to provide:

- An integrity check on the reliability of the data,
- Quantification of accuracy and precision,
- Confidence in the sample and assay database,
- The necessary documentation to support database validation.

Sampling procedures were implemented according to the MSA SOP for the Hakkari project and were subsequently revised by RCR to align with operational requirements. Key elements of the laboratory SOP are:

- Fixed sample batch sizes of 40 samples
- Each batch to commence with a blank and include a minimum of one standard (certified reference material (CRM)) and one field duplicate

Field duplicates were created by splitting of channel and drill core samples. In the initial stages of the program, however, RCR requested duplicate analysis of a submitted sample (i.e. open duplicates). In the latter stages of the program, this methodology was changed with RCR submitting blind field duplicates sequentially into the sampling stream. In addition, ALS Chemex's internal QAQC results were supplied with each set of assay results and included blanks, standards and reanalysis of pulps.

Matrix-matched (oxide) CRMs used during the exploration program were sourced from African Mineral Standards (AMIS) in South Africa and Geostats in Australia. These are listed below in Table 11-2.

Table 11-2
AMIS and Geostats CRM's used during the 2010 exploration program

CRM	Description	Certified %Zn	%Pb
AMIS0144	zinc oxide ore ex Skorpion Mine	17.36	0.00
AMIS0145	zinc oxide ore ex Skorpion Mine	12.59	0.00
AMIS0152	zinc oxide ore ex Skorpion Mine	5.88	0.00
GBM306-12	Cu-Pb-Zn caprock	2.05	2.68 (certified)
GBM396-10	Supergene ore ex Murchison	1.06	0.10 (certified)
GBM903-12	Zn concentrate	48.95	1.10 (certified)

In addition, a commercially prepared (AMIS108) silica powder was used as the project blank material.

Assay results were monitored on a batch-by-batch basis using the following criteria defined in the RCR laboratory protocol:

- Failure of a standard or blank i.e. a CRM, constitutes a failure of an entire batch
- Failure criteria are defined as more than two standard deviations from the certified values for standards and assay values greater than 0.05% (Pb and Zn) for blanks

A summary of the CRM's inserted into the sampling stream is given in Table 11-3.

Table 11-3
Summary of QAQC samples inserted into the HZP sample batches by RCR

	Routine samples	Total CRM	Total samples	Blanks		Standards		Duplicates	
Drillcore	562	71	633	23	3.6%	17	2.7%	31	4.9%
Channel	233	38	271	13	4.8%	13	4.8%	12	4.4%
Total	**795**	**109**	**904**	**36**	**4.0%**	**30**	**3.3%**	**43**	**4.8%**

11.3.1 RCR QAQC performance

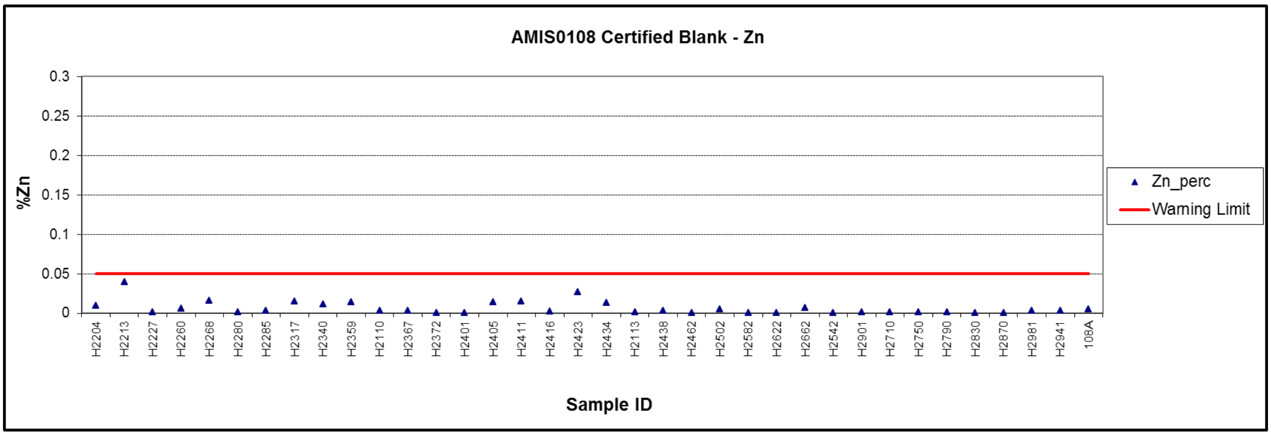
11.3.1.1 Blanks

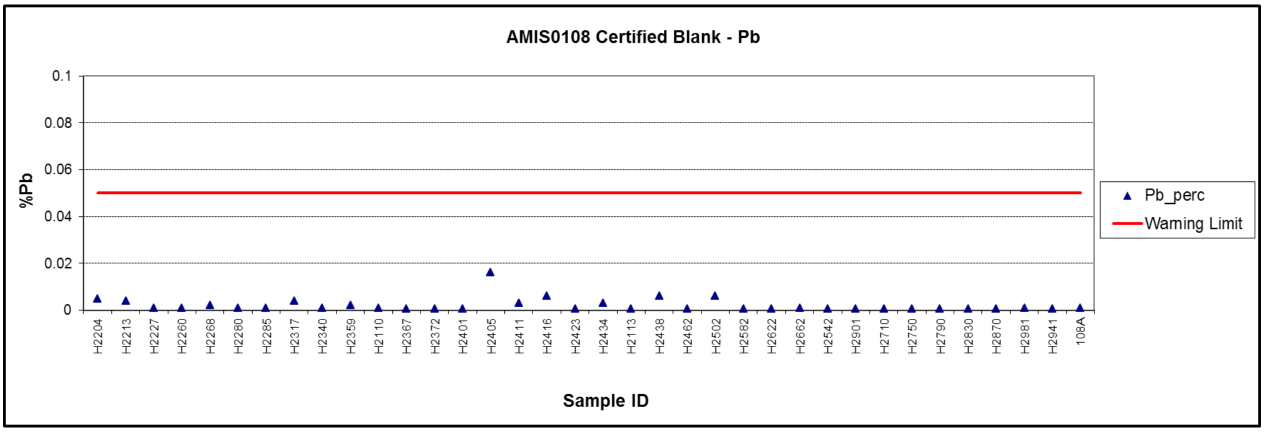
Of the 36 blanks inserted into the sampling stream, all except three returned values within the 0.05% Zn warning limit. All of the blanks returned Pb values within the warning limits. In terms of the RCR protocol, the three batches comprising the failed blanks were re-assayed in their entirety. Sample H2416 returned 0.16% Zn and immediately followed sample H2415 which returned 25% Zn, clearly indicating contamination in the assay process. Samples H2438 and H2508 returned values of 0.066% Zn and 0.242% Zn. Both of these blanks were inserted at the beginning of their respective batches and suggest improper flushing of analytical equipment between batches.

The three batches (IZ10118550, IZ10160763, IZ10165908) were re-assayed in their entirety and all three blanks returned values within the warning limit. The re-assay results were retained in the final database and failed batch values overwritten with the re-assay data. Similarly good blank performance was noted for Ag. MSA considers the performance of the blanks to be acceptable.

Final control charts for blank samples are shown in Figure 11-2.

Figure 11-2
Performance of RCR-inserted blanks for Zn and Pb





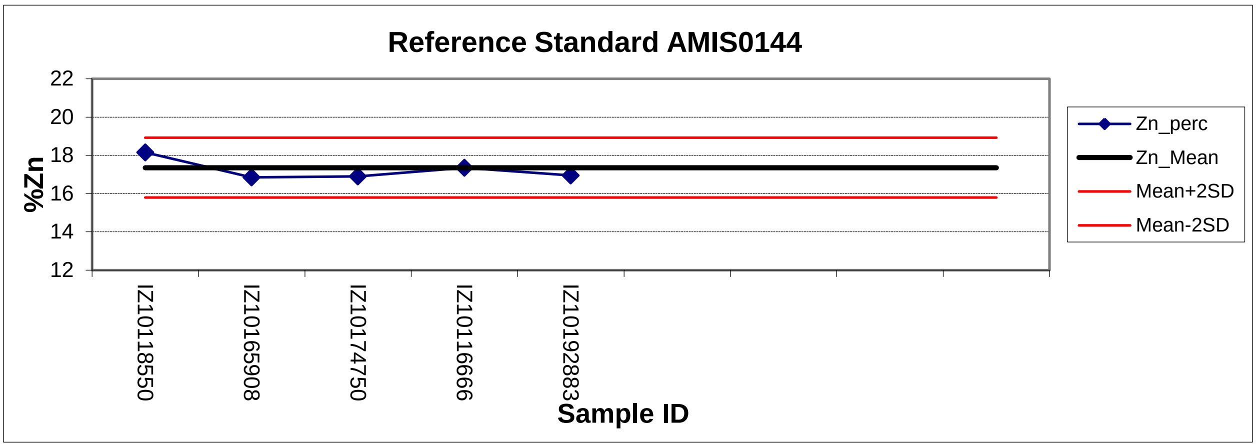
11.3.1.2 Standards

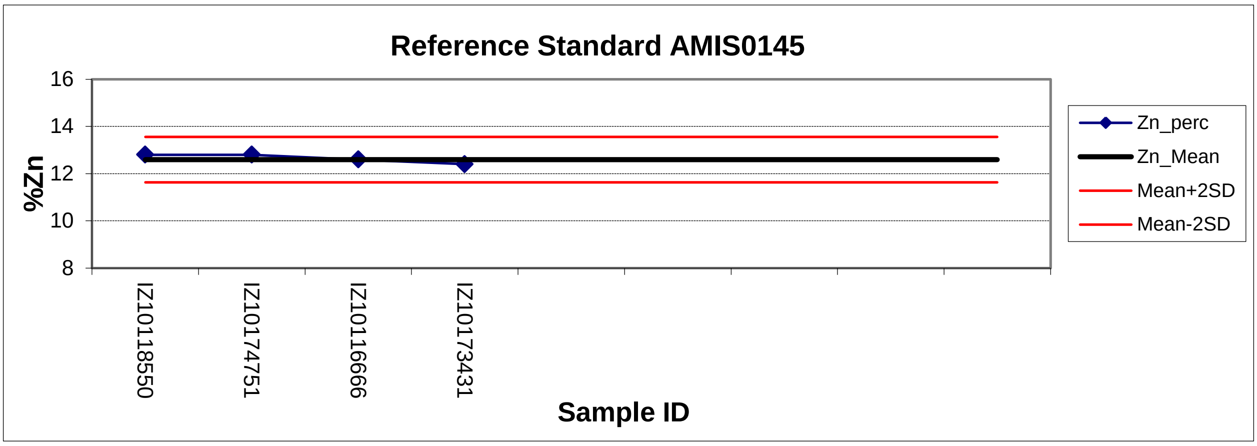
A total of 30 standards were inserted into the Hakkari sampling stream. With the exception of two high-grade standards, all returned values within two standard deviations relative to their certified values. The two standard samples that did not return valued within two standard deviations are both GBM 903-12, the high grade Zn concentrate with a certified value of 48.95% Zn. Both of these samples were reported as >30% Zn (i.e. overlimit samples) but were not re-assayed using the dilution technique for overlimit samples that was employed in the balance of the assay program. Both of these samples were from Batch IZ1016666 that exclusively comprised samples from the road cut (5RC001) and was not included in the resource model. The AMIS standards contain very low levels for Pb and are not certified for Pb. As a result, only GBM standards were used to monitor accuracy of Pb assay results. Similarly, only AMIS145 and GBM 396-10 are certified for Ag and in all instances the standards reported within the accepted deviation from the certified value. The performance of the CRMs was monitored using control charts (Figure 11-3 to Figure 11-6).

MSA does not consider the failure to reassay the two overlimit standards to be a material issue and is of the opinion that the accuracy of the assay data is acceptable, both for Pb and Zn.

Figure 11-3

Performance of RCR-inserted AMIS standards relative to Zn% certified value





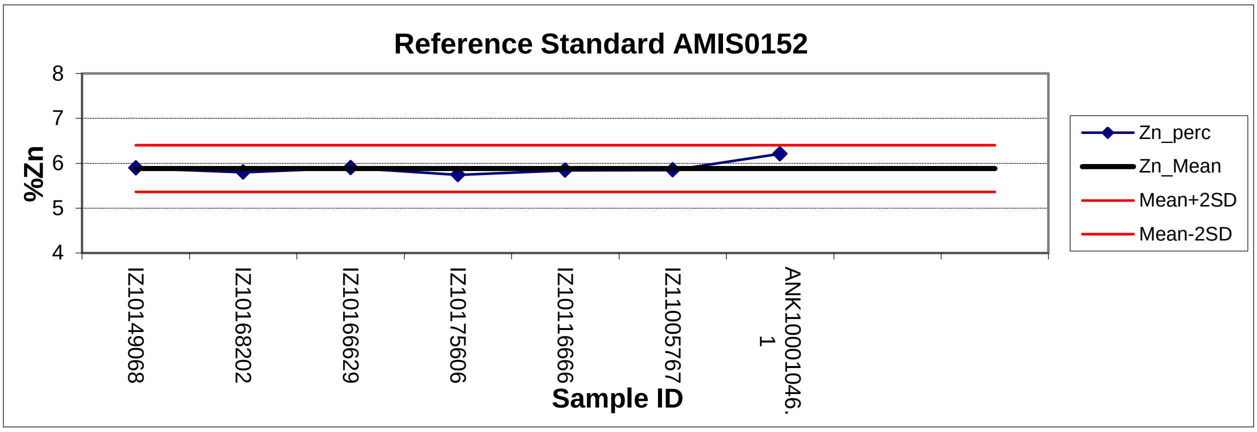
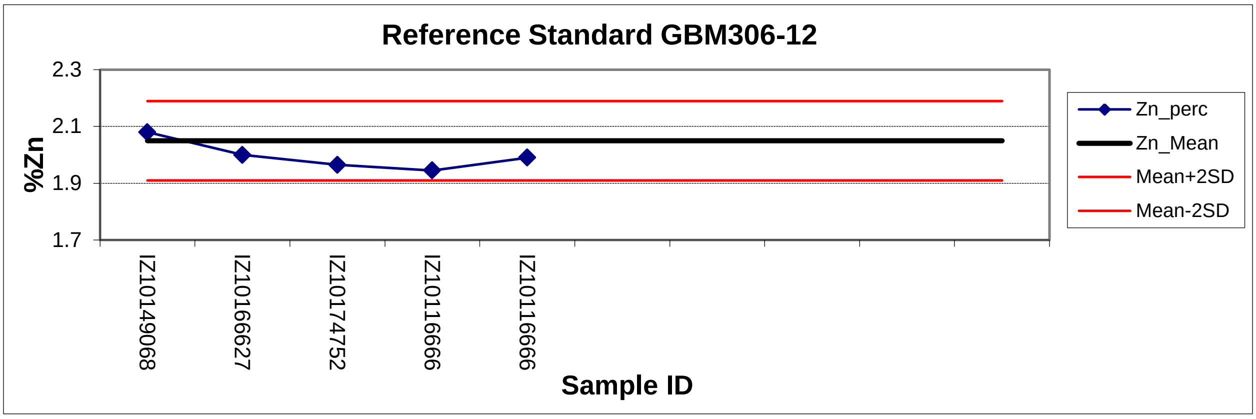
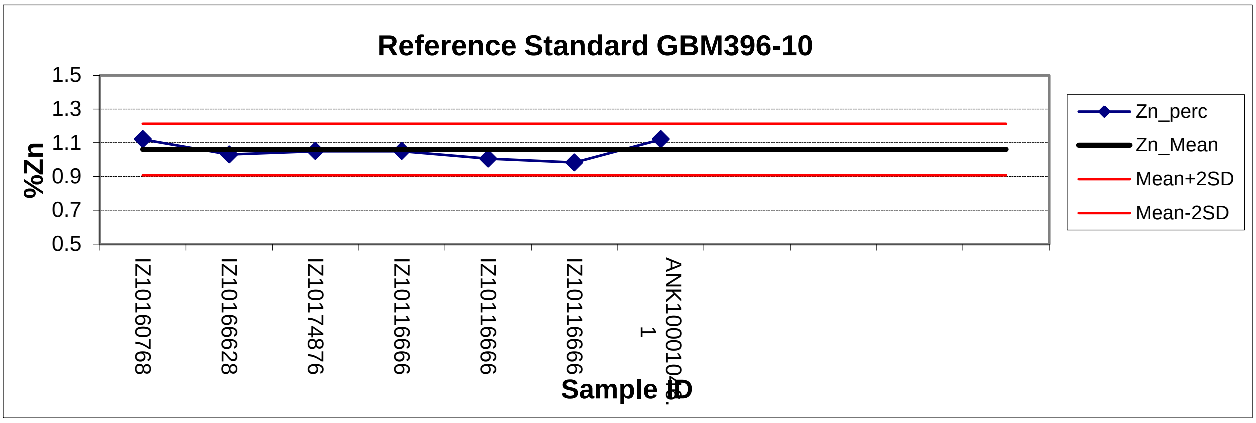


Figure 11-4

Performance of RCR-inserted GBM standards relative to Zn% certified value. Note the two 30% values (detection limit) for GBM 903-12 as discussed in text.





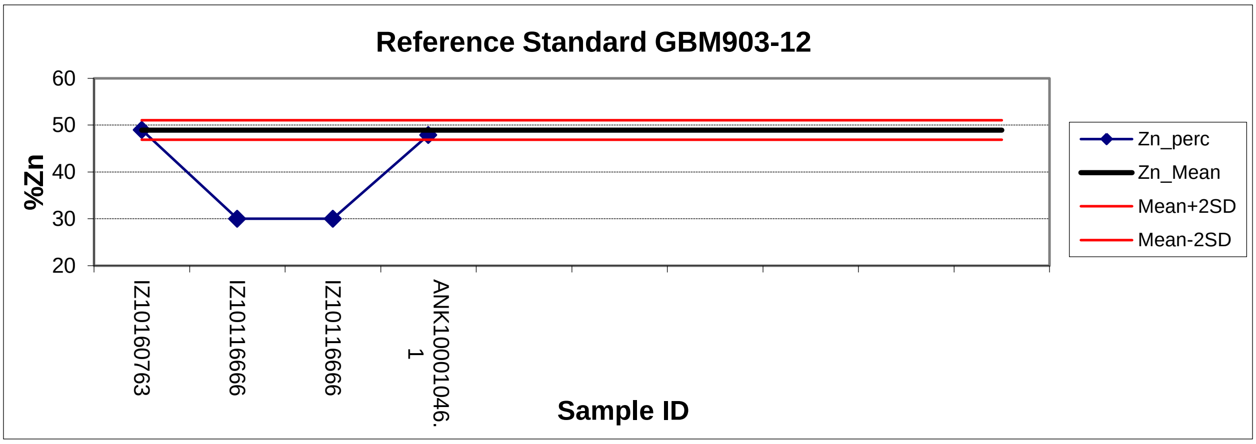
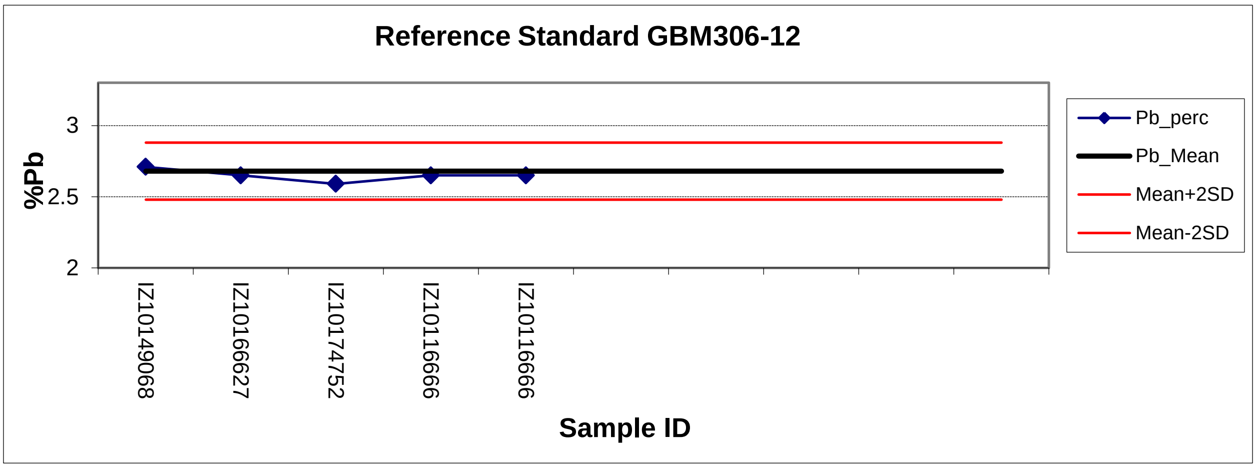
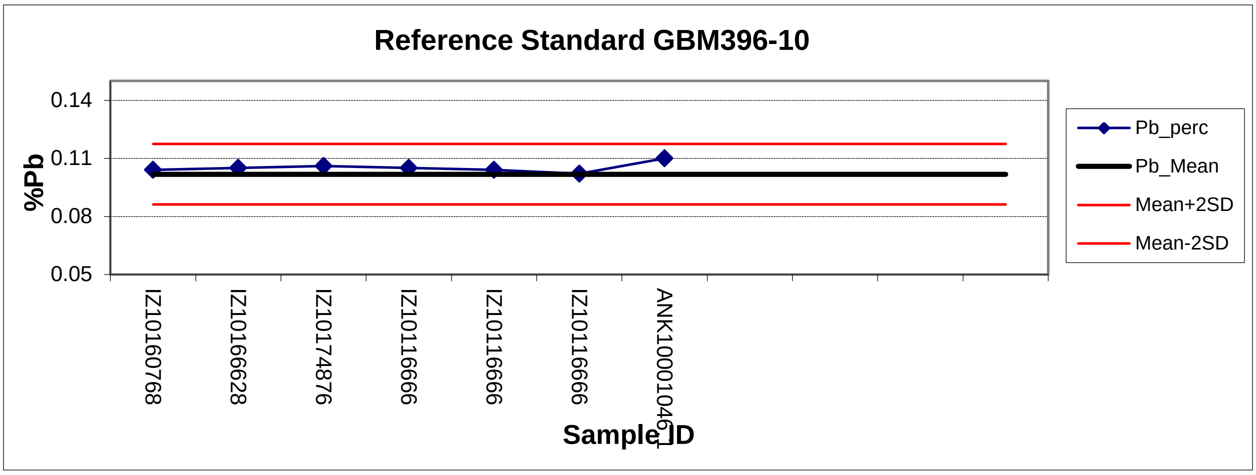


Figure 11-5

Performance of RCR-inserted GBM standards relative to Pb% certified value.





