Preliminary Economic Assessment on the Taç and Çorak Deposits Yusufeli Property, Artvin Province, Turkey

Report Prepared for

Mediterranean Resources Ltd.

Report Prepared by

SRK Consulting (Canada) Inc.
2CM026.001
Effective Date: June 14, 2011

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Mediterranean Resources Ltd.

Suite 890, 855 Dunsmuir Street
Vancouver, BC V6C 1N5

SRK Consulting (Canada) Inc.
Suite 2200 – 1066 West Hastings Street
Vancouver, BC V6E 3X2

e-mail: vancouver@srk.com
website: www.srk.com

Tel: +1.604.681.4196
Fax: +1.604.687.5532

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Authors:
Wayne Barnett, Pri.Sci.Nat.
Gordon Doerksen, P.Eng.
Bruce Murphy, FSAIMM
Marek Nowak, P.Eng.
Dino Pilotto, P.Eng.
Maritz Rykaart, P.Eng.
Chris Bonson, EurGeol.

Peer Reviewed by:
Chris Elliott, MAusIMM, Principal Consultant
Dr. Gilles Arseneau, P.Geo

Executive Summary

Introduction

This Technical Report was compiled by SRK Consulting (Canada) Inc. (“SRK”) for Mediterranean Resources Ltd. (“Mediterranean”). Ausenco Canada Inc. (“Ausenco”) assisted SRK with mineral processing and infrastructure components of the report and Peter Tse, an independent metallurgist, assisted with oversight of the metallurgical testing program.

The purpose of this Technical Report is to describe the results of a Preliminary Economic Assessment (“PEA”) conducted on the Taç and Çorak gold-base metal deposits (“Taç-Çorak”, “the property” or “the project”) that form part of Mediterranean’s Yusufeli Project, located in north-east Turkey. Two other deposits, Çevreli and Çeltik, are part of the Yusufeli Project but are not part of this PEA, other than for general information.

The reader is advised that the preliminary economic assessment summarized in this technical report is only intended to provide an initial, high-level review of the project. The PEA mine plan and economic model include the use of a significant portion of inferred resources which are considered to be too speculative to be used in an economic analysis except as permitted by NI 43-101 for use in PEA’s. There is no guarantee that inferred resources can be converted to indicated or measured resources and, as such, there is no guarantee that the project economics described herein will be achieved.

Property Description and Agreements

The Yusufeli Property presently consists of 14 operating and exploration licences, covering 9,583 ha, registered with the Turkish Mining Bureau in Ankara, Turkey. The property is fully owned by Mediterranean, subject to three conditions:

(1) an initial payment of US$2,000,000 in cash or securities upon commencement of commercial production;
(2) a Net Smelter Royalty to be paid to Teck Cominco on all minerals produced from the land covered by the four Operating Licences (applicable to Taç, Çorak and part of Çevreli, but not Çeltik);
(3) An additional Net Smelter Royalty of 1%, payable to Oner Gurses, the previous owner prior to Teck Cominco, applicable to all minerals produced from within Taç Operating Licence IR-4248 and Çorak Operating Licence IR-4354.

Mediterranean does not currently hold all the surface rights for the Property. Some surface rights are currently held by local private property owners and the government.

Location, Access and Physiography

The nearest airport is south of the project at Erzurum (135 km, 2½ hours by road), which is serviced by daily scheduled flights from Ankara and İstanbul. Additionally, there is an airport and port facility located west of the project at Trabzon (335 km, 5 hours by road), on the Black Sea, which also has a scheduled service to İstanbul and Ankara.

Taç, Çorak and Çeltik are readily accessible by road. Çeltik and Taç are a 10 and 20 minute drive, respectively, from the population centre of Yusufeli (population +6,000) and Çorak is a 30 to 40 minute drive.

The climate is hot and dry in the summer with temperatures reaching approximately 40º C. During the summer and autumn, the region is prone to sudden rainfalls, causing floods and rock falls that can impede passage on the main roads. Winter temperatures and conditions vary with elevation. Topography is very rugged with high mountains, steep valleys and minimal level ground.

The Çoruh River runs adjacent to the Taç and Çorak deposits. The government of Turkey has plans to dam the river downstream of the deposits as part of its hydro-electric initiatives in the region. If this plan is implemented ultimate level of the impounded water would be above the level of the road connecting Taç and the mill site at Çorak and would be above the edge of the Taç pit causing it to flood unless a retaining structure is built. The dam is projected to take six years to build and another two years to fill with water. The start date of dam construction is not known and has been delayed in the past.

History

The earliest known mineral exploration in the area dates back to the early 1970s. There are historical reports of shallow diggings and short adits, showing small-scale mining activities using primitive methods.

In 1988, Cominco Madencilik, Cominco's Turkish subsidiary, acquired four exploration licences, including those covering the Taç and Çorak Projects, and conducted a regional stream sediment geochemical survey.

From 1989 to 1992 Cominco conducted geological mapping and silt, soil and rock sampling. During that period reverse drilling ("RC") and diamond drillholes were drilled at Taç and Çorak to test geological and geophysical anomalies.

In September 2004 Manhattan Minerals Corporation entered an agreement to purchase 100% of the Taç and Çorak properties from Teck Cominco, provided certain exploration requirements were met.

In 2005 Manhattan Minerals Corporation changed its name to Mediterranean Minerals Corporation and then to Mediterranean Resources Ltd. The Turkish subsidiary of this company, which holds the licences to the property, is Akdeniz Resources Madencilik A.Ş.

Since 2006, Mediterranean has been conducting exploration programs at Taç, Çorak and on other smaller mineralized zones.

Regional and Local Geology

The Yusufeli Property is situated within the Eastern Pontides tectonic belt, which coincides with a 500 km long and 50 to 75 km wide mountain chain extending along the south-eastern Black Sea coastline. The Eastern Pontides formed as part of an island-arc system, generated by the subduction of the floor of the Tethyan Ocean associated with the Alpine Orogeny, during the Jurassic and Neogene periods.

The Taç deposit is predominantly underlain by andesitic volcaniclastics and flows, at the top of the Green and Cream Tuffs of Erkül. It is overlain to the southeast by strongly layered turbiditic volcanogenic sandstones, conglomerates interbedded with thin shales and shale-rich limestone units. The host volcanics and overlying sedimentary rocks are believed to be Upper Cretaceous to Eocene in age and are cut by mafic- to intermediate-composition sheet intrusion.

At the Çorak deposit, alteration and mineralization occupy broadly the same stratigraphic interval as at Taç, namely the uppermost few hundred metres of massive volcanic rocks below the well-bedded volcanosedimentary package. The massive volcanic rocks consist of a sequence of tuffs, andesitic or andesitic-basaltic lava flows and volcaniclastics including agglomerates (volcanic breccias), lapillistone, lapilli-tuff and tuffaceous sandstone.

A package of alternating sandstone, siltstone, limestone, marl and mudstone interbedded with tuffaceous sandstones comprise the overlying volcanosediments. Both the volcanics and volcanosedimentary rocks are intruded by mafic- to intermediate-composition plugs and sheet intrusions.

The Çeltik prospect is mainly underlain by a sequence of andesite-basalt lavas and pyroclastics which belong to the Upper Cretaceous Çatak Formation. This unit grades upward into a well-bedded volcano-sedimentary series consisting of alternating clay rich limestones, marls, siltstones, volcanic tuffs, red mudstones with tuffaceous sandstones. Stratigraphically, these rocks occur directly above the same massive volcanic rocks which host mineralization at Taç and Çorak.

Deposit Types and Mineralization

Mineralization within Taç exhibits some common characteristics of a high sulphidation epithermal gold-base metal deposit. Salient characteristics of this deposit type are quartz veins, stockworks and breccias carrying gold, silver, electrum, pyrite and lesser amounts of sphalerite, chalcopyrite, galena and rare sulphosalts and tetrahedrite. Veins commonly exhibit open space filling and mineralization is related to volcanic hydrothermal to geothermal systems.

At Çorak, the mineralization is comprised of quartz veins or veinlets that carry variable amounts of gold and base metals typically within sphalerite, galena and minor chalcopyrite. Numerous mineralized veins occupy an area that is about 200 m wide and about 1,000 m long. This mineralized area underlies the village of Çemketen, including the road that passes through the village. The individual mineralized veins within this area generally strike north to northwest and dip steeply (70° to 80°) to the west and southwest. Although they vary in thickness from 1 cm to about 1 m, they are most commonly 2 cm to 20 cm and form as clusters defining mineralized zones up to 3 m wide.

At Çeltik, gold mineralization seems to be preferentially concentrated within the intrusive complex, where anomalous gold values have been defined over an area 250 m to 500 m wide. The mineralization extends in a northeast-southwest orientation over approximately 1 km. Elevated gold values correlate well with logged concentrations of pyrite mineralization and, to a lesser degree, with other sulphide minerals.

Exploration and Drilling

From 1988 to 1992, Cominco acquired several exploration licences and undertook an integrated exploration project including geochemical sampling and drilling.

During this time, Cominco collected silt, soil and rock chip samples and drilled 85 RC holes with an aggregate length of 6,684 m and nine diamond drillholes with an aggregate length of 1,385 m. The majority of these drillholes were drilled along the main roads or in otherwise easily accessible parts of the Property.

The 2006 exploration program was limited to Taç and was carried out by Teck Cominco under contract with Mediterranean. The program consisted of geological mapping, an induced polarization survey, and both RC and diamond drilling.

In 2007, Mediterranean conducted ground magnetic and IP surveys, rock chip sampling and diamond drilling at Taç. Mediterranean also resumed exploration work at Çorak in 2007.

The 2007 drilling program at Taç was extended into 2008. Two drillholes were drilled and 734 drill samples were assayed. No further exploration activities were conducted at Taç in 2008. Çorak activities in 2008 included geological mapping at both Çorak East and Çorak West, an induced polarization geophysical survey, soil and rock chip sampling, further drilling and a geochemical follow-up study.

At Çeltik, Mediterranean acquired an exploration licence for areas adjacent to the existing licence and an integrated exploration program was undertaken, including induced polarization survey, systematic soil sampling, rock chip sampling, geological mapping and drilling.

Sampling Method, Approach and Analyses

No records have been found for pre-2006 historical sampling procedures for RC drilling and diamond drilling conducted by Cominco at the Property, although it is reasonable to assume that similar procedures were followed by Cominco as described in their 2006 report.

Starting from 2006, sampling intervals for core were selected on a geological basis and most typically varied between 0.2 m and 2.0 m in length. Core was divided lengthwise into two halves using a diamond saw. RC samples were collected and split using a 24 slot rotary splitter at the drill site and then sealed in plastic bags. RC samples were collected continuously at 1.0 metre drill intervals. The splitter was flushed with compressed air between each sampling.

From 2006 onwards, drill samples were shipped by an independent transport company to the ALS Chemex sample preparation facility in İzmir, Turkey and then onto the ALS Chemex analytical lab in North Vancouver, Canada for analysis. Receipt of sample shipments by the laboratory was confirmed by electronic mail.

The analyses conducted by ALS Chemex were multi-element trace and gold trace analyses, followed by copper, lead, zinc and/or gold grade analyses for sample returning greater than trace-level concentrations.

SRK cannot comment on the quality control measures used by Cominco prior to 2006 exploration program. The exploration work conducted by Mediterranean was carried out using a quality assurance and quality control program, generally meeting industry best practices.

The analytical quality control data for the Taç and Çorak projects include both internal and external quality control measures. ALS Chemex implemented internal laboratory measures consisting of inserting quality control samples (blanks and certified reference materials and duplicate pulp) within each batch of samples submitted for assaying.

Mediterranean also implemented external analytical quality control measures consisting of inserting quality control samples (blanks and certified reference standards) with each batch of core drilling samples. Blanks and standards were inserted at a frequency of one of each every twenty samples. A large number of duplicate samples from quartered core were also collected.

The analytical quality control program developed by Mediterranean, and based on 2006 Cominco procedures, has been overseen by appropriately qualified geologists. In the opinion of SRK, the exploration data from the Yusufeli project was acquired by Mediterranean using adequate quality control procedures that generally meet industry best practices for a drilling stage exploration property.

Data Verification

In accordance with NI 43-101, an SRK geologist visited the Yusufeli Property on July 14, 2008 for five days, while drilling was actively progressing. The purpose of the site visit was to inspect the property and ascertain the geological setting of the project, witness the extent of exploration work carried out on the deposits and assess logistic aspects and other constraints relating to conducting exploration work in the area. SRK was given full access to project data.

SRK conducted routine verifications to ascertain the reliability of the electronic borehole database provided by Mediterranean. Approximately 95% of assays within the modelled mineralized domains were checked against the original certificates. Minor discrepancies arising from truncated assay results were corrected.

After the review, SRK is of the opinion that the Mediterranean drilling database and geological model are sufficiently reliable for resource estimation.

SRK aggregated the assay results for the external quality control samples for further analysis. Sample blanks, and certified reference materials data were summarised on time series plots to highlight any potential failure.

Mineral Processing and Metallurgical Testing

The initial metallurgical testing program on the project was conducted by primarily by Inspectorate America Corp., PRA Metallurgical Division (formerly Process Research Associates Ltd.) ("PRA") of Richmond, BC, Canada, to assess the recovery of mineral values from samples, originating from the Taç and Çorak deposits. The major minerals of interest at the Taç deposit are gold, copper and silver. Çorak contains less copper, but has elevated levels of lead and zinc. Both material types respond well to flotation and reasonably well to cyanidation treatment.

Owing to the presence of coarse gold in both the Taç and Çorak materials, gravity separation was successful in recovering significant amounts of gold and should be included in future test work.

Several individual samples were combined to produce six composite materials. Subsamples were taken from these composites for head grade assays.

A series of gravity concentration tests, cyanidation leach tests, open-cycle and locked-cycle flotation tests were conducted on the composites, as well as some individual samples. Owing to the diversity of mineralogy on the Yusufeli Property, the metallurgical process will need to be both robust and adaptable.

Test work to date indicates that the Taç material is amenable to a combination of gravity and flotation concentration to produce both a gravity concentrate as well as a copper concentrate containing gold and silver. The Çorak material is amenable to gravity concentration producing a gravity concentrate followed by selective flotation producing both lead and zinc concentrates, where most of the precious metals report to the lead concentrate.

Acid base accounting ("ABA") was completed on several of the tailings generated from both the flotation and cyanidation tests. Owing to the removal of sulphide materials during flotation, these tailings have a low probability of being acid-generating. The cyanidation tailings, still containing the majority of the sulphide minerals, would probably generate acid if insufficient protective alkalinity is added during leaching.

Mineral Resource Estimation

A primary objective of SRK's work on the Taç and Çorak deposits was to produce an independent, CIM-compliant resource estimate of gold, lead, zinc, silver and copper grades. This estimate supersedes an earlier resource estimate produced by Wardrop (2008).

The resource estimate was completed on May 8, 2009 by Mr. Abolfazl Ghayemghamian, P. Geo, under the supervision of Mr. Marek Nowak, P.Eng., an independent qualified person as defined in NI 43-101. SRK audited the resource database and constructed geological models for the Taç and Çorak deposits. SRK is of the opinion that the current drilling information is sufficiently reliable to interpret with confidence the boundaries of the sulphide mineralization domains and that the assaying data is sufficiently reliable to support estimating mineral resources.

Two separate wireframes were constructed in Datamine Studio for the Taç deposit, and a total of four separate wireframes were constructed in GEMS for the Çorak deposit. The geometry of these wireframes is based on the geological understanding of the mineralization determined from limited field work, maps and drillhole data.

Statistical analysis and resource estimation work was completed in Datamine, whereas variography was completed in Sage2001 software. A total of 181 boreholes, with 23,504 assay records are located within the mineralized domains at Çorak and 136 boreholes, with 21,183 assay records at Taç.

Experimental variograms and variogram models were generated for each metal in most mineralized domains. Metal grades and specific gravity were estimated into the block model. Block metal grades were estimated in three successive steps. The first step considered a relatively small search ellipsoid while for the second and third steps the search ellipsoid dimensions were increased.

The estimation parameters were established after visual review of several tests. Specific gravity was estimated into the block model by the moving average method.

Mineral Resources for the Taç and Çorak projects were classified according to the CIM Definition Standards for Mineral Resources and Mineral Reserves (December 2005) by Marek Nowak, Principal Consultant, Geostatistics, an “independent competent person” as defined by National Instrument 43-101. Resource blocks estimated by two or more holes contributing at least four composites to the estimate within the smallest search ellipsoid used were assigned an Indicated Mineral Resource classification. All other resource blocks were assigned an Inferred Mineral Resource classification. An Indicated resource envelope was then modelled around the Indicated resource blocks to delineate more regular areas with the same classification category.

The resource block model was validated by comparing local “well-informed” block grades with composites contained within those blocks; and by comparing average assay grades with average block estimates along different directions (swath plots).

The “reasonable prospects for economic extraction” requirement generally implies that the quantity and grade estimates meet certain economic thresholds and that the mineral resources are reported at an appropriate cut-off grade taking into account the likely extraction scenarios and process metal recoveries. In order to meet this requirement, SRK considers that both the Çorak and the Taç deposits are amenable for open pit extraction methods.

The open pit mineral resources are reported at a cut-off value of $11 /t Net Smelter Return (“NSR”) based on (all values are in US dollars):

- A combined processing and general and administrative (“G&A”) cost of $11.25 /t of material processed;
- Metal prices of:
    - $1.00 /lb for both zinc and lead
    - $900 /oz gold;
    - $12 /oz silver; and
    - $2.00 /lb for copper.

This $11 /t NSR cut-off is consistent with marginal cut-off grades used on other similar properties in Europe.

The mineral resource is constrained by a Whittle™ Optimization software shell based on the NSR model and an assumed preliminary overall slope angle of 55^{o}.

Mineral resources that are not mineral reserves do not have demonstrated economic viability. There is no certainty that all or any part of the mineral resources will be converted into mineral reserves. Mineral reserves can only be estimated as a result of an economic evaluation as part of a preliminary feasibility study or a feasibility study of a mineral project. Accordingly, at the present level of development there are no mineral reserves at the Taç and Çorak Projects.

The mineral resource statement for the Taç and Çorak deposits is presented in Table 1.

Table1: Mineral Resource Statement*, Yusufeli Property, Artvin Province, Turkey, SRK Consulting (Canada) Inc, May 8, 2009

Classification and Deposit	Quantity	Grade						Contained Metal				
	Tonnes (millions)	Au (g/t)	Cu (%)	Ag (g/t)	Pb (%)	Zn (%)	AuEq (g/t)	Au (Moz)	Cu (Mlb)	Ag (Moz)	Pb (Mlb)	Zn (Mlb)
Indicated Mineral Resource												
Taç	23.80	1.24	0.12	-	-	-	1.39	0.95	64.00	-	-	-
Çorak	25.70	0.76	-	1.57	0.25	0.60	1.26	0.63	-	1.30	141.00	340.34
Total Indicated	**49.50**	**0.99**	**0.12**	**1.57**	**0.25**	**0.60**	**1.32**	**1.58**	**64.00**	**1.30**	**141.00**	**340.34**
Inferred Mineral Resource												
Taç	3.20	1.56	0.14	-	-	-	1.72	0.16	9.81		-	-
Çorak	7.80	0.53	-	1.42	0.20	0.48	0.93	0.13	-	0.35	34.76	82.00
Total Inferred	**11.00**	**0.83**	**0.14**	**1.42**	**0.20**	**0.48**	**1.16**	**0.29**	**9.81**	**0.35**	**34.76**	**82.00**

***** Mineral resources that are not mineral reserves do not have demonstrated economic viability. All figures rounded to reflect the relative accuracy of the estimates. Reported at an NSR cut-off grade of US$11 per tonne, within Whittle shells with slope angles of 55 degrees, using 15 by 15 m by 15 m block models. NSR and gold equivalent (AuEq) calculated using metal prices of US $900 per ounce of gold, $2 per pound of copper, $1 per pound each of zinc and lead and considering metal recoveries of 90% and 85% for gold at Taç and Çorak, respectively, and 80% copper, 80% silver, 81% zinc, and 81% lead. NSR and gold equivalent values include transportation refining/smelting and royalty costs. Mining and processing (to a concentrate) costs are not included.

Mining

It is proposed that the Taç and Çorak deposits are amenable to be developed as open pit mines. Mining of the two deposits will produce a total of 14.4 Mt of mill feed and 90 Mt of waste (6.2:1 overall strip ratio) over an eight year mine operating life. The current life of mine ("LOM") plan focuses on achieving consistent mill feed production rates, mining of higher grade material early in schedule, and balancing grade and strip ratios.

Mine design for the Taç and Çorak deposits commenced with the development of NSR models. The models included estimates of metal prices, exchange rate, mining dilution, mill recovery, concentrate grade, smelting and refining payables and costs, freight and marketing costs and royalties. The NSR models were based on a 15 m x 15 m x 15 m block size for both Taç and Çorak. Gemcom Whittle™ - Strategic Mine Planning™ ("Whittle™") software was then used to determine the optimal mining shells. Preliminary phases were selected and preliminary mine planning and scheduling was then conducted on these selected optimal shells. The mine plan is divided into Taç and Çorak deposits.

The mining sequence for both Taç and Çorak was further divided into a number of stages designed to maximize grade; reduce pre-stripping requirements in the early years; and maintain the process plant at full production capacity. Mining will commence with the Çorak deposit with the LOM mine production schedule shown in Table 3. The mining is envisioned to be undertaken by a mining contractor.

The project does not contain mineral reserves, as a preliminary feasibility study has not yet been conducted.

Table 2: PEA Taç-Çorak Project LOM Resource

Description	Unit	Çorak	Taç	Total
Indicated Resources				
In-situ Tonnage	Mt	4.6	9.1	13.7
In-situ Grades				
Au	g/t	1.82	2.00	1.94
Ag	g/t	2.28	N/A	2.28
Cu	%	N/A	0.15	0.15
Zn	%	0.96	N/A	0.96
Pb	%	0.38	N/A	0.38
NSR	US$/t	52.24	54.60	53.81
Contained Metal				
Au	koz	270	586	856
Ag	koz	337	N/A	337
Cu	Mlb	N/A	30	30
Zn	Mlb	97	N/A	97
Pb	Mlb	38	N/A	38
Inferred Resources				
In-situ Tonnage	Mt	0.2	0.5	0.7
In-situ Grades				
Au	g/t	1.07	2.50	2.10
Ag	g/t	3.20	N/A	3.20
Cu	%	N/A	0.21	0.21
Zn	%	1.45	N/A	1.45
Pb	%	0.40	N/A	0.40
NSR	US$/t	43.28	69.28	61.92
Contained Metal				
Au	koz	7	41	48
Ag	Koz	21	N/A	21
Cu	Mlb	N/A	2	2
Zn	Mlb	6	N/A	6
Pb	Mlb	2	N/A	2
Total Waste Tonnage	**Mt**	**17.3**	**72.7**	**90.0**
Strip Ratio	**t:t**	**3.6**	**7.6**	**6.2**

Table 3: LOM Production Schedule – Taç and Çorak Project

Item	Detail	UNIT	TOTAL	Year							
				1	2	3	4	5	6	7	8
Production Schedule											
Mining & Milling	Taç Mill Feed	Mt	**9.6**	-	-	-	1.50	2.01	2.01	2.01	2.11
	Taç Waste	Mt	**72.7**	-	-	-	15.5	16.0	16.0	15.8	9.4
	Taç Strip Ratio	W:O	**7.6**				10.3	8.0	8.0	7.9	4.5
	Çorak Mill Feed	Mt	**4.8**	0.4	2.0	2.0	0.4				
	Çorak Waste	Mt	**17.3**	2.2	6.9	8.2	0.1				
	Çorak Strip Ratio	W:O	**3.6**	6.2	3.4	4.1	0.2				
	Total Mill Feed	Mt	**14.4**	0.4	2.0	2.0	1.9	2.0	2.0	2.0	2.1
	Total Waste	Mt	**90.0**	2.2	6.9	8.2	15.6	16.0	16.0	15.8	9.4
	Total Material	Mt	**104.4**	2.5	8.9	10.2	17.5	18.0	18.0	17.8	11.5
	Total Strip Ratio	W:O	**6.2**	6.2	3.4	4.1	8.0	8.0	8.0	7.9	4.5
Taç Head Grade	Cu	% Cu	**0.15**	-	-	-	0.16	0.14	0.15	0.19	0.13
	Au	g/t Au	**2.03**	-	-	-	1.61	2.52	1.97	1.77	2.15
Çorak Head Grade	Au	*g/t Au*	***1.79***	*2.12*	*2.18*	*1.34*	*1.83*	-	-	-	-
	Ag	g/t Ag	**2.32**	2.56	2.84	1.94	1.44	-	-	-	-
	Zn	% Zn	**0.98**	0.92	1.10	0.93	0.70	-	-	-	-
	Pb	% Pb	**0.38**	0.43	0.44	0.35	0.21	-	-	-	-
	Combined Copper equivalent head grade	%Cu	**1.64**	1.58	1.68	1.14	1.35	1.47	1.19	1.13	1.27
	Combined Gold equivalent head grade	g/t Au	**3.10**	2.98	3.16	2.14	2.55	2.78	2.25	2.13	2.39

Environment Permitting and Social Considerations

The project does not appear to have any current environmental fatal flaws; however, an ESIA needs to be completed to fully assess the project impact.

The Çorak pit is immediately adjacent to the Çoruh River. Recent (2010) amendments to the Regulation on Protection of Wetlands have redefined the concept of "wetland" and allow provisions for permitting of mining activities within buffer zones even if the proposed Yusufeli reservoir would be declared a wetland. While the "wetlands" concept no longer provides a legal obstacle to the project, the full implications with respect to land use limitations cannot be fully determined at the time being.