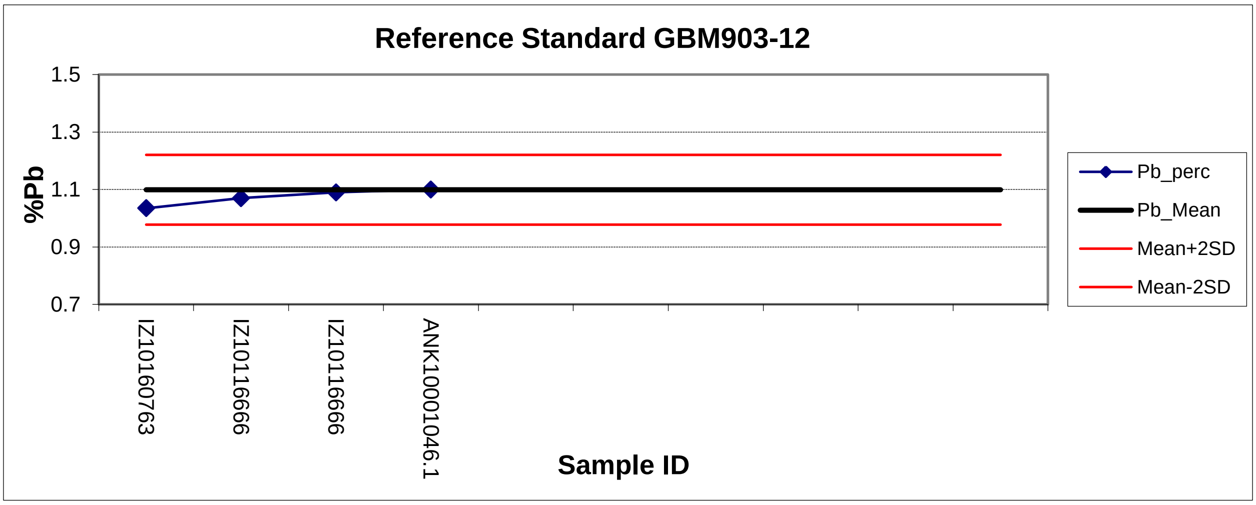
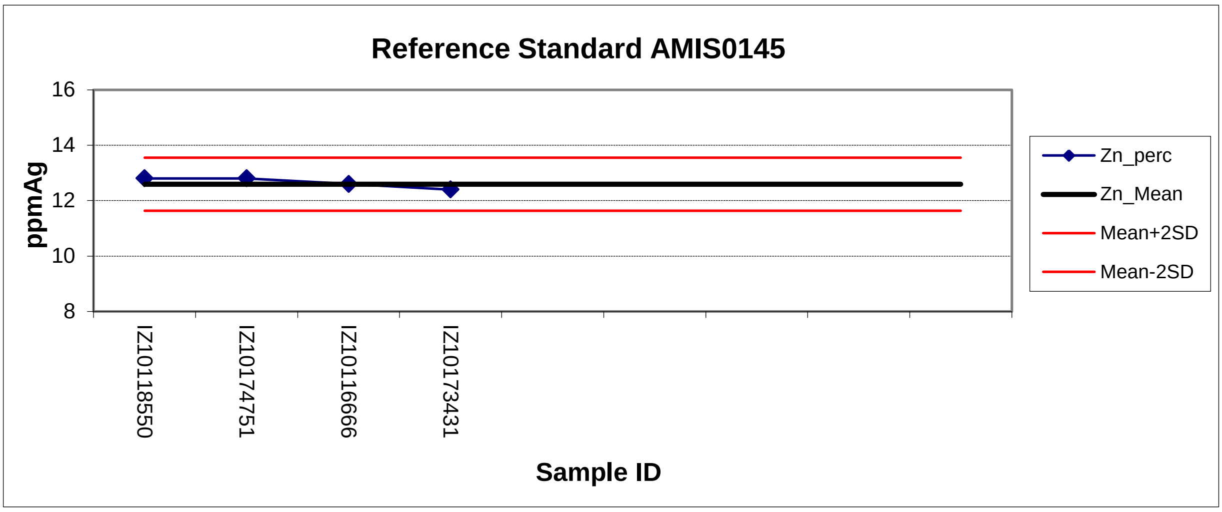
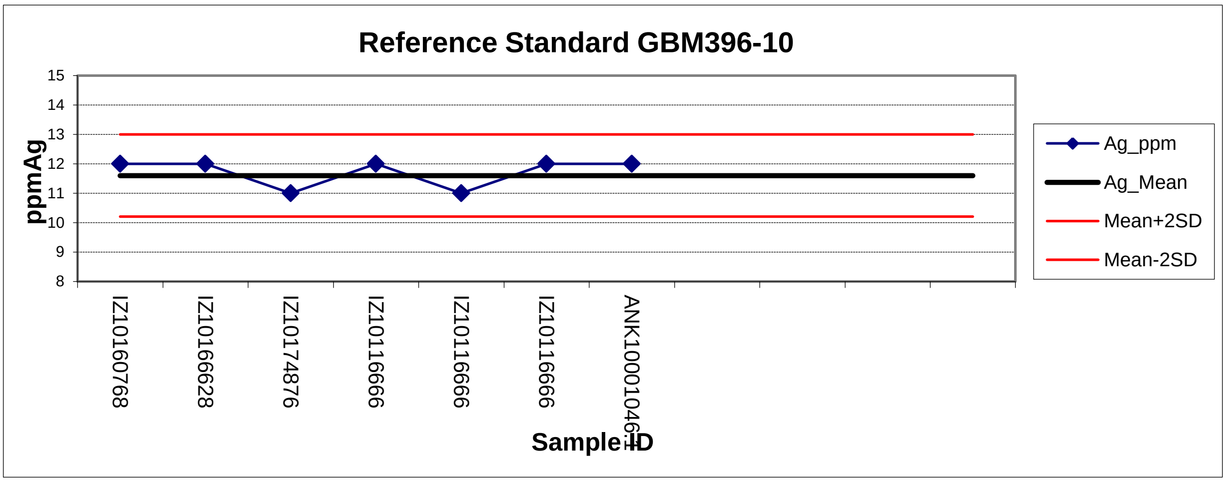


Figure 11-6

Performance of RCR-inserted standards relative to Ag (ppm) certified value.

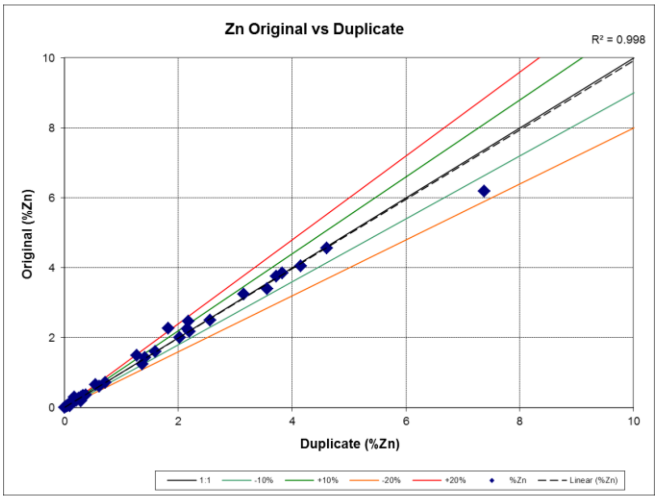


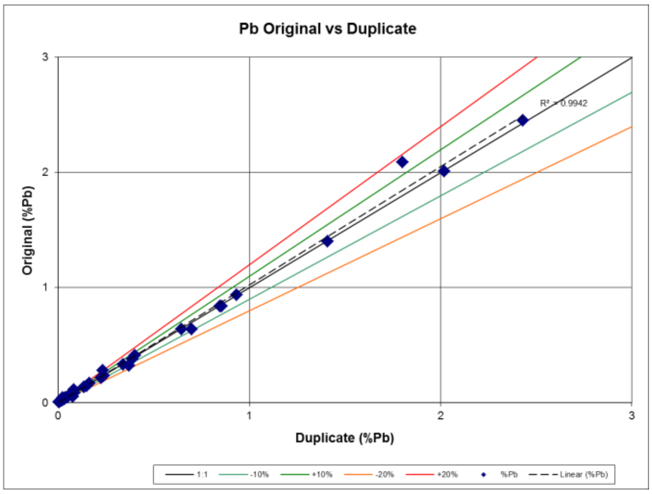


11.3.1.3 <u>Duplicates</u>

A total of 43 field duplicates were inserted by RCR into the sampling stream, comprising a combination of open (pulp) duplicates and field duplicates. Duplicates performed well with a correlation coefficient of 0.998 for Zn, 0.994 for Pb and 0.993 for Ag (Figure 11-7and Figure 11-8). Scatter is evident towards the lower detection limit (well below economic grades), particularly for Ag, in line with the precision of the assay method, but the relative-difference (RD plots) further confirm the good performance of the duplicates and assign sufficient confidence to the precision of the assay data

Figure 11-7
Performance of RCR-inserted duplicates for Zn, Pb and Ag





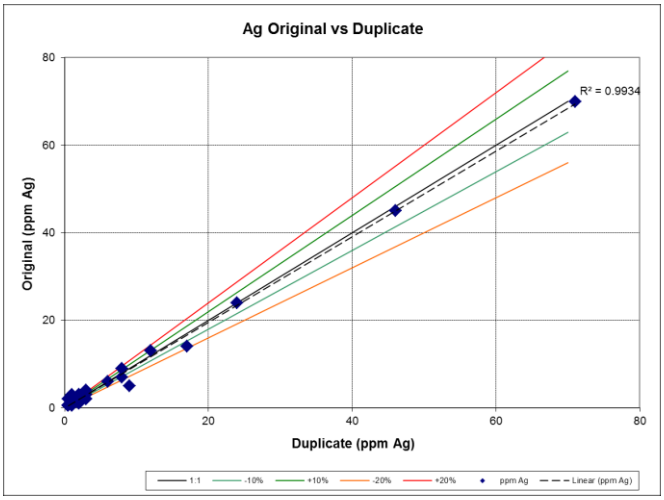
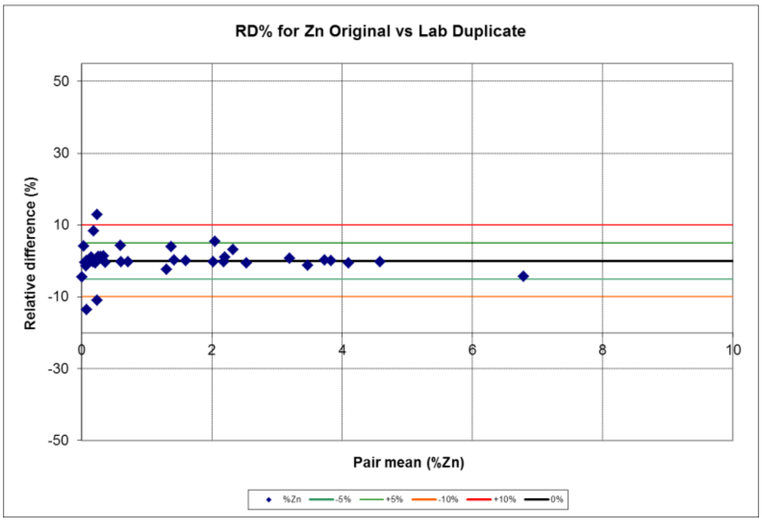
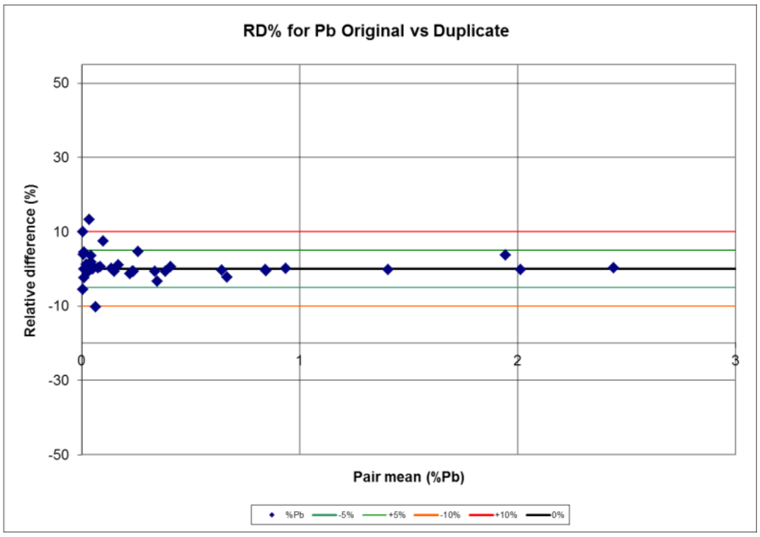
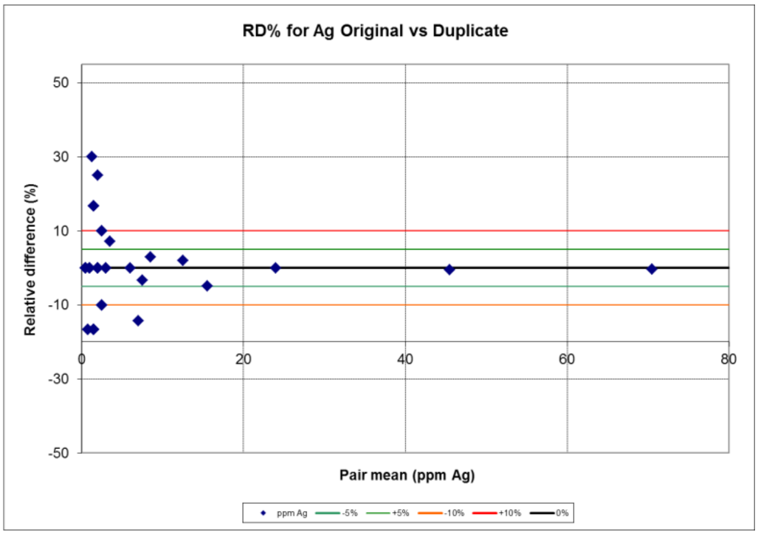


Figure 11-8

RD plots of RCR-inserted duplicates for Zn, Pb and Ag





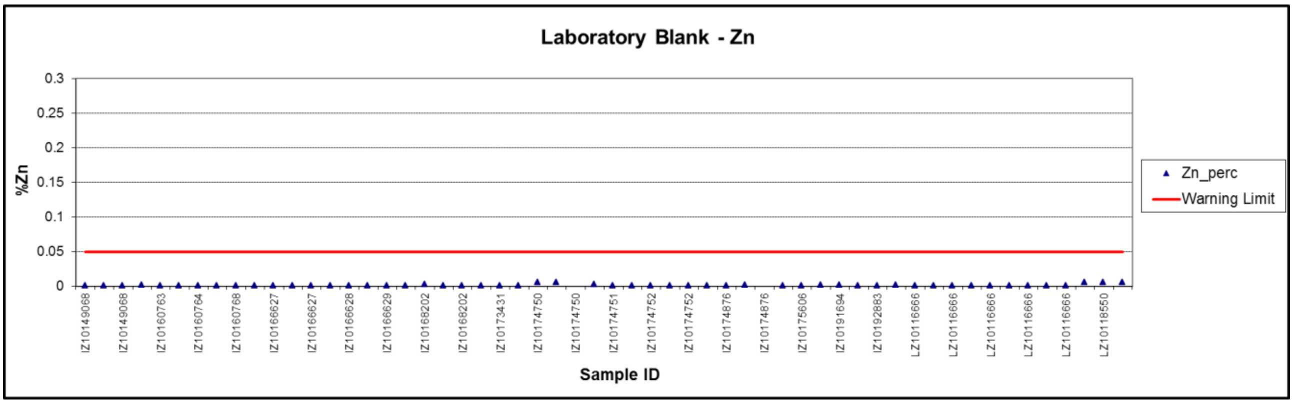


11.3.2 Laboratory QAQC performance

As part of their internal QAQC procedures, ALS Chemex monitored their results with the insertion of their own standards, blanks and duplicates. Control charts showing the results of laboratory blanks and CRMs are illustrated in Figure 11-9 to Figure 11-14. All of the laboratory QAQC measures are considered appropriate and MSA considers the data to be accurate and precise.