No people would be displaced by mining the Taç deposit but the Çorak pit, plant and tailings facility would require the relocation of several homes and the use of current farmland for waste and tailings deposition.

Waste Management

Waste rock from the Mediterranean shells will be deposited in engineered waste rock facilities ("WRF") adjacent to both the Taç and Çorak deposits. The Taç South West WRF would be located immediately south west of the Taç deposit and is designed to contain 73 Mt of waste. The Çorak East WRF would be located to the east side of the Çorak deposit and has a design capacity of 18 Mt.

The dry-stack tailings management facility ("TMF") is envisioned to be located near the Çorak deposit close to the proposed processing plant, across the Çoruh River. The TMF would hold up to 15 Mt of filtered tailings.

The WRFs and TMF are designed above the proposed Yusufeli dam high water line.

Capital and Operating Cost Estimation

Operating costs for the project are summarized in Table 4. All costs are in US dollars. The open pit mining operating costs assume contract mining including drilling/blasting.

Table 4: Operating Cost Estimate

Area	Unit	Value
Open pit mining	$/t mined	1.95
	$/t processed	14.11
Processing	$/t processed	17.88
General and Administrative (avg.)	$/t processed	1.88
Tailings Deposition	$/t processed	3.80
Total OPEX	$/t processed	37.67
Unit OPEX per Au equivalent	$/oz Eq. Au payable	578

Capital costs for the project were developed from a mix of first principles, reference projects, and experience. The annual capital costs by major category are shown in Table 5. No open pit mining fleet capital costs are included since contract mining is assumed and the contractor will be responsible for supplying an adequate mining fleet.

Table 5: Capital Cost Estimate Summary

Category	Unit	Total	Year					
			-2	-1	1	2	3	4 to 8
Mine (assumes contract mining)	M$	2.0	2.0					
Mill and Infrastructure	M$	56.0	40.0	16.0				
Construction Indirect	M$	21.2	15.0	6.2				
Dry-stack Tailings Facility	M$	31.5		15.8	4.7	4.7	3.2	3.2
Owners Costs	M$	4.7	2.9	1.9				
Closure	M$	20.0						20.0
General sustaining capital	M$	9.0			1.1	1.1	1.1	5.6
Contingency (25%)	M$	36.1	15.0	10.0	1.5	1.5	1.1	7.2
Working Capital	M$	-			3.6			-3.6
Total Capital Cost	M$	180.5	74.8	49.8	10.9	7.3	5.3	32.3

Economic Analysis

Simplified earnings before interest, taxation, depreciation and amortization ("EBITDA") analyses were compiled for four cases using varying metal prices. For each case the mill feed tonnes were held constant and the metal prices were varied only in the economic model. The base case (Case A) metal prices used for Whittle optimization and mine planning were \$2.75/lb Cu, \$1,000/oz Au, \$16.00/oz Ag, \$0.90/lb Zn and \$0.85/lb Pb. The metal prices used in the economic model for the four cases are shown in Table 6.

Table 6: Metal Prices by Case

Case	Copper (\$/lb)	Gold (\$/oz)	Silver (\$/oz)	Zinc (\$/lb)	Lead (\$/lb)
Case A (Base Case used for mine design)	2.75	1,000	16.00	0.90	0.85
Case B (3-year average)	3.06	1,094	19.00	0.86	0.89
Case C (2-year average)	3.41	1,207	21.96	0.97	1.00
Case D (1-year average)	3.84	1,346	27.36	1.00	1.06

Common assumptions to all cases included:

- 5% discount rate ("DR") for net present value ("NPV") calculation;
- 100% equity financing as per guidance by Mediterranean;
- Exclusion of all duties and taxes;
- 2.0% royalty on net smelter return;

The results of the economic analysis indicate that the project is economic for the assumptions made as shown in Table 7.

Table 7: LOM Key Economic Results

Parameter	Unit	Results
Case A		
EBITDA $NPV_{0\%}$	M$	87
EBITDA $NPV_{5\%}$	M$	51
EBITDA IRR	%	16
EBITDA payback period	Production years	3.0
Case B		
EBITDA $NPV_{0\%}$	M$	157
EBITDA $NPV_{5\%}$	M$	105
EBITDA IRR	%	25
EBITDA payback period	Production years	2.5
Case C		
EBITDA $NPV_{0\%}$	M$	256
EBITDA $NPV_{5\%}$	M$	184
EBITDA IRR	%	37
EBITDA payback period	Production years	1.0
Case D		
EBITDA $NPV_{0\%}$	M$	366
EBITDA $NPV_{5\%}$	M$	270
EBITDA IRR	%	48
EBITDA payback period	Production years	0.5

Conclusions

Industry standard mining, process design, construction methods and economic evaluation practices have been used to assess the Taç-Çorak Project. SRK has concluded that there is adequate geological and other pertinent data available to generate a PEA.

Based on current knowledge and assumptions, the results of this study show that the project has positive economics (within the very preliminary parameters of a PEA) and should be advanced to the next level of study by conducting the work indicated in the recommendations section of this report.

As with almost all mining ventures, there are a large number of risks and opportunities that can affect the outcome of the Taç-Çorak project. Most of these risks and opportunities are based on uncertainty, such as lack of scientific information (test results, drill results, etc.) or the lack of control over external factors (metal price, exchange rates, etc.).

Subsequent higher-level engineering studies will be required to further refine these risks and opportunities, identify new risks and opportunities and define strategies for risk mitigation or opportunity implementation.

While a significant amount of information is still required to do a complete assessment of the Taç-Çorak project, at this point, there do not appear to be any fatal flaws for the project.

The study has achieved its original objective of providing a preliminary review of the potential economic viability of the Taç-Çorak project.

Recommendations

It is recommended that the project be advanced to the preliminary feasibility study stage, following a definition drilling program that will attempt to convert inferred resources into indicated or measured resources. The cost of the definition drilling program, pre-feasibility study ("PFS") and associated field and lab work is estimated to be $4M to $6M.

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Appendix A quality Control Data

Disclaimer

The opinions expressed in this Report have been based on the information supplied to SRK Consulting (Canada) Inc. ("SRK") by Mediterranean Resources Ltd. ("Mediterranean"). These opinions are provided in response to a specific request from Mediterranean to do so, and are subject to the contractual terms between SRK and Mediterranean. SRK has exercised all due care in reviewing the supplied information. Whilst SRK has compared key supplied data with expected values, the accuracy of the results and conclusions from the review are entirely reliant on the accuracy and completeness of the supplied data. Opinions presented in this report apply to the site conditions and features as they existed at the time of SRK's investigations, and those reasonably foreseeable. These opinions do not necessarily apply to conditions and features that may arise after the date of this Report.

1 Introduction

The Yusufeli Property is located in north-eastern Turkey and is, for the purposes of this report, defined as the collection of operating and exploration licences containing the Taç, Çorak, Çeltik and Çevreli mineral projects located southwest of the town of Yusufeli. These four mineral projects are considered to exist on a single property due to the contiguity of the licences on which they are located as well as the reasonable likelihood that any future mining operation at these projects would be able to share some central mining infrastructure. However, for the purpose of this PEA, only the Taç and Çorak deposits are considered in the mine plan and economics.

In the past, these projects had been treated as separate properties.

This Technical Report has been prepared in accordance with National Instrument 43-101 and Form 43-101F1 by SRK Consulting (Canada) Inc. ("SRK") for Mediterranean Resources Ltd. ("Mediterranean").

1.1 Scope of Work

Mediterranean retained SRK to conduct a PEA on the Taç and Çorak deposits on its Yusufeli Property in north-eastern Turkey and prepare a NI 43-101 Technical Report.

The PEA uses the 2009 SRK mineral resource estimate for Taç and Çorak. This technical report also outlines a potential deposit at the Çeltik Project ("Çeltik") and describes exploration activities at the Çevreli Project ("Çevreli"), both also contained within the Property. These two areas are to be the targets of future exploration and are not included in the economic analysis of the project presented in this report.

1.2 Sources of Information

This report relies on information and data provided by Mediterranean and its Turkish subsidiary, Akdeniz Resources Madencilik A.Ş. ("Akdeniz"), through which Mediterranean owns the Yusufeli Property. Much of these data were provided or forwarded to SRK by Ibrahim Güney, former General Manager of Akdeniz.

1.3 Qualified Persons ("QP") and Site Inspections

The Yusufeli Property was personally inspected by the qualified persons listed in Table 1.1.

Contributions were made to this report by several QPs as noted in Table 1.1. Each QP is solely responsible for his/her own work.

Table 1.1: QP List with Responsibilities

Name of QP	Date of Site Visit	Report Section Responsibility
Wayne Barnett	Oct 6-10, 2008	Sections: 5 to 10
Gordon Doerksen	Feb 16-17, 2010	Sections: Exec. Sum., 1 to 4, 14, 18 to 24, 25.2, 26 to 30
Dino Pilotto	Feb 16-17, 2010	Sections: 15, 17.1, 17.2
Bruce Murphy	Feb 16-17, 2010	Sections: 25.1
Maritz Rykaart	Feb 16-17, 2010	Sections: 17.3
Marek Nowak	n/a	Sections: 12 to 13, and 16
Chris Bonson	July 14 and September 18, 2008	Section 11

Marek Nowak did not conduct a site visit but, instead, relied upon site visits by SRK geology consultants Abolfazl Ghayemghamian and Chris Bonson conducted on the July 14, 2008 and September 18, 2008, and by Wayne Barnett on the 6th to 10th of October 2008. The scope of their personal inspections was to:

- Understand the geological nature and controls on the Yusufeli Property;
- Review exploration procedures and protocols; and
- Review Mediterranean's current exploration database.

SRK was given full access to relevant project data and conducted interviews of key Mediterranean personnel to obtain information on past exploration practises and field procedures used to collect, record, store and analyze the data.

1.4 Conventions

In the interests of clarity and to avoid confusion, both the issuer, Mediterranean Resources Ltd., and their Turkish subsidiary, Akdeniz Resources Madencilik A.Ş., will be referred to as "Mediterranean" in the body of this technical report. It is also noted that "Akdeniz" is the Turkish translation of the English word, "Mediterranean".

It is a convention in this report to use the proper Turkish spellings of place names within Turkey. The Turkish spellings are identical to the English spellings, except that they include letters with diacritics that affect the pronunciation of the names.

The SI units of measure are used throughout this report, except when imperial units are the industry standard such as ounces for precious metals and pounds for base metals.

All currency is in United States dollars ("USD", "US$" or "$") except as noted.

An explanation of acronyms and abbreviations is included in Section 28.

2 Reliance on Other Experts

Neither SRK nor the authors of this technical report are qualified to provide extensive comment on legal issues associated with the Yusufeli Property. As such, portions of Section 3 dealing with the types and numbers of mineral tenures and licences, the nature and extent of Mediterranean Resource's title and interest in the property, the terms of any royalties, back-in rights, payments or other agreements and encumbrances to which the property is subject, the environmental liabilities to which the property is subject, and the permits that must be acquired to conduct the work proposed for the property and whether they have been obtained, as well as portions of Sections 4, 5 and 6 dealing with accessibility, climate, local resources, infrastructure, physiography, history and regional geology rely heavily on information provided to SRK by Ibrahim Güney of Mediterranean.

Additionally, portions of Section 3 dealing with the types and numbers of mineral tenures and licences, the nature and extent of Mediterranean Resource's title and interest in the Property, the terms of any royalties, back-in rights, payments or other agreements and encumbrances to which the Property is subject also relies on a due diligence report, dated May 24, 2007, written by Avukat (Lawyer) Mehmet Orhan Esenbil of the Ankara Bar Association.

The above information, where SRK has relied on other experts, has not been independently verified by SRK.

3 Property Description and Location

3.1 Location

The Yusufeli Property is located in the north-eastern Artvin Province of Turkey southwest of the town of Yusufeli, generally along the Çoruh River (Figure 3.1).

3.1.1 Taç Project

Taç is located 8 km southwest of the town of Yusufeli, at approximately 4516800 mN and 710500 mE UTM coordinates.

Taç is contained within Operating Licences IR-4248, IR-5249 and IR-5340, which cover a total of 1,511.32 ha.

The surrounding areas to the north, south and west are covered by Exploration Licences 20059302, 20059303, 20069647, 200809852 and 200803562 (Figure 3.2).

3.1.2 Çorak Project

The Çorak project is located 18 km southwest of the town of Yusufeli, at approximately 4511000 mN and 704000 mE UTM coordinates.

The Çorak mineral resource is contained within Operating Licence IR-4354, which covers 829.32 ha.

The surrounding areas to the north, south, and east are covered by Exploration Licences 200809778, 20059304, 20059303 and 2005930 (Figure 3.2).

3.1.3 Çeltik Project

Çeltik is located near Taç, about 5 km southwest of Yusufeli. The main area of the project is contained within Exploration Licence 20059302 and extends onto Exploration Licence 200803562 (Figure 3.2).

3.1.4 Çevreli Project

Çevreli is also located in close proximity to Taç, about 10 km southwest of Yusufeli. The main area of the project is contained within exploration licences 20069647, 200809852 and 20059303 (Figure 3.2).

Figure 3.1: Property showing Location within Turkey (Hakan Guney, Mediterranean)

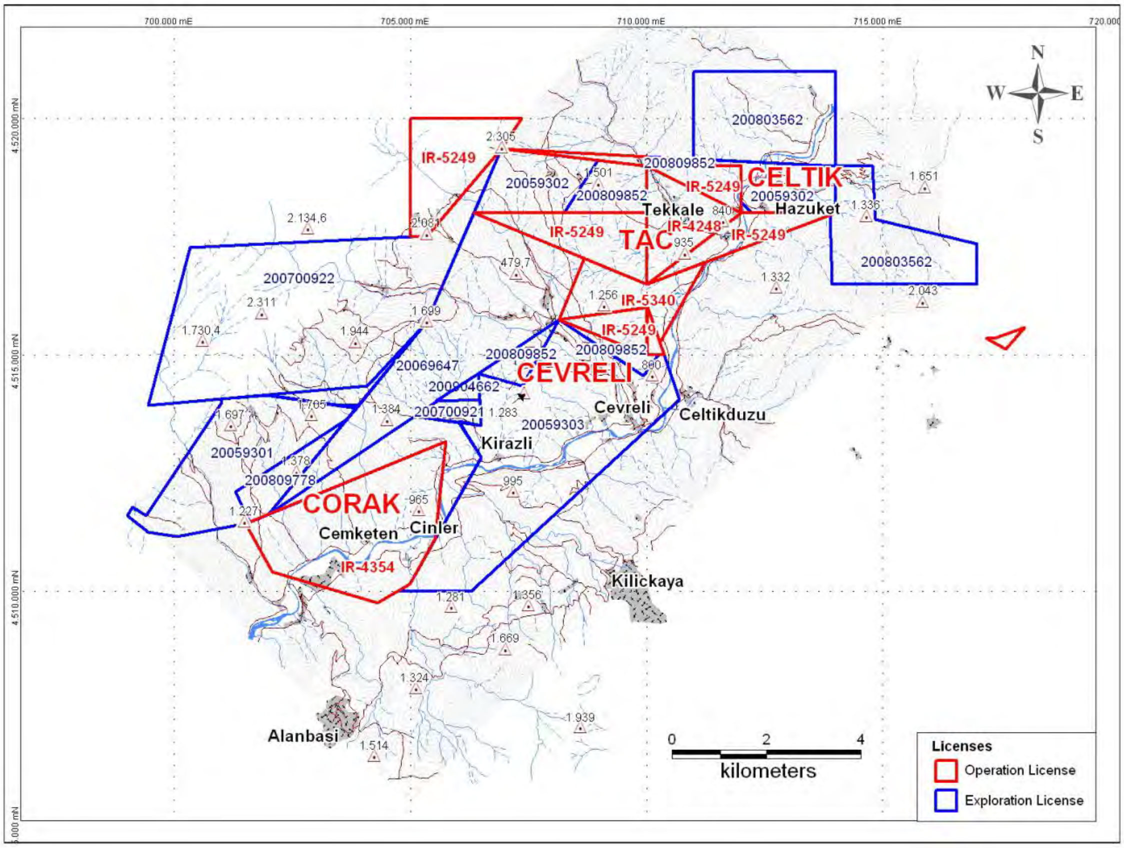

Figure 3.2: Map showing Operating and Exploration Licences as well as Significant Mountain Peaks and Settlements in the Vicinity of the Property (Mediterranean, 2010)

3.2 Mineral Tenures

The Yusufeli Property is held by Mediterranean through a series of fourteen Operating Licences and Group IV Exploration Licences, which are registered with the Turkish Mining Bureau in Ankara, Turkey. The total area of these licenses is 9,583 hectares. A list of these operating and exploration licences is included in Table 3.1.

Table 3.1: Yusufeli Operating ("IR") and Exploration ("ER") Licences

Licence No.	Registry Number	ERİŞİM No.	Hectares	Expiry Date (d/mo/yr)
IR 4248	16016	2074429	250	15.08.2014
IR 5249	22142	2144548	1,025.42	15.07.2013
IR 5340	21775	2139463	235.9	05.01.2012
IR 4354	9370	2016724	829.32	25.01.2013
ER 3079766*	20059301	3079766	635.34	21.12.2010
ER 3079741*	20059302	3079741	468.89	21.12.2010
ER 3079740*	20059303	3079740	1,417.19	21.12.2010
ER 3105764	20069647	3105764	1,055.26	14.09.2009
ER 3119780	200700921	3119780	53.69	01.02.2010
ER 1047689	200700922	1047689	1,798.06	01.02.2010
ER 3174334	200803562	3174334	1,039.63	29.04.2011
ER 3197131	200809778	3197131	394.99	20.10.2011
ER 3054551	200809852	3054551	297.03	24.10.2011
ER 3234110	200904662	3234110	82.36	03.09.2012
TOTAL			**9,583.08**	

**In the process of being converted to an Operating License*

The expiry of the Operating Licences can be extended upon application for extension before the expiry date. Exploration Licences may be extended in the same manner for up to five years from the issue date, after which they can be either extended for an additional five years or converted to Operating Licences, provided that the appropriate application is made before the expiry date.

The licence boundaries have not been surveyed or marked on the ground. The boundaries are established on the basis of map coordinates, which are listed on legal mining bureau certificates for each of the operating and exploration licences.

3.3 Features and Improvements

The Çoruh River flows across the property to the northeast. The Yusufeli-İspir highway runs along its banks and passes through the property.

There are eight villages and one township located within Mediterranean's exploration and operating licences. These settlements, as well as roads and significant peaks, are shown in Figure 3.2.

Southeast of the Çoruh River, the township of Kılıçkaya and the village of Alanbaşı are located proximate to the south-westernmost exploration licence (20059304). Çeltikdüzü is located at the eastern corner of exploration licence 20059303 and Hazuket is located near the boundary between exploration licence 20059302 and operating licence IR-5249. These settlements lie in areas where the mineral potential has yet to be evaluated.

Northwest of the Çoruh River, the village of Çemketen is located in close proximity to the Çorak resource area and the village of Tekkale lies 600 m southwest of the Taç resource area. The villages of Çevreli, Kirazlı and Cınler are located along the northeast bank of the Çoruh River in areas where the mineral potential has yet to be evaluated.

Most of the property is located on public forest lands, which have not been improved.

Historical exploration activities included some shallow diggings and short adits being developed in the area. Beyond this there are no old workings, nor are there any historical tailings or waste deposits on the property.

An underground coal mine is operating to the east of the Property, further along the road that accesses Çeltik. This mine has been in production since 1998 and, according to the operator, Isı Maden, it will operate for another ten years. Also, there is an inactive underground lead-zinc mine located west of the property, about five kilometres northwest of Çorak, at Dokumacılar. This mine was operated by Karadeniz Madencilik until 1991, and again from 2004 until 2007. The licence has recently been acquired by IMM Anatolian Madencilik, part of India's Binali Group.

The nearest operating metal mines are located approximately 50 km to 60 km north of the Yusufeli Property. They are known as Çayeli, Murgul and Cerattepe, and they are VMS deposits located on the other side of the Pontides Mountains.

3.4 Ownership and Liabilities

Mediterranean holds a net 100% interest in the Yusufeli Property, subject to three conditions. These conditions are as follows:

- Mediterranean shall pay to Teck Cominco, within six months of commencement of commercial production, US$2,000,000 in cash or securities;
- A Net Smelter Royalty shall be paid to Teck Cominco on all minerals produced from the land covered by the four Operating Licences (which include Taç, Çorak and part of Çevreli, but not Çeltik):
  - For gold, the royalty is:
    - 1.5% of Net Smelter Returns for a gold price of less than US$425 per ounce, and
    - 2% of Net Smelter Returns for a gold price equal to or greater than US$425 per ounce;
  - For all other metals produced from the Property, the royalty is 1.75% of Net Smelter Returns.
- An additional Net Smelter Royalty of 1%, payable to Oner Gurses, the previous owner prior to Teck Cominco, applies to all minerals produced from within Taç Operating Licence IR-4248 and Çorak Operating Licence IR-4354.

Mediterranean does not currently hold all the surface rights for the property. These rights are currently held by local private property owners where the land is privately owned and is not forest land.

There are no known environmental liabilities with the current property. All permits necessary for current or planned exploration activities, including maintenance of the operating and exploration licences, drilling, and road construction, are in place.

4 Accessibility, Climate, Local Resources, Infrastructure and Physiography

4.1 Physiography and Local Resources

The Yusufeli Property is located on the Çoruh River, which is one of the fastest flowing rivers in the world. The river flows across the property toward the northeast. Its water level varies dramatically through the season, primarily affected by the rate of snow melt. Its maximum water level and rate of flow generally occur in the spring.

The Çoruh valley is cultivated with crops of rice and fruit trees. The uncultivated slopes are sparsely covered by bushes and oak trees and, at higher elevations where snow accumulation provides sufficient water, pine trees. A photo of the valley is included in Figure 4.1.

The majority of the Property is situated on the northern slope of the Çoruh river valley. The area has a rugged topography with elevations ranging from 650 m to 700 m above mean sea level in the Çoruh river valley to about 1,250 m on Kırmızı Tepe and up to 2,300 m in the mountain range at the northern extents of the Property. A Google Earth representation of the terrain is included in Figure 4.2.

Figure 4.1: The Çoruh Valley, Yusufeli, Artvin, Turkey

Figure 4.2: Google Earth image showing terrain (oblique view looking North)

4.2 Climate

The climate is hot and dry in the summer with temperatures reaching approximately 40º C. During the summer and autumn, the region is prone to sudden rainfalls, causing floods and rock falls that can impede passage on the main roads. Winter temperatures and conditions vary with elevation. In the Çoruh valley, temperatures seldom fall below 0º C and snowfall is minimal.

At higher elevations, the period of snowfall typically begins in November and lasts until April. Although exploration activities, including drilling, can be conducted on a year-round basis, they most conveniently carried out from the beginning of March until December.

4.3 Accessibility and Infrastructure

The nearest airport is south of the project at Erzurum (135 km, 2½ hours by road), which is serviced by daily scheduled flights from Ankara and İstanbul. Additionally, there is an airport and port facility located west of the project at Trabzon (335 km, 5 hours by road), on the Black Sea, which also has a scheduled service to İstanbul and Ankara.

Taç, Çorak and Çeltik are readily accessible by road. Çeltik and Taç are a 10 and 20 minute drive, respectively, from the population centre of Yusufeli and Çorak is a 30 to 40 minute drive.

Çevreli is accessible by road, approximately 25 minutes from Yusufeli, followed by a 20 minute walk.

The Yusufeli-İspir highway, which is paved, follows the Çoruh valley southwest from Yusufeli. Çeltik is accessed by a suspension bridge from the highway 4 km southwest of Yusufeli, and then a gravel road that leads away from the Çoruh River to the project.

Further down the Yusufeli-İspir highway is the village of Tekkale, which is 2.5 km southwest of Taç. The highway then continues southwest to the village of Çevreli (Peterek), where it branches into two: one road running along the southern bank of the river and the other road following the north bank. The south bank road reaches the south-westernmost part of Çorak via the Alanbaşı village. The north bank road, which has a gravel surface, passes through the villages of Kirazlı and Cınler and then reaches Çorak near the village of Çemketen.

Çevreli is accessed via the Çevreli-Dokumacılar road, whose junction with the Yusufeli-İpsir highway is located at the village of Çevreli. Northwest of this junction along this road is the upper ward of Çevreli, from which it is a 20 minute walk to the project site.

Drill roads have been constructed from the public roads to most areas of exploratory interest.

Sufficient water for future mining operations at Taç and Çorak can be obtained from the Çoruh River. The region has an established electrical power network and significant hydro-electric power sources that have the capacity to provide electrical power to the project..

Areas sufficient for the location of processing facilities, as well as the disposal of waste rock and tailings, exist within the licence but are quite constrained by topography and the high water mark of the potential Yusufeli dam. It would be necessary to acquire surface rights from existing property owners before such facilities could be constructed.

Turkey has an established mining industry and the necessary skilled personnel can be found within the country.

5 History

The earliest known mineral exploration in the area dates back to early 1970s. There are historical reports of shallow diggings and short adits, showing small-scale mining activities by primitive methods.

In 1972, a United Nations-sponsored exploration program was conducted in the area. Mineralized veins bearing chalcopyrite, bornite, galena, sphalerite and malachite were identified.