Figure 11-9

Performance of laboratory-inserted blanks for Zn and Pb



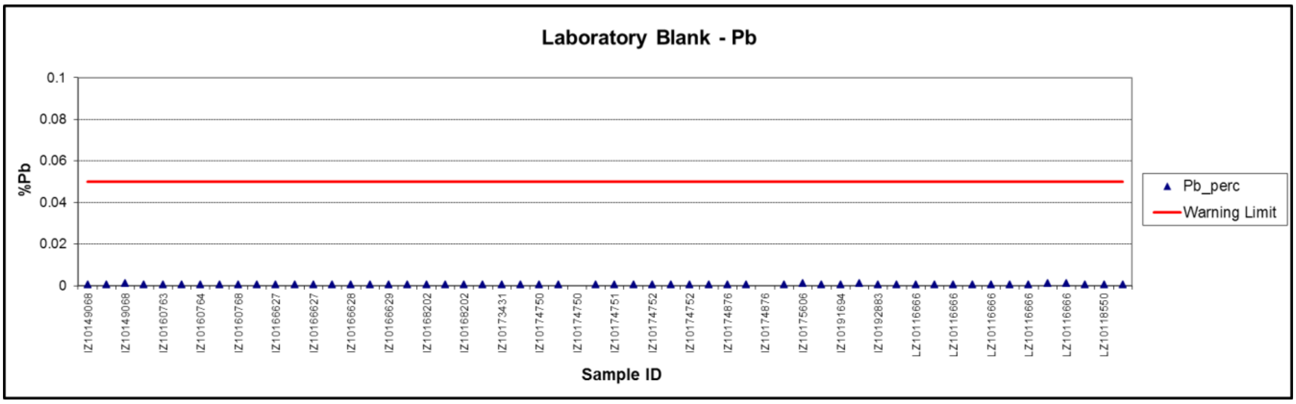
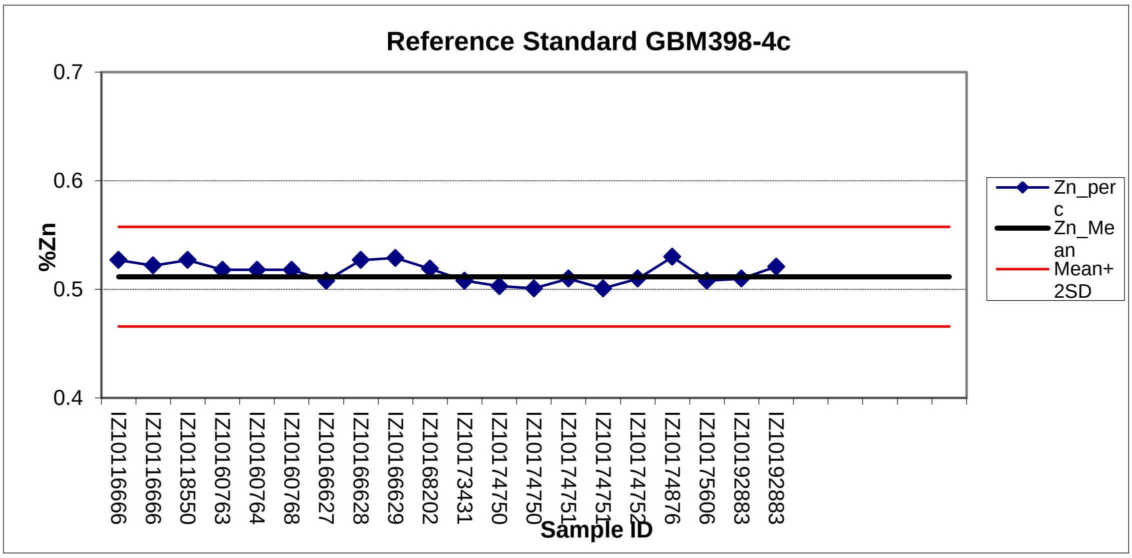
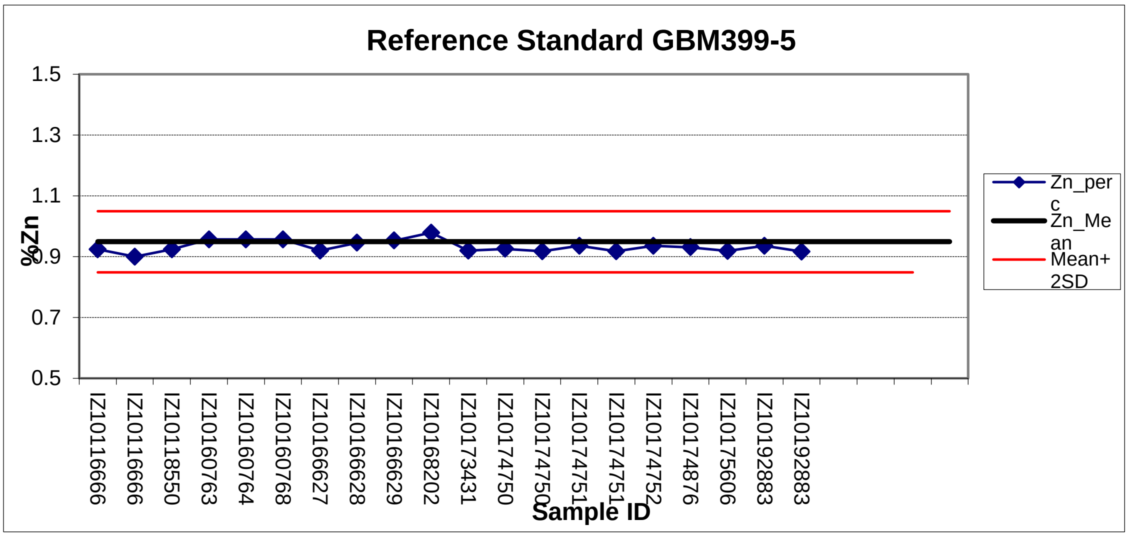


Figure 11-10

Performance of laboratory-inserted blanks for Zn





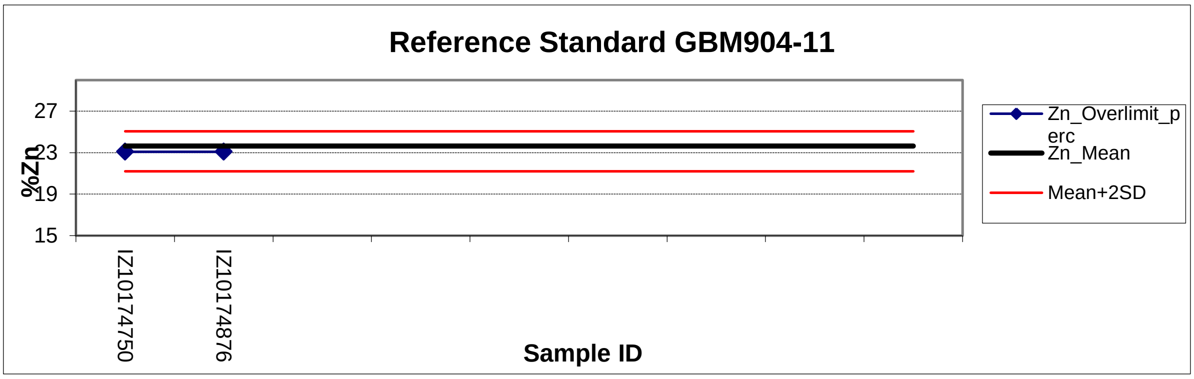
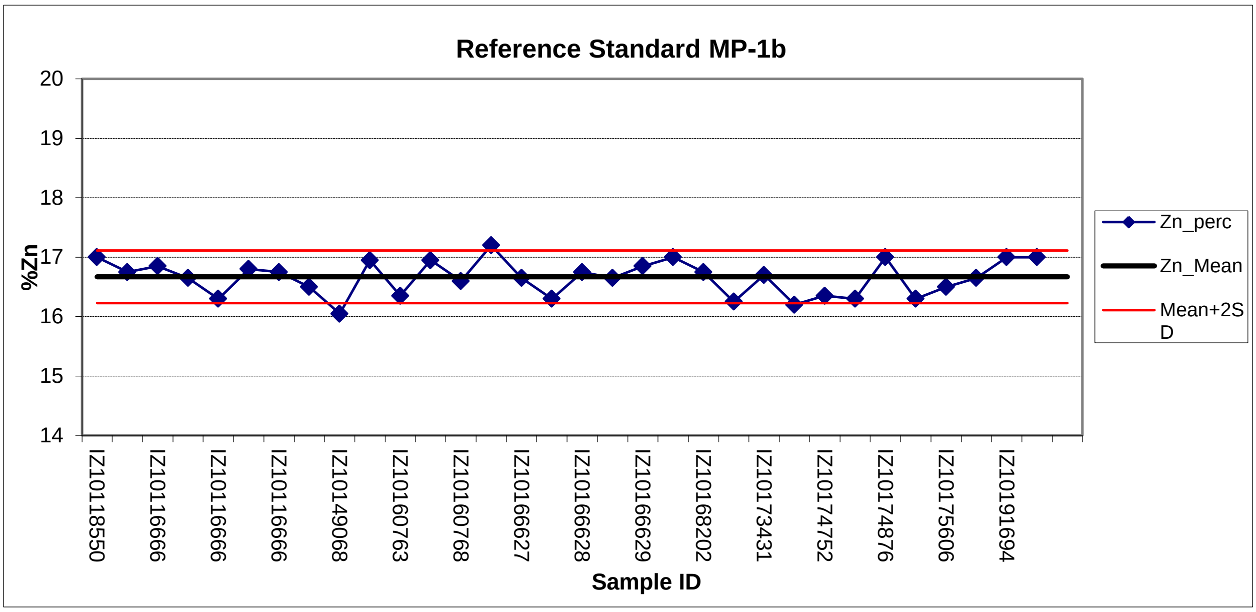


Figure 11-11
Performance of laboratory-inserted blanks for Zn



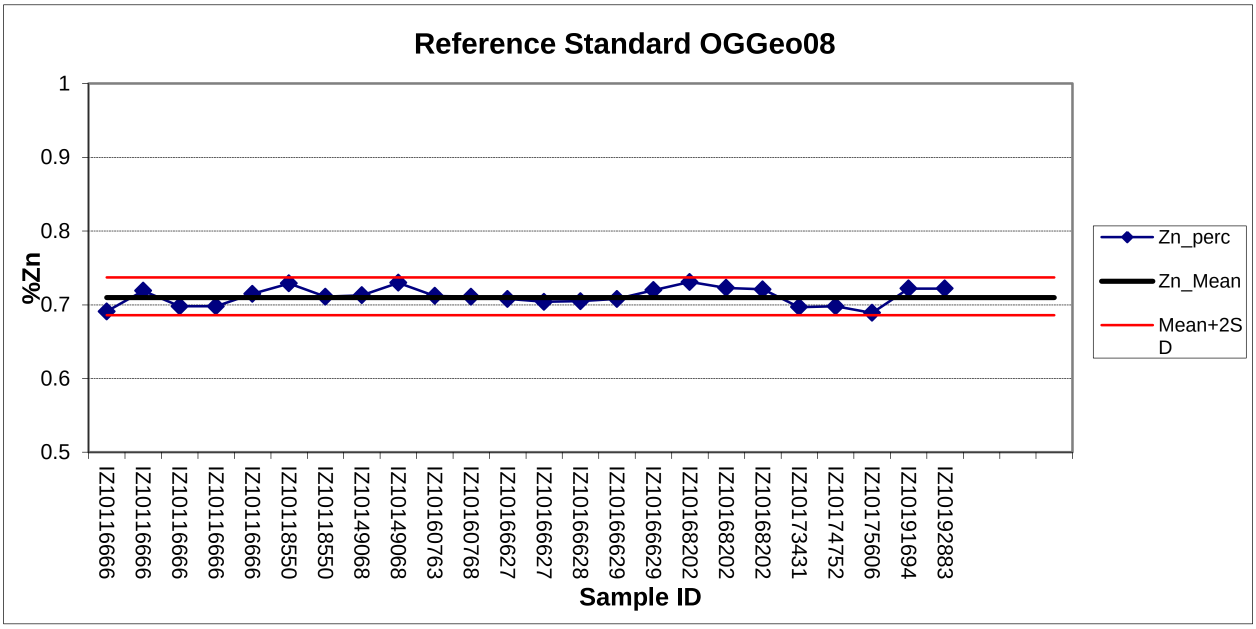
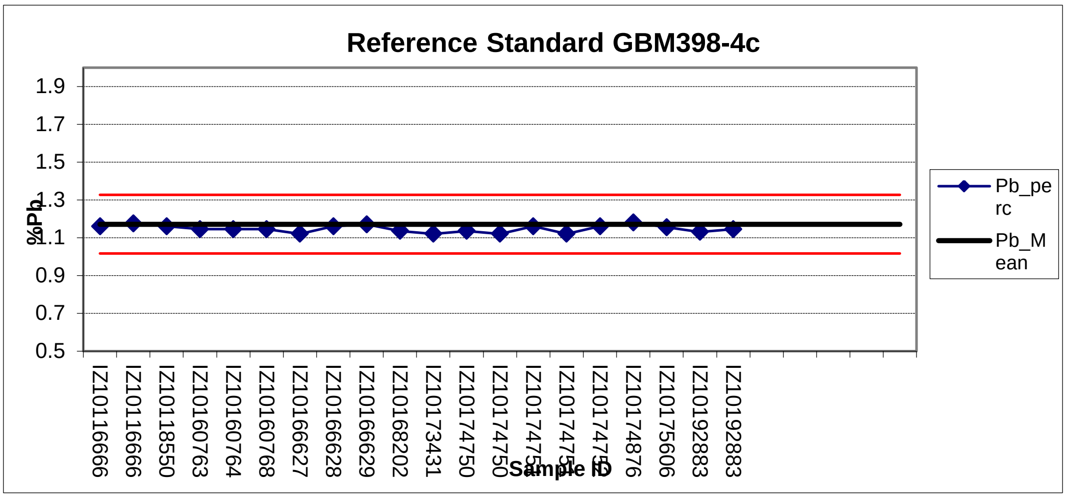
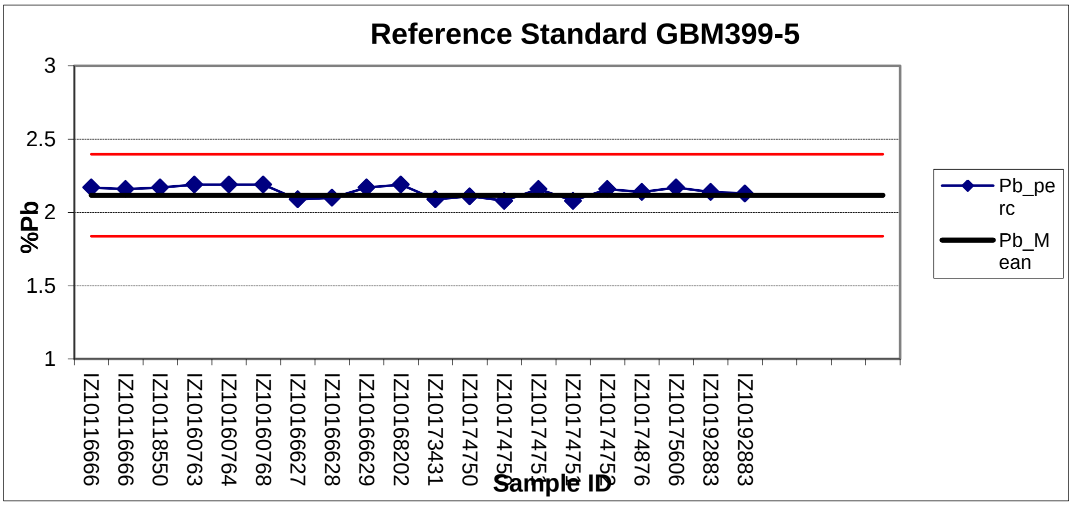


Figure 11-12

Performance of laboratory-inserted blanks for Pb





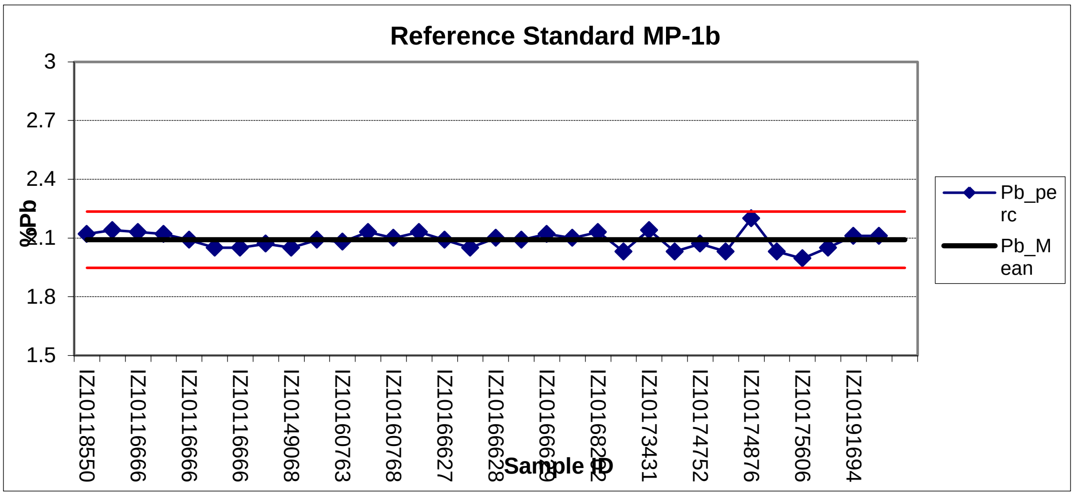
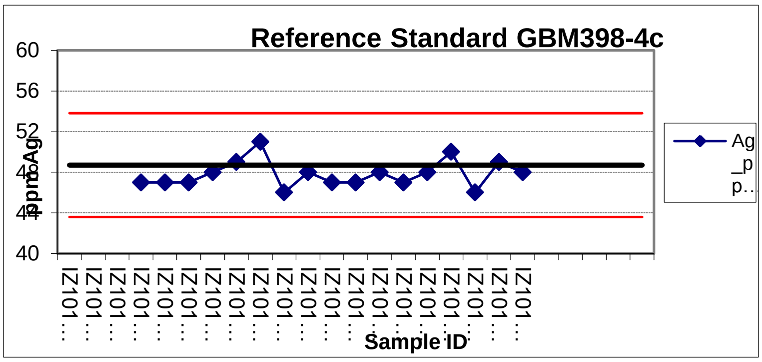
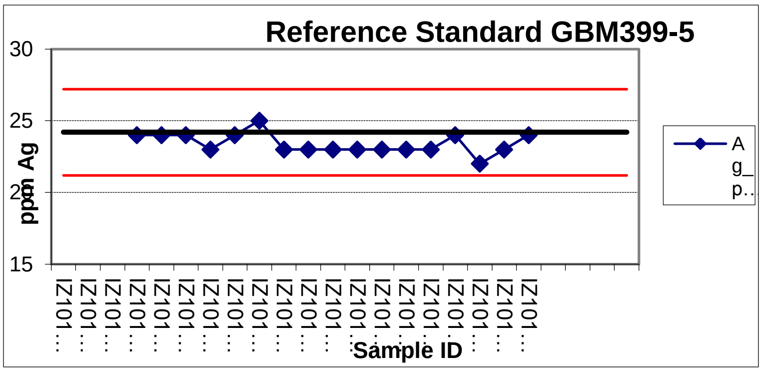
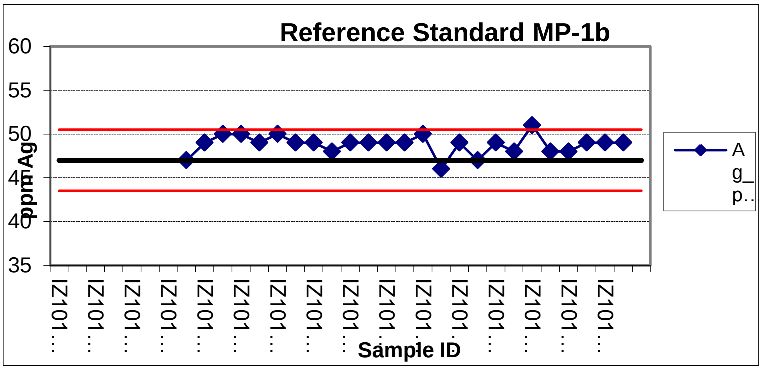


Figure 11-13

Performance of laboratory-inserted blanks for Ag







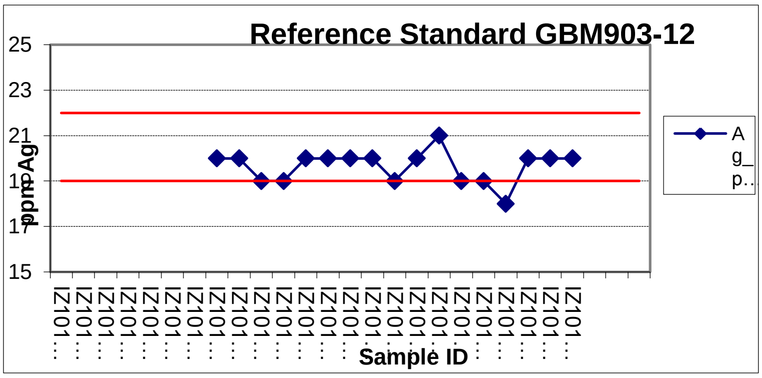
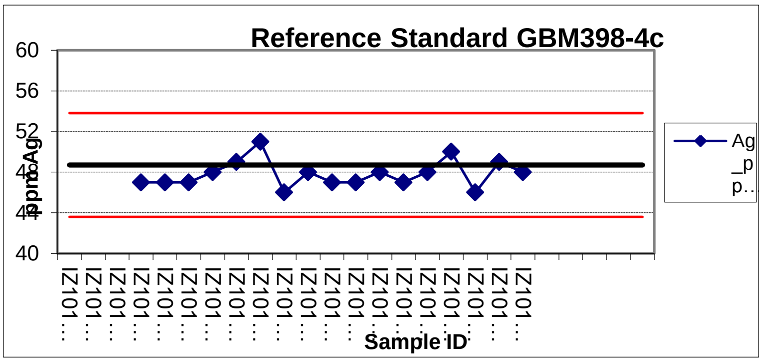
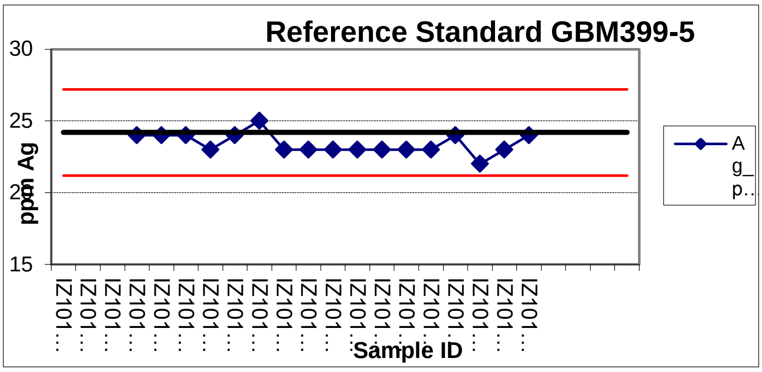
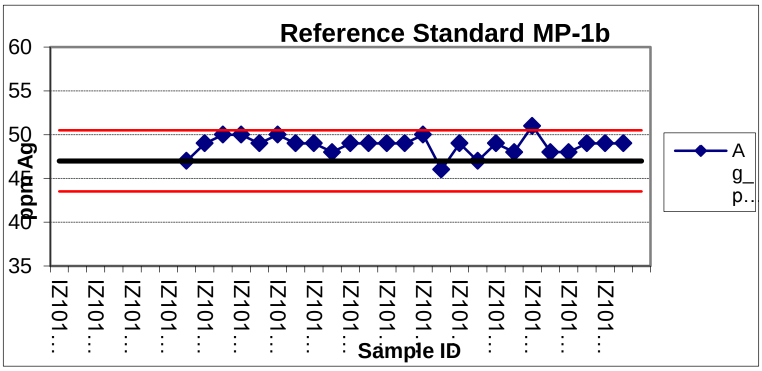


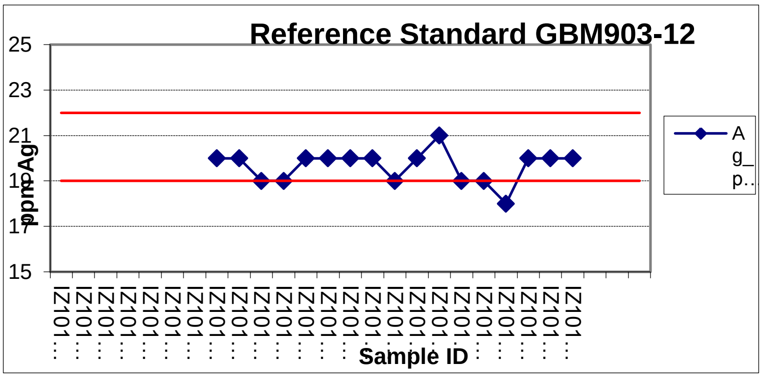
Figure 11-14

Performance of laboratory-inserted blanks for Ag









11.3.3 Umpire laboratory

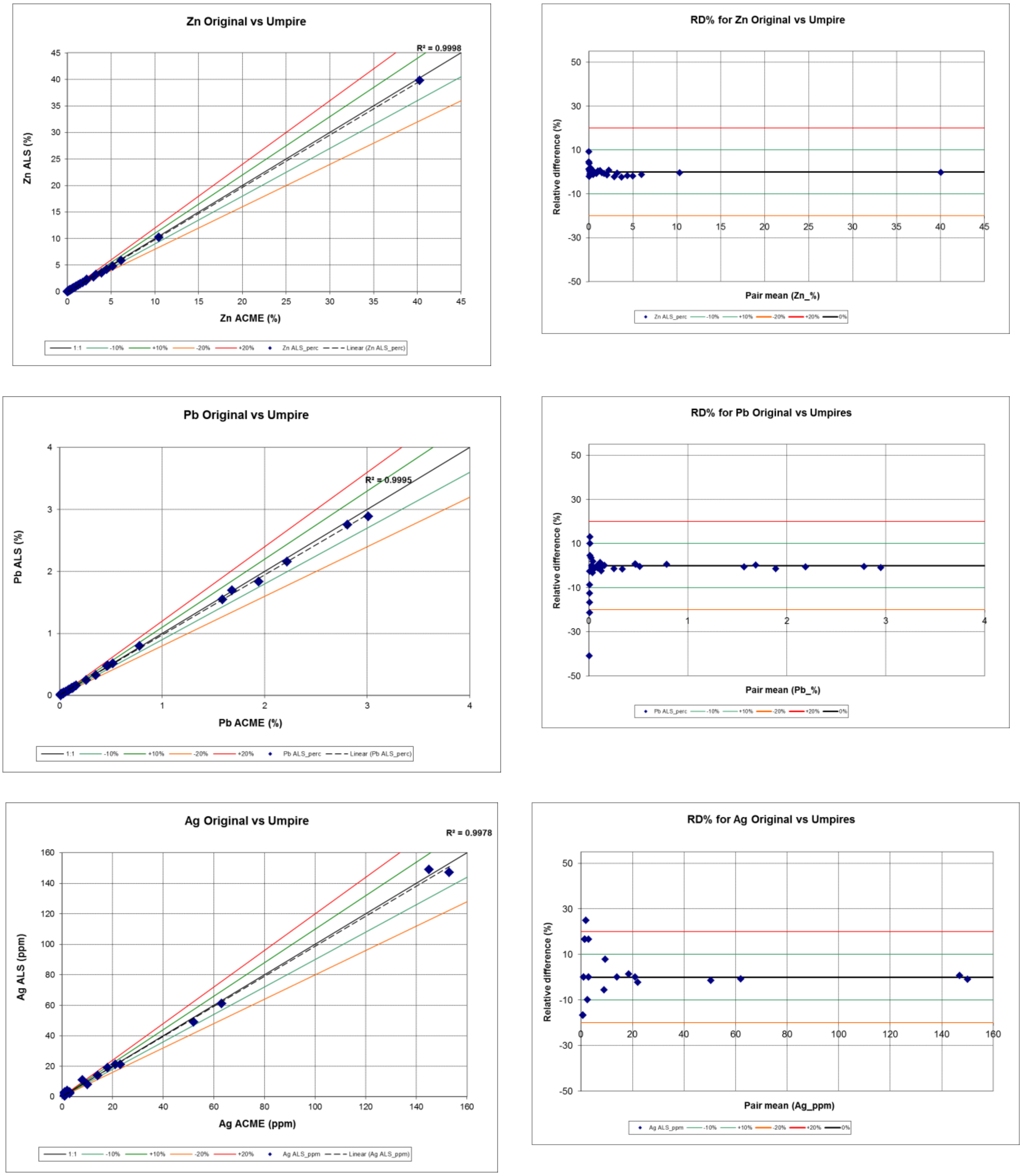
A selection of approximately 5% (36 samples) of all routine samples was submitted to ACME laboratory in Ankara for umpire analysis. The umpire list was selected at random across the grade range reported by ALS Chemex. Samples were analysed using the same ICP-AES methodology as employed by ALS Chemex and an extremely strong correlation is noted between the original (ALS) and umpire (ACME) results (Figure 11-15). Ag assays show some scatter close to the detection limit (as evidenced in the RD plot) but this is not considered a material failure given the extremely low values in question (RD's greater than 15% are only noted for original Ag assays < 4 ppm). MSA considers that the umpire results demonstrate the integrity and validity of the original assay dataset. Three standards and one blank were inserted with the umpire batch and reported within the prescribed limits applied to the ALS Chemex dataset.

11.4 Statement by Qualified Person

The sample preparation, security and analytical procedures implemented by RCR are considered to be appropriate and adequate for an exploration program of this nature. No aspect of the sample preparation or analysis was conducted by an employee, officer, director or associate of RCR.

Figure 11-15

Original (ALS Chemex) vs Umpire (ACME) results for Zn, Pb and Ag



12 DATA VERIFICATION

In accordance with National Instrument 43-101, the QP (Mike Robertson) visited the Hakkari properties from 26 July to 7 August 2009, 16 to 30 March 2010, 20 to 27 June 2010, 13 to 18 August 2010, and together with Mike Hall (Mineral Resources QP) between 4 and 8 December 2010. The purpose of these site visits was to inspect the license areas comprising the HZP project and establish the geological setting of the project and of the zinc mineralization, visit adjacent small-scale mining areas, observe the extent of exploration work conducted by RCR and to verify the compliance of the exploration program with the project standard operating procedures (SOPs).

During the site visits, the QP was accompanied by various RCR and MSA personnelt. Sampling, trenching and drilling activities were observed and found to be compliant with the the project SOPs and with the requirements of NI 43-101.

MSA was responsible for the management of data generated during RCR's exploration activities at the HZP. As such, a Microsoft Access relational database was established, comprising the following data tables:

- Mapping, including grab sample assay results and outcrop data from pre-2010 activities on the HZP
- Borehole collar header table
- Borehole lithological log
- Borehole structural log
- Core recovery and geotechnical (rock quality designation, RQD) log
- Borehole sampling log
- Trench header table
- Trench lithology and structure log
- Trench sample (channel) log
- Borehole sample assay results
- Borehole field duplicate assay results
- Borehole CRM assay results
- Trench sample assay results
- Trench field duplicate assay results
- Trench CRM assay results
- Core photography table
- Downhole survey table
- InnovX handheld XRF results for borehole core
- InnovX handheld XRF results for trench samples

- Specific gravity results table
- Mineralogical sampling table

The field-based geological team provided weekly data updates to the MSA data manager in Johannesburg via email in the form of dropdown-validated locked Excel spreadsheets. Data from these updates was subject to a rigorous QAQC protocol prior to importation into the database.

Mike Robertson (project QP, MSA) and Brendan Clarke (MSA) directly received all assay certificates from ALS Chemex. These data were subject to QAQC procedures prior to acceptance into the database, as document in Section 11.3.

13 MINERAL PROCESSING AND METALLURGICAL TESTING

In late 2009, bench scale metallurgical test work was conducted on three 10 kg stockpile samples collected by RCR. These stockpiles represent material extracted from the vicinity of the RCR license areas and the results therefore provide an *indication* of the likely metallurgical characteristics and parameters that can be expected in the processing of future RCR mineralized material. Subsequent to this, in 2010, the use of proprietary mobile gravity concentrators was investigated and revealed sustainable upgrading of feed material by up to 300%. Neither the author nor MSA is qualified to comment extensively on the metallurgical testwork carried out to date.

13.1 Bench-scale Metallurgical Testwork

The test work was undertaken in South Africa under the direction of M.A. Plaskitt, a professional metallurgist, by Tangmere R&D in Uvongo, with chemical analyses by Set Point Laboratories in Johannesburg and mineralogical investigations by SGS Laboratories in Johannesburg. Check analyses were done by UIS Laboratories in Pretoria and by Mintek in Johannesburg. The results are reported in Plaskitt (2010), and an independent review of the results reported on in Meyer (2010) and Meyer (2013). The findings of the test work are reported on below.

The samples comprise extensively oxidised material with the dominant zinc mineral being smithsonite (31% to 55% of sample material) and substantial amounts of hemimorphite also present (12% to 35% of sample material). Neither of these minerals is difficult to process hydrometallurgically. Approximately 6% sphalerite is present in two of the three samples, with lead present as cerrusite (5% to 6% of sample material). The samples ranged in grade from 25.9% to 42.9% Zn and 4.7% to 8.0% Pb. The gangue consists of iron oxide minerals, calcite, barite and quartz. The iron content varied from 3.8% to 18.8% and comprises essentially goethite and siderite weathered to limonite. Chemical analyses were conducted by XRF and ICP methods.

Smithsonite, hemimorphite and cerrusite are relatively coarse grained and liberate between 220 and 380 µm. The goethite/limonite liberates at around 120 µm and the remaining gangue at about 200 µm.

The iron minerals showed no response to magnetic separation attempts. Oxide flotation was rejected due to the high grade of the samples, inherent inefficiencies in oxide flotation as well as likely cost. Further, the minerals liberate at too fine a size for efficient gravity separation. Cyclones and spirals were deemed to have some potential as pre-concentrators and future work on these options was recommended.

The results of calcining test work conducted on the samples are reported as not too useful. In the latter regard it may be more productive to fume the material in Waelz kilns.

Direct acid leaching produced the following results:

- As the feed material is fairly soft it leaches very easily in weak sulphuric acid (10 to 15%); zinc dissolution was in excess of 90% within one hour under ambient conditions. Optimisation of these leaching conditions as well as some heating should push these dissolutions into the mid-nineties. Very pleasing is the ready dissolution of hemimorphite without any silica gelling indications. Sphalerite will, however, not leach under such conditions.

- Caustic soda leach conducted on the material gave very poor dissolution results (30%).
- The "weak" acid solution (15-20% sulphuric acid) is the favoured option as less iron will be dissolved than if stronger acid solutions are used. This fits well with the spent electrolyte, usually, obtained in zinc electrowinning operations.
- Leaching performed satisfactorily at ambient conditions; the stringent winter temperatures in Hakkari should, however, be taken into account. Steam should be made available to the leach and the purification plants.
- The study calculated the acid consumption to be about 30kg per tonne of material treated. Material with lower metal grades could influence this estimate significantly.
- Although no filtration problems were experienced it will be prudent to conduct the necessary settling and filtration tests in future test work especially when higher silica containing material is leached.
- Purification test work is not complete but should pose no serious problems. The technology is standard practise in the zinc electrowinning industry. It is important to oxidise the iron to the ferric state prior to neutralization. The ferric iron can then be removed in a variety of ways. Iron removal will assist in removing deleterious elements from the prospective electrolyte. It will, however, be necessary to check the purified solution for Cu, Co, Ni, Cd, Ge, As and Sb as these elements can seriously influence the plating of zinc. If detected these elements can be readily removed by cementation with zinc dust. Ion exchange is also a possibility for total solution purification but would have to be extensively tested especially for iron fouling of the resin. Whichever option is selected, good quality electrolyte is a prerequisite for optimum electrowinning performance.
- Impurities such as Ca, Cd, Co, Mn, Ge and As are all very low and will be removed during zinc sulphate solutions purification by ion-exchange and /or precipitation techniques. Iron (Fe) will be precipitated and filtered off by PH control which is a well-known practice.
- In addition to iron precipitation, the silica/silicate content as well as the calcium/magnesium sulphate (±60%) and barium sulphate (±3,0%) can be separately precipitated and by-products barium (Ba) and lead (Pb) further extracted.
- The environmental situation regarding the storage of acidic leach residues in Turkey is not known and needs to be clarified.

The advantages of direct acid leaching include:

- No or possibly little pre-concentration is required for this high grade feed material.
- Proven technology can be used throughout the design.
- The capacity of the plant can easily be up-scaled to treat far larger tonnages.

The risks associated with direct acid leaching include:

- Feed material variability due to increased gangue material. This could result in higher acid consumption in the leach and create potential filtration issues. Stringent grade control measures will be required during any extraction of the mineralized zone . Selective blending of differing feed material in the plant should also be part of the design.

13.2 Gravity concentration

RCR has undertaken significant testing of a wide range of HZP type feed material at accredited mineral processing facilities and laboratories in South Africa, along with secondary verification testing with a Mobile Concentrator Machine designer and manufacturer, who is specifically specialised in the field of Gravity concentration of oxide material utilizing a number of mineral processing machines in a unique composite configuration.

Tests executed during 2011 have confirmed that the gravity concentration methodology is sustainable and as such RCR ordered its first Concentrator Unit for 20tph feed (90 000 tonnes per annum), based on the design configuration supplied by Mike Plaskitt, RCR's metallurgical consultant. A mobile heavy media separation plant with a capacity of treating approximately 90 000 tonnes per annum was sited close to the Pentagon Licence and was hot commissioned for testing purposes in early July 2013.

Testing has proven that a sustainable upgrade ratio of the feed between 1.5 and 3.1 times is possible dependent on the head feed grade, utilizing a constant configuration composite gravity concentrator. Significantly, the upgrade ratio favours the lower grade material. The original reports are included in **Appendix 4.**

Concentrator specifications are summarised below:

- Feed characteristics of:
    - Zn mineralization (-150mm), plant feed (-80mm), crushed material (-12.5mm), with a moisture content of 2 to 8%.
- The aim of the portable plant is to treat 20 dry tons/hr of 7.5% Zn Feed material to a total concentrate of at least 3X Zn grade (therefore a minimum 22.5% Zn) in the size range -12.5mm.
- Zn recovery must be at least 75%, i.e. 20tph feed at 7.5% Zn can yield at least 5tph concentrate grading 22.5% Zn, on a dry basis.
- The coarse crushed material size is -12.5 mm + 1.50 mm and fine material size is -1.5 mm. The plant must be designed to treat -12.5mm to + 1.50mm feed in a suitable dense medium cyclone operating at an automatically controlled density of 2.80 to 3.00. The fine fraction of the feed must be treated on suitably designed gravity spirals, and with a feed capacity of 8tph of -1.5mm material.
- Water consumption of the unit should be a maximum of $22m^3/hr$ for a dry feed rate of 20tph of the mineralized material. Raw water will be supplied from boreholes, and therefore the plant must be designed to consume as little water possible through water re-circulation, zero spillages, and curtailment of evaporation and pond seepage.

- Maximum power demand of the plant should not exceed 160kw even though the emergency diesel generator supplied is 200kVa/200kw. A 380V, 3-phase 4 core cable & copper earth system is proposed. The supply cable shall run above ground, along with the necessary switchgear, safeguard, meter and lightning protection.
- Diesel consumption of the 200kW emergency generator should be kept to a maximum of 40 litres/hr, given the high diesel price in Turkey in excess of US $2/litre.
- The plant shall be designed for continuous operation and for operational ease since it will be operated in remote areas of Turkey by personnel of medium skill.
- At a feed of 20tph a 5tph concentrate grading 22.5% Zn is required therefore three-fold Zn upgrading. Therefore, running hours of at least 4,500hr/per year are achievable.
- Two product sizes are expected, -12.5 + 1.5mm (coarse) and -1.5mm (fine). Product will probably be collected in 30kg bags for ease of handling, and shall contain a maximum of 15% moisture in the fines product.
- Ferro-Silicon (FeSi) consumption/losses on the plant should be 1,0kg/t of product maximum.
- The envisaged raw feed material will be from 250mm downwards and an additional jaw crusher needs to be supplied alongside the portable plant to crush feed down to -80mm. Spilt and oversize feed between this crusher and the plant must be recycled and neatly stockpiled for recycling.
- Dust generated during crushing and screening operations should be lightly water sprayed to suppress excessive dust.
- Water supply will be at a premium and will probably come from boreholes, hence the plant must be designed for minimum water consumption of about 15 to 20m3/hr maximum.
- Concentrated material (product) will be transported in bulk but might require sun-drying alongside the unit to reduce its moisture content.
- With a 20tph feed, ±10tph of coarse tailings (-12.5 + 0.5mm) containing appreciable water (±21m3/hr) can be generated. These coarse tailings will require dewatering to ±4tph water (H2O) maximum and ± 14m3/hr H2O recycled for process use. Fine tailings of 5,0tph are expected (-0.5mm) containing ± 2.5m3/hr H2O, which will be lost in the tails slurry. Mixed with the coarse tailings will be ± 5kg of fine FeSi losses per 10tph of tailings.
- Electrical equipment (relays/contactors/switches, etc) must be selected for easy and compatible replacement with switchgear/electronics available in Turkey.
- Instrumentation should be simple and robust and easy to repair & service in Turkey. Pumps, screens, pipes, valves must be easily replaceable with equivalents in Turkey excepting perhaps for the Ni-hard pump casings for pumping abrasive gravels. Conveyors must be standardised so that they can be easily maintained in Turkey, and should be designed for zero spillage. Details and specifications of these are to be given in the technical manual so that they can be manufactured in Turkey as spares. The technical manual will specify and describe all other equipment, its maintenance and safety

precautions. The manual should contain, in the same manual or separately, the detailed operating procedure of the plant including required

- The entire unit shall be painted or coated where necessary as per sound engineering practice in order to inhibit rusting/ corrosion for 5 years of operation.
- Turkey experiences both winter and summer rains and an adjustable roof is required over the critical areas of the unit. Since the unit is to be operated on a 24hr-day basis, suitable lights are to be supplied to ensure sound operation. For 3 to 4 months of the year, sub-zero temperatures are experienced in Turkey. Maximum summer temperatures can reach 40ºC, although average summer temperatures are ± 25ºC.

14 MINERAL RESOURCE ESTIMATES

A NI 43-101 compliant Mineral Resource estimate was undertaken for the License 5 area drilled during the 2010 exploration program. Geological and grade models were constructed incorporating known geological and structural controls on the mineralization as derived from the exploration results. No Mineral Resource estimate was undertaken for the Pentagon License due to data shortcomings.

14.1 QAQC and Internal Database Verification

A full account of QAQC and data verification procedures are discussed in preceding sections of this report. Only finalised, verified data was included in the resource estimation exercise. A final database audit was undertaken and data exported on 11th February 2011 this providing the input into the geological modelling and grade estimation routines. The input data for the resource estimation exercise consisted of diamond drillholes (DD) with collar, downhole survey, lithology, sampling and assay data. Trench data were also included and treated as horizontal or shallow plunging drillholes. The database also included density data determined on-site, using the Archimedes principle (wet and dry weighing method) on half-core samples. Geological mapping data including strike and dip information was also utilised for the geological modelling exercise.

14.2 Resource Estimates

The Mineral Resource estimation exercise was based on wireframe envelopes representing the mineralisation in each license generated from drillhole and trench data extracted from the database compiled by MSA.

Datamine Studio 3® software was used for the three-dimensional geological modelling of the mineralized zones in both license areas. The mineralisation envelopes were defined to encompass drillhole and trench intercepts of ≥0.5% Zn. Mineralisation was truncated at surface at the mapped outcrop traces and extrapolated to a maximum of 210 m down-dip in License 5.

Datamine Studio 3® was also used for the resource estimation. Snowden Supervisor® software was used for the geostatistics and univariate statistical analysis.

14.2.1 Geological Interpretation and Modelling

14.2.1.1 License 5

MSA was provided with digitised topographic contours for License 5. Drillhole collars were merged with these contours to produce a combined topographic wireframe surface for modelling. Mapped outcrop traces of both mineralized zones were draped onto this surface. Trenches, oriented according to their surveyed azimuth, were also draped onto the topographic surface.