In 1975, the General Directorate of Mineral Research & Exploration of Turkey (“MTA”) carried out a mineral exploration program in the area consisting of an induced polarisation (“IP”) survey.

In 1979, the MTA geologically mapped the area at a scale of 1:10,000.

In 1988, Cominco Madencilik, Cominco’s Turkish subsidiary, acquired four exploration licences, including those covering the Taç and Çorak Projects, and conducted a regional stream sediment geochemical survey.

In 1989, Cominco conducted further mapping and collected silt, soil and rock samples. At Taç, this was followed by the drilling of 20 reverse circulation (“RC”) holes within the most-accessible portion of the property. Two fences of eight holes each indicated an apparent southeast trend of gold mineralization. At Çorak, six RC holes were drilled in order to test IP anomalies previously detected by the MTA program. Three of the six holes were found to intersect gold zones.

In 1990, exploration continued at Taç with geological mapping and soil geochemistry. Mapping was carried out on a 400 m by 500 m grid over the area of drilling and both rock chip and soil samples were taken along the grid. In addition, Cominco drilled 23 RC holes and four diamond drillholes to follow up on the most favourable results of the 1989 drill program. The diamond drillholes tested the area around reverse circulation hole T-6, near the peak of Karşıbayır Tepe.

At Çorak, Cominco undertook a program of geological mapping, soil and rock sampling as well as RC and diamond drilling. Mineralized quartz veins were intersected containing gold, lead and zinc.

In 1991, Cominco collected rock and soil samples and drilled six diamond drillholes at Taç. Meanwhile, at Çorak, Cominco completed an extensive RC drilling campaign of 24 holes. Thirteen of the holes were drilled in the vicinity of Çemketen village (the Village Zone). The remaining 11 holes were drilled in order to complete two fences to the southwest (the South Zone).

In 1992, at Taç, Cominco conducted a program of contour and base soil sampling in the Kırmızı Tepe area, about 3 km southwest of the area of previous exploration activity. The results were inferred to indicate that the trend of gold mineralization extends southwest from Kırmızı Tepe. After this program ended, the Taç property sat idle.

At Çorak, Cominco drilled three diamond drillholes in order to test for extensions of the Çorak mineralized zone to the southeast, beneath a thick cover of alluvium adjacent to the Çoruh River. Also a program of detailed stream sediment sampling was carried out in the Taç-Çorak region. After this program ended, the Çorak property also sat idle.

Also in 1992, stream sediment samples were collected at Çeltik, which then too sat idle.

In September 2004, Manhattan Minerals Corporation entered an agreement to purchase 100% of the Taç and Çorak properties from Teck Cominco, provided certain exploration requirements were met.

In 2005, Manhattan Minerals Corporation changed its name to Mediterranean Minerals Corporation and then to Mediterranean Resources Ltd. The Turkish subsidiary of this company, which holds the licences to the property, is Akdeniz Resources Madencilik A.Ş. In November of 2005, Mediterranean issued a NI 43-101 compliant technical report each on Taç and Çorak that were triggered by TSX Venture Exchange listing requirements.

In 2006, Mediterranean contracted Teck Cominco to conduct an exploration program at Taç in order to fulfill the exploration requirements of the purchase agreement. The exploration program consisted of a review of old data, rock chip and soil geochemical analyses, an IP survey and the drilling of 27 RC and 36 diamond drillholes.

In December 2006, Akdeniz fulfilled the exploration requirements stipulated by the 2004 agreement with Teck Cominco, and in 2007 the transaction was completed whereby Akdeniz acquired 100% of the Taç and Çorak licences from Teck Cominco.

In February 2007, Mediterranean Resources issued a NI 43-101 compliant resource estimate for the Taç property based on exploration completed to 2006.

In 2007, at Taç, Akdeniz drilled 35 diamond drillholes in order to complete in-fill drilling and to explore extensions of the known mineralized zones. IP and ground magnetic surveys were also conducted and rock chip samples were collected.

At Çorak, Mediterranean performed RC and diamond in-fill drilling to explore the north-eastern and south-western extensions of the known mineralized zones. IP and ground magnetic surveys were completed. Geologic interpretation of the previously mapped area was revised and rock chip samples were collected along newly opened road cuts. Numerous samples were collected from split cores of diamond drillholes and reject samples of RC drillholes for acid base accounting (“ABA”), metallurgical and cyanidation testing.

At Çeltik, an area of about 2 km^2 was geologically mapped at a scale of 1:5000. Also, 24 rock samples were collected and yielded anomalous gold values.

In March of 2008, Mediterranean issued a NI 43-101 compliant technical report each for Taç and Çorak containing mineral resource estimations completed after the 2007 exploration programs.

At Taç, the 2007 exploration program was extended into 2008, but no new program was initiated for 2008.

The 2008 Çorak exploration program was commenced in April. Mediterranean acquired contiguous exploration licences covering the area between Taç and Çorak and the surrounding areas. A drilling campaign, including 29 diamond drillholes, consisting of both in-fill drillholes within the main resource area and also grassroots holes to test unknown parts of the alteration zone, was completed. Also the south-western and north-eastern extensions of the main resource area were geologically mapped.

During mapping at Çorak, systematic soil and rock chip samples were collected from the south-western sector (now named Çorak West). Some assay results were encouraging and were used to outline new targets. After obtaining forest road and drilling location permits, drilling commenced in order to test the new targets at Çorak West.

Chip and channel samples collected from the north-eastern extension (named Çorak East) of the main resource area yielded highly anomalous gold values. Also a regional structural study was conducted over the entire Taç-Çorak area in order to establish the tectonic framework of the mineralized areas.

At Çeltik, Mediterranean initiated an extensive 2008 exploration program including geological mapping, IP survey, soil sampling and rock chip sampling.

6 Geological Setting

6.1 Regional Geology

Turkey is located in the Alpine Orogenic Belt between the Eurasian Plate in the North, and Arabian and African Plates in the South. Four main east-west trending tectonic belts cross the country; from north to south these are the Pontides, Anatolides, Taurides and Border Folds, all of which are resultant from periods of ongoing continental collision, subduction and sedimentation during the Mesozoic era.

The Yusufeli Property is situated within the Eastern Pontides tectonic belt, which coincides with a 500 km long and 50 km to 75 km wide mountain chain extending along the south-eastern Black Sea coastline (Figure 6.1). Geologically, the Eastern Pontides formed as part of an island-arc system, generated by the subduction of the floor of the Tethyan Ocean associated with the Alpine Orogeny, during the Jurassic and Neogene periods.

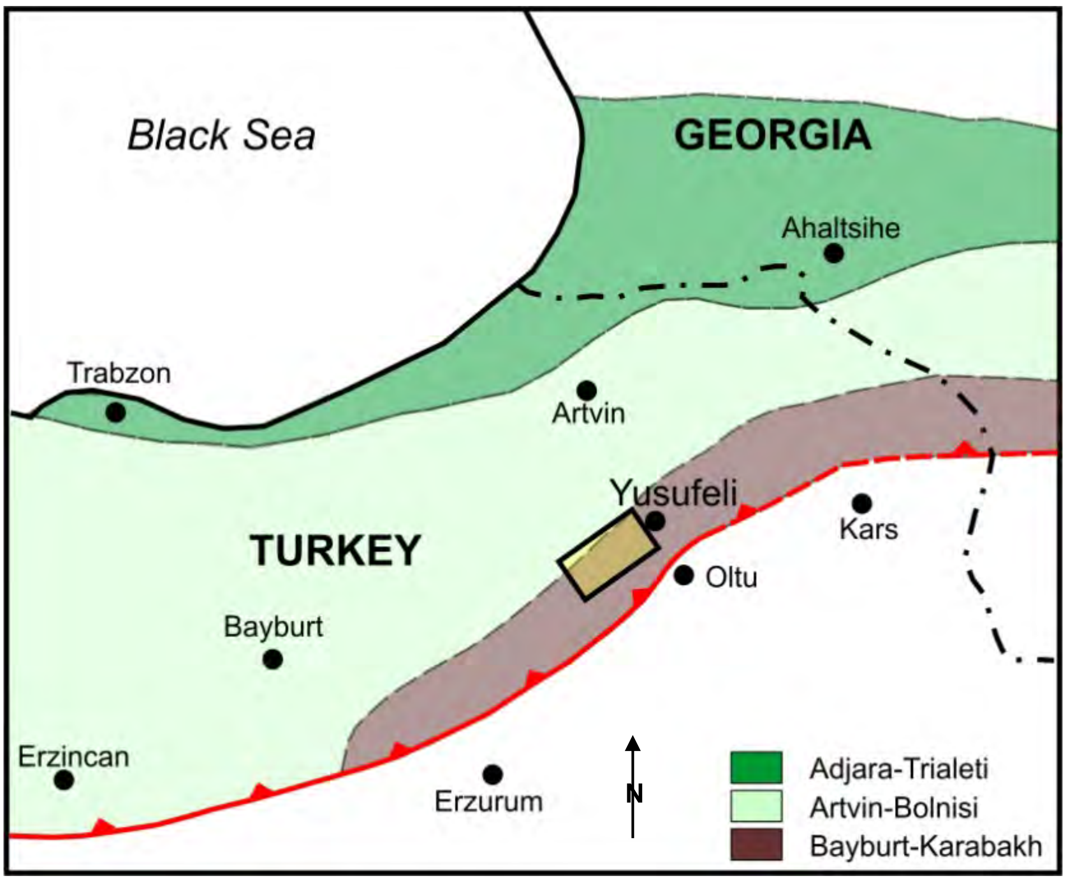

Figure 6.1: Schematic map showing the Location of the Study Area relative to the Structural Domains of the Eastern Pontides, not to scale. (modified from Yılmaz, et al., 2000)

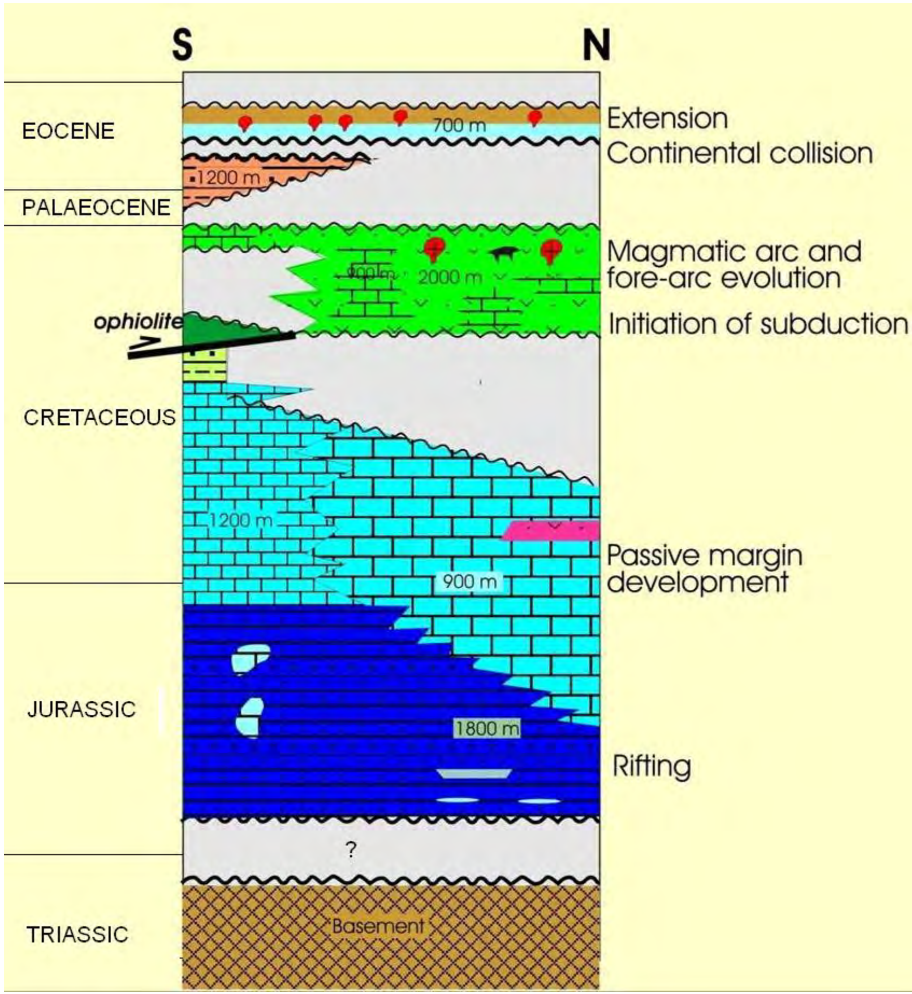

Figure 6.2: South to North schematic Section of the Stratigraphy across the Eastern Pontides (modified from Okay & Şahintürk, 1997) Not to scale

A schematic stratigraphic summary of the Eastern Pontides is given in Figure 6.2. Yılmaz, et al. (2000) divided the rocks of the Eastern Pontides-Southern Trans-caucasus into three belts (Figure 6.1), each with a characteristic setting within the destructive plate margin zone, summarised as follows:

Adjara-Trialeti Unit: the most northerly of the three belts, running along the south-eastern shoreline of the Black Sea, is comprised of Cretaceous and Tertiary volcaniclastic sedimentary rock, dacitic and andesitic volcanic rock, overlain by a succession of basaltic volcanic and volcaniclastic rock, intercalated with limestone and covered by shallow marine to continental deposits. The rocks are interpreted to represent a juvenile back-arc basin formed during the Late Cretaceous.

Artvin-Bolnisi Unit: the central belt, which is characterized by Hercynian basement unconformably overlain by Upper Carboniferous-Lower Permian molasse and Upper Jurassic-Cretaceous arc-associated rocks, including a Cretaceous succession of andesitic-dacitic volcaniclastic rock and sub-aerial to shallow marine pyroclastic rock, and intruded by granitoids.

These rocks are overlain by Tertiary basaltic volcaniclastic rock and shallow marine to continental deposits and are interpreted to represent the main Cretaceous arc.

Bayburt-Karabakh Unit: the southern-most belt consists of an imbricated complex of volcanic and intrusive rocks, representing a Jurassic volcanic arc.

These rocks are overlain by Upper Jurassic and Cretaceous turbiditic clastic rock containing intercalations of pyroclastic rock and shale, interpreted as the fore-arc association. Uppermost in this unit are Tertiary terrigenous clastic and shallow marine limestone, andesitic volcaniclastic rock and shallow marine to continental deposits.

In the area of the Yusufeli Property, the boundary between the Artvin-Bolnisi and Bayburt-Karabakh units is demarked broadly along the Çoruh River valley. Rocks generally north of the Çoruh are massive volcanic rock (broadly andesite composition lava and pyroclastic) and therefore have more of an arc affinity. Whereas south of the river is dominated by bedded volcanogenic sandstone, siltstone and mudstone and therefore may well represent a more distal forearc association.

6.2 Summarized Tectonic History

The following points summarise the major events in the geological history of the Eastern Pontides:

- Permian to Lower Jurassic (Lias): subduction of the Palaeotethys;
- Cretaceous to Eocene: magmatism and arc development due to the northward subduction of the northern part of the Neotethys;
- Palaeocene to early Eocene: contractional deformation including north-vergent thrusting and obduction of slivers of oceanic floor related to the collision of the Pontide belt in the north with the Tauride-Anatolide platform in the south (Şengör & Yılmaz, 1981; Robinson, Banks, Rutherford, & Hirst, 1995); and
- Post-early Eocene: opening of the Black Sea.

6.3 Metallogeny

The Eastern Black Sea Region is one of the most significant metallogenic belts of Turkey. The region is characterized by a great number of volcanogenic sulphide deposits (Cyprus- and Kuroko-type) as well as vein-type polymetallic deposits, porphyry and epithermal precious metal deposits (Yigit, 2000). Most economic deposits of precious metals and base metals are hosted within the voluminous Cretaceous-Eocene granitoids and interbedded volcanic rock and carbonate and are considered to be sourced from magmatism of a similar age.

6.4 Structural Geology

The structural geology of the Yusufeli Property was the subject of a study by SRK Consulting (UK) Limited (SRK UK) in 2008. Fieldwork and subsequent analysis indicate that the geology is dominated by the presence of a massive volcanic succession overlain by a sequence of thinly bedded volcanogenic and marine sedimentary rock striking NE-SW and dipping gently too steeply towards the southeast (approximately 135°). The valley is broadly sub-parallel to the trend of regional folds a zone of reverse faults (Figure 6.3). The principal deformation is dominated by crustal shortening, without a significant transcurrent component.

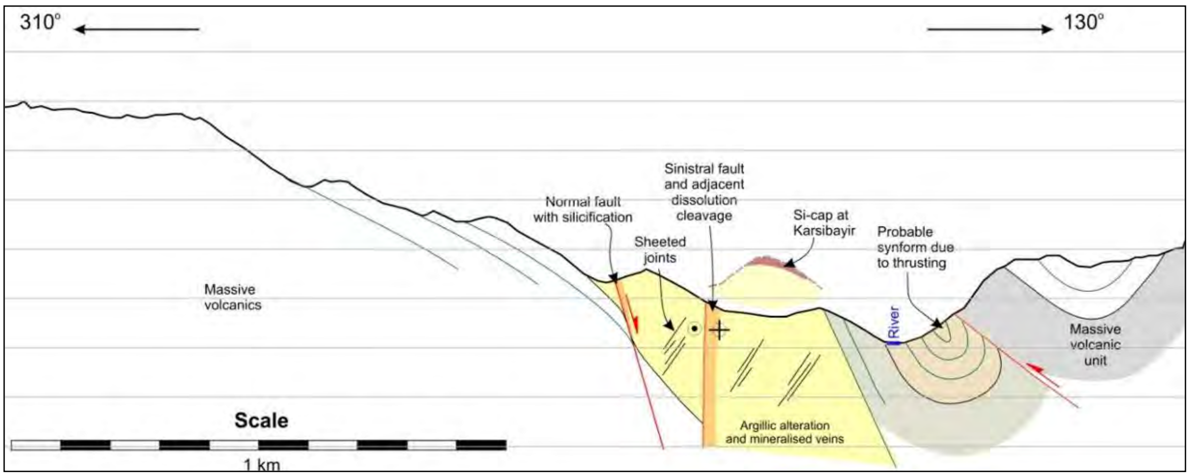

Figure 6.3: Schematic Cross-section through the Taç Deposit, illustrating the Principal Components of the Contractional Structural Axis that affect the Yusufeli Project (Bonson, 2008)

However, several subordinate phases of deformation, involving transcurrent and extensional (normal faulting) movements appear to have taken place subsequent to the initial folding and contribute to the overall structural architecture of the area.

Mineralization and alteration is represented by extensive stratabound argillic alteration cut by gold and base metal bearing quartz veins within a massive pyroclastic volcanic host rock below a bedded volcanogenic succession, with additional receptive massive volcanic units occurring higher up in the sedimentary succession. Porosity is believed to be the most likely control on the stratiform nature of alteration. However, proximity to major structures along or close to the structural axis appears to be an important influence on the presence of alteration.

6.5 Property Geology

6.5.1 Taç

Taç is predominantly underlain by andesitic volcaniclastics and flows, at the top of the Green and Cream Tuffs of Erkül (2006). It is overlain to the southeast by strongly layered turbiditic volcanogenic sandstone, conglomerate interbedded with thin shale and shaly-limestone units.

The host volcanic rocks and overlying sedimentary rocks are believed to be Upper Cretaceous to Eocene in age and are cut by intrusion sheets of mafic to intermediate composition.

The Taç deposit is situated just north of the main structural axis and within a relatively complex area where bedding changes in dip from hanging wall to footwall. Sediments in the hanging wall have dips of approximately 70°SE to the southeast of the deposit. Directly to the northwest of the deposit, the footwall volcanic rocks dip approximately 30°SE. The principal zone of alteration and vein mineralization occupies massive altered volcanic rocks that are extensively fractured by a steep system of sheeted joints, dipping approximately 50° to 60° NNW, broadly parallel to the trend of mineralized veins in the Taç deposit.

Alteration at Taç and throughout the other prospects in the Yusufeli Property is dominated by relatively massive argillic alteration which, in weathered surface outcrops, imparts a massive pale yellow to cream colouration, giving rise to visually distinct zones (Figure 6.4). The replacement of feldspars by clay minerals is also accompanied by incipient development of pyrite, minor silica alteration and the weak development of chlorite. Intense development of silica is however observed capping the summits around Taç, namely at Karşıbayır Tepe and Kırmızı Tepe, and also strongly affects a late normal fault running close to the northern margin of the zone of argillic alteration. The former “silica caps” represent highly silicified pyroclastic rock with anomalous gold values and lend comparison to high sulphidation epithermal systems.

The principal zone of argillic alteration and vein mineralization lies just north of the main structural axis of the Çoruh River and within a relatively complex area where bedding changes in dip from approximately 70°SE in the southeast of the deposit (i.e. the hanging wall), to approximately 30°SE, in the footwall of the deposit. The massive altered rock hosting the main vein mineralization is extensively fractured by a steep system of sheeted joints, dipping approximately 50° to 60° NNW. These very planar joints can be mistaken for sedimentary bedding, but do not show any compositional or grain size variation across them.

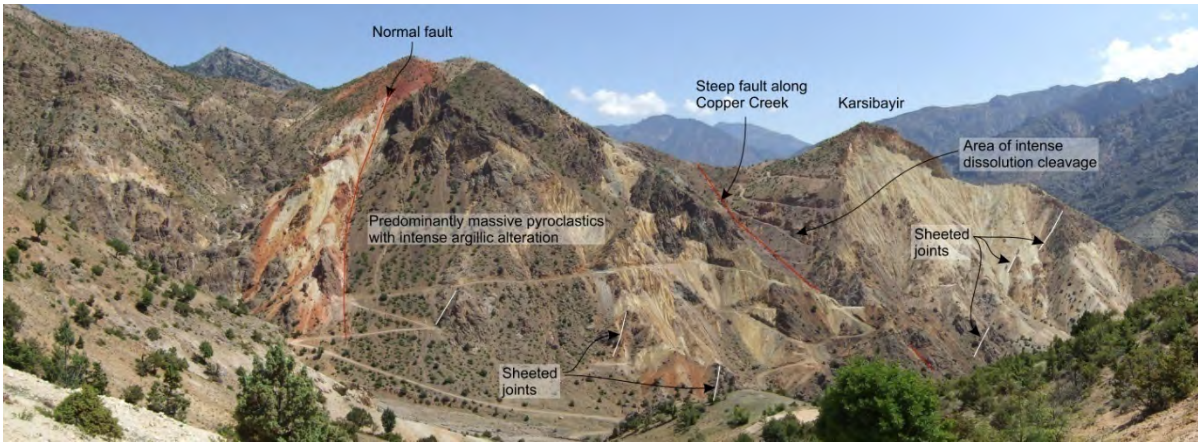

Figure 6.4: View of the Taç Deposit, looking towards the East

Some of the mapped faults from the previous interpretation (i.e. the Ugur Thrust and the Footwall Thrust; (Wardrop, 2008)) represent unfaulted stratigraphic surfaces (SRK UK, 2008). However, two significant faults do affect the Taç deposit. The first is a subvertically dipping sinistral fault outcropping at the base of Copper Creek and which occurs in close spatial relation to a narrow parallel zone of dissolution cleavage. This fault replaces the Copper Creek Thrust, which could not be observed. The second is a strongly silica-altered normal fault which appears to cut the argillic alteration. Displacement magnitude is not known on either fault, but is not anticipated to be much greater than several tens to a hundred metres.

SRK UK (2008) proposed a tentative model invoking the transfer of layer-parallel slip displacement between upper and lower stratigraphic interfaces of the massive volcanic hosts; in essence a layer-parallel dilational jog, to be the principal structural control on the mineralization at Taç.

6.5.2 Çorak

Alteration and mineralization and Çorak occupy broadly the same stratigraphic interval as at Taç, namely the uppermost few hundred metres of massive volcanic rocks below the well-bedded volcano-sedimentary package. At Çorak the massive host rock consists of a sequence of tuff, andesitic or andesitic-basaltic lava and volcaniclastic rock including agglomerate (volcanic breccia), lapilli stone, lapilli-tuff and tuffaceous sandstone. A sequence of alternating sandstone, siltstone, limestone, marl and mudstone interbedded with tuffaceous sandstone comprise the overlying volcano sedimentary rocks. Both the volcanic and volcano-sedimentary rocks are intruded by mafic to intermediate intrusions.

Bedding over the Çorak deposit dips 20° to 50° towards the southeast (100° to 150° azimuth), but shows a tendency to steepen to more than 70° towards the footwall of the alteration (i.e. towards the northwest). Intense strataform argillic alteration at Çorak occurs replacing layers of andesite composition pyroclastic rock, metres to tens of metres in thickness. Alteration is predominantly argillic, as at Taç.

The hanging wall to the altered rock is not observed other than approximately one kilometre east of the Village Zone, where it consists of bedded volcanogenic sedimentary rock locally containing a moderate schistose foliation dipping moderately to the southeast, interpreted to indicate shearing along this contact zone.

The volcanogenic sedimentary rock and underlying massive volcanic rock are believed to be compositionally similar, both being broadly andesitic. The preferential alteration of the massive pyroclastic dominated volcanic rock succession is associated with the higher porosity and permeability of these units, owing to their coarser grain size. It is also possible that some of the finer-grained sedimentary units may form an impermeable cap at the top of the pyroclastic rock.

Several faults have been mapped throughout the Çorak area on surface. Most appear to have a NW-SE orientation and dip steeply to vertical. Quartz veins within and around the faults often bears sulphide fragments, indicating syn-mineralization displacements.

Mineralized quartz veins within the extensively altered rocks predominantly have a NW-SE strike similar to the major faults; many accommodate small shear displacements. The trend of the veins is broadly perpendicular to the strike of the major compressional features within the Yusufeli Project area. As compressional and extensional directions are orthogonal, the anticipated extension direction is NE-SW consistent with the opening of structures of this orientation. Therefore, veining appears to have a relatively simple relationship to the overall compressional deformation.

Induced polarization and ground magnetic responses infer some north- to northwest-trending post-mineralization faults along the valleys, which are currently filled with alluvial deposits. These faults mark the bounding limits of the main resource area.

Likewise, the western boundary of alteration in Çorak West is defined by a significant fault zone which appears to have been the focus of major hydrothermal activity. Therefore, it is likely that mineralization and related argillic alteration are spatially and temporally associated with northeast-trending faults that were active during the regional contraction, although this remains highly speculative.

6.5.3 Çeltik

The Çeltik prospect is mainly underlain by a sequence of andesite-basalt lavas and pyroclastic rock of the Upper Cretaceous Çatak Formation (Figure 6.8). This unit grades upward to a well-bedded volcano-sedimentary series consisting of alternating clayey limestone, marl, siltstone, volcanic tuff, red mudstone with tuffaceous sandstone. Stratigraphically, these rocks occur directly above the massive volcanic rock unit which host mineralization at Taç and Çorak.

The Çatak Formation is intruded by the Çeltik intrusive complex: a dacite porphyry which is, together with a feldspar porphyry and intrusive andesite, the main host to mineralization at Çeltik.

The Çeltik intrusive complex ranges between 200 m and 500 m in width at surface and has a semi-circular outline in deeply eroded parts of the area, suggesting that it is likely to continue beneath the cover units. Laterally it extends discontinuously for about 1 km in a northeast-southwest orientation.

Texturally the dacite comprises quartz and feldspar phenocrysts (less than 1 cm) embedded in a cryptocrystalline or glassy matrix. The intrusive andesite does not appear altered in outcrop and is restricted to the north-eastern portion of the mapped area of Çeltik. A gradational relationship appears to exist between the principal dacite porphyry and the andesite porphyry, marked primarily by the abundance of quartz and feldspar phenocrysts.

Mafic dikes or sills, a few metres thick, locally intrude the volcanic and volcano-sedimentary rocks and Çeltik intrusive complex. The most significant dike extends for about 500 m in a north-south orientation in the central part of Çeltik. These intrusions are fresh, indicating that they post-date mineralization and alteration.

The principal alteration types are silica and argillic alteration. Both are pervasive within the host intrusion and have also affected the surrounding andesitic lava, pyroclastic and volcano-sedimentary series. The primary alteration is masked by subsequent supergene processes that have oxidized primary sulphide minerals, including pyrite and chalcopyrite, to secondary oxide minerals such as hematite and limonite, and have also altered more soluble minerals, including feldspars, to clay minerals. These processes have led to the vivid yellow colouration of the rocks of the Çeltik area.

The sedimentary rocks in the footwall of the alteration at Çeltik are strongly folded and faulted, with numerous small-scale (metre to decimetre-scale) stratigraphic duplications. To the east of Çeltik, the alteration appears to be bound by a zone of deformation reaching up to 300 m in width and striking broadly 030° to 210°. The structure dips sub-vertically towards the west and appears (from a distance) to post-date alteration.

This structure is believed to be of regional significance and may relate to the major system of faults represented on the Turkish geological maps of the area. Within the extensive zone of alteration, several small-scale faults strike north, northwest and northeast. It is probable that some of these faults played an important role in mineralization and related alteration as conduits for hydrothermal fluids, however at present the detailed structural understanding at Çeltik remains speculative.

6.5.4 Çevreli

Alteration and mineralization at Çevreli is essentially a continuation of the Taç-Kırmızı Tepe system. Argillic and silica alteration is hosted by the same massive succession of Cretaceous andesitic lavas and pyroclastic rocks as at both Taç and Çorak. These occur directly below volcanogenic sedimentary rock consisting sandstone, siltstone and mudstone.

The sedimentary units dip gently towards the southeast and define a sharp upper contact to the Çevreli alteration system (Figure 6.5). As at other localities, basaltic dikes and sills intrude the volcanic and volcano-sedimentary rocks.

Figure 6.5: View of the Çevreli prospect looking ENE

At Çevreli, the upper contact of the argillic alteration is sharp and occurs at the boundary between massive volcanic and volcanogenic sedimentary rocks, with alteration terminating below a friable purple conglomeratic unit, capped by sandstone and siltstone.

This relationship suggests a primary lithological control (porosity/permeability), rather than a structurally modified trap. The lithological contact appears conformable and shows no conspicuous signs of faulting.

Faults have been mapped in three northeast-southwest trending gullies in the Çevreli area and the presence of silicification and brecciation along similarly topographic ledges at higher elevations indicate that the dominant fault orientation at Çevreli is northeast-southwest, parallel to the major drainage system and apparently bounding the main zone of argillic alteration. This observation is similar to the structure of Çorak. However, due to the relatively early stage of exploration at Çevreli, the details of the structural control on the mineralization are highly speculative.

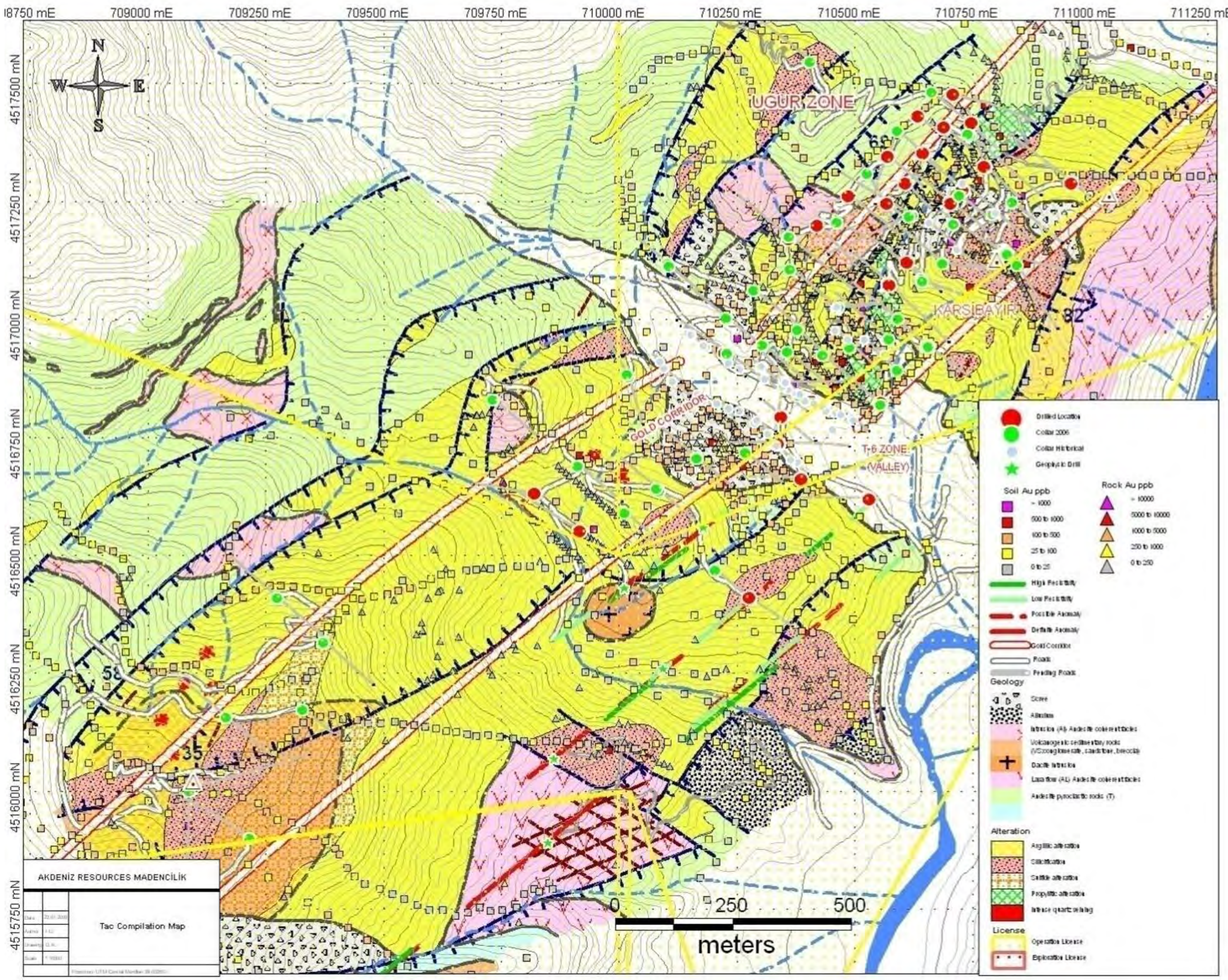

Figure 6.6: Geological Map of the Taç Project

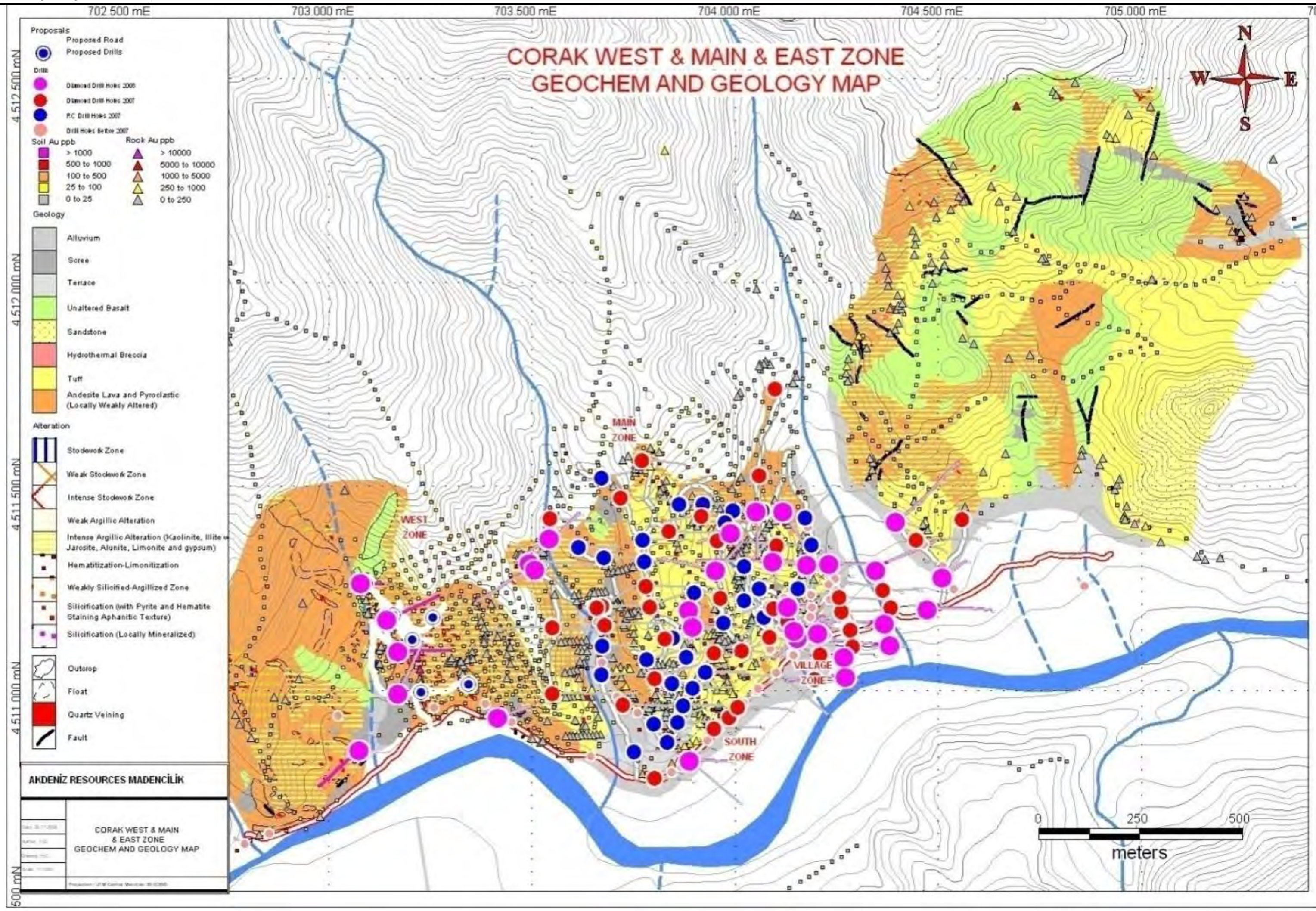

Figure 6.7: Geological Map of the Çorak Project

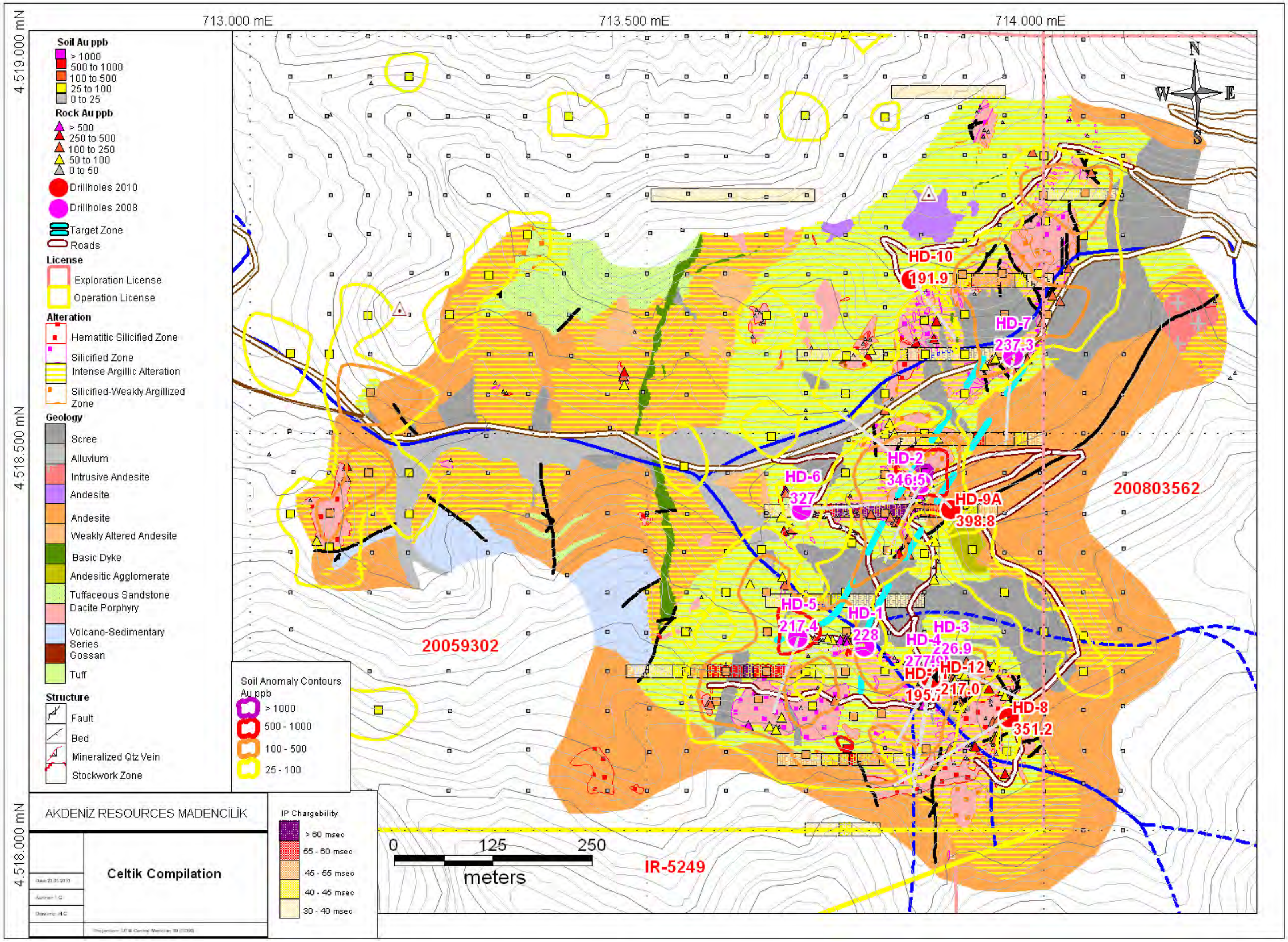

Figure 6.8: Geological Map of the Çeltik Project

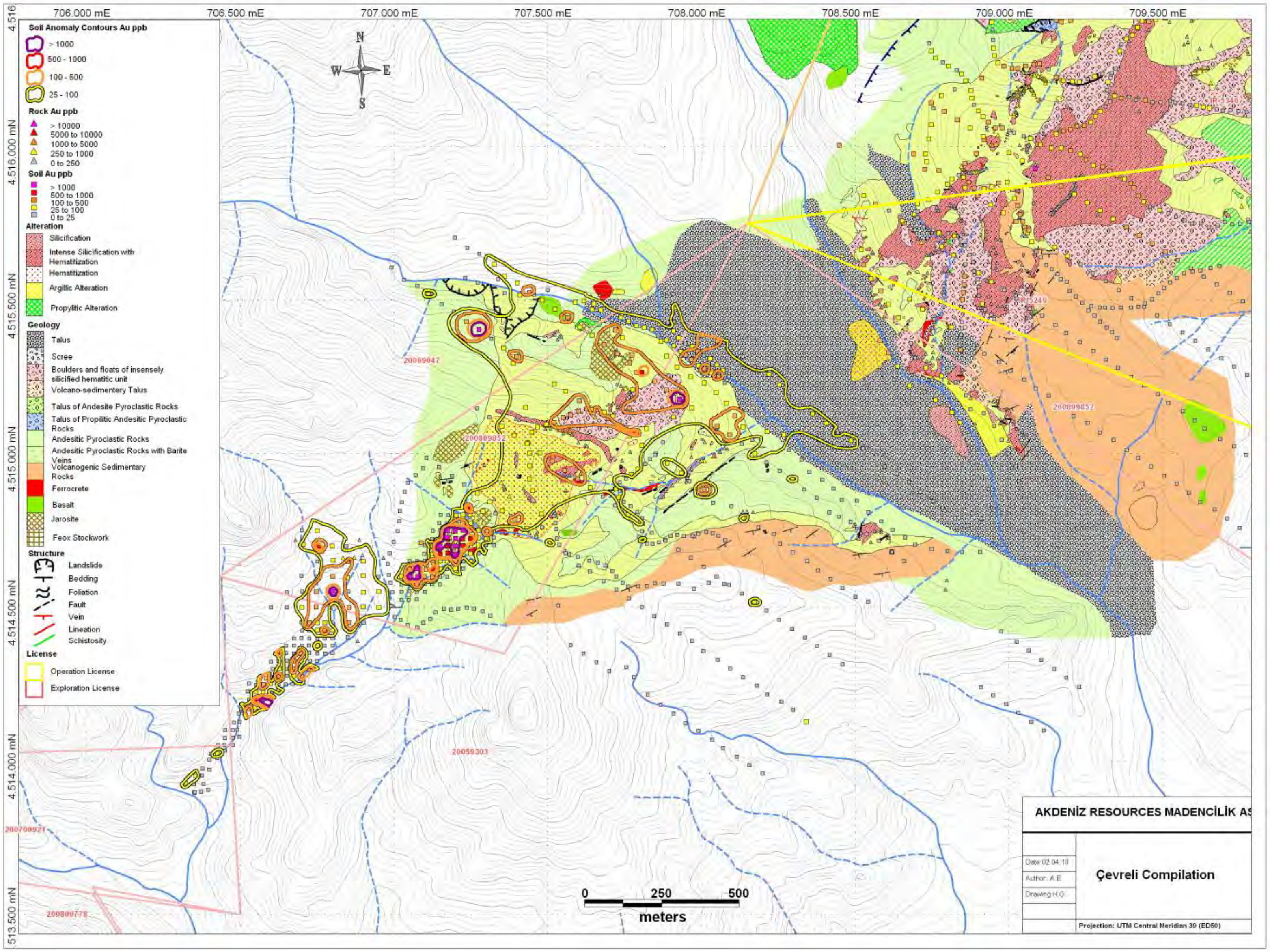

Figure 6.9: Geological Map of the Çevreli Project

7 Deposit Types

7.1 Taç

Mineralization at Taç exhibits some common characteristics of high sulphidation epithermal gold base metal deposits. After Wardrop (2008), salient characteristics of this deposit are:

- Quartz veins, stockworks and breccias carrying gold, silver, electrum, pyrite and lesser amounts of sphalerite, chalcopyrite, galena and rare sulphosalts and tetrahedrite. Veins commonly exhibit open space filling and mineralization is related to volcanic hydrothermal to geothermal systems;
- Deposition within a volcanic environment, typically island arc and continent-margin magmatic arc and continental volcanic fields with extensional structures;
- Host rocks include most types of volcanic rocks with calcalkaline andesitic composition predominating;
- Mineralization is typically localized in structures but may occur in permeable lithologies. Upward-flaring mineralized zones centred on structurally controlled hydrothermal conduits are typical. Vein and stockwork systems can extend for hundreds of m in strike length. High-grade veins are commonly found in dilatational zones in faults at flexures, splays and cymoid loops. Vein systems can be laterally extensive but mineralized shoots have relatively restricted vertical extent;
- Silica alteration is extensive as multiple generations of quartz and chalcedony. Pervasive silica in vein envelopes is flanked by sericite-illite-kaolinite assemblages. Intermediate argillic alteration forms adjacent to some veins and advanced argillic alteration may form along the tops of mineralized zones. Propylitic alteration dominates at depth and laterally; and
- Weathered outcrops are commonly characterized by resistant quartz “ledges” and extensive flanking bleached, clay-altered zones with supergene alunite, jarosite and other limonite minerals.

However, some key minerals that characterize high sulphidation systems, including enargite, luzonite, covellite and hypogene alunite, have not yet been identified at Taç, suggesting it is atypical.

7.2 Çorak

Mineralization at Çorak shows affinities to hydrothermal polymetallic vein-type mineralization in the epithermal environment. The main characteristics of the mineralization, which form the basis for exploration, can be summarised as follows:

- Mineralization is primarily hosted in lava flows and volcaniclastic rocks of calc-alkaline andesitic composition;
- Mineral deposition took place within island-arc and continent-margin magmatic arcs under extensional regime;
- Mineralization is localized in tensional fractures but also occurs in permeable lithologies such as tuffs. High-grade veins are commonly found in dilatational zones in faults;
- Mineralization primarily occurs as quartz veins, stockworks, breccias and disseminations. Individual veins extend for a few hundred m in strike but have relatively restricted vertical extent. They typically range in thickness from 1 cm to 10 cm or 20 cm and occasionally up to 0.5 m to 1.0 m;
- Mineralized quartz veins have crustiform, colloform and drusy textures typical of shallow-seated epithermal systems;
- Mineralization typically occurs as native gold, sphalerite and galena. Pyrite is ubiquitous; chalcopyrite is subordinate, but locally enriched in some veins. Chalcocite, covellite, bornite and sulphosalts occur in lesser amounts. Gangue minerals include quartz, carbonate minerals with barite and rare amethystine quartz;
- Mineralization at Çorak has a geochemical signature not typical of most epithermal systems. Gold is accompanied by elevated amounts of arsenic and silver. Antimony is locally present in anomalous amounts, as is cadmium;
- Widespread argillic alteration occurs, resulting in illite, kaolinite and alunite assemblages. Supergene weathering has caused kaolin, alunite, gypsum formation and sulphide oxidation;
- Pervasive silica occurs locally at Çorak. Numerous hematitic silica caps occur as remnants, especially on the tops of hills. Propylitic alteration occurs at depth and laterally;
- Mineralization typically occurs in numerous quartz veins that carry gold with base metals (Zn, Pb, Cu) in varying amounts. These generally higher grade mineralized veins are surrounded by a lower grade halo of disseminated mineralization. The individual veins are locally linked by stockwork quartz veinlets. These veins have limited vertical and lateral extents; and
- Çorak is characterized by a prominent colour anomaly induced by intense argillic alteration and secondary iron oxide minerals (limonite, hematite etc.), which have been altered from sulphide minerals, primarily pyrite.

7.3 Çeltik

On the basis of field observations and laboratory analysis, two types of mineralization appear to have taken place at Çeltik:

- A shallow-seated porphyry Cu-Au system; and
- An epithermal mineralization having a high sulphidation character superimposed on the porphyry system.

The basis for the current exploration is that the present level of erosion characterizes the transitional environment between the two mineralization types. The main characteristics of such transitional environments can be summarised as follows:

- Both types of mineralization mainly form in island-arc and continent-margin magmatic arcs;
- Both porphyry-type and epithermal deposits may develop in sub-volcanic environments in relation to sub-aerial volcanism;
- The transition between porphyry-epithermal environments is characterized by vertical zoning of alteration styles and vein associations as well as the superposition of different types of mineralization. The evolution of magmatic fluids and vapours responsible for the formation of porphyry copper gold deposits directly influences the mineralization and alteration mineralogy in the overlying epithermal environment;
- From deep to shallow, alteration zonation occurs in the order of K-silicate, phyllic and advanced argillic alteration. Among these, K-silicate and phyllic alteration zones account for significant hypogene mineralization grades for porphyry copper-molybdenum-gold deposits whereas the high-sulphidation epithermal deposits occur in the advanced argillic alteration zone;
- High-level, late-stage epithermal mineralization can be superimposed over deep-seated, early formed porphyry mineralization;
- The close association of epithermal and porphyry deposits may be either genetic or due to a later telescoping event as a result of collapse and surface degradation in the hosting volcano-plutonic environment. This close relationship can be attributed to the advanced argillic lithocaps developed at the top of many porphyry systems; and
- High-sulphidation epithermal deposits are characterized by sulphide assemblages of enargite, luzonite and covellite, with significant amounts of pyrite. Alteration assemblages usually include quartz, alunite, pyrophyllite, kaolinite, dickite, diaspore and zunyite.