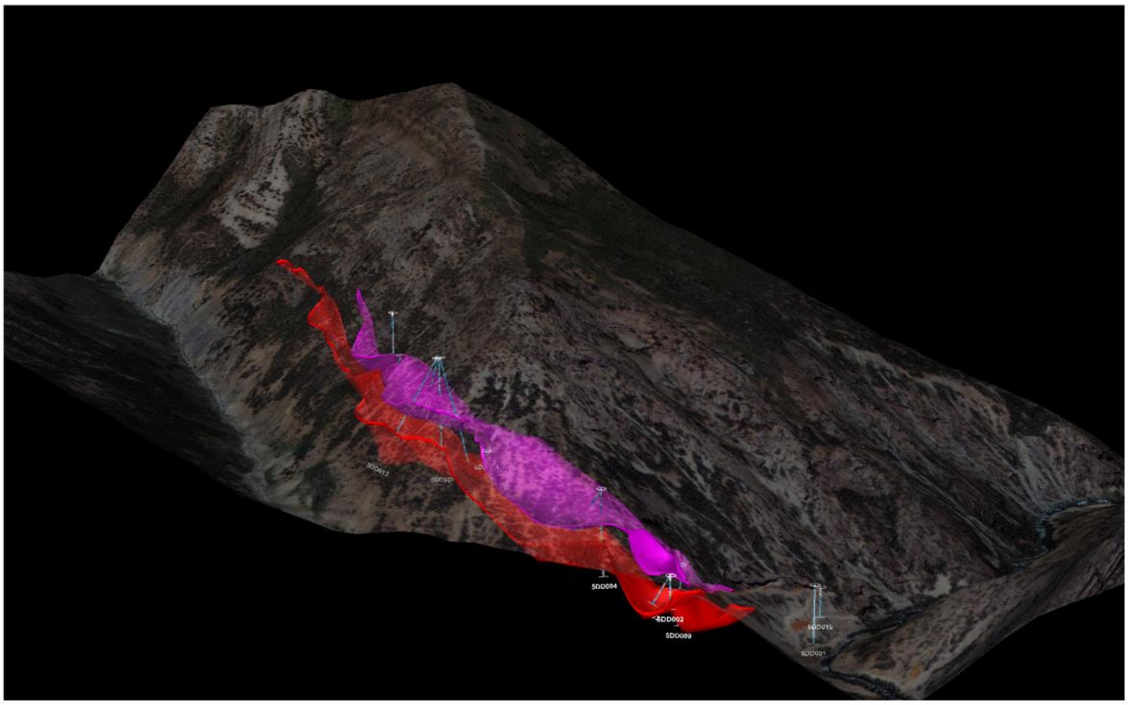
The mapped outcrops were reinterpreted using a constant stratigraphic separation of the two mineralized zones.

Contact surfaces were constructed for the wireframes along west-east sections along grid northings, starting first where the trenches and drillholes were in alignment. This was first for the basal contact of the Lower mineralized zone, where the apparent dip was extrapolated to other sections, at 40m intervals along strike. These sectional interpretations were copied up to the upper contact of the Lower mineralized zone at ≥0.5% Zn.

These interpretations were copied upwards to the Upper mineralized zone and modified to fit the drilling data. The general thickness variations as seen in the Lower mineralisation were mirrored in the Upper mineralized zone.

Due to the wide data spread it was not considered important to invoke faulting at this stage. Based on field observations, it was concluded that open folding is the dominant structural feature at Hakkari (Figure 14-1). In addition, no intrusive rocks are known from the license area. No other geological features were incorporated into the geological model.

Figure 14-1
Oblique SW-facing view of the License 5 Upper and Lower mineralized zones wireframes. No vertical exaggeration.



No geological losses have been modelled. It is believed that the effect of geological discontinuities will be better addressed following additional drilling and possible trial extraction of the mineralized zone.

14.2.1.2 Pentagon License

No topographic surface was available or provided for the Pentagon License as the planned surveying activities were curtailed due to inclement weather and associated access issues. In addition, there has been some depletion of the mineralized zone by small-scale extraction since the surveying of the Pentagon drillholes, which makes the accuracy of the collars doubtful.

These factors precluded acceptably reliable modelling or declaration of any mineral resources for this license.

For the purposes of a preliminary modelling exercise, in preparation for future studies, it was assumed that a 5 m thickness of the mineralized zone has been extracted by small-scale extraction activity since the drillholes were completed. It is noted at this stage that the tentatively modelled mineralisation (Lower mineralized zone) at the Pentagon project consists of a single steeply (>80°) south westerly-dipping zone, intersected by eight drillholes.

There are two isolated 1 to 2 m thick intersections of a stratigraphically higher “Upper” mineralized zone (as at License 5), but these were not modelled due to their lack of defined continuity along-strike.

14.2.2 Block Model Creation

The mineralized zone wireframes were used to generate 3D block models for both licenses and for each mineralized zone in License 5 in Datamine Studio 3®.

The origin for the block models for License 5 is 362,000mE, 4,149,500mN and 1000m AMSL. The block size used was 50 m (easting) x 50 m (northing) and a nominal 1 m for the Z height. Splitting of the blocks was used in the east-west and north-south directions, creating sub-blocks with a minimum size of 6.25 m (easting) by 6.25 m (northing), to enable close block fitting to the zone wireframes. Exact vertical fitting to the wireframes was enforced.

Volume checks on the wireframes and block models returned the values in Table 14-1. The volume of each mineralized zone wireframe corresponds closely with the respective block model.

Table 14-1
Mineralized Zone Solid Volumes versus Block Model Volumes

Mineralized zone	Zone solid volume (m3)	Block model volume (m3)	Difference (zone-model) (%)
License 5 Lower	1 058 596	1 059 275	-0.06
License 5 Upper	256 977	253 328	1.42

14.2.3 Exploratory Data Analysis and Compositing

The License 5 area is covered by surface drillhole data with a drilling density ranging from 60 m x 80 m to 120 m x 120 m spacing. This has had an effect on the grade estimation exercise resulting in areas of low confidence in grade estimation. There are only 25 samples in the License 5 Upper mineralized zone envelope.

Compositing of the drilling data was not undertaken. The dominant sample length is 1 m in the drillhole and trench sample database. Exploratory data analysis (EDA) per elemental constituent was undertaken on samples weighted by length.

The raw samples acted as the input data for the initial data analysis study. Statistics of the input data for selected elements are tabulated below per mineralized zone for License 5 (Figure 14-2 and Figure 14-3). Drillhole statistics for each mineralized zone are shown in Table 14-2 and Table 14-3.

Figure 14-2

Zn Distribution in License 5 Lower Mineralisation

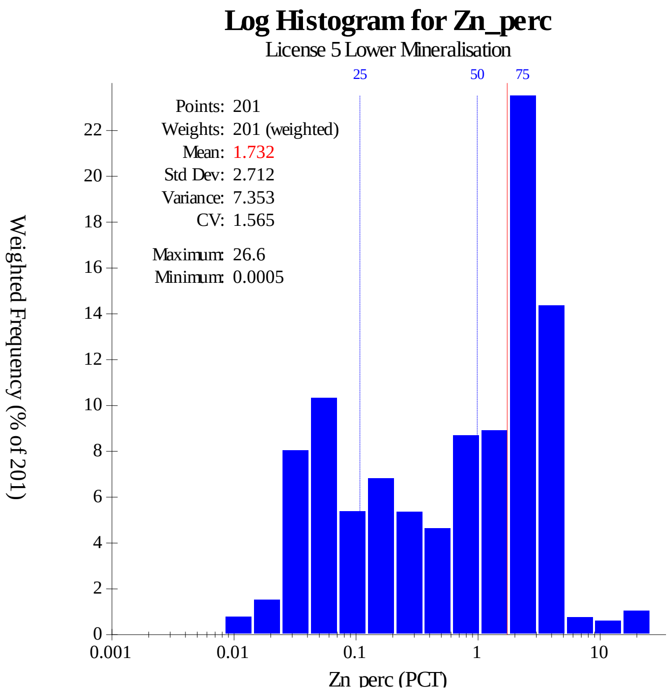


Figure 14-3

Zn Distribution in License 5 Lower Upper Mineralisation

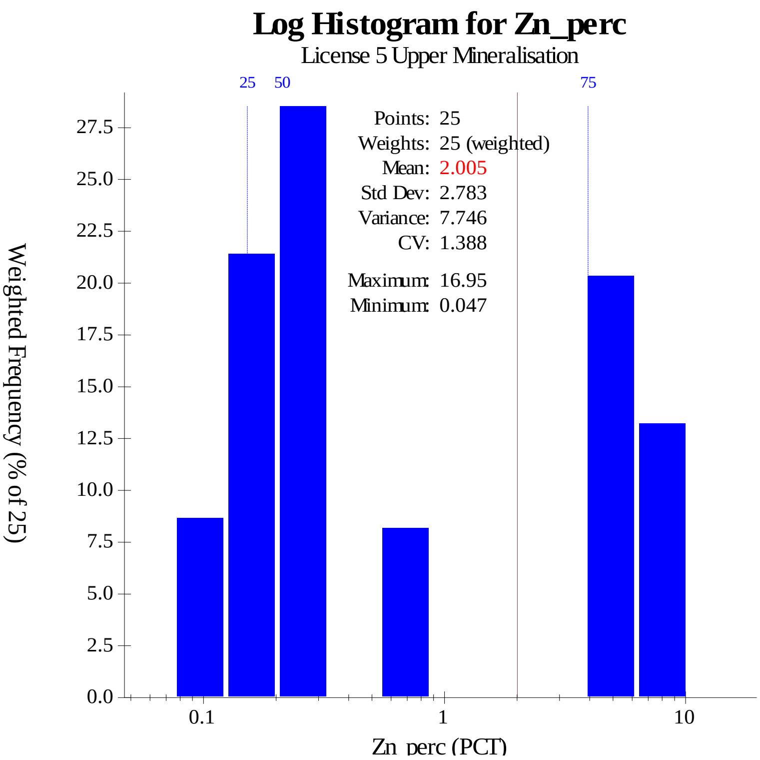


Table 14-2
License 5 Drillhole Statistics: Lower Mineralized Zone

Unit	Number of samples	Mean	Std deviation	CV
Zn %	190	1.732	2.712	1.565
Pb %	201	0.586	1.405	1.974
Ag ppm	181	2.034	4.384	2.155
Cu %	201	0.093	0.336	3.61
Fe %	201	21.536	21.223	0.985
Density	176	1.835	0.599	0.327

Table 14-3
License 5 Drillhole Statistics: Upper Mineralized Zone

Unit	Number of samples	Mean	Std deviation	CV
Zn %	25	2.005	2.783	1.388
Pb %	25	1.508	2.949	1.956
Ag ppm	24	2.35	3.144	1.338
Cu %	25	0.011	0.061	5.634
Fe %	25	9.769	16.825	1.722
Density	19	2.345	0.562	0.24

14.2.4 Variography

Variography was undertaken on each separate mineralized zone. There are 201 samples within the Lower Mineralized zone, but only 25 in the Upper mineralized zone. The spatial arrangement of the samples in both zones is dominantly along-strike, with only a small across-strike component. As such, no reliable variographic modelling was achieved.

14.2.5 Estimation Parameters and Grade Estimation

Due to the overall limited across-strike data spread in both mineralized zones, as well as the limited data contained within the Upper mineralized zone, grade estimation was undertaken using inverse-distance squared on 3-D block models for each of the mineralized zones. A minimum of 3 and a maximum of 10 samples were utilised for an estimate. A maximum of five samples were used from individual drillholes. A multiplier of up to 12 was used for the search radii in order to populate all blocks with sample data, which would, in the absence of other data limitations, restrict the classification to the Inferred Resource status for the distal blocks.

Parent cell estimation at License 5 (25 m blocks) was applied to the sub-cells (down to a minimum of 6.25 m blocks).

14.2.6 Validation, Bias and Block Model Grade Distributions

The sparse drilling data in all areas led to the smearing of available grades within the mineralized zones, in order to populate all blocks. It was also noted that there had been smoothing of grade distribution data during the estimation process.

It is considered that the block estimates for the Lower mineralized zone at License 5 are appropriate at the current level of resource estimation confidence (Table 14-4).

Table 14-4
Comparison of Drillhole Composite and Estimated Block Means

Zone	Drillholes Zn%	Block Estimate Zn%	Drillhole versus Block Models %
License 5 Lower zone	1.732	1.729	0.35
License 5 Upper zone	2.005	1.936	3.44

14.2.7 Resource Classification

Due to sparse data and the absence of variographic continuity on License 5, the Mineral Resource is limited to the Inferred category.

14.2.8 Resource Reporting

NI 43-101-compliant Inferred Mineral Resources were declared for the two mineralized zones at License 5. The resources are reported at various cut offs (Table 14-5 to Table 14-6). These include resources in each grade cut off category yielding greater than 10,000 tonnes. Combined resources for License 5 for the Lower and Upper mineralized zones are also shown in Table 14-7.

Grade-tonnage curves for License 5 are presented in Figure 14-4 to Figure 14-6.

Table 14-5

In-Situ Inferred Mineral Resources for License 5 Lower Mineralisation

Cut Off Zn%	Tonnes (000's)	Zn %	Pb %	Ag g/t	Cu %	Fe %	DENSITY (g/cm3)
0.50	1937.3	1.79	0.34	1.63	0.001	22.91	1.92
1.00	1492.7	2.06	0.4	1.83	0.001	24.86	1.89
1.50	714.8	2.95	0.52	2.34	0.001	27.52	1.85
2.00	445.6	3.67	0.57	2.82	0.001	25.79	1.93
2.50	276	4.57	0.64	3.32	0.001	22.58	2.08
3.00	113.5	7.32	0.78	4.87	0.001	17.03	2.09
3.50	94.9	8.12	0.81	4.69	0.001	16.35	2.13
4.00	80.4	8.93	0.81	4.7	0.001	15.68	2.16
4.50	77.5	9.11	0.81	4.64	0.001	15.44	2.16
5.00	72.9	9.38	0.83	4.5	0.001	15.7	2.16
5.50	65.5	9.84	0.87	4.48	0.001	16.37	2.16
6.00	56.2	10.52	0.92	4.23	0.001	17.21	2.15
6.50	51.5	10.91	0.94	4.47	0.001	17.05	2.16
7.00	47.8	11.23	0.96	4.64	0.001	16.82	2.17
7.50	44.3	11.56	0.98	4.77	0.001	16.92	2.18
8.00	40.4	11.93	1.01	4.98	0.001	17.2	2.18
8.50	38.3	12.13	1.03	5.02	0.001	17.45	2.18
9.00	35.5	12.41	1.05	4.98	0.001	17.74	2.17
9.50	32.2	12.73	1.07	4.89	0.001	18.05	2.17
10.00	28.5	13.12	1.1	4.75	0.001	18.41	2.16
10.50	25	13.53	1.12	4.56	0.001	18.74	2.16
11.00	19.6	14.3	1.18	4.07	0.001	19.32	2.14
11.50	18.4	14.5	1.19	3.99	0.001	19.49	2.12
12.00	17.2	14.71	1.2	3.83	0.001	19.62	2.11
12.50	16.5	14.81	1.21	3.76	0.001	19.69	2.11
13.00	16	14.87	1.21	3.7	0.001	19.73	2.11
13.50	13	15.25	1.23	3.36	0.001	19.94	2.08
14.00	11.7	15.42	1.24	3.22	0.001	20.04	2.07

Table 14-6
In-Situ Inferred Mineral Resources for License 5 Upper Mineralisation

Cut Off Zn%	Tonnes (000's)	Zn %	Pb %	Ag g/t	Cu %	Fe %	DENSITY (g/cm3)
0.50	474.8	2.45	1.38	1.83	0.007	9.76	2.42
1.00	336.9	3.18	1.59	1.4	0.009	12.57	2.41
1.50	284.3	3.55	1.74	1.26	0.011	13.89	2.42
2.00	263.4	3.68	1.77	1.23	0.011	14.14	2.42
2.50	218.3	3.98	1.79	1.14	0.012	14.44	2.43
3.00	167.8	4.34	1.79	1.08	0.014	14.59	2.43
3.50	122.4	4.78	1.64	1.01	0.016	13.95	2.43
4.00	48.7	6.47	0.08	0.76	0.025	5.45	2.48
4.50	40.3	6.92	0.09	0.76	0.027	5.61	2.47
5.00	31.1	7.56	0.11	0.77	0.03	5.75	2.46
5.50	25.9	8.03	0.12	0.77	0.032	5.77	2.46
6.00	20.9	8.59	0.03	0.78	0.034	5.08	2.46
6.50	18.3	8.91	0.03	0.8	0.036	4.88	2.47
7.00	15.7	9.29	0.03	0.81	0.038	4.69	2.47
7.50	12.7	9.76	0.03	0.82	0.04	4.51	2.47
8.00	10.6	10.16	0.03	0.84	0.042	4.3	2.48

Table 14-7
In-Situ Inferred Mineral Resources for the combined License 5 mineralisation

Cut Off Zn%	Tonnes (000's)	Zn %	Pb %	Ag g/t	Cu %	Fe %	DENSITY (g/cm3)
0.50	2412.1	1.92	0.54	1.67	0.002	20.32	2.02
1.00	1829.6	2.27	0.62	1.75	0.003	22.59	1.99
1.50	999.1	3.12	0.87	2.03	0.004	23.64	2.02
2.00	709.1	3.67	1.02	2.23	0.005	21.46	2.11
2.50	494.4	4.31	1.15	2.36	0.006	18.99	2.23
3.00	281.3	5.54	1.38	2.61	0.009	15.58	2.3
3.50	217.3	6.24	1.28	2.62	0.009	15	2.3
4.00	129.1	8	0.54	3.21	0.01	11.82	2.28
4.50	117.8	8.36	0.57	3.31	0.01	12.07	2.27
5.00	104	8.84	0.62	3.38	0.01	12.73	2.25
5.50	91.4	9.33	0.66	3.43	0.01	13.36	2.24
6.00	77.1	9.99	0.68	3.3	0.01	13.92	2.24
6.50	69.8	10.39	0.71	3.51	0.01	13.86	2.24
7.00	63.5	10.75	0.73	3.69	0.01	13.82	2.25
7.50	57	11.15	0.77	3.89	0.01	14.14	2.25
8.00	51	11.56	0.81	4.12	0.01	14.52	2.24
8.50	46.3	11.89	0.85	4.3	0.009	15.12	2.23
9.00	41.4	12.27	0.9	4.39	0.008	15.71	2.22
9.50	37.1	12.62	0.93	4.36	0.008	16.13	2.21
10.00	33	12.98	0.95	4.22	0.008	16.37	2.21
10.50	29	13.35	0.97	4.05	0.008	16.62	2.2
11.00	23.1	14.04	1	3.59	0.009	16.93	2.19
11.50	21.4	14.26	1.02	3.56	0.008	17.24	2.17
12.00	19.7	14.49	1.05	3.46	0.008	17.57	2.16
12.50	18.3	14.66	1.09	3.48	0.006	18.09	2.15
13.00	17.1	14.79	1.13	3.52	0.005	18.65	2.13
13.50	13.6	15.18	1.18	3.25	0.004	19.19	2.1
14.00	11.7	15.42	1.24	3.22	0.001	20.04	2.07