8 Mineralization

8.1 Taç

The following descriptions of the two distinct mineralization styles at Taç, discriminated on the basis of textural and host rock properties, are extracted from Erkül (2006):

- ***Quartz-pyrite-base metal mineralization hosted by an alteration zone***

  "Extensive sulphide mineralization, silicification and associated quartz stockwork-type veining with common base metal minerals are hosted by argillic alteration zone with significant colour anomaly. Quartz veins of the stockwork system are usually a few centimetres up to a decimetre and show colloform and crustiform textures. Pyrite dissemination with silicification is commonly concentrated within the andesitic intrusive domes and volcanogenic sedimentary rocks. Common mineralization structures are hydraulic and hydrothermal breccias, quartz-pyrite stockwork veining with silicification and pyrite dissemination. Gypsum and barite are significant gangue minerals within the mineralized zones.

  "Hydraulic breccia is widely exposed within the pyroclastic rocks and is defined by angular clasts enclosed by an iron-oxide matrix. Iron oxides may occur as stockworks where brecciation is weak. In-situ fragmentation of clasts is also common within the hydraulic breccias. Hydrothermal breccias occur within the intrusive domes and pyroclastic rocks around the Uğur zone. They are characterized by pyrite and colloidal silica matrix enclosing angular and in-situ fragmented clasts. According to cross-cut relationships, the mineralization events occurred in the following order:

  "Hydraulic brecciation > pyrite dissemination and stockworking > hydrothermal brecciation > quartz-pyrite-base metal stockwork veining

  "This type of mineralization is commonly observed within the high-sulphidation epithermal systems. However, the presence of clay minerals of high-sulphidation alteration such as pyrophyllite, dickite and alunite should be tested by X-Ray difractometry to determine specific type of the epithermal system."

- ***Quartz-carbonate stockworks hosted by unaltered or weakly altered andesitic lavas***

  "This type of mineralization occurs in the eastern part of the NE-trending alteration zone near the Çoruh River. Quartz and carbonate veins are surrounded by fresh or weakly altered andesitic lava flows. Massive/banded colloform and saccharoidal quartz stockworks are common within this type of mineralization. The stockwork system covers an area of about 300 m^2 in the south-eastern flank of Kırmızı Tepe. The thickness of individual veins may reach up to 20 cm. The mineralization closely resembles low-sulphidation epithermal systems. It should be prospected by channel- and rock chip samples from the quartz-carbonate veins.

  Quartz-carbonate stockworking is probably the latest mineralization event in the system because quartz carbonate veins cut the quartz-pyrite-base metal veins."

8.2 Çorak

Mineralization is comprised of quartz veins or veinlets carrying variable amounts of gold and base metals typically within sphalerite, galena and minor chalcopyrite. Numerous mineralized veins occupy an area that is about 200 m wide and about 1,000 m long. This mineralized area underlies the village of Çemketen, including the road that passes through the village. The individual mineralized veins within this area generally strike north to northwest and dip steeply (70-80°) to the west and southwest. Although they vary in thickness from a centimetre to about 1 m, they are most commonly 2 cm to 20 cm and form as clusters defining mineralized zones up to 3 m wide.

The mineralized zones are characterized by intense quartz veining localised at the contact between andesitic volcaniclastic rock and overlying volcano-sedimentary series, suggesting a northeast trending regional fault along which hydrothermal solutions rose upward. The veins appear to diminish in intensity toward the north. Some other veins strike northeast and dip steeply to the northwest.

There are two main types of veins in the area. One is composed of coarse-grained granular quartz having crustiform or colloform texture and carries gold in varying amounts as well as sphalerite, galena, chalcopyrite and pyrite. The other type is amorphous or cryptocrystalline silica containing mainly pyrite.

Mineralized quartz veins have been found within two major zones: the Village Zone and the South Zone. Together, these two zones comprise the Main Zone. Continued exploration work has defined two other potentially mineralized zones on the southwest and the northeast extensions of the property: Çorak West and Çorak East, respectively.

8.2.1 Village and South Zones

The Village Zone is characterized by seven narrow sub parallel quartz-carbonate mineralized zones containing high-grade gold. These zones can be traced along strike lengths of 50 m to 100 m and average three m in thickness. The South Zone is 350 m by 500 m in dimension and is located immediately southwest of the Village Zone. Within both areas the presence of significant accumulations of sulphides has yielded highly anomalous gold and base metal concentrations, which contribute significantly to the overall Çorak Mineral Resource Estimation.

8.2.2 Çorak West and Çorak East

The Çorak West area is located immediately west of Çemketen village. As elsewhere, the area is affected by extensive argillic alteration cut by numerous mineralized quartz veins similar to those found within the Village and South Zones.

At Çorak West, mineralized quartz veins vary from 2 cm to 1.5 m in thickness and occur as clusters along a northwest-trending wedge-shaped structure with an aerial extent of 80 m by 300 m.

Chalcopyrite, sphalerite and galena constitute the principal metallic minerals identifiable, together with ubiquitous pyrite. A strong mineral zonation exists throughout Çorak West. The central zone of quartz veining contains higher relative gold, copper and zinc grades, in contrast to the peripheral zones, which are richer in lead. Also, it is noted that the highest gold values typically are associated with quartz veins greater than one metre thick.

The Çorak East area is separated from the Main Zone by a probable northwest-trending fault beneath a valley filled with alluvial deposits. The area has a rugged topography and to date only minimal exploration work has been completed at Çorak East, including mapping and soil sampling along the ridges. This area is characterized by a pervasive argillic alteration, but unlike the Main Zone and Çorak West, veins are not apparent at Çorak East. Nevertheless, this area is still regarded as highly prospective for targets such as stockwork zones and silicified bodies that have the potential to host gold mineralization.

8.3 Çeltik

On the basis of available data from the carried out preliminary exploration out, gold, copper and, to a lesser extent, silver represent the commodities of economic potential within the Çeltik prospect.

At present, gold mineralization seems to be preferentially concentrated within the Çeltik intrusive complex, where anomalous gold values have been defined over an area 250 m to 500 m wide, which extends in a northeast-southwest orientation over approximately 1 km. Elevated gold values correlate well with logged concentrations of pyrite mineralization and, to a lesser degree, with other sulphide minerals. Disseminated pyrite occurs throughout the andesite and dacite porphyry hosts and in particular, the silica altered areas of these intrusions normally contain varying concentrations of gold. Porphyry rocks hosting gold mineralization have a semi-circular pattern at the surface, suggesting a possible southward continuation beneath the cover units.

This porphyry style of mineralization is, however, overprinted by late-stage quartz veins and areas of hydrothermal breccia, which both host variable but anomalous concentrations of gold, lead and silver. The veins range from 1 to 20 cm in thickness and typically exhibit colloform and banded textures. The main metallic minerals found within the veins are enargite, luzonite and chalcopyrite; the lesser are sphalerite and galena, with tetrahedrite and tennantite found as accessories. Occasional veins in predominantly silicified zones have a vein fill of barite. Other gangue minerals include gypsum, alunite, quartz and a variety of clay minerals. The vein mineral assemblage is characteristic of a high sulphidation epithermal system.

It is noteworthy that primary alteration assemblages are overprinted by supergene kaolin alteration. Secondary copper minerals such as malachite, azurite and chalcanthite occur locally. Gypsum is ubiquitous. However, the depth of supergene weathering effects is unknown.

Although further work is required, Çeltik appears to be the product of two styles of mineralization, each characterized by its exclusive mineral paragenesis. It is inferred that the present-day erosion level has exposed the transition zone between the two systems.

8.4 Çevreli

Çevreli is a relatively early stage exploration target. A limited set of good exposures, as well as the current absence of any drilling, limit the extent of knowledge of the style of mineralization.

Soil sampling has indicated the presence of anomalous gold concentrations in an area approximately 1,200 m long by 300 m wide along a silica alteration trend. Anomalous Au in soil values generally occur adjacent to silica altered and brecciated volcanic units, commonly cut by barite veins and occasionally accompanied by stockwork containing iron oxides and minor quartz veining.

Other than fine-grained pyrite found in association with vuggy silica in the breccia, macroscopically visible metallic minerals have not yet been observed in the volcanic rocks at Çevreli. In the overlying sedimentary rock, mineralization is restricted to rarely seen malachite and azurite staining along fractures.

Geochemical results from grab samples indicate that the primary association of gold is with silica-altered breccia zones. Barite veins appear to be barren.

In summary, at the present stage of exploration, the mineralization at Çevreli is not well understood. Preliminary findings indicate that gold is associated with vuggy silica replacement and breccia within volcanic rock. This, together with the presence of barite veining, suggests a possible similarity to porphyry mineralization at Çeltik.

9 Exploration

9.1 Historical Work

Much of the historical exploration on the Yusufeli Property is described in Section 5 and will not be repeated here in great detail.

The UN-sponsored and General Directorate of Mineral Research and Exploration of Turkey (MTA) projects in the 1970s were conducted for mineral exploration in the region including the Property. These projects included geological sampling and geological mapping, as well as an induced polarization survey.

From 1988 to 1992, Cominco acquired several exploration licences and undertook an integrated exploration project including geochemical sampling and drilling. During this time, Cominco collected silt, soil and rock chip samples and drilled 85 reverse circulation (“RC”) boreholes with an aggregate length of 6,684 m and nine diamond drillholes with an aggregate length of 1,385 m. The majority of these drillholes were drilled along the main roads or in otherwise easily accessible parts of the property.

9.2 2006 Program

The 2006 exploration program was limited to Taç and was carried out by Teck Cominco under contract with Mediterranean. The program consisted of geological mapping, an IP survey, and both RC and diamond drilling.

9.2.1 Geophysical Survey

The induced polarization survey was conducted along 9.1 line kilometres with 100 m pole-dipole separation and 50 m reading intervals. Four different areas (valley southwest of Sezai Tepe, ridge of Sezai Tepe, T-6 valley and Ugur Zone) were surveyed non-linearly due to rough topography.

Resistivity zones at 50 m depth north of Sezai Tepe and eastern parts of the Karşıbayır area correlate well to the outcropping silica alteration. Resistivity zones at 100 m depth shifted to the north in the survey area and around the T-6 valley probably outline silica alteration. No significant resistivity zone has been observed at 200 m depth.

Areas of high chargeability were measured at depths of 50 m and 100 m at Karşıbayır, northwest of T-6 valley and southeast and northwest of Sezai Tepe.

9.2.2 Drilling

The 2006 drilling program, consisting of both RC and diamond drilling, was commenced on April 20, 2006 and completed on November 20, 2006. This program, consisting of 14,944 m of drilling, is described in detail in Section 10.

9.3 2007 Program

In 2007, Mediterranean conducted ground magnetic and induced polarization surveys, rock chip sampling and diamond drilling at Taç.

Mediterranean also resumed exploration work at Çorak in 2007. This new program included geological mapping, geophysical surveying (induced polarization and ground magnetic surveys), geochemical rock chip sampling and drilling (both RC and diamond core).

At Çeltik and Çevreli, Mediterranean began detailed exploration by conducting mapping and taking samples.

9.3.1 Geophysical Survey

Taç

The induced polarization survey was conducted along three northeast-oriented lines with a total aggregate length of 4.38 km. Lines were spaced 100 m apart, with a pole-dipole separation of 60 m and readings at n = 1 to 6.

The ground magnetic survey was conducted over 30.76 line kilometres, with readings taken at 20 m to 25 m and 50 m 60 m intervals along roads, rivers and ridges.

Çorak

The ground magnetic survey was conducted over 13.8 line kilometres, with readings taken at 50 m intervals. Lines were oriented both northeast, parallel to the main structural trend, as well as northwest, perpendicular to the primary structural trend but parallel to the secondary structural trend.

The induced polarization survey was conducted along eight northeast-oriented lines with a total aggregate length of 12.7 km. Lines were spaced 100 m apart, with a pole-dipole separation of 60 m and readings at n = 1 to 6.

The ground magnetic and induced polarization surveys both detected the main mineralized trend. They were also able to detect the locations of other structures as well as potential displacements due to faulting.

9.3.2 Geological Mapping

Çorak

Geological mapping was conducted at Çorak in an area of about 0.5 km^2, which included the Village Zone and South Zone (areas previously mapped by Cominco). During mapping, numerous veins (both mineralized and barren) were marked on the map. Vein attitude, thickness, length, texture, mineral content, cross-cutting relationship, host rock and alteration feature was recorded for each of these veins.

Çeltik

Late in 2007, geological mapping was conducted over 2.1 km^2 at a scale of 1:5000.

Çevreli

In 2007, geological mapping was conducted over 3.75 km^2 in an area 1.5 by 2.5 km.

9.3.3 Geochemical Sampling

Taç

A total of 193 rock chip samples were collected at Taç. In addition, 8,135 samples were taken from stored halves of split diamond drill core.

Çorak

Rock chip samples at Çorak were collected along newly opened drill road cuts and also taken from stored halves of split diamond drill core and reject samples of RC holes for acid base accounting, metallurgical and cyanidation testing.

Çeltik

A total of 24 rock chip samples were collected at Çeltik. These samples yielded anomalous gold values ranging between 106 and 301 parts per billion ("ppb"). During mapping, a small outcrop (the "discovery outcrop") was sampled. This sample contained 2.62% copper, 239 ppb gold, and 46 ppm silver. Some trace elements returned notable concentrations (782 ppm bismuth, >10,000 ppm arsenic, 16 ppm mercury, 1,810 ppm antimony) representing a typical element suite of a high-sulphidation epithermal deposit. Also enargite, luzonite, chalcopyrite, tetrahedrite, and tennantite were identified from the same outcrop, also characteristic of a high-sulphidation system.

Çevreli

A total of 178 soil samples and 24 rock samples were collected. The 2007 soil sampling program at Çevreli systematically covered the area of interest by sampling at 50 m intervals along northwest-southeast oriented lines, spaced 200 m apart, crosscutting the alteration trend.

9.3.4 Drilling

Taç

The 2007 drilling campaign at Taç consisted of 35 diamond drillholes to fill in gaps in the 2006 drilling program as well as to explore the north-eastern and south-western extensions of the known mineralized area. The drilling program, consisting of 7,486 m of drilling, is described in detail in Section 10.

Çorak

The 2007 drilling campaign at Çorak consisted of both RC and diamond drilling in the Village Zone and the South Zone. Drilling was focussed in areas thought to possess the most mineralization, but holes were drilled outside of these areas as well. The drilling program, consisting of 17,465 m of drilling, is described in detail in Section 10.

9.4 2008 Program

The 2007 drilling program at Taç was extended into 2008. Two drillholes were drilled, with a total length of 623 m, and 734 drill samples were assayed. The drilling program is described in detail in Section 10. No further exploration activities were conducted at Taç in 2008.

Çorak activities in 2008 included geological mapping at both Çorak East and Çorak West, an induced polarization geophysical survey, soil and rock chip sampling, further drilling and a geochemical follow-up study.

At Çeltik, Mediterranean acquired an exploration licence for areas adjacent to the existing licence and an integrated exploration program was undertaken, including induced polarization survey, systematic soil sampling, rock chip sampling, geological mapping and drilling.

In addition to these localised exploration campaigns, the region containing the entire Property was studied structurally in order to establish the tectonic framework controlling mineralization in the area.

9.4.1 Geophysical Survey

Çorak

The IP survey at Çorak was conducted along four northeast-oriented lines totalling 9.5 km, which parallel the lines surveyed in 2007. Each of these lines varies in length from 1,200 to 2,400 m. Survey lines extend through the Main Zone, southwest to Çorak West and northeast to Çorak East. Chargeability and resistivity measurements were made with a pole-dipole separation of 100 m and readings at n = 1 to 6.

Çeltik

The induced polarization survey at Çeltik was conducted along ten east-west lines with an aggregate length of 12.9 km. Lines were spaced approximately 100 m apart and their individual lengths ranged between 1,020 m and 1,500 m. Five lines were taken with a pole-dipole separation of 100 m and readings at n = 1 to 6. The other five lines named were taken with a pole-dipole separation of 60 m and readings at n = 1 to 6. Prior to measurements, a surveyor laid out the base lines in the field.

9.4.2 Geological Mapping and Sampling

Çorak

In 2008, the south-western (Çorak West) and north-eastern (Çorak East) extensions of the property were geologically mapped for the first time.

Geological mapping at Çorak West covered an area of about 0.52 km^2. Soil sampling was conducted on a 25 m by 25 m grid. A total of 284 soil samples were collected. Also 88 rock chip samples were taken mostly from mineralized veins and altered zones.

Geological mapping at Çorak East covered an area of about 0.8 km^2. A total of 61 rock chip samples were collected from silicified and stockwork zones. In addition to gold, copper, lead and zinc, these samples yielded notable concentrations of arsenic, mercury and antimony, which suggest a geochemical signature typical of epithermal precious metal deposits.

Çeltik

Geological mapping was conducted over an area of about 0.75 km^2 at a scale of 1:2000. Rock units, alteration features and structural elements were mapped in detail. In making geological map, a hand-held GPS unit was utilised, providing an accuracy of 5 m.

Soil sampling was conducted on a 50 m x 100 m grid over an area of about 1.2 km^2. In places where no anomalous gold values had been obtained, the sampling interval was enlarged to 100 m. A total of 402 soil samples were collected.

Soil samples defined two prominent northeast-trending gold anomalies in the eastern and western parts of the sampling area. It can be noted that the eastern gold anomaly correlates well with the northeast-trending composite porphyry stock. This anomaly also correlates with the arsenic anomaly, which is a characteristic of many epithermal deposits. There were two separate copper anomalies within the northeast-trending zone. In general, copper appears to be coincident with both gold and arsenic. The lead anomaly is coincident with the eastern gold anomaly. This can be attributed to its immobile character in secondary environments. Zinc yielded spot anomalies outside of the main gold anomaly trend. It should be borne in mind that zinc is a mobile element and is easily leached in such environments under strong supergene effects. Silver is also coincident with the eastern gold anomaly, although it appears as spot anomalies within this trend.

Antimony also appears as spot anomalies coincident with the main gold anomaly. Bismuth has spot anomalies in zones mainly characterized by enargite in the south-eastern part of the area. Mercury generated a spot anomaly unrelated to the main anomaly trend in the north-western portion of the area.

Of these elements, antimony, mercury and bismuth are most probably related to late-stage epithermal mineralization.

Rock sampling was conducted at every stage of exploration. A total of 242 rock chip samples were collected at Çeltik. These samples were taken from outcrops of distinct alteration zones and along road cuts through the channels.

The results of the rock chip samples, as well as the soil sampling anomalies and induced polarization anomalies, were used to define targets for core drilling.

Çevreli

Greater detail geological mapping was conducted at Çevreli in 2008. About 1.5 km^2 of the western part of the alteration trend was mapped at a scale of 1:2500.

Rock samples were also taken to investigate the source of previously found anomalous soil sample results. In total, 95 rock samples were collected at Çevreli in 2008.

9.4.3 Drilling

Çorak

The 2008 drilling program at Çorak consisted exclusively of diamond core drilling within the Main Zone and Çorak West. The drilling program, consisting of 7,313 m, is described in detail in Section 10.

Çeltik

Late in 2008, drilling was initiated at Çeltik. The drilling program, consisting of 1,861 m, is described in detail in Section 10.

9.5 Contractors

All work done in 2006 was carried out by Teck Cominco under contract with Mediterranean Resources.

All contract work was conducted under the direction of Mediterranean.

Dama Mühendislik Proje ve Madencilik San. Tic. A.S. (Dama Engineering, hereafter referred to as “Dama”), a Turkish engineering firm, was contracted by Mediterranean to implement the 2007 and 2008 exploration programs on the Property.

To this end, Dama conducted all the geological mapping, rock and soil sampling, detailed logging and field work. Dama also hired contractors, as described below, to conduct certain other aspects of the exploration work.

Zeta Proje Mühendislik Madencilik Ltd. Şti., a contractor of Dama, carried out the induced polarization and ground magnetic surveys in 2007 and 2008.

Spektra Jeotek San. Tic. A.S., a contractor of Dama, carried out the diamond and RC drilling programs in 2007 as well as the diamond drilling program in 2008.

Emek Teknomad Jeoloji Madencilik Mühendislik Harita ve Müsavirlik San. Tic. Ltd. Şti., a contractor of Dama, conducted a survey and produced a detailed (1:1000 scale) topographical map of the resource areas.

Sentez Madencilik Mühendislik ve Müşavirlik Tic. Ltd. Şti., a consulting company, manages relations between Mediterranean and the Turkish mining bureau and, in particular, manages the operating and exploration licences held by Mediterranean. They are responsible for ensuring compliance with the mining bureau’s regulations and for preparing the necessary reports for the mining bureau, including progress reports.

The initial interpretations of the results of the exploration work were conducted by geologists from both Dama and Mediterranean.

10 Drilling

10.1 2006 Drilling

10.1.1 Taç

The only drilling in 2006 took place at Taç. The drilling program was commenced on 20 April and completed on 20 November. A total of 27 RC holes and 36 diamond drillholes, totalling 14,944 m, were completed. The objectives of this program were to bring T-6 and Karşıbayır zones to a stage where a resource could be estimated and also to test the Sezai Ridge and Kırmızı Tepe.

10.2 2007 Drilling

10.2.1 Taç

In 2007, an extensive drilling campaign was conducted at Taç. The purpose of the campaign was to fill gaps in the 2006 drill program as well as to explore the north-eastern and south-western extensions of the known mineralized area. A total of 35 diamond drillholes, totalling 7,486 m were drilled.

The drilling was carried out by Spektra Drilling Ltd. of Ankara, using two D-150 diamond drill rigs. Most of the drilling was HQ size, although NQ size core was also drilled in some instances.

10.2.2 Çorak

In 2007, an extensive drilling campaign was conducted at Çorak. The purpose of the campaign was to complete fences within the Main Zone that had been previously proposed by Cominco and also to explore the north-eastern and south-western extensions of the known mineralized area. A total of 34 RC holes, totalling 5,887 m, and 49 diamond drillholes, totalling 11,578 m, were drilled.

The drilling was carried out by Spektra Drilling Ltd. Of Ankara, using two drill rigs: a D-150 diamond drill rig and a D-200 RC drill rig. Most of the diamond drilling was HQ size, although NQ size core was also drilled in some instances.

10.3 2008 Drilling

10.3.1 Taç

The 2008 drilling program was essentially an extension of the 2007 program. Two diamond drillholes totalling 622.9 m were drilled in order to explore the valley between Sezai and Kırmızı Tepe.

The 2008 drilling operation was also conducted by Spektra Drilling Ltd., using two D-150 diamond drill rigs drilling HQ core.

The majority of holes were drilled at a 60° dip, either to the southeast (130° azimuth) or to the northwest (310° azimuth), across the trend of the mineralized zone. Some other holes were drilled at various other dips and azimuths. The orientation of the mineralized veins is variable, from sub-horizontal to sub-vertical, but they generally dip towards the west (between northeast and northwest). The highest frequency of mineralized vein orientations dips at 66° towards N289°E.

10.3.2 Çorak

In 2008, another extensive drilling campaign was conducted at Çorak. In the Çorak Main Zone, 30 diamond drillholes totalling 6,360 m were drilled in order to fill gaps between the 2007 and historic drillhole locations within the Main Zone and also to test areas with little or no previous drilling. An additional five drillholes, totalling 972 m, were drilled at Çorak West to test favourable results from the previous mapping and sampling there. No RC drilling was done in 2008.

Orientated core measurements were taken from eight holes, most of which were located beneath alluvial cover where no surficial data could be obtained. A total of 249 veins were measured in these holes.

The 2008 drilling operation was also conducted by Spektra Drilling Ltd., using two D-150 diamond drill rigs. Normally, HQ-size core was drilled.

The majority of holes were drilled at a 60° dip, either to the east (90° azimuth) or to the west (270° azimuth), across the trend of the mineralized zone. Some other holes were drilled at various other dips and azimuths.

Sample lengths of individual intersected mineralized quartz veins were generally less than one metre and the true thickness of these veins is typically less than 30 cm. The veins are variable in strike and dip, and it is therefore not possible to make a generalisation with respect to the relationship between intersected and true width. However, the general dip is sub-vertical towards the southwest, with the highest frequency of mineralized vein orientations dipping 77° towards N256°E.

10.3.3 Çeltik

Following the geological mapping, geophysics and geochemical sampling in 2008, a drilling program was initiated in order to test the continuity of gold mineralization at depth and along strike. A total of seven diamond drillholes were drilled for a total of 1,861 m. Drillhole locations were chosen based on the results of the geological mapping and geochemical sampling and, in some cases, also the geophysical testing.

The drilling was conducted by Spektra Drilling Ltd. of Ankara using one D-150 diamond drill rig drilling HQ-size core. The seven drillholes were distributed along a strike distance of about 550 m in an area about 300 m wide in order to test for potential silicified zones. Holes were oriented at dips of 60° and 70° in various directions including east, southeast, south and southwest. See Figure 6.8 for drillhole locations.

The best gold and copper mineralization were encountered in HD-4,18.4 m at 6.51 grams of gold per tonne (“g/t gold”) and 0.9 % copper, between 166.2 and 184.6 m depth. Favourable results in HD-4 are generally associated with intensely silicified, partially-massive sulphide, pyrite, chalcopyrite and galena bearing zones, enargite, luzonite and native gold were also reported in thin section.

In HD-2, an interval from surface to 20.6 m returned 1.62 g/t gold. Unlike HD-4, no sulphide rich zones were encountered in HD-2, the favourable intercept occurs in a partly silicified, partly brecciated feldspar porphyritic unit with varying degrees of quartz veining.

Drill hole HD-3, which was 20 m away from HD-4, had to be abandoned at 226.9 m. No high grade gold intercepts were encountered in the drilled length of HD-3. This may be due to the presence of a fault zone, the surface expression of which is characterized by a northwest-southeast trending depression filled with talus material.

Intercepts of several metres containing between 0.5 and 3.2 g/t gold were also encountered in HD-7, HD-1 and HD-5.

Generally speaking, exploration drilling has demonstrated that there is extensive gold mineralization at Çeltik, including some higher grade intercepts. In the case of lithologically and structurally controlled mineralization, silicification, which occurs parallel to the bedding planes, might extend to the east beneath the overlying volcano-sedimentary unit. Future drilling will focus on these eastern areas as well as exposed silicified zones.

10.4 Summary

A summary of all drilling done on the Property from 2006 to 2010 is included in Table 10.1.

Table 10.1: Summary of drilling at the Yusufeli Property from 2006 to 2010

Deposit	Year	RC Drillhole	Diamond Drillhole	Total Drillhole	Drill Total (m)	Number of drill samples
Taç	2008	-	2	2	622.90	625
	2007	-	35	35	7,485.50	6,925
	2006	27	36	63	14,944.03	15,035
	Historical	44	10	54	4,300.00	2,620
	Total	71	83	154	27,352.43	25,205
Çorak	2008	-	34	34	7,313.10	6,595
	2007	34	48	82	17,464.70	16,786
	2006	-	-	-	-	-
	Historical	85	10	95	8,205.95	3,572
	Total	119	92	211	32,983.75	26,953
Çeltik	2009-2010	0	5	5	1,354.60	1,319
	2008	-	7	7	1,861.00	1,411
	2007	-	-	-	-	-
	2006	-	-	-	-	-
	Historical	-	-	-	-	-
	Total	-	7	7	3,215.60	2,730

11 Sampling Method and Approach

11.1 Historical Sampling Methodology

No records have been found for pre-2006 historical sampling procedures for RC drilling and diamond drilling conducted by Cominco at the Property. However, sampling procedures used in 2006 by Teck Cominco are documented in their exploration 2006 yearend report (Teck Cominco, 2006) and it is reasonable to assume that historical sampling procedures followed by Cominco were similar.

Some historical soil samples were systematically collected on a 25-metre grid system. Along the ridges, as well as at various elevations following the contours of the hillside, soil samples were collected at 25- or 50-metre spacing.

No reliable records are available for sampling procedures of historical rock samples. It is also not known whether some individual rock samples are representative or selected samples.

11.2 Current Sampling Methodology

11.2.1 2006 Program

Sampling intervals for core drilled by Teck Cominco at Taç in 2006 were selected on a geological basis and most typically varied between 0.2 m and 2.0 m in length. Core was divided lengthwise into two halves using a diamond saw.

RC samples were collected and split using a 24 slot rotary splitter at the drill site and then sealed in plastic bags. RC samples were collected continuously at 1.0 metre drill intervals. The splitter was flushed with compressed air between each sampling. Samples were collected by Teck Cominco personnel under constant supervision by a Teck Cominco geologist.

Rock channel sampling was carried out for roughly 300 m along a road cut through the Taç area in 2006. Sampling intervals ranged between 2 m and 4 m. The tools used for channel sampling included a large chisel, a hand mallet to hammer on the chisel, and a hand saw. Two workers and one geologist worked on this sampling program. The geologist ensured that the samples were taken correctly. The rock that was chipped off the wall was collected as it was removed and stored in sample bags. When changes in the rock type or alteration features were observed, the sampling interval was adjusted to sample within these units.

11.2.2 2007-2010 Programs

Diamond drill core was delivered by the drill crew to Mediterranean at the drill site. Core boxes were transferred to the core logging facility (core shack). At the core shack, the core was washed and photographed and then laid out for measurements and preliminary logging.

The core was measured for core recovery (“TCR”) and rock quality (“RQD”) and then logged for geological, structural and geotechnical features.

The preliminary logging process included recording geological descriptions, estimating percentages of sulphide minerals, measuring vein thickness and angle with core axis and defining texture.

After preliminary logging, the core was marked for sampling by an experienced geologist. The entire length of core for each hole was sampled. Two standard sampling intervals were used: prior to 2008, the standard sampling interval was two metres; starting with hole CD-189A (Çorak) in 2008, a 1 m sampling interval was used. The standard intervals, in both cases, were interrupted where quartz veins or sulphides were encountered and shorter intervals (down to 0.1 m) were used in order to isolate these features.

In places of poor recovery, which typically occurred in oxidation zones or crushed zones near the collar of the hole, some sample intervals are significantly longer than the standard interval. The core was split lengthwise using a diamond saw. Assay samples were collected from one half of split core and the other half was replaced in the core box for detailed logging and then storage.

Detailed logging included recording lithological variations, alteration features, type and style of mineralization, textural relationships, geometries of mineralized veins, cross-cutting relationships, mineral contents and the intensity of veins and sulphide minerals.

RC samples were collected and split into two parts (1/3 and 2/3) using a 24 slot rotary splitter at the drill site and then sealed in woven plastic bags. RC samples were collected continuously at one metre intervals. The splitter was cleaned with a blast of compressed air between each sample. Samples were taken by Mediterranean personnel under constant supervision by a Mediterranean geologist.

Rock channel sampling was carried out in 2007. Sampling intervals were five m. The tools required for channel sampling included a large chisel, a hand mallet with which to hammer on the chisel, and a hand saw. Two workers and one geologist worked on the cutting process. The geologist ensured that the samples were taken correctly. The rock that was chipped off the wall was collected as it was removed and then sealed in sample bags.

Rock chip samples were taken from mineralized, limonite and silica altered outcrops. Sampling intervals were variable, depending on the extent of the outcrop. The sample collection procedure was the same as for channel sampling and samples weighed between 3 kg and 5 kg.

Sampling information, including sample description, orientation, length of sampling lines, coordinates and so on, was recorded on sample cards.

Soil samples of between one and two kilograms each were collected systematically on a 50 m by 50 m grid spacing at Çorak. At Çeltik, samples were normally collected on a 100 m by 50 m grid spacing; however some sample intervals were extended to 100 m in both directions.

B-horizon soils were collected as much as possible by opening 20 cm to 30 cm deep holes to reach this horizon. These samples were put into sealed plastic sample bags and sample information was recorded on sample cards.

11.3 Sample Recoveries

Recovery of core samples was consistently high, averaging 96%, and there were no noted instances where poor recovery of sample material may have had a negative impact upon the quality of the analytical results.

11.4 Summary of Relevant Samples

11.4.1 Taç

The type and number of samples relevant to Taç are summarised in Table 11.1.

Table 11.1: Summary of Samples from Taç

Project	Year	DD Drillholes	RC Drillholes	Number of Drill Samples	Number of Rock Samples	Number of Soil Samples	Number of Silt Samples
Taç	2008	2	-	625	-	-	-
	2007	35	-	6,925	193	-	-
	2006	36	27	15,035	86	-	-
	Historical	10	44	2,620	510	996	7
	TOTAL	**83**	**71**	**25,205**	**789**	**996**	**7**

Note: 2007 rock samples include 75 channel samples.

11.4.2 Çorak

The type and number of samples relevant to Çorak are summarised in Table 11.2.

Table 11.2: Summary of Samples from Çorak

Project	Year	DD Drillholes	RC Drillholes	Number of Drill Samples	Number of Rock Samples	Number of Soil Samples	Number of Silt Samples
Çorak	2008	34	-	6,595	135	301	-
	2007	48	34	16,786	57	-	-
	2006	-	-	-	-	-	-
	Historical	10	85	3,572	489	928	58
	TOTAL	**92**	**119**	**26,953**	**681**	**1,229**	**58**

Note: 2007 rock samples are all channel samples.

11.4.3 Çeltik

The type and number of samples relevant to Çeltik are summarised in Table 11.3.

Table 11.3: Summary of Samples from Çeltik

Project	Year	DD Drillholes	RC Drillholes	Number of Drill Samples	Number of Rock Samples	Number of Soil Samples	Number of Silt Samples
	2009-2010	5	-	1,319	-	-	-
Çeltik	2008	7	-	1,411	298	425	-
	2007	-	-	-	25	-	-
	2006	-	-	-	-	-	-
	Historical	-	-	-	5	-	6
	TOTAL	**12**	**-**	**2,730**	**328**	**425**	**6**

11.4.4 Çevreli

The type and number of samples relevant to Çevreli are summarised in Table 11.4.

Table 11.4: Summary of Samples from Çevreli

Project	Year	DD Drillholes	RC Drillholes	Number of Drill Samples	Number of Rock Samples	Number of Soil Samples	Number of Silt Samples
Çevreli	2010				234		
	2009				241		
	2008	-	-	-	103	-	-
	2007	-	-	-	52	329	-
	2006	-	-	-	-	-	-
	Historical	-	-	-	31	290	21
	TOTAL	**-**	**-**	**-**	**661**	**619**	**21**

12 Sample Preparation, Analyses and Security

12.1 Historical Samples

All historic samples collected by Cominco were sent to a laboratory operated by Cominco in Ankara for preparation, and the resultant pulps were forwarded to Global Discovery Labs ("GDL") in Vancouver, Canada for analysis.

All samples were analyzed for copper, lead, zinc, and silver by atomic absorption following aqua regia digestion. Gold was analyzed by atomic absorption following multi-acid digestion of a 5 gr aliquot. Detection limit for gold is 10 ppb. For gold values in excess of 500 ppb, samples were re-analyzed by fire assay and atomic absorption finish on 30 gram sub-sample. The coarse reject portions of the samples generated at the Cominco laboratory in Ankara were preserved and are available for re-assay.

12.2 Mediterranean Samples

During the 2006, 2007 and 2008 exploration programs, all aspects of the sampling, handling and dispatching to the assay laboratory was conducted by well-trained local contract labourers, under the supervision of Mediterranean geologists, or Cominco geologists in the case of 2006, at the Yusufeli core shack.

All sample preparation and storage, prior to shipping, took place in a building that is normally occupied by exploration staff, or a watchman, and is securely locked during the brief periods when it is unoccupied.

Prior to sampling, a waterproof sample tag was affixed to the core box at the beginning of each sample interval and a matching sample tag was affixed to the corresponding sample bag. The sample number was also written on the sample bag.

Drill core was split lengthwise using a diamond saw. One half of the split, the assay sample, was placed in woven plastic bags and sealed. The other half was replaced in the core box. The retained core was either stored in a secure building at the Yusufeli core facility or in other core shacks at the various project sites.

The RC chips were split into 1/3 and 2/3 parts using a splitter at the drill site One third of the chips for each one-metre interval were placed into pre-numbered sample bags for submitting to the laboratory and the rest was preserved as reject sample onsite at the project locations.

Assay samples, including split core, RC chips, rock chips and channels, and soil samples, were shipped by an independent transport company to the ALS Chemex sample preparation facility in İzmir, Turkey and then onto the ALS Chemex analytical laboratory in North Vancouver, Canada for analysis. Receipt of sample shipments by the laboratory was confirmed by electronic mail. No transport problems were encountered during the program.

12.2.1 Sample Preparation

Individual core samples typically ranged from 0.5 kg to 2.0 kg in weight. RC chip samples generally ranged between 8 and 12 kg in weight. Rock chip and channel samples typically weighed between 3 kg and 5 kg. The following procedures were followed by the ALS Chemex sample preparation facility in İzmir for the preparation of samples:

- After affixing labels with laboratory codes to the sample bags, the entire received sample was weighed.
- Samples were dried in an oven not exceeding 85°C for routine analyses and not exceeding 60°C for Hg analysis.
- Non-RC samples were crushed: prior to crushing, the crusher was first cleaned by compressed air and then crushed quartz material (3 to 5cm in size) was fed through the crusher to remove contaminants before being cleaned again with compressed air. Entire samples were then crushed, in two stages, to >70% passing 2mm (-10 mesh). Each crushed sample was then transferred to the splitter.
- All samples were split to obtain a 1 kg portion of the sample. The remainder of each sample was then stored as a reject.
- The split samples were consecutively pulverised. The pulveriser was cleaned with compressed air, quartz, and compressed air again, similar to the crusher. Each split sample was pulverised to >85% passing 75 microns. The pulverisation duration was determined from the first sample and then checked, and adjusted if necessary, on every fortieth sample.
- A 100 gram split of each pulverised sample pulp was then shipped to the ALS Chemex laboratory in North Vancouver, Canada, for analyses. A 250 to 300 gram split was stored onsite as a reject, as well as the remainder of the sample.

Soil samples were typically dried and then the 180 µm passing fraction was collected for assay. All pulps were shipped to Canada for analyses in North Vancouver.

12.2.2 Analyses

The ALS Chemex laboratory in North Vancouver operates under ALS Laboratory Group's global Quality Management System and is accredited ISO 9001:2000, by QMI Management Systems Registration, for the provision of assay and geochemical services. The laboratory has also been accredited to ISO 17025 standards for specific laboratory procedures by the Standards Council of Canada (SCC).

The analyses conducted by ALS Chemex were multi-element trace (ME-ICP 41) and gold trace (Au-AA23) analyses, followed by copper, lead, zinc (Cu-OG62 or ME-OG62) and/or gold (Au-GRA21) grade analyses for sample returning greater than trace-level concentrations.

The ME-ICP41 analysis uses aqua regia digestion followed by inductively coupled plasma atomic emission spectroscopy (ICP-AES) to detect trace levels of 35 elements.

Samples returning greater than 10,000 ppm of copper, lead or zinc were then analyzed for grades of these elements using Cu-OG62 (for copper only) or ME-OG62, consisting of aqua regia digestion followed by ICP-AES. The Au-AA23 analysis consists of a fire assay fusion procedure followed by atomic absorption spectroscopy (AAS) to detect gold at concentrations between 0.005 and 10 ppm.

Samples that returned values greater than 10 ppm then underwent the Au-GRA21 analysis consisting of fire assay fusion with a gravimetric finish, capable of determining gold concentrations up to 1,000 ppm.

Results were reported electronically to the project office in Yusufeli with assay certificates filed and catalogued at Mediterranean's office in Ankara. ALS Chemex also sent copies of the assay certificates directly to SRK.

12.2.3 Density Data

From 2006 onward, specific gravity (SG) measurements were made at Mediterranean's core-logging facility in Yusufeli under the supervision of qualified geologists. Measurements were taken at 10-metre intervals from every diamond drillhole in both mineralized and unmineralized zones.

Solid samples of split core 10 cm to 20 cm long were cleaned, washed and dried in an oven at 105°C for 8 to 10 hours. The dried samples were weighed to obtain their dry weight and then immersed into water and weighed again while suspended in the water to obtain their wet weight. Specific gravity is calculated by dividing the dry weight by the difference between the dry weight and the wet weight.

12.2.4 Quality Control Measures

Quality control measures are typically set in place to ensure the reliability and trustworthiness of exploration data. This includes written field procedures and independent verifications of aspects such as drilling, surveying, sampling and assaying, data management and database integrity. Appropriate documentation of quality control measures and regular analysis of quality control data are important as a safeguard for project data and form the basis for the quality assurance program implemented during exploration

Analytical control measures typically involve internal and external laboratory controls implemented to monitor the precision and accuracy of the sampling, preparation and assaying. These controls are also important to prevent sample mix-up and to monitor the inadvertent or voluntary contamination of samples.

Assaying protocols typically involve regular duplicate and replicate assays and insertion of quality control samples (certified blanks and standards) to monitor the reliability of assaying results throughout the sampling and assaying process. Check assaying is typically performed as an additional reliability test of assaying results. This typically involves re-assaying a set number of sample rejects and pulps at a secondary umpire laboratory.

SRK cannot comment on the quality control measures used for historical samples.

From 2006 onward, Mediterranean (and also Teck Cominco) implemented external analytical quality control measures consisting of inserting blanks (commercial pulps analyzed only for gold) and certified standards (commercial pulps) within each batch of core samples at a frequency of one blank and one standard every twenty samples. Additionally, Mediterranean routinely inserted duplicate samples of quartered core at the same frequency.

ALS Chemex also inserted blanks, certified standards and duplicate pulps within each batch of samples for assaying at a frequency of one duplicate every twenty samples.

Check assays, performed at a separate umpire laboratory, were not done.

Further details about the review analytical quality control data are included in Section 13 on Data Verification.

13 Data Verification

The primary focus of data verification by Mediterranean was to check the gold, silver, copper, lead and zinc values in both the historical data transferred from Teck Cominco and the recent data obtained in 2006 by Teck Cominco on behalf of Mediterranean, and after 2006 by Mediterranean.

13.1 Site Visits

In accordance with National Instrument 43-101, SRK visited the Yusufeli Property on 14 July 2008 for five days, while drilling was actively progressing. The purpose of the site visit was to inspect the property and ascertain the geological setting of the project, witness the extent of exploration work carried out on the deposits and assess logistic aspects and other constraints relating to conducting exploration work in the area. SRK was given full access to project data.

While on site, SRK interviewed project personnel regarding the exploration strategy and field procedures followed by Mediterranean. SRK toured the Property along with Mediterranean geologists and observed the type of mineralization on outcrops at each project site. SRK also examined drill core from recently drilled boreholes to ascertain the geological and structural setting of the deposit. As the mineralization and structures are rather complicated, SRK recommended a regional structural study be undertaken in the area of the Property. SRK also recommended training site personnel on geotechnical logging procedures.

SRK UK undertook structural geology in October 2008. The investigations findings are summarized in a memo presented to Mediterranean. SRK returned to the site in October 2008 to provide geotechnical logging training to field personnel.

13.2 Survey Data

In July 2008, SRK gathered survey data for drillhole collar location. These collar coordinates were compared against a digital terrain model (DTM) of the topography and the resultant elevation differences were within acceptable tolerances. Thus, SRK is satisfied that the collar locations are accurate enough for this stage of study.

13.3 Historical Assay Data

Historical assay data were transferred to Mediterranean from Teck Cominco in 2007. However, assay certificates for the historical assays were included.

13.3.1 Taç

During the summer of 2008, SRK did a random check of historical assays using handwritten records stored onsite in Yusufeli. This random check was initially completed on 10% of the data and resulted in finding discrepancies in metal grades.

SRK asked Mediterranean to request all of the original assay certificates from GDL, including Çorak certificates. These certificates were provided to both SRK and Mediterranean in November 2008. Mediterranean then rebuilt the entire Taç database of historical samples using the assay certificates from GDL, which was checked by SRK and found to be accurate.

13.3.2 Çorak

In the summer of 2007, Mediterranean checked the Çorak historical assay data against logs that included assay results.

During the summer of 2008, SRK did a random check of historical assays using handwritten records stored onsite in Yusufeli. This random check was completed on 10% to 15% of the historical data and no major discrepancies were found. Despite this, when GDL provided the original assay certificates in November 2008, the Çorak database was also rebuilt using the certificates as a matter of best practise. However, GDL had been unable to provide assay certificates for six historical drillholes: CD-1, CD-2, CD-3, CD-4, CD-5 and CD-38; no other detailed records existed containing these assays, so these samples were omitted from the rebuilt database.

13.4 Mediterranean Assay Data

SRK conducted certain routine verifications to ensure the reliability of assaying data collected by Mediterranean.

13.4.1 Verification of Electronic Assay Certificates

ALS Chemex sent electronic assay data directly to SRK. Assay certificates were compared with the assays in the database received from Mediterranean. More than 95% of the data were checked. Overall, very few errors were found and most of the discrepancies that were found resulted from assays the laboratory reported to be below the detection limits being entered into the database at the detection limits. Upon verifications all samples assaying below the detection limits were entered as half the detection limit.

13.4.2 Verification of Analytical Quality Control Data

Mediterranean made available to SRK the assay results for analytical quality control data collected for the Taç and Çorak Projects. However, quality control data for eight drillholes (less than 5%) drilled late in 2008 and used for resource evaluation were not verified.

SRK aggregated the assay results for the external analytical quality control samples for further analysis, focussing on assay results for gold. Sample blanks and certified reference materials data were summarised on time series plots and paired assay data were analyzed using scatter plots and relative deviation plots.

The analytical quality control data produced by Mediterranean on the Taç and Çorak Projects are summarised in Table 13.1 and Table 13.2 respectively and are presented in graphical format in Appendix A.

Table 13.1: Analytical Quality Control Data for the Çorak Project

	Au	Cu
Total Samples Collected	**25,205**	**25,205**
Certified Reference Material		
CDN-GS-P5	235	
CDN-GS-1P5	231	
CDN-GS-5B	217	
CDN-FCM-3	71	
CDN-CGS-15	21	
CDN-GS-6P5	73	
CDN-GS-P5B	87	
CDN-GS-15A	203	
CDN-HLLC	20	20
CDN-CGS-9	24	24
CDN-FCM-3	6	6
CDN-GS-1P5A	33	
CDN-GS-1P5B	20	
Total CRM	**1,241**	**50**
Blanks		
Field Blank	1,242	1,242
Paired Data		
Field Duplicate	1,349	1,349
Pulp Replicate	None	None
Total QC samples	3,832	2,641
Frequency (percent)	15	10
Umpire checks	None	None

Table 13.2: Analytical Quality Control Data for the Taç Project

	Au	Pb	Zn	Ag
Total Samples Collected	**25,905**	**25,903**	**25,903**	**23,914**
Certified Reference Material				
CDN-GS-1P5	14			
CDN-GS-5B	22			
CDN-GS-1P5A	121			
CDN-GS-2C	60			
CDN-CGS-15	117			
CDN-GS-6P5	182			
CDN-GS-5PB	318			
CDN-GS-15A	54			
CDN-HLLC	98	98	98	98
CDN-CGS-9	72			
CDN-FCM-3	43	43	43	43
CDN-HC-2	40	40	40	40
CDN-GS-1P5B	159			
CDN-FCM-2	95	95	95	95
Total CRM	**1,395**	**276**	**276**	**276**
Blanks				
Field Blank	1,348	1,348	1,348	1,348
Paired Data				
Field Duplicate	1,697	1,695	1,695	1,617
Pulp Replicate	None	None	None	None
Total QC samples	4,440	3,319	3,319	3,241
Frequency (percent)	17	12	12	12
Umpire checks	None	None	None	None

Performance of Field Blanks

Field blanks are used to monitor potential contamination introduced during sample preparation. True blanks should not have any of the elements of interest much higher than the detection levels of the instrument being used. The commercial blanks used in the drilling programs are only truly barren in gold. Sample blanks used consistently returned values for other metals much higher than five times the detection limit, a generally accepted failure threshold for blank samples.

For all drill campaigns, certified blanks were purchased from CDN Resource Laboratories Ltd., Delta, British Columbia. For both Taç and Çorak, a small proportion of blank material (~2%) returned gold values higher than the generally accepted failure threshold of five times the detection limit (see Appendix A). These failed blank samples have not been followed up.

Performance of Reference Material

Reference material control samples (standards) provide a means to monitor the precision and accuracy of the laboratory assay deliveries. In general, performance of the gold control samples used by Mediterranean is quite good, with most assay results falling within three standard deviations from the mean and showing no evidence of bias. Nevertheless, there are 81 and 102 failed control samples from Taç and Çorak respectively. Some of the failed batches were investigated by Mediterranean. On average, 40 pulp samples were re-assayed by the same laboratory for each failed batch. Sixteen failed batches at Taç and 21 at Çorak were re-assayed and investigated. Overall, there was a very good correlation between the original and the re-assayed values, i.e., no systemic error was found (see Appendix A).

At Çorak, all control samples for lead and some control samples for zinc generally returned lower values than expected, indicating a potential bias. However, when a large number of pulps were sent by Mediterranean for re-assaying, the results correlated well to the original assays, making bias unlikely (see Appendix A).

Performance of Field Duplicates

Field duplicate samples are typically collected to monitor sample preparation, as well as homogeneity of the samples submitted for assaying. A total of 1,349 and 1,697 field duplicates from Taç and Çorak, respectively, were taken on remaining core samples by cutting the reject half in two. A review of field duplicate assay paired data showed no apparent bias between the original and duplicate assays for all metals. As presented in Appendix A, there is a very high correlation between the original and the duplicate samples. At the same time, there can be quite a large difference between the sample pairs, as shown in the absolute relative deviation plots. On the whole, the field duplicate data indicate the gold and base metal mineralization can be reproduced reasonably well from field duplicate samples.

Summary

In general, the analytical quality control data examined by SRK suggest that gold, lead, zinc, copper and silver grades can be reasonably well reproduced. This indicates that the assay results reported by the primary assay laboratory are generally reliable for the purpose of resource estimation. The performance of the quality control samples is reasonable.

In the opinion of SRK, the analytical results delivered by ALS Chemex are sufficiently reliable for the purpose of resource estimation.

13.4.3 Comparison of Core versus RC assays at Çorak

Approximately 35% of the current assay database at Çorak is comprised of RC drillholes. A comparison of the RC assays with nearby diamond core assays indicates there is substantial difference between the two data types (see Appendix A).