Figure 14-4

Grade Tonnage Curve: License 5 Lower Mineralisation

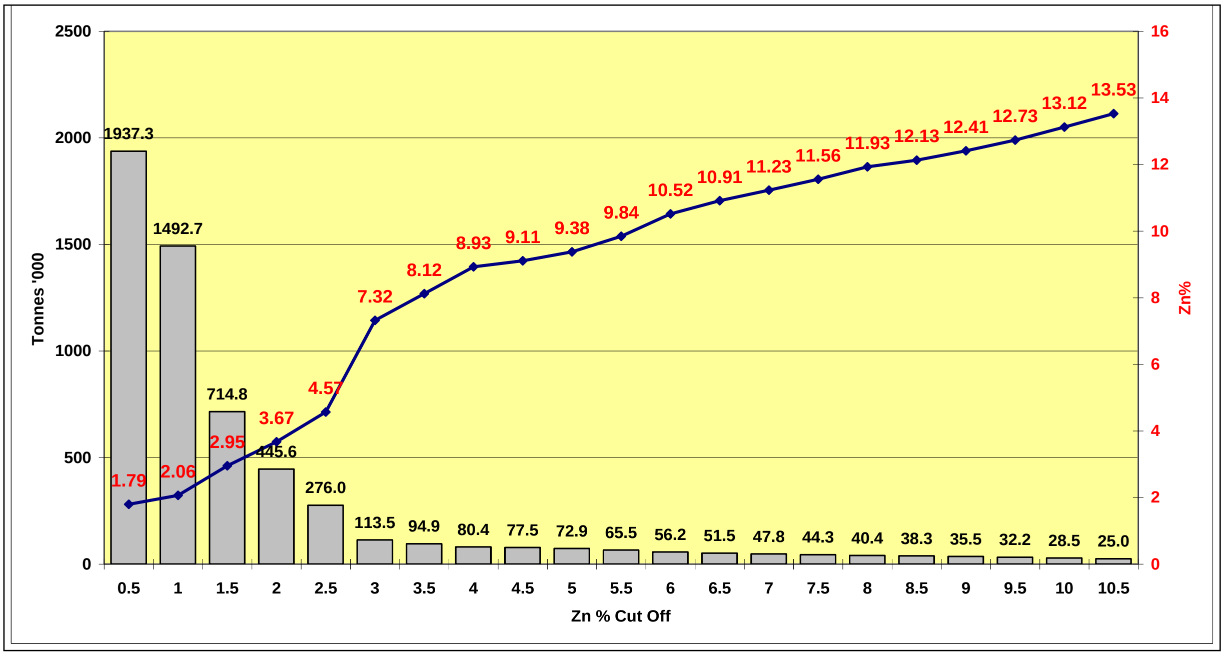


Figure 14-5

Grade Tonnage Curve: License 5 Upper Mineralisation

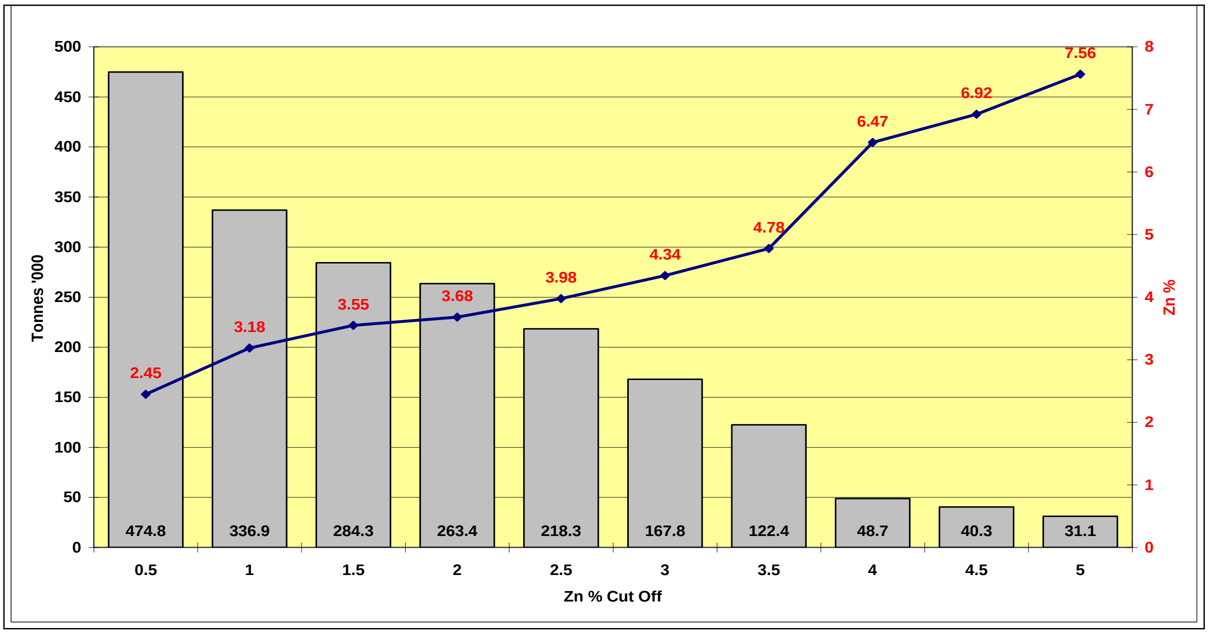


Figure 14-6

Grade Tonnage Curve: License 5 Combined Mineralisation

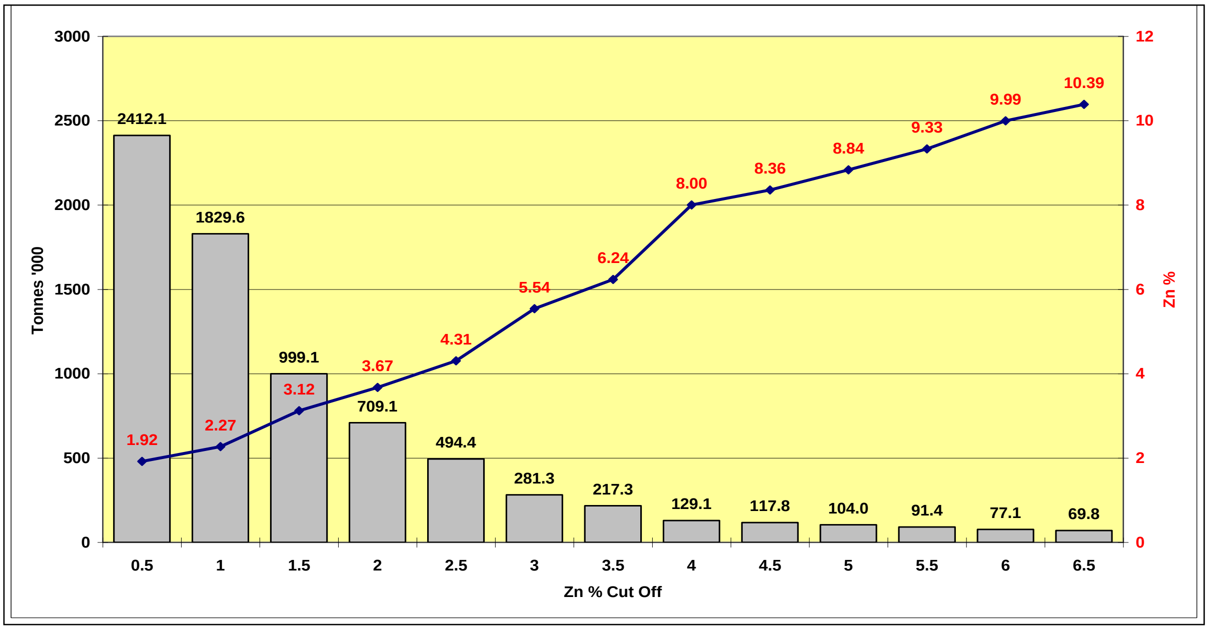


Figure 14-7 and Figure 14-8 show the vertically-composited block models for the Lower and Upper mineralized zone at License 5 respectively.

Figure 14-7
Plan View of License 5 Zn % in the Lower Mineralisation Block Model

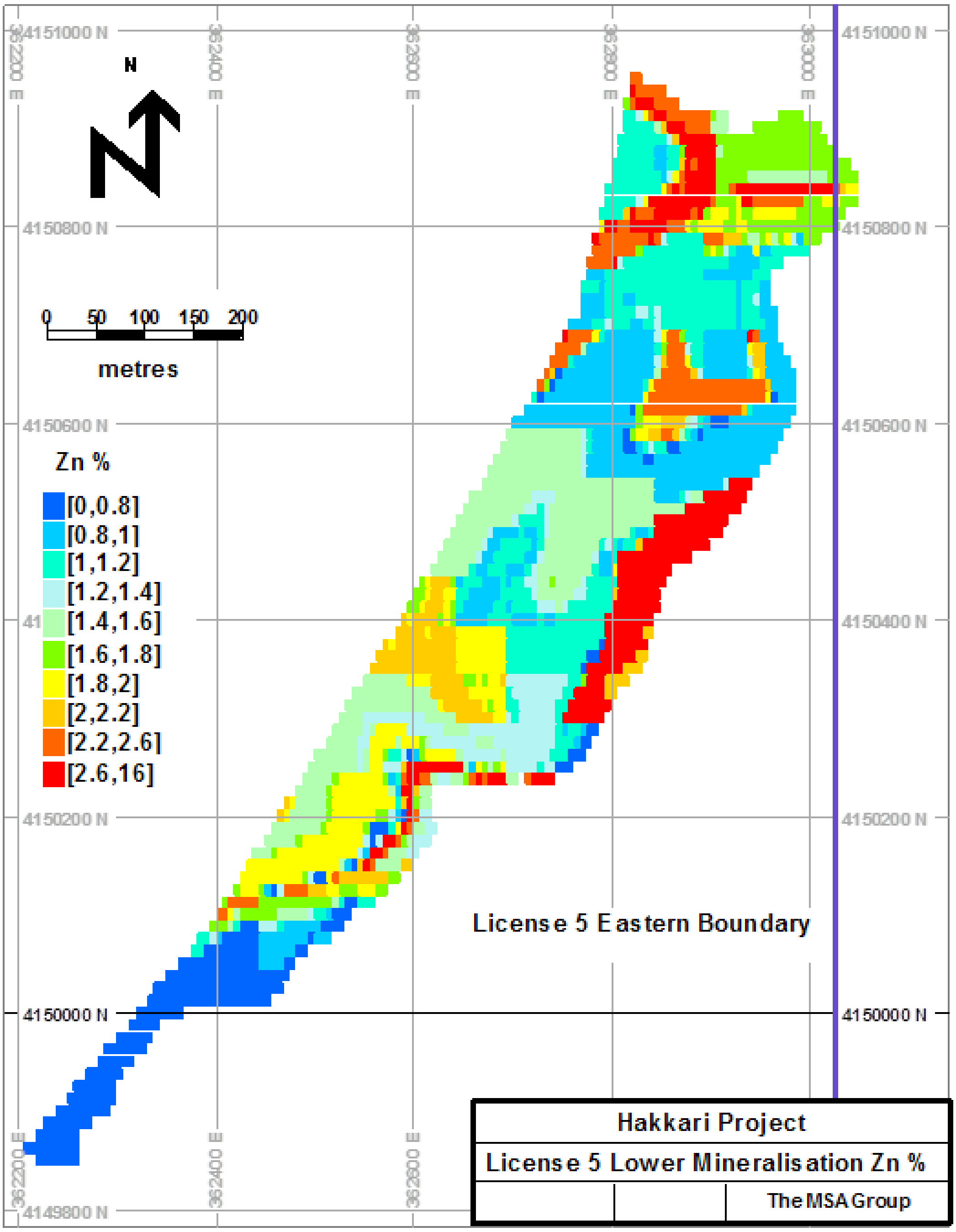
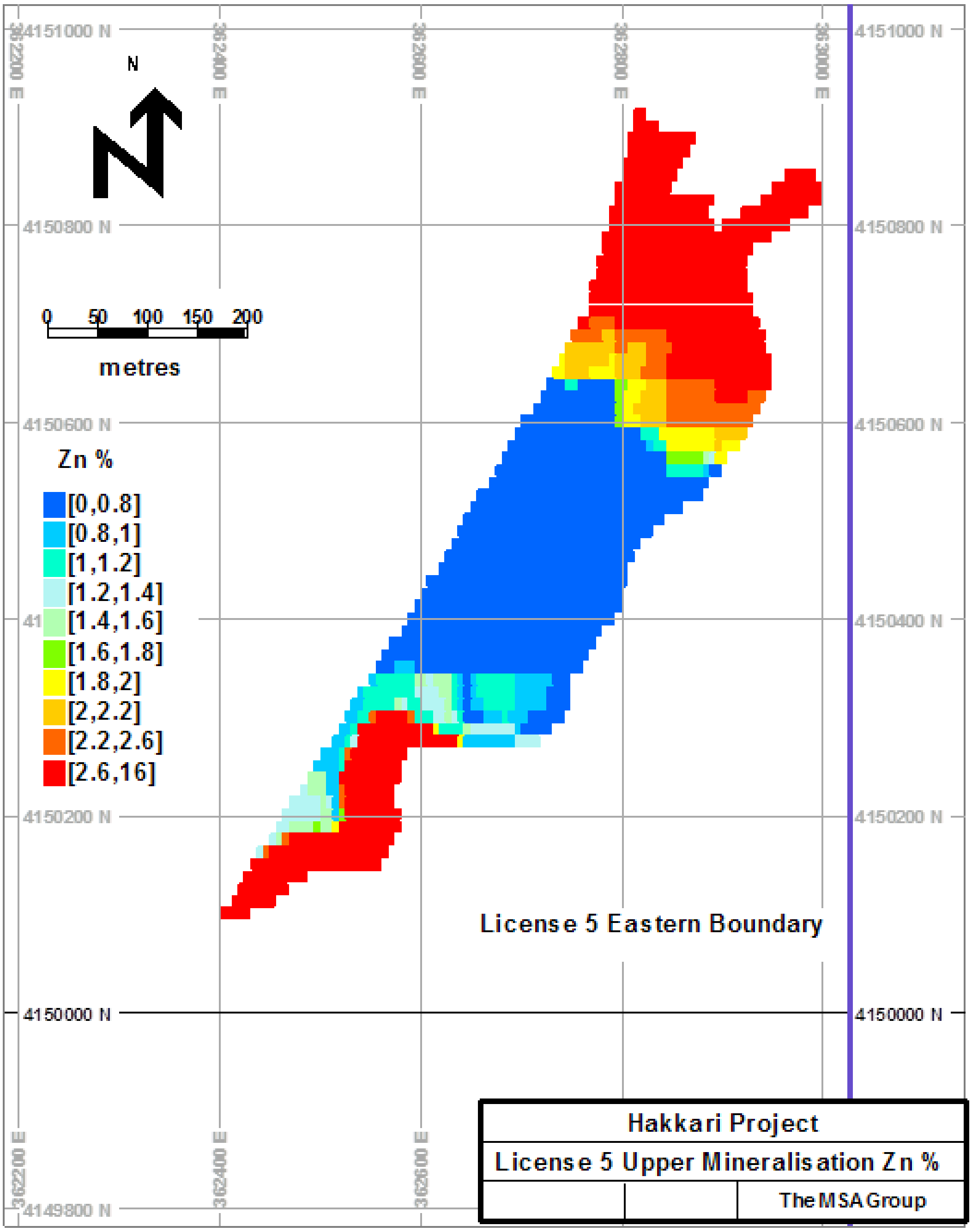


Figure 14-8
Plan View of License 5 Zn % in the Upper Mineralisation Block Model



15 MINERAL RESERVE ESTIMATES

No mineral reserve estimates have been undertaken on the HZP.

16 MINING METHODS

Not required as the HZP is not currently considered an Advanced Property in terms of NI 43-101.

17 RECOVERY METHODS

Not required as the HZP is not currently considered an Advanced Property in terms of NI 43-101.

18 PROJECT INFRASTRUCTURE

Not required as the HZP is not currently considered an Advanced Property in terms of NI 43-101.

19 MARKET STUDIES AND CONTRACTS

Not required as the HZP is not currently considered an Advanced Property in terms of NI 43-101.

20 ENVIRONMENTAL STUDIES, PERMITTING AND SOCIAL OR COMMUNITY IMPACT

Not required as the HZP is not currently considered an Advanced Property in terms of NI 43-101.

21 CAPITAL AND OPERATING COSTS

Not required as the HZP is not currently considered an Advanced Property in terms of NI 43-101.

22 ECONOMIC ANALYSIS

Not required as the HZP is not currently considered an Advanced Property in terms of NI 43-101.

23 ADJACENT PROPERTIES

Informal small-scale mechanised mining of zinc mineralization has taken place in the Hakkari district over the last 5 to 10 years. This mining has been conducted with excavators and dump trucks from a number of mining sites, with stockpiling of mineralized material at various sites along the main road to Hakkari. Historical mining, as evidenced by archaeological finds, dates back to Roman and Babylonian times and was focused on mining of lead which typically occurs towards the top of the zinc mineralized zones. Roman mining galleries have been observed at several localities in the Hakkari area.

The small-scale mining sites represent mainly open cut workings with some exploratory shallow underground development, both of which have exploited high grade zinc mineralization. The workings are regarded as "informal" as they are not based on a modern exploration program, Mineral Resource/Reserve base, or mine plan and have not been professionally surveyed to accurately record tonnages mined. Tonnages and grades are as reported to MSA by the operators and have not been independently verified. However, in MSA's opinion, these workings give an indication of potential mineralized zone dimensions and grades that may be expected in the RCR license areas.

Five mining sites were visited by MSA in the area between License 5 and Licence 8 (the latter now expired) and three in the vicinity of the Pentagon Licence, as indicated in Figure 23-1 and in the photographs in Figure 23-2.

The area between Licenses 5 and 8 is held by Meskan Ölmez Madencilik and Ekin Madencilik. At localities 1 to 3 in Figure 23-1, up to 3 prominent non-sulphide zinc mineralized units are recognized, which dip to the north-northeast at approximately 20°. The upper two layers vary in thickness from 0.2 to 1 m with an overall grade of approximately 30% Zn, with the lowermost layer 7 to 13 m in thickness at an overall reported grade of approximately 35% Zn. The latter zone is reportedly underlain by a variable 2 m thick zinc sulphide layer; however this was not observed by MSA as the open cut has been partially in-filled. Fine-grained sulphide mineralization was however observed on a stockpile near the Meskan Ölmez Madencilik offices. A number of other sub-parallel thin discontinuous non-sulphide zinc layers are developed within and overlying this sequence. Some 60 000 tonnes of ROM zinc mineralized material at an average grade of 35% Zn are reported to have produced from the Meskan Ölmez Madencilik license in 2009.

Informal mining sites 4 and 5 in Figure 23-1 have exploited a steeply dipping to overturned 4 to 5 m thick non-sulphide zinc zone which strikes west-northwest and is located immediately east of Licence 5 (as shown in Figure 9-4). A steeply dipping mineralized zone is being exploited at sites 6, 7 and 8.

The deposits being worked in the district are mined intermittently and have to date produced 'lumpy' material, which is sometimes hand-sorted (Schaffalitzky, 2009). This material has been sold to metal traders, a well-developed business in Turkey. The Seyitoğlu family run-of-mine material is crushed and transported by truck to the port at Mersin, some 900 km from Hakkari, at a cost of $185/tonne.

The following conclusions are drawn based on observations made at these workings:

- Non-sulphide zinc mineralization can be traced for substantial distances along strike.
- Potential for sulphide and mixed oxide-sulphide mineralization exists.
- Mineralized zones vary in thickness along strike, at a prospect scale.
- The degree of oxidation of mineralization varies considerably, as does the iron content, often over short distances along strike and across the mineralized zone at individual localities. Variations in zinc, lead and iron contents over short ranges should be expected.
- These observations have implications for trench and drillhole spacing in defining a mineral resource base. Due to the inherent variabilities, it is anticipated that a close drillhole spacing and data density will be required for delineating Indicated and Measured Resources.
- The presence of multiple mineralized layers on Licence 5 will need to be validated by mapping, trenching and drilling. Drillholes will need to be long enough to intersect multiple mineralized horizons.