In the comparison, average core assays are 25% lower than the average RC assays. This potential for the RC assays to be too high, or the core assays to be too low adds to uncertainty to the overall resource estimates.

13.4.4 Specific Gravity

The specific gravity was calculated by dividing the dry weight of each sample by the difference between the dry weight and the wet weight.

In total there are 1,723 specific gravity measurements in the Taç database, of which 1,592 lie within the Low Grade (1,143 measurements) and High Grade domains (449 measurements).

For Çorak, there are 1,810 specific gravity measurements, of which 1,465 lie within the Low Grade and High Grade domains. There are 390 specific gravity measurements from the High Grade zone and 828, 172 and 75 measurements from the Low, Low_E and Low_W zones, respectively. As the number of measurements taken from the Low_E and Low_W zones is low, the entire Low Grade domain specific gravity was calculated based on the aggregate measurements from the three individual low grade domains. Figure 13.1 contains four histograms of specific gravity measurements, after omitting the outliers: the high and low grade zones for both Taç and Çorak.

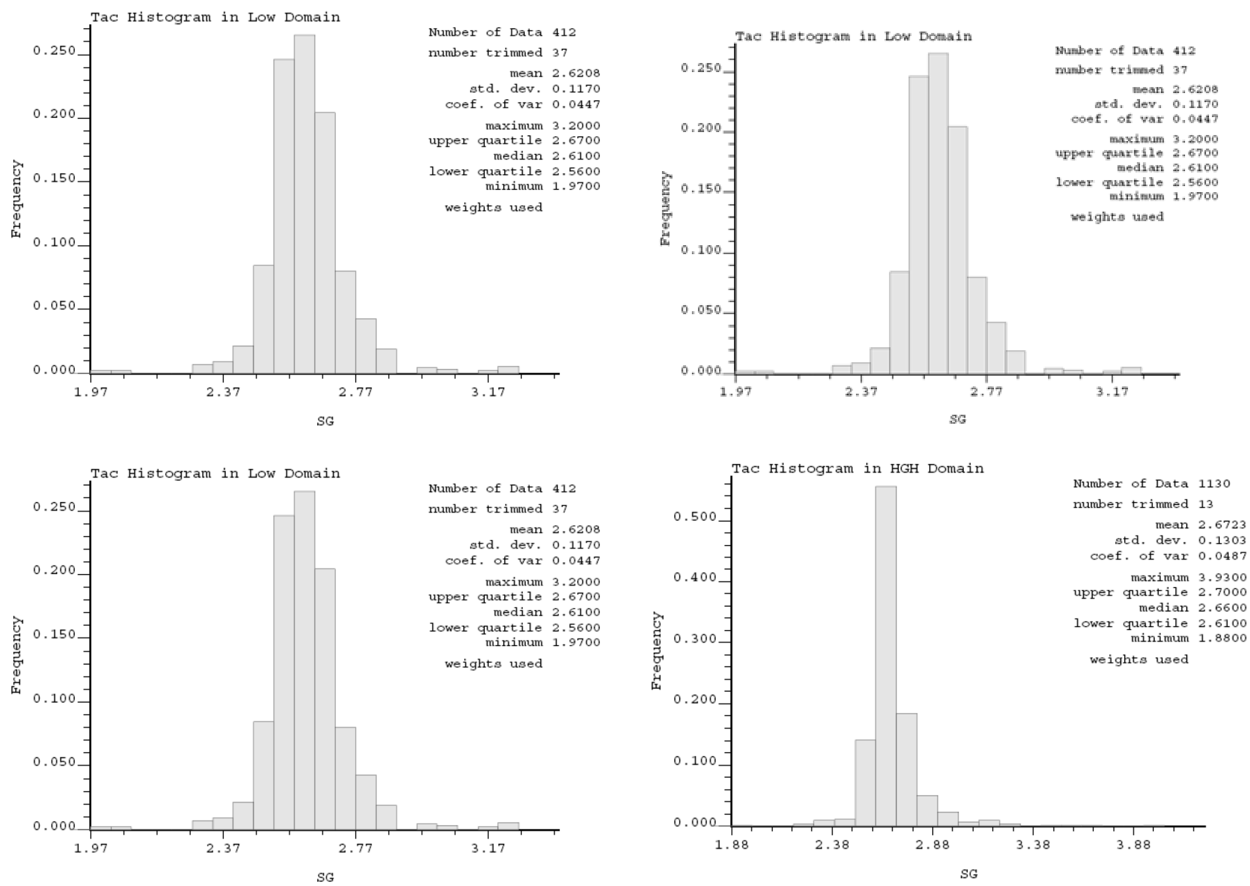

Figure 13.1: Specific Gravity Histogram in High Grade and low Grade zones of Taç (top left (HGH) and (right (Low) histograms) and Çorak (bottom left (HGH) and right (Low,Low_E, Low_W Histograms)

14 Metallurgical Testing and Mineral Processing

Metallurgical tests were conducted to assess the recovery of mineral values from samples originating from the Taç and Çorak deposits. The major minerals of interest at the Taç deposit are gold, copper and silver. Çorak contains less copper, but has elevated levels of lead and zinc. Early work by Teck Cominco, as reported by Wardrop (2008), indicated that a mineralogical study of Taç mineralization was carried out by Teck Cominco in 2006.

PRA also conducted metallurgical test work in 2007 as described in Section 14.1. SRK considers the PRA test work to be broad in scope and not representative of the mine plan as defined in this PEA due the high variability of the sample grades. Therefore, results described in Section 14.1 are shown for general information only and are taken from the 2008 Technical Report.

Because of the sporadic test results and unrepresentative samples in the PRA testwork, SRK and Ausenco selected representative samples of the deposits and had further leach and flotation testwork conducted by SGS. SRK feels that the SGS testwork described in Section 14.2 is representative of the PEA mine plan material and, as such, used the results for recovery estimation in this PEA. 2007 and 2008 PRA Metallurgical Testing.

Beginning in 2007, a series of scoping metallurgical tests on material from Yusufeli, namely Taç and Çorak, were carried out by PRA. These tests included separate determination of head assays, metallurgical performance of gravity concentration, flotation and cyanide leaching, and combinations of the three. Acid Base Accounting (ABA) test work was also completed on residues (tailings) from several of the metallurgical tests to determine initial tailings characteristics with respect to Acid Rock Drainage (ARD).

Several individual samples were combined to produce six composite materials. Data regarding the individual samples are discussed in PRA's report (2008). The 2008 metallurgical composite gold head grades ranged from 1.51 g/t to 17.53 g/t, averaging 4.57 g/t. The Taç composites contain an order-of-magnitude lower level of lead and zinc as compared to the Çorak composite, although the Taç composites contained higher copper levels. Iron levels were relatively consistent in all of the composites at about 4%.

There was no detailed mineralogical examination of the composites included in the PRA test work program. If samples are available, SRK recommends that a detailed process mineralogical review be completed to determine mineral deportment in the composite feed material and test work products. Baseline flotation, gravity concentration and cyanidation tests performed on the Yusufeli composites indicated an encouraging overall response with respect to gold, copper, lead and zinc. Silver recoveries tended to be lower than desired and will require additional test work to determine if the respective recovery can be improved. Results suggested that grinding to 100-mesh yields excellent gravity upgrading. Further work was focussed on the performance of individual samples and blends representing the separate Taç and Çorak deposits.

14.1.1 Head Assays

To generate the metallurgical composites, the samples were blended and sub-samples split from each composite were sent for individual head grade assays for gold, silver, copper, iron, lead, zinc and sulphide sulphur analyses. SRK recommends that additional analyses be performed to include heavy metals, whole rock analysis and mercury, if remaining samples are available. For future work SRK recommends a complete geochemical panel be completed to also include sulphur and carbon speciation and mineralogy.

Head assays for the composites are presented in Table 14.1. Figure 14.1 illustrates the relative grades of the elements analyzed for each of the composites.

Table 14.1: 2008 Metallurgical Composites

Composite ID	Components	Head Analyses						
		Au g/t	Ag g/t	Cu %	Pb %	Zn %	Fe %	S(-2) %
Master Comp.	20kg Sample 2 + 2kg #3,4,5,7,8	1.79	3.1	0.199	0.488	0.379	4.08	
Taç Comp. 1	10-17kg #2,4,6	17.53	0.5	0.221	0.03	0.043	4.13	2.97
Taç Comp. 2	Blend of #2, 3, 4, 5	2.16	1.2					
Taç Comp. 3	20kg #2 + #3,4,6	2.43	2.4	0.126	0.013	0.047	3.88	1.56
Taç Comp. 4	30kg T56, 12kg T56A +#3,4,5,6	1.51	1.2	0.189	0.024	0.065	4.84	3.02
Çorak Comp.	MET1:MET3=1:1	2.01	1.7	0.049	0.396	1.009	4.90	3.94
Avg		4.57	1.68	0.16	0.19	0.31	4.37	2.87
Max		17.53	3.10	0.22	0.49	1.01	4.90	3.94
Min		1.51	0.50	0.05	0.01	0.04	3.88	1.56

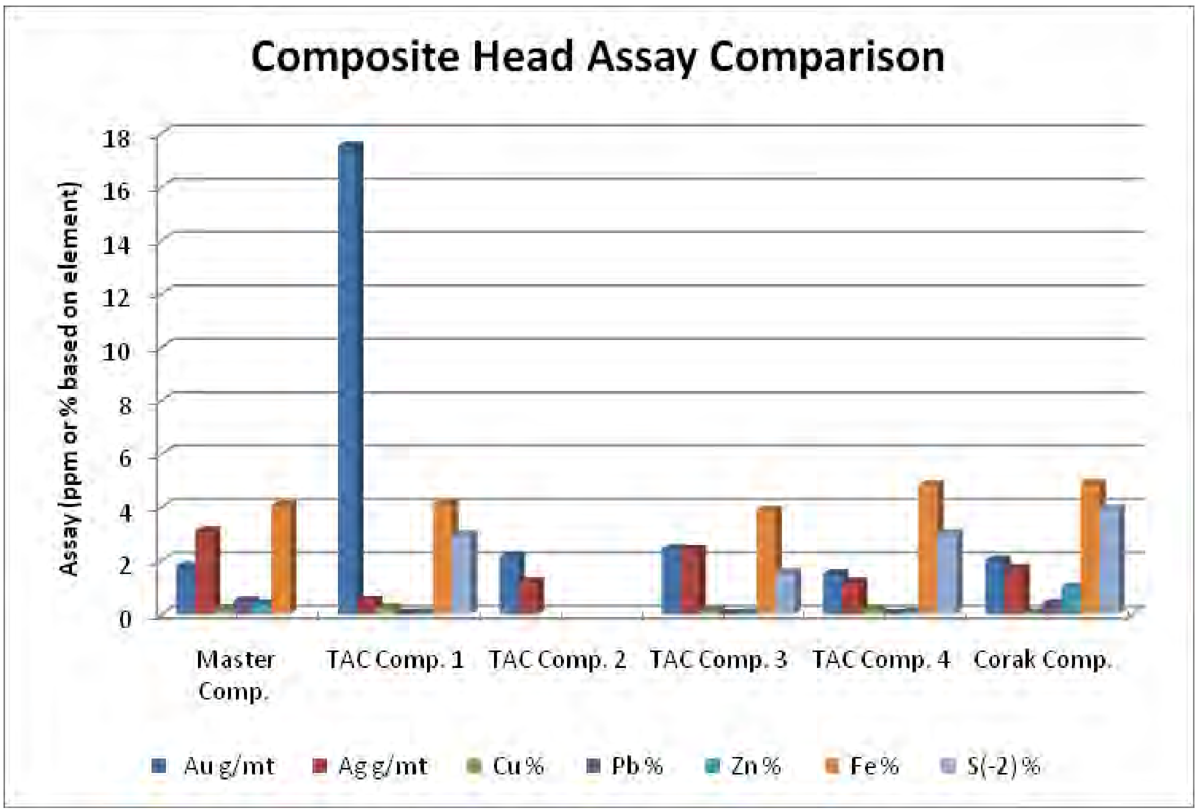

Figure 14.1: 2008 Composite Head Assay Comparison Chart

14.1.2 Gravity Concentration Testing

Gravity tests on the master composite yielded approximately 80% gold recovery with total concentrate grades of 23g/t gold, further upgraded by hand panning to 737 g/t gold at 150 µm gravity concentration feed size. Limited tests on selected samples from Taç and Çorak zones confirmed high upgrading factors of 30 to 140 for gold and 10 to 30 for silver. Copper, lead and zinc recoveries during gravity concentration were not reported.

Gravity concentration test results from tests on the master composite are summarized in Table 14.2. The data in Table 14.2 indicate that finer grinding improves the overall gold recovery, but results in a lower concentrate grade. It is envisioned that a proper cleaner gravity circuit incorporating a concentrate regrind circuit would improve the gravity concentrate grade.

Table 14.2: Master Composite Gravity Concentration Test Results

Test ID	P80 (µm)	1st Pan Concentrate		Total Gravity Concentrate	
		Au Grade (g/t)	Recovery (%)	Au Grade (g/t)	Recovery (%)
G1	150	736.8	29.8	22.9	77.9
G2	105	516.3	39.6	22.7	82.3
G3	74	343	32	22.4	82.7

The selected gravity recovery results presented in Table 14.3 include tests that were used to remove coarse gold before downstream processing. Test ID's with the 'GC' prefix were treated with gravity concentration prior to cyanidation. The 'F' prefix identifies treatment before flotation.

Table 14.3: 2008 Selected Gravity Concentration Tests

Test ID	P80 (µm)	Sample	Con. Grades (g/t)		Con. Recoveries (%)	
		ID	Au	Ag	Au	Ag
GC1	210	Sample 5 (T85A)	513.8	114.1	26.8	13.0
GC2	74	Sample 5 (T85A)	235.4	89.6	13.9	9.6
GC22	150	MET-1	144.4	59.4	12.2	3.2
F30	72	TAÇ – Comp 3	364.2	64.8	17.0	3.4

14.1.3 Cyanidation Leach Testing

Batch cyanidation leaching tests were completed on several individual samples as well as the composites. These tests indicate that the majority of the Yusufeli materials are amenable to cyanidation treatment. Sodium cyanide consumptions were relatively high, averaging 2.1 kilogram per tonne ("kg/t"), no doubt owing to the presence of sulphide mineralization. Lime consumptions were considerably low, averaging 1.0 kg/t. The testing also indicates that finer grinding tends to improve both gold and silver recovery.

Average recoveries from the individual scoping trials for gold and silver were 86.4% and 33.1% respectively. Table 14.4 contains data from the individual cyanidation scoping trials.

Gold recoveries in the composite tests were moderate to relatively high considering the high concentration of sulphide material in the samples. Gold recoveries were 50.7% and 92.1% for composites Taç Comp 2 and Taç Comp 1 respectively, indicating a possible refractory nature to some of the Taç material. Silver recoveries were not reported for the composite cyanidation tests. Grind size and reagent dosages were varied to determine the optimum conditions for each composite. Unfortunately, not enough data points were included in the test work series to complete a thorough statistical analysis of the data with regard to operating conditions. SRK recommends that this test series be completed to further aid in leaching optimisation.

Table 14.5, Table 14.6, Table 14.7 and Table 14.8 contain the results from the metallurgical composites.

Table 14.4: Cyanidation Scoping Tests

Test No.	P80 (µm)	Sample	Recovery		Residue Grade		Consumption	
		ID	Au (%)	Ag (%)	Au (g/t)	Ag (g/t)	NaCN (kg/t)	Lime (kg/t)
C1	150	Master Comp	85.6	20.9	0.46	4.0	1.37	0.78
C2	105	Master Comp	82.7	25.6	0.55	3.5	1.37	0.78
C3	74	Master Comp	88.0	26.2	0.40	3.0	1.33	0.64
GC1	210	Sample 5	92.1	48.7	0.67	2.0	2.03	0.07
GC2	74	Sample 5	93.8	39.0	0.46	2.5	2.21	0.05
C4	162	Sample 5	90.3	51.2	0.88	2.0	2.96	0.08
C5	77	Sample 5	92.5	49.9	0.65	2.0	2.86	0.05
C6	70	Sample 2	63.5	9.2	0.32	1.0	1.42	0.54
C7	65	Sample 3	96.3	41.6	0.59	1.0	2.14	0.93
C8	70	Sample 4	56.5	9.6	0.82	1.0	2.52	1.05
C9	63	Sample 6	98.4	74.9	0.60	1.0	2.12	0.49
C10	170	Sample 7	91.5	17.1	1.40	22.7	2.28	3.81
C11	83	Sample 7	92.8	16.8	0.95	23.8	2.38	3.95

Table 14.5: Met Composite 1 Cyanidation Test Results

Test No.	P80 (µm)	Duration	NaCN	Calculated Head	Extraction	Residue	Consumption	
		(hours)	(g/L)	Au (g/t)	Au (%)	Au (g/t)	NaCN (kg/t)	Lime (kg/t)
GC22	150	96	2	3.11	90.7	0.29	2.55	0.78
C14	147	96	2	3.93	92.2	0.31	2.58	1.55
C15	84	96	2	3.52	92.3	0.28	2.73	1.44
C23	72	72	1	4.00	90.1	0.39	1.30	1.31
C28	72	72	0.5	3.94	90.6	0.37	0.66	1.38

Table 14.6: Met Composite 2 Cyanidation Test Results

Test No.	P80 (µm)	Duration	NaCN	Calculated Head	Extraction	Residue	Consumption	
		(hours)	(g/L)	Au (g/t)	Au (%)	Au (g/t)	NaCN (kg/t)	Lime (kg/t)
C16	159	96	2	0.16	56.8	0.07	2.04	0.98
C17	81	96	2	0.15	52.7	0.07	2.35	0.80
C24	74	72	1	0.23	50.7	0.11	1.11	0.95
C29	74	72	0.5	0.26	59.1	0.10	0.53	1.05
FC25	84	96	2	0.55	56.4	0.24	4.37	1.72

Table 14.7: Met Composite 3 Cyanidation Test Results

Test No.	P80 (µm)	Duration	NaCN	Calculated Head	Extraction	Residue	Consumption	
		(hours)	(g/L)	Au (g/t)	Au (%)	Au (g/t)	NaCN (kg/t)	Lime (kg/t)
C18	159	96	2	1.56	93.1	0.11	2.09	1.21
C19	81	96	2	1.18	91.4	0.1	2.03	1.06
C25	74	72	1	1.49	85.3	0.22	0.81	1.21
C30	74	72	0.5	1.35	89.0	0.15	0.52	1.23
CF33	79	72	1	2.43	90.9	0.22	1.31	0.77

Table 14.8: Met Composite 4 Cyanidation Test Results

Test No.	P80 (µm)	Duration	NaCN	Calculated Head	Extraction	Residue	Consumption	
		(hours)	(g/L)	Au (g/t)	Au (%)	Au (g/t)	NaCN (kg/t)	Lime (kg/t)
C16	159	96	2	0.16	56.8	0.07	2.04	0.98
C17	81	96	2	0.15	52.7	0.07	2.35	0.80
C24	74	72	1	0.23	50.7	0.11	1.11	0.95
C29	74	72	0.5	0.26	59.1	0.10	0.53	1.05
FC25	84	96	2	0.55	56.4	0.24	4.37	1.72

14.1.4 Flotation Testing

Bench scale and locked-cycle flotation tests were completed to determine an initial flotation flow sheet. Open-cycle flotation tests were completed to determine metallurgical response to the possible economic minerals present in the composites. Owing to the difference in the rock type mineralogy, different flotation schemes were used.

For the primary Taç composites, a bulk copper flotation was used to recover copper, gold and silver. The Çorak composites were treated using sequential lead-zinc flotation to generate individual lead and zinc concentrates. During the Çorak sequential flotation, a greater percentage of the gold (65%) and silver (64%) reported to the lead concentrate than to the zinc concentrate. The zinc concentrate contained roughly 21% of the total gold and 17% of the total silver.

The overall locked-cycle test results shown in Table 14.9, Table 14.10 and Table 14.11 were conducted with basic regrind cleaner circuits, with rejection of tailings from the first cleaner scavenger stages, to alleviate build-up of re-circulating loads. Locked-cycle testing of two Taç composites was completed using conditions developed in prior batch flotation testing. Results for the Taç Composite 3 are very encouraging with Au, Ag and Cu recoveries of 89.3 %, 32.8 % and 79.6 % respectively (Table 14.9).

Table 14.9: Overall LC1 Flotation Test Results – Taç Composite 3

Product		Assay				Distribution			
	Wt (%)	Au g/t	Ag g/t	Cu %	S(T) %	Au %	Ag %	Cu %	S(T) %
5th Cleaner Conc.	0.42	317	52	16.74	42.79	89.3	32.8	79.6	18.3
1st Cleaner Scavenger Tails	18.7	0.26	1.31	0.04	3.58	3.3	36.8	9.3	68.3
Bulk Flotation Tails	80.9	0.14	0.25	0.01	0.16	7.4	30.4	11.1	13.4
Calculated Head	100	1.49	0.67	0.09	0.98	100	100	100	100

Metallurgical performance of the Taç Composite 4 locked-cycle test, LC2, was considerably lower, with respect to gold and silver, with recoveries at 45.6% and 14.4%, respectively, as shown in Table 14.10. Copper recovery of 76.1% was achieved in this test. Additional metallurgical testing of this material has been recommended and should be completed.

Table 14.10: Overall LC2 Flotation Test Results – Taç Composite 4

Product		Assay				Distribution			
	Wt (%)	Au g/t	Ag g/t	Cu %	S(T) %	Au %	Ag %	Cu %	S(T) %
5th Cleaner Conc.	0.6	81.83	30.8	20.55	38.76	45.6	14.4	76.1	9.4
1st Cleaner Scavenger Tails	28	1.53	2.26	0.06	6.95	40.3	49.9	10.8	79.5
Bulk Flotation Tails	71.4	0.21	0.64	0.03	0.38	14.1	35.7	13.1	11.1
Calculated Head	100	1.06	1.27	0.16	2.45	100	100	100	100

The Çorak locked-cycle, test, LC3, used a differential flotation scheme to separate and generate individual lead and zinc concentrates. The majority of the precious metals reported to the lead concentrate. At this time, it is reasonable to assume that gold and silver content in each concentrate would be credited. The results of locked-cycle test LC3 are shown in Table 14.11.

Table 14.11: Overall LC3 Flotation Test Results – Çorak Composite

Product		Assay				Distribution			
	Wt (%)	Au g/t	Ag g/t	Cu %	S(T) %	Au %	Ag %	Cu %	S(T) %
2nd Pb Cleaner Concentrate	0.75	174.3	236.1	46.6	6.44	64.5	63.5	80.9	4.6
2nd Zn Cleaner Concentrate	1.46	28.75	31.7	2.39	57.7	20.8	16.7	8.1	80.5
1st Zn Cleaner Scavenger Tails	5.36	0.67	1.64	0.13	0.31	1.8	3.2	1.6	1.6
Bulk Flotation Tails	92.4	0.28	0.5	0.04	0.15	12.9	16.6	9.3	13.3
Calculated Head	2.02	2.78	0.43	1.05	2.02	100	100	100	100

14.1.5 Acid Base Accounting Testing

Acid base accounting (ABA) was completed on several of the tailings generated from both the cyanidation and flotation tests. A summary of the data is presented in Table 14.12.

Table 14.12 Acid Base Accounting Results

Sample ID	Original Sample ID	S(-2)	Paste pH	Acid Potential (AP)	Neutralisation Potential (NP)	Ratio (NP:AP)	Net Neutralisation Potential (NNP)
				CaCO3 (kg/t)	CaCO3 (kg/t)		CaCO3 (kg/t)
C5 Residue	T85A, Sample 5	2.83	8.3	88.4	22.3	0.3	-66
C6 Residue	T53, Sample 2	1.49	7.7	46.6	16.9	0.4	-30
C7 Residue	T63, Sample 3	1.55	9.4	48.4	35.3	0.7	-13
C8 Residue	T70, Sample 4	5.38	8.1	168.1	10.7	0.1	-157
C9 Residue	T86, Sample 6	1.95	8.8	60.9	36.4	0.6	-25
C11 Residue	Çorak, Sample 7	5.59	6.9	174.7	47.6	0.3	-127
F5 Flotation Tails	T85A, Sample 5	0.01	7.8	0.3	21.0	67.3	21
F6 Flotation Tails	T53, Sample 2	0.17	8.3	5.3	16.3	3.1	11
F7 Flotation Tails	T63, Sample 3	0.06	8.6	1.9	34.7	18.5	33
F8 Flotation Tails	T70, Sample 4	0.16	6.9	5.0	9.1	1.8	4
F9 Flotation Tails	T86, Sample 6	0.12	8.3	3.8	36.9	9.8	33
F11 Flotation Tails	Çorak, Sample 7	0.15	8.4	4.7	47.7	10.2	43

Owing to the removal of the sulphide minerals during flotation, these tailings have a low probability of being acid-generating. The cyanidation tailings, still containing the majority of the sulphide minerals, would probably generate acid if insufficient protective alkalinity is added during leaching. SRK recommends that additional ABA testing should be completed.

14.2 2009 and 2010 SGS Testwork

Two separate metallurgical testwork programs were conducted at SGS with reports issued on January 7th, 2010 and on February 18th 2011. The January SGS metallurgical testwork report describes the heap leaching tests developed using Taç and Çorak samples, while the February report describes conventional grinding and flotation characterization of Taç and Çorak samples.

The flotation testwork forms the basis for mill design and recovery estimates used in this PEA. The heap leach potential of the project was deemed to be uneconomic due to low recoveries.