Figure 23-1

Informal small-scale mining sites adjacent to License 5, and Licences 8 and 10 (now expired)

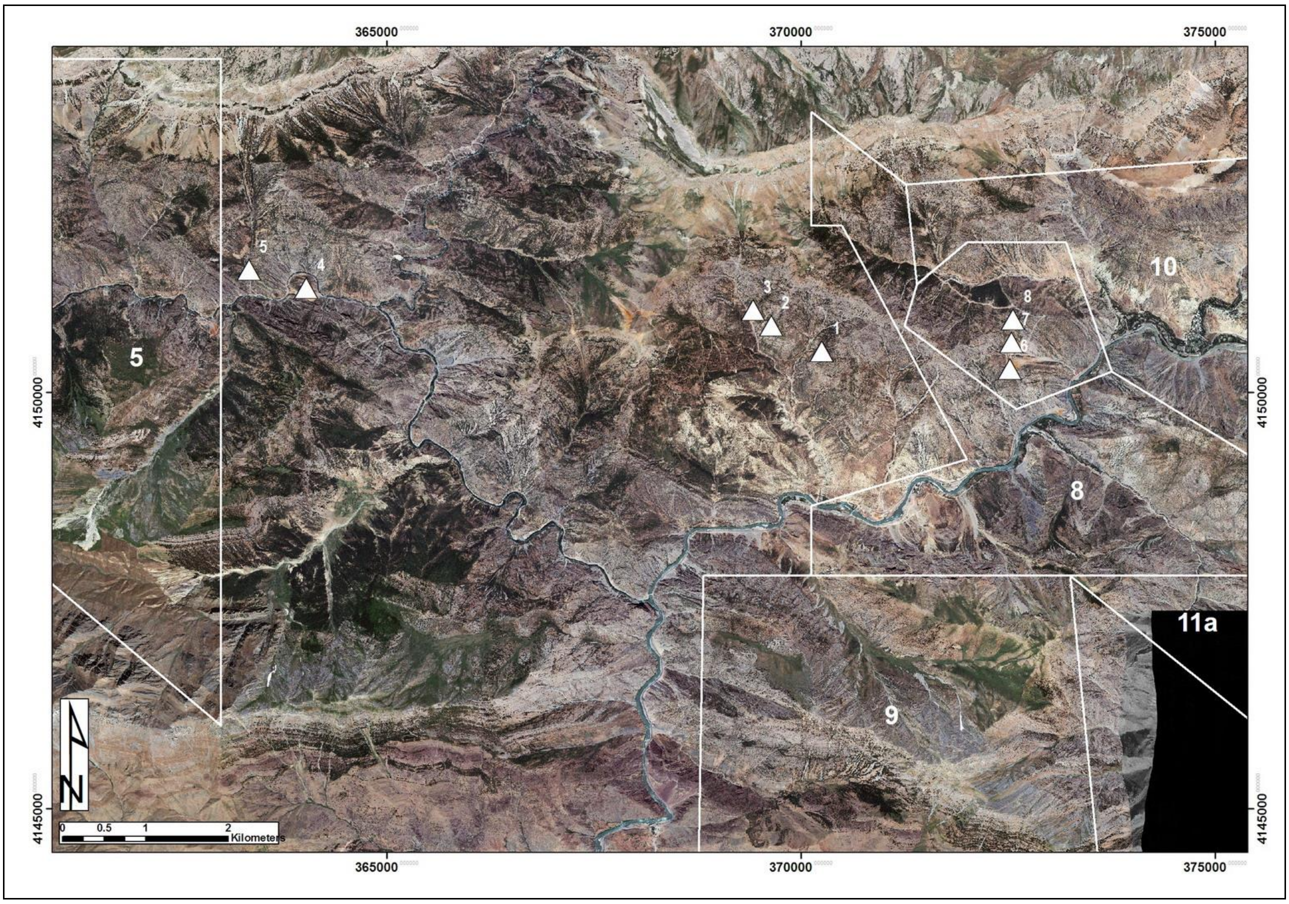
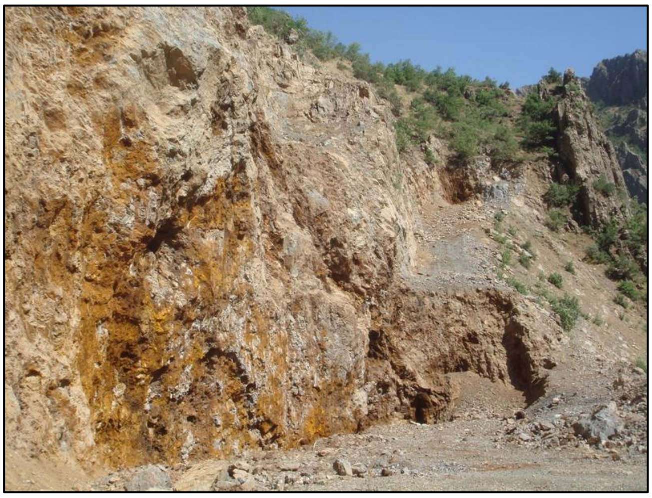


Figure 23-2

Informal mining sites proximal to the RCR licenses (labelled 1-7 in Figure 15-1)

A. Open cut workings at locality 6 in Figure 15-1

B. Close up of workings in A showing old Roman mining galleries



C. 4-5 m thick mineralized zone at locality 5. 5000 tonnes of zinc mineralized material at an average grade of 25%Zn, 5%Pb and 15%Fe were reportedly mined from here.

D. 4-6 m thick zone exploited at locality 4, along strike from locality 5.

E. Three mineralized layers which steepen into a possible karst structure, locality 2, Meskan Ölmez Madencilik license.

F. Shallow underground workings developed by Meskan Ölmez Madencilik since November 2009, locality 3

G. Waste dump adjacent to workings at locality 3, Meskan Ölmez Madencilik license.

H. Underground workings developed on a 3m thick mineralized layer at locality 2. Note thinly developed zinc mineralization above a hangingwall breccia.

24 OTHER RELECANT DATA AND INFORMATION

No additional information or explanation is deemed necessary to make this technical report understandable and not misleading.

25 INTERPRETATION AND CONCLUSIONS

The non-sulphide zinc-lead deposits and occurrences within the Hakkari project area are considered to represent supergene weathered derivatives of primary Mississippi Valley Type (MVT) zinc-lead sulphide deposits. These deposits and occurrences extend intermittently over an east-west strike distance of approximately 60 km, and are hosted within a platform carbonate sequence preserved on the northern margin of the Arabian Platform within a fold and thrust belt known as the Border Folds.

In comparison, a series of carbonate-hosted mixed oxide-sulphide zinc-lead deposits are known from the 1 600 km long Zagros fold and thrust belt located in adjacent Iran. The Zagros belt represents the lateral extension of the Border Folds terrane in south-eastern Turkey. The most notable deposit within the Zagros belt is the high grade oxide-sulphide Angouran operation. The existence of this zinc-lead belt represents further evidence for the potential to define a number of potentially significant and economic oxide and mixed oxide-sulphide zinc-lead deposits in south-eastern and southern Turkey.

Although stratabound on a regional scale, deposit-scale mineralization in the Hakkari area is localized by geological features such as reef complexes, breccias, paleokarsts, depositional margins near carbonate-shale contacts, and faults. Within these settings, mineralization ranges from zones of massive replacement, to open space filling of breccias and fractures, to disseminated clusters that occupy primary pore space. Mineralization occurs as both stratabound and cross-cutting highly irregular zones with consequent complex geometries. High grade smithsonite, hemimorphite and hydrozincite dominant zones can be distinguished from more iron-rich and variably leached lower grade zones. The iron content varies significantly both within the district and on a deposit scale, ranging from iron-poor zinc gossans, to low-Fe high-Zn smithsonite dominant zones to leached and high-Fe gossanous zones. Results of the 2010 drilling program show conclusively that mineralisation occurs in multiple mineralized zones over greater widths than initially anticipated and confirms field-based observations of several mineralized horizons. These multiple mineralized horizons are considered primary and, as such, extend the prospective portion of the stratigraphic sequence.

Recent small-scale extraction in the immediate vicinity of the HZP has focussed on high-grade mineralization, as was confirmed by an SGS inspection in December 2007 of 3 stockpiles comprising 12 400 tonnes at grades between 20-27% Zn and 4.5-7.3% Pb. According to RCR and the Seyitoğlu family, at least 400 000 tonnes of non-sulphide zinc material at an approximate average grade of 25% Zn and 4% Pb has been extracted from the area between the RCR licences over the past 5 years, and sold in an un-beneficiated state. Of this tonnage, approximately 85 000 tonnes was extracted from five small operations in 2009 (Schaffalitzky, 2009).

Although the region is known for small-scale or artisanal activity, there has to date been little to no modern systematic exploration on a larger scale aimed at defining code-compliant Mineral Resources and Reserves. Minor investigations, including drilling of two holes, was undertaken by Teck Cominco, however no records are currently available. The maiden resource estimation for License 5 therefore represents the first code-compliant resource estimation for the district. The stated resource of 2.4 Mt (0.5% Zn cutoff) at 1.92% Zn and 0.54% Pb is considered significant given that the 2010 exploration program was not completed due to severe weather conditions and that the area tested by the program was known at the onset of activities to be of comparatively low grade but was prioritised due to ease of access for drill-rig mobilisation. Significant strike lengths of potentially higher grade material have been delineated from mapping and grab sampling activities on License 5 and will be prioritised for drill testing during the next phase of exploration.

The steeply dipping mineralized body partially exploited on the Pentagon Licence shallows in dip to the south and appears to be the same currently being extracted by another operator (Ismet Olmez) to the west. Owing to the distribution of high grade zones within an overall east-west striking mineralized unit, future formal extractive operations by RCR may take the form of multiple variably sized operations with a mobile concentration plant.

Work done to date by RCR on the HZP has confirmed the presence of a number of non-sulphide zinc bodies which are open along strike and at depth. Potential exists through further exploration to increase the extent of these bodies and to locate new mineralized bodies.

The RCR/RCRZ strategy is to focus on small scale exploitation of high grade non-sulphide zinc mineralization on its Operating Licenses and to use the revenue to fund focussed exploration. In line with this strategy, RCR decided to exit from some of the lower potential Exploration Licenses previously held in the Hakkari area. RCR has also applied for extension of some of the Exploration Licenses. However there is no certainty that RCR will be successful in this regard. As will be noted in RCR press releases over the past 9 months RCR has been successful in producing and selling direct shipping zinc material to zinc smelters/refineries and it plans to commence with focussed exploration as soon as the financial position of the company allows.

26 RECOMMENDATIONS

26.1 License 5

The focus of exploration on Licence 5 is to delineate zones of higher grade zinc mineralization, based on exploitation of such material on the adjacent licence to the east (see Figure 9-4) and on the results of mapping and sampling carried out by RCR on the southern steeply dipping mineralized zone (see Figure 9-5).

The two steeply dipping mineralized zones (in the northern and southern parts of License 5) represent the main potential for delineating higher grade zinc mineralization. These steeply dipping zones have returned amongst the highest grab sample grade values to date and their systematic exploration should be prioritised. These areas should be mapped out fully to constrain their extent and be subjected to a systematic trench and channel sampling exercise.

Owing to the rugged topography, development of an underground exploration drive will be necessary to access the northern steeply dipping mineralized zone. Underground channel sampling of crosscuts should be undertaken to delineate the extent of mineralization, followed by underground drilling.

The current road network will need to be extended to access the southern steeply dipping mineralized zone. The strike extent of this zone should be delineated by mapping, trenching and sampling, followed by surface drilling from several locations.

26.2 The Pentagon Licence

Geological mapping strongly suggests the southward flattening of the mineralized horizon towards the south. As such, the south facing slope from the current highwall southwards to the Zap River valley approximates a dip slope with significant potential for comparatively shallow (<100 m) continuation of mineralisation. Sampling results to date suggest significantly higher grades on the Pentagon Licence compared to License 5 and this program should be fast-tracked. An accurate topographic survey should be completed in order to facilitate reliable geological modelling.

It is recommended that, once the underground workings in the southern part of the licence area have been accurately surveyed, that these are channel sampled and that provision is made for drilling from underground, to be complemented by surface drilling on the dip slope, as necessary.

26.3 Licence 26

It is recommended that detailed geological mapping of this licence is undertaken and that the existing workings are mapped and sampled. Based on the results of this work, a program of trenching and drilling should be undertaken with the objective of potentially defining a mineral resource on the licence.

26.4 General recommendations

- The RCR laboratory protocol must be revised to accommodate larger, variably sized batches. This would allow for the inclusion of additional CRM's within each batch allowing for better QAQC monitoring and potentially negating the need for the rejection and re-assay of an entire batch on the basis of a single failed CRM sample.
- The value added by geophysical survey techniques should be assessed. To date, these IP surveys have failed to show significant correlation with mineralisation intersected in boreholes, most likely due to the oxide- and carbonate-hosted nature of the mineralisation. Furthermore, sphalerite, the most likely sulphide to be present is not known to be well-resolved by IP work. While the recommendations made regarding testing deeper IP targets on License 5 stand, should this drill testing prove unsuccessful it is recommended that the IP program be discontinued.
- A preliminary financial modelling exercise should be applied to the data to determine the likelihood of additional drilling adding value to each of the license areas tested during 2010.
- The use of zinc "scouts", sourced from the local community and equipped with GPS units and cameras is strongly recommended. Reconnaissance-scale scouting and sampling of areas where access is a challenge will optimise more detailed mapping and sampling programs that are aimed at defining trenching drill targets.
- All drillhole sitings should be preceded by detailed geological mapping, structural interpretation and trenching
- All core-drilling should be oriented in order to allow for better structural resolution in an extremely structurally disturbed area
- Further structural work should be carried out to confirm controls on mineralisation and then use this as a predictive tool for further exploration to identify extensions to the mineralized horizons. Preliminary observations on License 5 suggest that wider and higher-grade mineralisation is present along fold hinges and that this attenuates on the limbs.
- RCR must implement a suitable methodology for bulk density determination. MSA recommends an in-situ volume replacement method is used on exposed mineralized outcrops in the field.
- RCR need to take cognisance of the effect that the construction of hydropower dams in the lower reaches of the Zap river valley will have on potential mine waste disposal locations.

A recommended work program and budget is summarized in Table 26-1. Priority on the Pentagon Licence is recommended owing to ease of access, proximity to the heavy media separation plant, and the potential to delineate a mineral resource base reflecting the higher grades that are exploited in workings in the vicinity.

RCR/RCRZ will commence focussed exploration in known areas of high grade zinc mineralization on the Pentagon Licence and License 5 at Hakkari once sufficient cash has been generated via the sale of direct shipping zinc bearing material from its heavy media separation plant at the Pentagon license, as well securing requisite funding from other sources.

Table 26-1
Proposed work plans and budget

Pentagon Licence	USD
Phase 1	
Underground channel sampling	100 000
Underground drilling	300 000
Phase 2 (contingent on results of Phase 1)	
Underground channel sampling	150 000
Underground drilling	400 000
Subtotal	***950 000***
Licence 5	
Phase 1	
Mapping, trenching, sampling to delineate mineralization in the prospective northern and southern steeply dipping mineralized zone	100 000
Underground channel sampling of the northern steeply dipping zone (following underground development)	100 000
Phase 2 (contingent on results of Phase 1)	
Drilling of northern steeply dipping mineralized zone from underground access points	300 000
Surface drilling of southern steeply dipping mineralized zone (following road access to cover at least 1km of strike)	300 000
Subtotal	***800 000***
Licence 26	
Phase 1	
Detailed mapping, trenching, sampling to delineate and extend known mineralized zones	100 000
Phase 2 (contingent on results of Phase 1)	
Surface drilling to test mineralization at depth	200 000
Subtotal	***300 000***
TOTAL	**2 050 000**

27 REFERENCES

Boni, M. and Large, D.E. 2003. Nonsulfide zinc mineralization in Europe: An overview. *Economic Geology*, **98**, 715-729.

Ceyhan, N. 2003. Lead Isotope Geochemistry of Pb-Zn deposits from Eastern Taurides, Turkey. Unpub. MSc Dissertation. Graduate School of Natural and Applied Sciences of the Middle East Technical University, Ankara Turkey

Grodner, M. 2009. Preliminary Evaluation of the Geology and Mineral Resources of the Hakkari Zinc Project. Internal report for Red Crescent Resources Holding A.Ş., dated 14 October 2009. 32p.

Günay, Y. and Şenel, M. 2002. 1:500 000 Geological Map sheet Cizre

Heyl, A.V. and Bozion, C.N. 1962. Oxidised zinc deposits of the States, Part 1. General Geology: *U.S. Geological Survey Bulletin* 52p.

Hitzman, M.W., Reynolds, N.A., Sangster, D.F., Allen, C.R. and Carman, C.E. 2003. Classification, Genesis, and Exploration Guides for Nonsulfide Zinc Deposits. *Economic Geology*, **98**, 685-714.

Meyer, E.H.O (2010). The Hakkari Zinc Deposit – A Review.

Meyer, E.H.O. (2013). Technology Review on the Hakkari Prospect. 2p.

Paradis, S., Hannigan, P. and Dewing K. 2007. Mississippi Valley-Type Lead-Zinc Deposits.

Plaskitt, M.A. and Thom M.J. (2010). Report on Zinc Deposit and Manganese Deposit (Report No 1) for Red Crescent Resources Holding A.Ş.

Schaffalitzky, C. 2009. Review of RCR Holdings zinc projects in south-east Turkey. Memorandum report for Red Crescent Resources Holding A.Ş., dated 8 December 2009. 14p.

SRK Danişmanlik ve Mühendislik A.Ş. (2010). Review of Environmentally Sensitive and Protected Areas, Şirnak-Hakkari Prospects. Report prepared to RCR ve Seyitoğlu Madencilik İthalat İhracat Tic. Ve San. A.Ş., dated August 2010.

Venter, M. and Robertson, M. (2009). Desktop, Remote Sensing and Field Validation Study for Red Crescent Resources A.Ş.

Yigit, O. 2009. Mineral Deposits of Turkey in Relation to Tethyan Metallogeny: Implications for Future Mineral Exploration. *Economic Geology,* **104,** 19-51**.**

28 DATE AND SIGNATURE PAGE

This report titled "NI 43-101 Technical Report on the Hakkari Zinc Project, Turkey" with an effective date of 26 July 2013, prepared by the MSA Group (Pty) Ltd on behalf of Red Crescent Resources Limited dated 23 July 2013 was prepared and signed by the following author:

	Signed and Sealed
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Dated at Johannesburg, South Africa 26 July 2013	Ewald H Meyer Pr. Eng; MSAIMM. Principal Consultant Anvil Sparks Enterprises CC.

APPENDIX 1:

Glossary and Definitions of Technical Terms Used

Glossary of Technical Terms

Alpine Himalyan Orogenic Belt (AHOB)	The major Mesozoic to Cenozoic orogenic belt stretching from Spain in the West to Southeast Asia in the East
Alteration	Changes in the mineralogical composition of a rock as a result of physical or chemical processes such as weathering or penetration by hydrothermal fluids
Anastomose/ing	(of bedding) Changes in strike direction imparting a wavy appearance to mapped units in plan view
Anatolides	A domain of the AHOB bounded in the north by the Pontides and in the south by the Taurides
Antiform	A fold structure which is convex upwards
Arabian Platform	The northern extent of the Arabian-Nubian shield, comprising predominantly platform (shallow marine) carbonates
Artisanal	Exploited at a local level, generally by manual labour
ASTER	ASTER (Advanced Spaceborne Thermal Emission and Reflection Radiometer) is one of five remote sensory devices on board the Terra satellite launched into Earth orbit by NASA in 1999. The instrument has been collecting surficial data since February 2000, and provides high-resolution images of the Earth in 15 bands. ASTER data are used primarily in geology to map alteration patterns and elevation.
Beneficiation	The process by which material is upgraded to achieve higher concentrations
BFS	Bankable Feasibility Study: a comprehensive financial assessment of a planned mining operation, carried out to levels required to obtain financing for the operation
Bitlis thrust	A major thrust structure that juxtaposes the Taurides in the north and the Border Folds region in the south
Border Fold region	The deformed northern margin of the Arabian Platform
Bass	A zinc-copper ± tin alloy
Breccia	A rock composed of angular rock fragments cemented within a fine-grained matrix
Ca	Calcium
Cu	Copper
Cakmak Avukatlik (Cakmak)	A legal firm in Ankara, Turkey
Clamine	French for non-sulphide zinc ore
Chalcopyrite	A bronze coloured copper iron sulphide mineral ($CuFeS_2$)
Chert	A silica-rich, fine-grained, crypotcrystalline sedimentary rock
Clastic	Composed of mineral grains or fragments derived from pre-exisiting rock and transported from their place of origin
Conjugate	(of geological structures) In which both sets of structures show the same strike but opposite dip.
Cretaceous	The geological period dating 145.5 ± 4 to 65.5 ± 0.3 million years ago. The end of the Cretaceous marks the end of the Mesozoic era and the commencement of the Cenozoic era
Cryptocrystalline	Cryptocrystalline is a rock texture which is so finely crystalline, being made up of such minute crystals, that its crystalline nature is only vaguely revealed even at microscopic scales
Dextral	Inclined or shifted to the right
Diachronous	(refers to a sedimentary rock formation) In which apparently similar material varies in age from place to place

Dolomitic	Comprising the mineral dolomite, which is a magnesium-calcium carbonate
Epithermal	(refers to deposits) That form in the near-surface environment, from hydrothermal systems typically within 1.5 km of the Earth's surface
Facies	A distinctive rock unit that forms under certain conditions of sedimentation, reflecting a particular process or environment.
Fault	A planar rock fracture which shows evidence of relative movement
Fe	Iron
Fissile	(refers to rocks) That split readily into thin sheets
Fold	When originally flat and planar surfaces, such as sedimentary strata, are bent or curved as a result of plastic (ductile) deformation
Footwall	The rockmass underlying a mineralized horizon
Franklinite	A Zn, Fe and Mn oxide with variable proportions of Zn, Fe and Mn: $(Zn, Fe, Mn)(Fe, Mn)_2O4$
Galena	Lead-sulphide (PbS)
Galman	Polish for non-sulphide zinc ore
Galmei	German for non-sulphide zinc ore
GDEM	Global Digital Elevation Model, derived from ASTER imagery
GIS	Geographic Information System (a computer-based system for managing and displaying geographical data)
Goethite	An iron-bearing hydroxide mineral, typical of soil and low temperature environments: FeO(OH)
Gossan	Intensely oxidized, weathered or decomposed rock, usually the upper and exposed part of an ore deposit or mineral vein.
Hangingwall	The rockmass underlying a mineralized horizon
Hematite	A deep red or steel grey iron oxide (Fe_2O_3)
Hemimorphite	A hydrous zinc-silicate with the formula $Zn_4Si2O_7(OH)_2.H2O$
Hiatus/es	A period of non-deposition within a sedimentary sequence/s
Hydrothermal	Relating to or caused by a hot watery fluid
Hydrozincite	A zinc-carbonate-hydroxide compound with the formula $Zn_5(CO_3)_2(OH)_6$
Hypogene	The original (primary) sulphide mineralisation
HZP	Hakkari Zinc Project
ICP-AES	Inductively coupled plasma atomic emission spectroscopy (ICP-AES), also referred to as inductively coupled plasma optical emission spectrometry (ICP-OES), is an analytical technique used for the detection of trace metals
JERS	Japanese Earth Resources satellite, used to map topography and structure of the Earth's surface
Joint	A fracture in a rock across which there has been no apparent movement
Jurassic	The period in geological time spanning 208 to 146 million years ago
Karst	Dissolution of carbonate bedrock by circulating waters (meteoric and ground) to create cavitities and irregularities in the bedrock
Lapis calaminarius	Latin for non-sulphide zinc ore
Massive	(refers to rocks) without internal structure or layers and homogeneous in composition
Mesozoic	A period of geological history dating from about 225 to 65 million years ago

Mineralization	The process by which minerals are introduced into a rock resulting in the formation a mineral deposit
Mississippi Valley Type (MVT)	Carbonate-hosted lead-zinc deposits, named after the Mississippi River Valley where many such deposits are found
Mt	Million tonnes
Neritic	As in neritic zone, also called the Coastal Ocean and Sublittoral zone, is the part of the ocean extending from the low tide mark to the edge of the continental shelf, with a relatively shallow depth extending to about 200 meters
Orogenic	Relating to the formation of structures such as folds and thrusts during a period of mountain-building
Oxidation	The process of combining with oxygen ions. A mineral that is exposed to air may undergo oxidation as a form of chemical weathering.
Oxide	A mineral comprising oxygen and additional, usually metallic, element/s
Paleogene	The geological period that began 65.5 ± 0.3 and ended 23.03 ± 0.05 million years ago and comprises the first part of the Cenozoic Era
Paleokarst	Ancient karst phenomena that existed at the time of mineralisation or deposition (see *karst* above)
Paleotopography	Topography that existed at the time of sedimentation/mineralisation
Pb	Lead
PFS	Prefeasibility study: investigation of several scenarios to investigate the potential financial return of a planned mine
Platform carbonates	A carbonate deposit that was formed through the accumulation of calcareous material through the skeletons of animals or through microbial organisms that induce carbonate precipitation through their metabolism
Pontides	The northernmost orogenic domain of the AHOB
Porphyry	(as in porphyry systems) are potential (usually copper) orebodies which are associated with porphyritic intrusive rocks and the fluids that accompany them during the transition and cooling from magma to rock. Circulating surface water or underground fluids may interact with the plutonic fluids. Successive envelopes of hydrothermal alteration typically enclose a core of ore minerals disseminated in often stockwork-forming hairline fractures and veins.
Precambrian-Cambrian boundary	The major geological boundary indicating the appearance of the first complex life-forms on Earth (dated to approximately 542 million years before present)
QAQC	Quality Assurance, Quality Control
RCRZ	Red Crescent Resources Zinc, formally known as RCR Seyitoğlu Cinko Madencilik A.S
ROM	Run-of-mine i.e. the unbeneficiated ore extracted from a mine
Sauconite	a zinc-bearing clay mineral belonging to the smectite group
Sedimentary	(refers to sedimentary rock) - a type of rock that is formed by sedimentation of material at the Earth's surface and within bodies of water. Sedimentation is the collective name for processes that cause mineral and/or organic particles (detritus) to settle and accumulate or minerals to precipitate from a solution.
Shear	Deformation resulting from stresses that cause surfaces to slide against each other parallel to their plane of contact
Smithsonite	Znc carbonate: $ZnCO_3$

Sphalerite	Zinc sulphide: ZnS
Stratiform	(referring to a deposit) a deposit that occurs within a specific geological horizon i.e. is stratigraphically controlled
Stratigraphy	The layering of successive rock units due to sedimentary or volcanic processes
Subduction	The process that takes place at convergent boundaries by which one tectonic plate moves under another tectonic plate, sinking into the Earth's crust, as the plates converge
Sulphide	A mineral containing sulphur with a metal or semi-metal, e.g. pyrite
Supergene	The alteration (and frequent enrichment) of a mineral deposit due to the infiltration of meteoric waters and associated oxidation and chemical weathering
Synform	A fold structure which is concave upwards
Syngenetic	Mineralisation occurred simultaneously to the rock-forming process
Taurides	A domain of the AHOB, bounded to the north by the Anatolides and to the south by the Border folds region
Tectonic	Relating to forces involved in or features resulting from deformation on a large scale
Tethyan	The orogenic belt formed when the Cimmerian Plate was subducting under eastern Laurasia, around 200 million years ago, in the Early Jurassic. The Tethyan Trench extended at its greatest during Late Cretaceous to Paleocene, from what is now Greece to the Western Pacific Ocean.
Thrust/ed	A shallow-dipping reverse fault, where the hangingwall is transported over the footwall due to compressional tectonic forces
Transcurrent	(fault) a steeply dipping fault characterized by horizontal displacement only
Triassic	The geologic period that extended from about 250 to 200 million years ago and was the first period of the Mesozoic Era
Vein	A filled fracture in a rock, resulting from the precipitation of quartz or carbonate minerals from a fluid
Vergence	Structural asymmetry that indicates the direction of thrusting
Willemite	A zinc silicate with the formula Zn_2SiO_4
XRF	X-ray flourescence, a technique widely used for elemental determinations
Zagros fold and thrust belt	A major Mesozoic to Cenozoic orogenic belt extending from Turkey in the West to the UAE in the East
Zinc zap	An indicator solution that is sprayed on a rock as a qualitative colorimetric test for zinc concentration
Zn	Zinc

APPENDIX 2:

Certificates of Qualified Person(s)

THE MSA GROUP
Specialist Consultants to the Mining Industry

The MSA Group (Pty) Ltd
Registration No: 2000/002800/07
Tel: +27 (0)11 880 4209 | Fax: +27 (0)11 880 2184
email: info@msagroupservices.com
20B Rothesay Avenue, Craighall Park, Johannesburg 2196
PO Box 81356, Parkhurst, 2120, South Africa
Directors: KD Scott, WSM Majola

CERTIFICATE OF QUALIFIED PERSON

I, Michael James Robertson, PrSciNat; MSAIMM do hereby certify that:

1. I am Principal Consulting Geologist of:

   The MSA Group (Pty) Ltd
   20B Rothesay Avenue
   Craighall Park, Gauteng, South Africa,
   2196

2. This certificate applies to the technical report titled "NI 43-101 Technical Report on the Hakkari Zinc Project, Turkey" that has an effective date of 26 July 2013 and a report date of 26 July 2013 (the Technical Report).
3. I graduated with a degree in B.Sc Eng (Mining Geology) from the University of the Witwatersrand in 1985. In addition, I obtained an MSc in Structural Geology from the University of the Witwatersrand in 1989.
4. I am a member of the South African Institute of Mining and Metallurgy, the Geological Society of South Africa, the Society of Economic Geologists and a Professional Natural Scientist (PrSciNat) registered with the South African Council for Natural Scientific Professions.
5. I have worked as a geologist for a total of 22 years since my graduation from university. My experience has included exploration project generation; planning, execution and management of gold and base metal exploration projects throughout Africa and the Middle East; mineral property reviews; exploration program audits; scoping to feasibility study inputs; and independent technical reports on gold and base metal properties for public reporting purposes on various stock exchanges.
6. I visited the Hakkari Zinc Project property between 26 July - 7 August 2009, 16 - 30 March 2010, 20 - 27 June 2010, 13-18 August 2010, and 4 - 8 December 2010.
7. I am responsible for the preparation of all sections (apart from sections relating to Mineral Resources and Metallurgy) of the Technical Report
8. I am independent of the issuer applying all of the tests in section 1.4 of National Instrument 43-101.
9. I have read the definition of "Qualified Person" set out in National Instrument 43-101 ("NI 43-101") and certify that by reason of my education, affiliation with a professional association (as defined in NI 43- 101) and past relevant work experience, I fulfil the requirements to be a "qualified person" for the purposes of NI 43-101.
10. I have not had prior involvement with the property that is the subject of the Technical Report.
11. To the best of my knowledge, information and belief and as at the date hereof, the Technical Report contains all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.
12. I have read National Instrument 43-101 and Form 43-101F1, and the Technical Report has been prepared in compliance with that instrument and form.
13. I consent to the filing of the Technical Report with any stock exchange and other regulatory authority and any publication by them for regulatory purposes, including electronic publication in the public company files on their websites accessible by the public, of the Technical Report.

Dated this 26th Day of July, 2013.

Michael J Robertson (signed and sealed)

PrSciNat; MSAIMM

THE MSA GROUP

Specialist Consultants to the Mining Industry

The MSA Group (Pty) Ltd
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PO Box 81356, Parkhurst, 2120, South Africa
Directors: KD Scott, WSM Majola

CERTIFICATE of QUALIFIED PERSON

I, Michael Robert Hall, PrSciNat; MAusIMM do hereby certify that:

1. I am Consulting Geologist – Mineral Resources of:

   The MSA Group
   20B Rothesay Avenue,
   Craighall Park,
   Johannesburg,
   2196.

2. This certificate applies to the Technical Report titled "NI 43-101 Technical Report on the Hakkari Zinc Project, Turkey" that has an effective date of 26 July 2013 and a report date of 26h of July, 2013 (the "Technical Report"),

3. I graduated with a BSc (honours) degree in Mining Geology from the University of Leicester, United Kingdom in 1980. In addition, I have obtained a MBA degree in 2003, from the Business School of the University of the Witwatersrand, South Africa. I am a member in good standing of the Australasian Institute of Mining and Metallurgy and of the Geological Society of South Africa. I am a Qualified Person for the purposes of the Instrument.

4. I am a member of the Australian Institute of Mining and Metallurgy, the Geological Society of South Africa and. and a Professional Natural Scientist (PrSciNat) registered with the South African Council for Natural Scientific Professions.

5. I have worked as a geologist for a total of 32 years since my graduation from university. My experience has included field exploration, project generation and evaluation of PGE and Ni laterite projects in Africa, and other countries. I have undertaken mineral resource estimates for a variety of other mineral deposit types, including copperbelt copper, Rare Earth Elements, base metals, uranium and coal. I have also undertaken geological and mineral resource aspects for scoping up to feasibility level as well as, independent technical audits and due diligences, reporting these on various stock exchanges

6. I visited the Hakkari Zinc Project property between 4 - 8 December 2010.

7. I am responsible for the preparation of the Mineral Resources section of the Technical Report

8. I am independent of the issuer applying all of the tests in section 1.4 of National Instrument 43-101.

9. I have read the definition of "Qualified Person" set out in National Instrument 43-101 ("NI 43-101") and certify that by reason of my education, affiliation with a professional association (as defined in NI 43- 101) and past relevant work experience, I fulfil the requirements to be a "qualified person" for the purposes of NI 43-101.

10. I have not had prior involvement with the property that is the subject of the Technical Report.

11. To the best of my knowledge, information and belief and as at the date hereof, the Technical Report contains all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

12. I have read National Instrument 43-101 and Form 43-101F1, and the Technical Report has been prepared in compliance with that instrument and form.

13. I consent to the filing of the Technical Report with any stock exchange and other regulatory authority and any publication by them for regulatory purposes, including electronic publication in the public company files on their websites accessible by the public, of the Technical Report.

Dated this 26th Day of July, 2013.

Michael R Hall (Signed and Sealed);

PrSciNat; MAusIMM

CERTIFICATE of QUALIFIED PERSON

I, Ewald Heinrich Meyer, Pr. Eng., MSAIMM do herby certify that:

1. I am Principal Consultant of:

   Anvil Sparks Enterprises CC.
   266, Rubens Street,
   Faerie Glen,
   Pretoria
   0043,

2. This certificate applies to the Technical Report titled "NI 43-101 Technical Report on the Hakkari Zinc Project, Turkey" effective as of the 26h Day of July, 2013 (the "Technical Report").
3. I graduated with a BSc degree in Chemistry and Geology from the University of Stellenbosch in 1965. In addition, I obtained a B.Com in 1979 and a BA in 2010, both from the University of South Africa.
4. I am a member of the South African Institute of Mining and Metallurgy and a retired Professional Engineer, registered with the Engineering Council of South Africa (reg. no. 930168).
5. I have worked as a metallurgist for a total of 41 years since my graduation from university. My experience has included employment in a variety of technical and line management positions, notably with the Tsumeb Corporation, Namibia. I attained the corporate position of Manager for Metal Production with that company.
6. I have not visited the Hakkari Zinc Project property.
7. I am responsible for the preparation of Section 13 (Metallurgy) of the Technical Report
8. I am independent of the issuer applying all of the tests in Section 1.5 of National Instrument 43-101.
9. I have read the definition of "Qualified Person" set out in National Instrument 43-101 ("NI 43-101") and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfil the requirements to be a "qualified person" for the purposes of NI 43-101.
10. I have not had prior involvement with the property that is the subject of the Technical Report.
11. To the best of my knowledge, information and belief and as at the date hereof, the Technical Report contains all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.
12. I have read National Instrument 43-101 and Form 43-101F1, and the Technical Report has been prepared in compliance with that instrument and form.
13. I consent to the filing of the Technical Report with any stock exchange and other regulatory authority and any publication by them for regulatory purposes, including electronic publication in the public company files on their websites accessible by the public, of the Technical Report.

Dated this 26th Day of July, 2013.

Ewald H. Meyer (signed and sealed)

Pr. Eng., MSAIMM

APPENDIX 3:

Contractual Agreements for The Pentagon and Licence 26

APPENDIX 4:

Metallurgical Testwork Reports

Anvil Sparks Enterprises

Anvil Sparks EnterprisesAES$SA@$$hS

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18 March 2010

Mr M Robertson

c/o Red Crescent Resources

Turkey

The Hakkari Zinc Deposit - A Review

- **Introduction**

The author was requested by Mr D J Taylor, the CEO of Red Crescent Resources (RCR) to give a review of their desk top study which has been compiled for the Hakkari zinc mineral occurrence in SE Turkey.

- **The Study**

The study was conducted on four batches of samples sent to South Africa for evaluation and test work. The assaying was done by Set-Point and UIS Laboratories; the mineralogical investigations were carried out by SGS Laboratories and the test work was done by Tangmere R&D and Mintek. Mike Plaskitt, a professional metallurgist, coordinated all the work and compiled the reports.

- **Comments**

1. Material Quality and Variability

Samples varied from 16.7% to 42.95% Zn and 0.96% to 14.1% Pb. The dominant zinc mineral was smithsonite with substantial amounts of hemi-morphite present as well. Sphalerite content was minor. The lead mineral was cerrusite.

2. Gangue

The gangue consists of oxidised iron minerals, calcite, barite and quartz. The iron content varied from 0.15% to 18.8% and is essentially goethite and siderite weathered into limonite.

3. Mineral Liberation Sizes

Smithsonite, hemi-morphite and cerrusite are relatively coarse grained and liberate between 220 and 380 micron. The goethite/limonite liberates at around 120 micron and the remaining gangue at about 200 micron.

4. Treatment Options Considered

Oxide flotation was rejected due to the high grade, inherent inefficiencies in oxide flotation as well as likely cost. Gravity concentration techniques considered were cyclone classification, spirals and shaking tables. Of these cyclone and spirals were deemed to have some potential as pre-concentrators and future work should be carried out. One may add dense medium separation techniques to this list. There is potential is such technologies but one should not be too optimistic in this regard. On the plus side they are relative inexpensive options.

The iron minerals showed no response to magnetic separation attempts and calcining test work conducted was not very useful. In the latter regard it may be more productive to fume the material in Waelz kilns. Waelz kiln fuming was at one stage very popular in Eastern European Countries, Russia and even Japan. In these operations zinc/lead oxides, slags and tailings were successfully treated. The fume was sold to zinc refineries.

The RCR study decided that the direct leaching option, with diluted sulphuric acid, was the best option for treating the high grade Hakkari sample material.

5. The Direct Acid Leach

Some detailed test work showed the following results:

- Zinc dissolution was in excess of 90% with fast kinetics even in relatively weak acid solutions. Optimisation of these leaching conditions as well as some heating should push these dissolutions into the mid-nineties. Very pleasing is the ready dissolution of hemi-morphite without any silica gelling indications! Sphalerite will, however, not leach under such conditions.

- The "weak" acid solution (15-20% sulphuric acid) is the favoured option as less iron will be dissolved than if stronger acid solutions are used. This fits well with the spent electrolyte, usually, obtained in zinc electrowinning operations.

- Leaching performed satisfactorily at ambient conditions; the stringent winter temperatures in Hakkari should, however, be taken into account. Steam should be made available to the leach and the purification plants.

- The Study calculated the acid consumption to be about 30kg's per ton of material treated. Lower grades could influence this estimate significantly.

- Although no filtration problems were experienced it will be prudent to conduct the necessary settling and filtration tests in future test work especially when higher silica containing samples are leached.

- It was surprising that the caustic soda leach conducted on the samples gave very poor dissolution results (30%). The caustic leach would have circumvented the iron removal problem.

- Purification test work is not complete but should pose no serious problems. The technology is standard practise in the zinc electrowinning industry. It is important to oxidise the iron to the ferric state prior to neutralization. The ferric iron can then be removed in a variety of ways. Jarosite may be RCR's best option. The iron removal will assist in removing deleterious elements from the prospective electrolyte. It will, however, be necessary to check the purified solution for Cu, Co, Ni, Cd, Ge, As and Sb as these elements can seriously influence the plating of zinc. If detected these elements can be readily removed by cementation with zinc dust.
  Ion exchange is also a possibility for total solution purification but would have to be extensively tested specially for iron fouling of the resin. Whatever option is chosen good quality electrolyte is a prerequisite for decent electrowinning performance.

- The environmental situation with the storage of acidic leach residues in Turkey is not known to the author but should be clarified.

6. Advantages of the Direct Leach Option

- No or possibly little pre-concentration is required for this high grade material.
- Proven technology can be used throughout the design.
- The capacity of the plant can easily be up-scaled to treat far larger tonnages.

7. Risks with the Direct Leach Option

- Variability due to increased gangue. This could result in higher acid consumption in the leach and create potential filtration issues. Grade control in the mining division should be considered. Blending in the plant should also be part of the design.

.

8.Piloting

- The Study conclusions are based on laboratory scale test work which will have to be verified in a pilot plant of a suitable size. This should be part of the feasibility study.

9. Capex, Opex and Financials

- The Capex and Opex for the 150000 tpa ROM case are based on likely Rand costs in South Africa and a specific plant, equipment and process point-of- view. Desk top studies of this type probably carry a 30% contingency. The Turkish equivalent costing model is not known to the author.
  It should be understood that the technology can easily be up-scaled from a throughput point-of-view. Usage would then be made of economies of scale and fixed costs lowered accordingly.

  Any by-product revenue, at this stage of the project, should be ignored.

10. Project Options

- In evaluating this project it should be kept in mind that it may be financially advantageous to phase the project and to implement technology in stages. The following are possibilities:

  1. Mine and sell ROM material now. Approach ISF smelters in this regard.
  2. Treat the ROM material in a Waelz Kiln in Turkey or elsewhere and sell the zinc/lead fume to zinc refineries or Zn/Pb smelters.

3. Produce LME grade zinc cathode and sell into the market. This would eliminate expensive melting and casting equipment.

11. Conclusions and Recommendations

- The work carried by RCR under the supervision of Mike Plaskitt is of a high standard and although some detail and refinements need attention the correct choice of the direct leach option has been made. The direct leach includes conventional solution purification and electrowinning. Melting and casting into ingots would be the preferred choice if cathode cannot be sold directly.
- The project has much appeal and potential and deserves more development. The focus should be on resource establishment and on ways of mining the deposit in the best possible way. Grade control is of the utmost importance to the direct leaching option.

E H O Meyer.

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26 July 2013

Mr M Robertson

MSA

Technology Review on the Hakkari Prospect

Dear Sir,

The author has been requested to comment on the metallurgical technology options available for the Hakkari prospect.

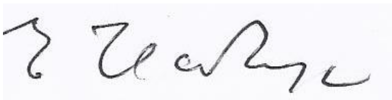
This memorandum lists the reports and studies reviewed below. Of particular relevance is the report: "The Hakkari Zinc Deposit- A Review" by E H O Meyer, 18 March 2010. See [4] below.

The geology of the Hakkari mineral deposits, the known mineralogy as well as the test work conducted on the mineralized samples, in South Africa, all suggest the following:

- Pre-treatment should consist of gravimetric up-grading technology. Dense media separation tests conducted in the RSA strongly recommends the usage of DMS. Other gravimetric up-grading means (cones, spirals etc.) can also be considered.
- The local test work also showed that diluted sulphuric acid leaching of the Hakkari ore is a possibility. Comments to this technology and the professional way that the test work was carried out were made in the cited report by the author.

The above comments are subject to the mineralized samples, which were tested in South Africa, being representative of the Hakkari mineral deposits. The author is not able to comment on this.

Yours sincerely,



E H O Meyer

Studies and reports reviewed:

1. N1 43-101 Technical Report on the Hakkari Zinc Project. MSA report (Ref. J2174) by M Robertson, B Clarke, M Hall. 26 July 2013.
2. Summary Report on Hakkari Up-Grading (+ Tufanbeyli). M A Plaskitt. 13 July 2013.
3. Hakkari Test Work. M A Plaskitt, 16 December 2009.
4. The Hakkari Zinc Deposit- A Review. E H O Meyer. 18 March 2010.

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