14.2.1 Sample Selection

On August 7th, 2009 samples coming from Taç and Çorak properties were delivered to the SGS sample preparation facility located in Delta, BC, to be part of the Metallurgical Testing of Taç And Çorak for Heap Leaching. Each property carried seven sub-samples that were collected and delivered by Mediterranean Resources, identified as T-1 to T-7 and C-1 to C-7, individually packed in rice bags and weighed between 20 and 40 kg. No indication was given to SGS regarding what areas of the two mentioned ore bodies were represented by these samples neither indication of drill holes

On June 8th, 2010, five boxes containing 24 core samples from Mediterranean Resource's Taç and Çorak properties were delivered to the SGS sample preparation facility in Delta, BC, to be part of the Recovery of Base and Precious Metals conventional grinding and flotation bench scale testwork. Two samples identified as 'Çorak High' and 'Çorak Low', represented the Çorak property. The Taç property was represented by a single sample. Flotation sample selection was conducted by SRK and Ausenco and is deemed representative of the deposits for early-stage metallurgical testing.

Table 14.13 shows the sample types received for both metallurgical testing programs.

For the flotation testwork, all the samples were progressively crushed to -1.25", -3/4", -6 mesh and -10 mesh. In order to have samples for different ore characterization tests, at each stage representative samples of suitable size were selected for the SMC test, Abrasion test, Bond ball mill work index tests and metallurgical testing, respectively. For this metallurgical testwork only three types of samples were obtained after the blending, Taç , Çorak Low and Çorak High.

For the leaching testwork each sample for Taç and Çorak were staged crushed and homogenized to obtained three identical samples for each of these two domains, Taç Sample A, B and C and Çorak sample A, B and C.

Table 14.14 and Table 14.15

Table 14.15 show the head assays for the leaching and flotation testwork, respectively.

Table 14.13: Samples received at SGS for Conventional Flotation and for Gold Leaching

SAMPLES FOR CONVENTIONAL FLOTATION TESTWORK

ID Weight Hole Core Intervals (m)

Tac			
ID	Weight (k)	Hole ID	Core Interval (m)
1	6.1	TD 102	227.8 - 228.5 - 247.0 -248.0
2	9.1	TD 69	247.8 - 250.0
3	16.5	TD 83	181.8 -186.0
4	19.3	TD 88	107.3 – 112.4
5	11.6	TD 90	67.7 – 70.9
6	19.0	TD 93	70.5 – 75.7
7	6.9	TD 95	144.8 – 146.6

Corak Low			
ID	Weight (k)	Hole ID	Core Interval (m)
8	13.4	CD 105	164.4 – 168.2
9	10.7	CD 130	153.9 – 157.6
10	19.3	CD 132	69.9 – 73.7
11	7.4	CD 146	197.3 – 199.2
12	9.2	CD 167	80.4 – 83.0
13	9.1	CD 169	26.9 – 29.9
14	2.5	CD 95	55.1 – 56.0
15	6.5	CD 96	57.3 – 59.1

Corak High			
ID	Weight (k)	Hole ID	Core Interval (m)
16	11.3	CD 125	78.9 – 83.1
17	14.9	CD 132	105.4 – 109.5
18	8.5	CD 141	105.5 – 108.0
19	1.2	CD 142	79.5 – 80.3
20	6.0	CD 148	85.9 – 88.1
21	6.5	CD 165	174.6 – 177.7
22	5.5	CD 166	97.2 – 98.0, 158.9 – 161.1
23	8.3	CD 193	123.9 – 126.2
24	3.1	CD 196	74.3 – 75.1

SAMPLES FOR LEACHING TESTWORK

Tac		Corak	
ID	Weight (k)	ID	Weight (k)
T-1	27.400	C-1	25.350
T-2	28.850	C-2	31.800
T-3	31.150	C-3	29.050
T-4	31.150	C-4	31.500
T-5	36.550	C-5	35.150
T-6	26.550	C-6	25.000
T-7	28.100	C-7	22.500

Table 14.14: Head Assays of Taç and Çorak Composites for SGS the Leaching testwork

	Tac Sample			Corak Sample			
Element	**Sample A**	**Sample B**	**Sample C**	**Sample A**	**Sample B**	**Sample C**	**Units**
Gold	1.06	1.03	1.11	0.42	0.48	0.45	ppm
Silver	1.90	1.80	1.90	6.20	6.80	6.20	ppm
$Sulphur_{total}$	3.22	3.2	3.31	4.69	4.69	4.71	%
Copper	0.13	0.13	0.13	-	-	-	%
Lead	-	-	-	0.22	0.22	0.21	%
Zinc	-	-	-	0.47	0.46	0.45	%
ICP Results							
Silver	1.90	1.70	1.70	5.40	6.70	5.40	ppm
Aluminium	0.56	0.54	0.55	0.34	0.34	0.34	%
Arsenic	53.0	50.0	52.0	129	131	133	ppm
Barium	71.0	72.0	74.0	42.0	44.0	46.0	ppm
Beryllium	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	ppm
Bismuth	22.0	21.0	22.0	24.0	24.0	24.0	ppm
Calcium	0.48	0.47	0.47	1.72	1.72	1.74	%
Cadmium	6.00	6.00	6.00	34.0	33.0	33.0	ppm
Cobalt	10.0	10.0	10.0	18.0	18.0	18.0	ppm
Chromium	43.0	42.0	43.0	41.0	43.0	41.0	ppm
Copper	1181	1151	1143	387	398	410	ppm
Iron	4.74	4.64	4.72	4.82	4.79	4.85	%
Mercury	<1.00	<1.00	<1.00	1.00	1.00	1.00	ppm
Potassium	0.12	0.11	0.11	0.13	0.13	0.14	%
Lanthanum	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	ppm
Magnesium	1.68	1.64	1.65	1.49	1.49	1.50	%
Manganese	1451	1426	1441	1736	1738	1759	ppm
Molybdenum	7.00	7.00	7.00	3.00	3.00	3.00	ppm
Sodium	0.05	0.05	0.05	0.04	0.04	0.04	%
Nickel	1.00	1.00	1.00	5.00	5.00	5.00	ppm
Phosphorus	463	460	458	243	248	244	ppm
Lead	75	70	74	2219	2073	2131	ppm
Sulphur	2.36	2.32	2.41	3.48	3.46	3.50	%
Antimony	<5.00	<5.00	<5.00	20.0	22.0	22.0	ppm
Scandium	3.00	2.00	3.00	4.00	4.00	4.00	ppm
Strontium	4.00	4.00	4.00	17.0	16.0	17.0	ppm
Thorium	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00	ppm
Titanium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	ppm
Thallium	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	ppm
Uranium	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	ppm
Vanadium	17.0	17.0	17.0	30.0	30.0	30.0	ppm
Wolfram	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	ppm
Zinc	511	501	501	2794	2870	2966	ppm
Zirconium	2.00	2.00	2.00	2.00	2.00	2.00	ppm
Whole Rock Analysis							
SiO_2	63.9	64.3	64.0	58.3	57.8	57.9	%
Al_2O_3	11.0	11.4	11.0	12.2	12.1	12.1	%
Fe_2O_3	7.33	7.10	7.25	7.20	7.24	7.16	%
MgO	3.44	3.48	3.44	3.28	3.27	3.25	%
CaO	0.81	0.82	0.80	2.64	2.65	2.62	%
Na_2O	0.31	0.28	0.34	0.37	0.35	0.36	%
K_2O	2.47	2.42	2.47	3.15	3.13	3.16	%
TiO_2	0.42	0.42	0.43	0.46	0.44	0.45	%
P_2O_5	0.11	0.12	0.11	0.08	0.07	0.07	%
MnO	0.21	0.22	0.20	0.26	0.26	0.26	%
Cr_2O_3	0.01	0.02	0.01	< 0.01	< 0.01	< 0.01	%
V_2O_5	< 0.01	< 0.01	< 0.01	0.03	0.04	0.03	%
Lost On Ignition	8.30	8.40	8.32	8.83	8.92	8.70	%
Sum	98.4	99.0	98.4	96.8	96.3	96.1	%

Table 14.15: Head Assays of Taç and Çorak Composites for the SGS Flotation testwork

Element	Tac	Corak	
		High	Low
Gold - g/t	1.19	1.37	0.88
Silver - g/t	1.80	3.30	4.10
Cu, Total - %	0.41	0.04	0.12
Cu, CN Soluble - %	0.016	0.006	0.014
Cu, Acid Soluble - %	0.004	< 0.002	< 0.002
Pb - %	0.01	0.50	0.73
Zn - %	0.07	1.21	2.14
S, Total - %	3.90	5.05	4.47
S, Sulphide - %	3.70	4.69	4.06
C, Total - %	0.85	1.54	1.61
C, Organic - %	0.45	0.70	0.54

Element	Tac	Corak		Element	Tac	Corak	
	g/t	High - g/t	Low - g/t		g/t	High - g/t	Low - g/t
Ag	< 2	2	3	Mn	1100	2300	2200
Al	50000	74000	65000	Mo	22	< 20	< 20
As	< 60	< 60	140	Na	1500	1200	680
Ba	370	1200	1100	Ni	< 20	< 20	< 20
Be	0.36	0.50	0.48	P	420	250.00	240
Bi	< 20	< 20	< 20	Sb	< 20	< 20	107
Ca	5500	16000	19000	Se	< 30	< 30	< 30
Cd	< 10	68	130	Sn	< 20	< 20	< 20
Co	13	22	22	Sr	19	92	94
Cr	120	77	69	Ti	2400	2800	2600
Fe	52000	60000	51000	Tl	< 30	< 30	< 30
K	17000	31000	25000	U	< 20	< 20	< 20
Li	< 15	< 15	< 15	V	52	160	140
Mg	15000	23000	20000	Y	18	2.7	11

Deleterious elements in the head samples are present in moderate amounts and they should not present a challenge that would hinder the products commercialization. It is recommended that future metallurgical tests include the production of concentrates that would be analyzed for deleterious elements.

It is recommended that for future testwork, Mediterranean Resources provides the metallurgical laboratory or consultant with samples from drill core that are representative of the preliminary mine production plan. These samples should be grouped in such a way that would take into consideration the mining sequence and bench height. The objective is to test samples that are representative of the true blend of ores that would arrive to the processing plant. The composites should not be prepared thinking only in providing a determined grade but these composites should also take into consideration the ore blend that would arrive to the processing plant. If this is not taken into consideration then the metallurgical results may not be representative of the ore type that would be processed, which will increase the risk of not obtaining the project expected results.

14.2.2 Heap Leach Testwork

The test program included an amenability (coarse ore) bottle roll leach tests on four different size fractions of each composite, to simulate heap leach kinetics.

Leach Test Procedures

Four different tests with material passing 1”, ¾”, ½” and ¼ “ were developed using approximately 10 kg of sample for Taç and Çorak. Prior to conducting the bottle rolls, their designated head samples which had been separated out during sample preparation, were screened into five size fractions, and each fraction analysed for Au, Ag, S, Cu and ICP in case of the Taç composite and Au, Ag, S, Pb, Zn and ICP in case of the Çorak composite.

The general test procedures were:

- Crushing to the specified size, pulped to 50% solids with water and placed in the vessel.
- Rolling one minute every hour for 7 days while withdrawing solution samples at specified times to determine and maintain the pH, cyanide strength, and also to determine the metal values (Au, Ag and ICP) in the leach liquor.
- At the completion of the leaching period, the leach liquor was separated from the residue and analyzed for Au, Ag and metals (by ICP).
- Separation of the dried residues into the same size fractions as their feed class of each composite and each size fraction analyzed for Au, Ag, base metal (Cu or Pb and Zn), S and ICP.
- The pH was brought to 10.5 with lime, 1.0 g/L of NaCN

Leach Test Results

The size distributions of the sample of the bottle roll feed, and the bottle roll tail of the two samples, are displayed in Figure 14.2 and in Figure 14.3. It was observed that the amount of fines passing a determined screen increased after the leaching process, which is usual in these types of processing techniques. Further tests should be performed to determine if fines present in the heaps would represent a risk for heap stability.

The calculated head assays are presented in Table 14.16. The calculated head assay of each element of the four bottle roll feed samples of each composite are different from the assay of the same element in the head assay of the composite. The reason for this behaviour would be in the uneven distribution of Au and Ag in the sample and possible nugget and gravity effects, highlighting the difficulty of collecting a representative Au and Ag sample from a coarse feed stock. It is recommended that more astringent procedures are developed to minimize these effects.

Table 14.16: Calculated Feed Assays of the Bottle Roll Feed Samples

	Tac Assays (ppm - %)				Çorak Assays (ppm - %)				
	Au	Ag	Cu	S	Au	Ag	Pb	Zn	S
-1" – Calc. BR feed	1.25	2.67	0.13	3.09	1.61	7.55	0.27	0.65	4.84
-3/4" Calc. BR feed	2.55	2.93	0.16	3.12	0.64	11.1	0.16	0.38	4.75
-1/2" Calc. BR feed	1.48	1.41	0.18	3.21	0.62	5.57	0.18	0.45	4.87
-1/4" Calc. BR feed	1.78	1.28	0.14	3.14	0.54	6.58	0.2	0.43	4.84
Mean assay	1.76	2.07	0.15	3.14	0.85	7.71	0.2	0.48	4.83
Standard Deviation	0.57	0.85	0.02	0.05	0.51	2.42	0.05	0.12	0.06
Assay (Direct) Head	1.06	1.87	0.13	3.24	0.45	6.4	0.22	0.46	4.7

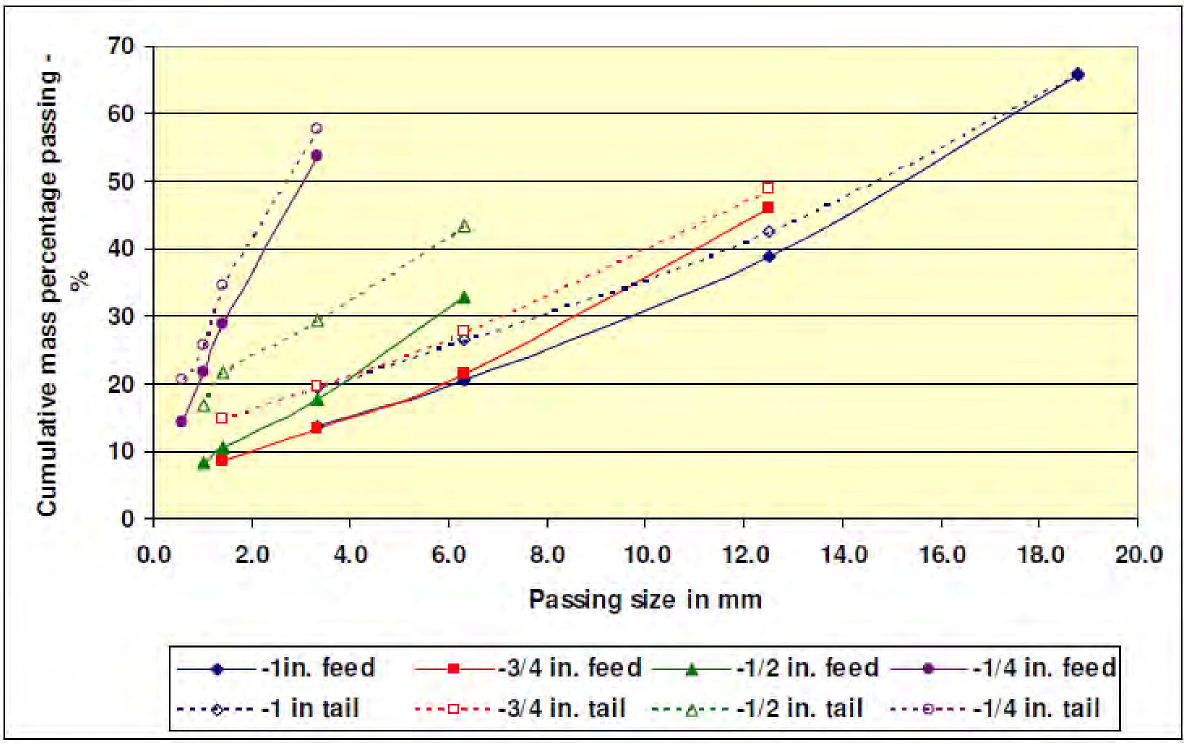

Figure 14.2: Taç – Bottle Roll Feed and Tail Size Distributions for Leaching Testwork

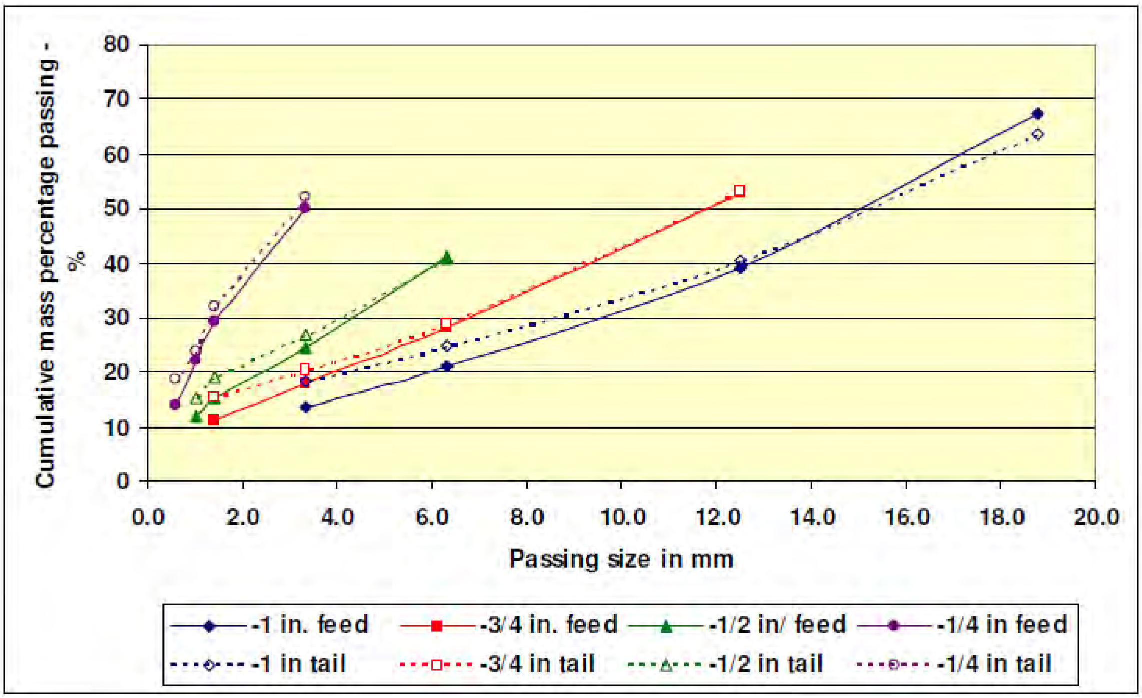

Figure 14.3: Çorak – Bottle Roll Feed and Tail Size Distributions for Leaching Testwork

Figure 14.4 and Figure 14.5 show the gold recovery curves for Taç and Çorak samples, respectively. Figure 14.6 and Figure 14.7 show the silver recovery curves for Taç and Çorak samples respectively. No copper recovery was calculated to determine if copper present in the samples may have contributed to CN consumption.

Higher Au recoveries were obtained when the whole sample was crushed to pass ¼" for both Taç and Çorak samples. It is recommended that fine grind and stirred-tank reactor leaching be explored to recover Au and Ag.

Copper recovery should be assessed to determine the influence of soluble copper over the leaching process, if any.

The NaCN consumption is presented in

Table 14.17 and is in the normal range of consumption.

Table 14.17: Cyanide Additions and Consumptions, Taç and Çorak Composites

	Tac Samples				Corak Samples			
	T1- 1in.	T2 - 3/4 in	T3 -1/2 in	T4-1/4 in	C1- 1in.	C2 - 3/4 in	C3 -1/2 in	C4-1/4 in
NaCN Addition - kg/t	1.26	1.21	1.30	1.40	1.30	1.30	1.34	1.39
NaCN Consumption - kg/t	0.26	0.21	0.35	0.50	0.30	0.31	0.34	0.40

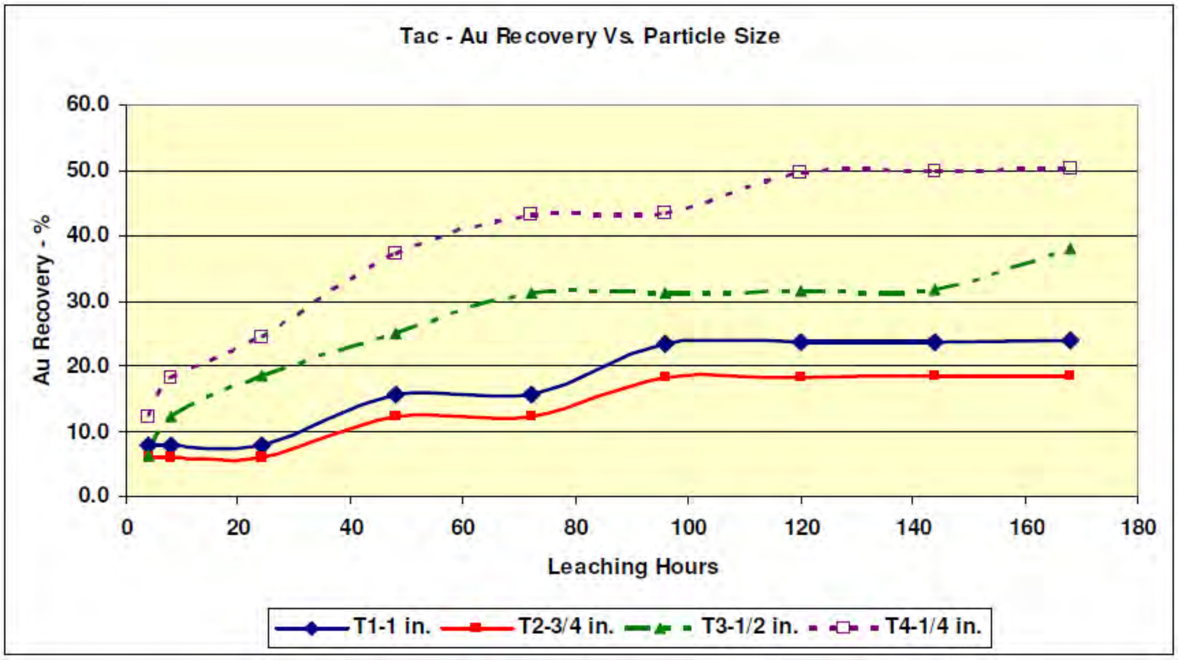

Figure 14.4: Au Leaching Profile, Taç Composite

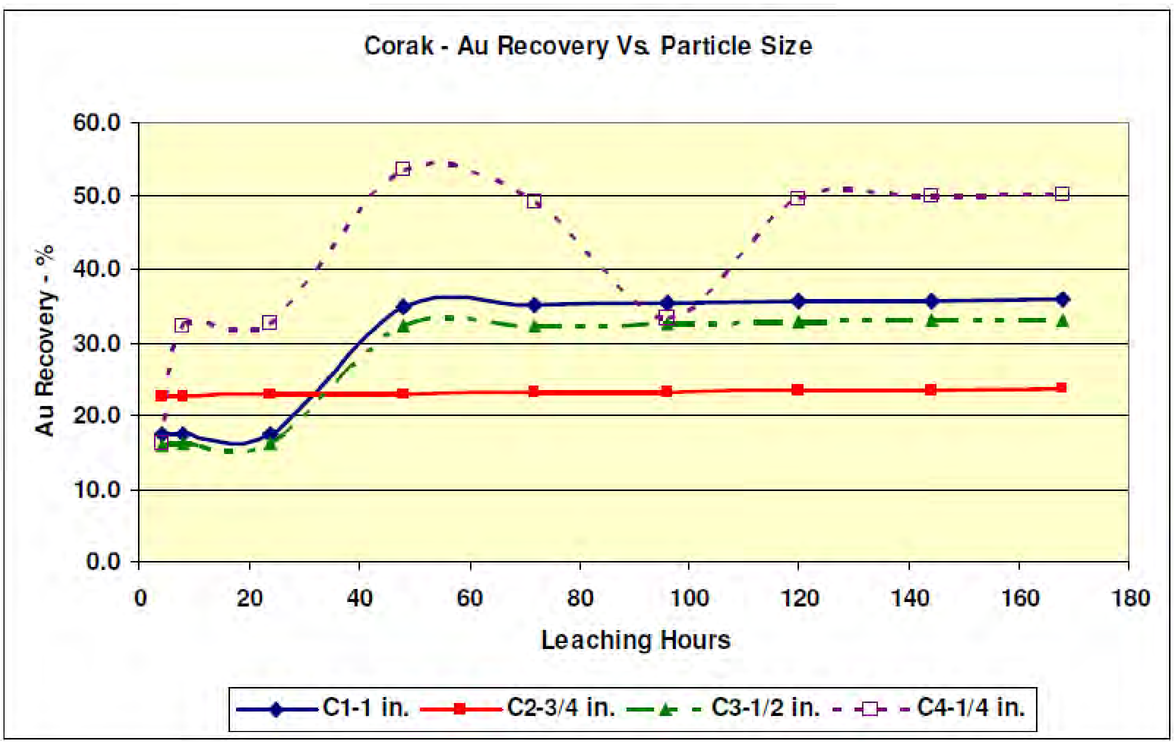

Figure 14.5: Au Leaching Profile, Çorak Composite

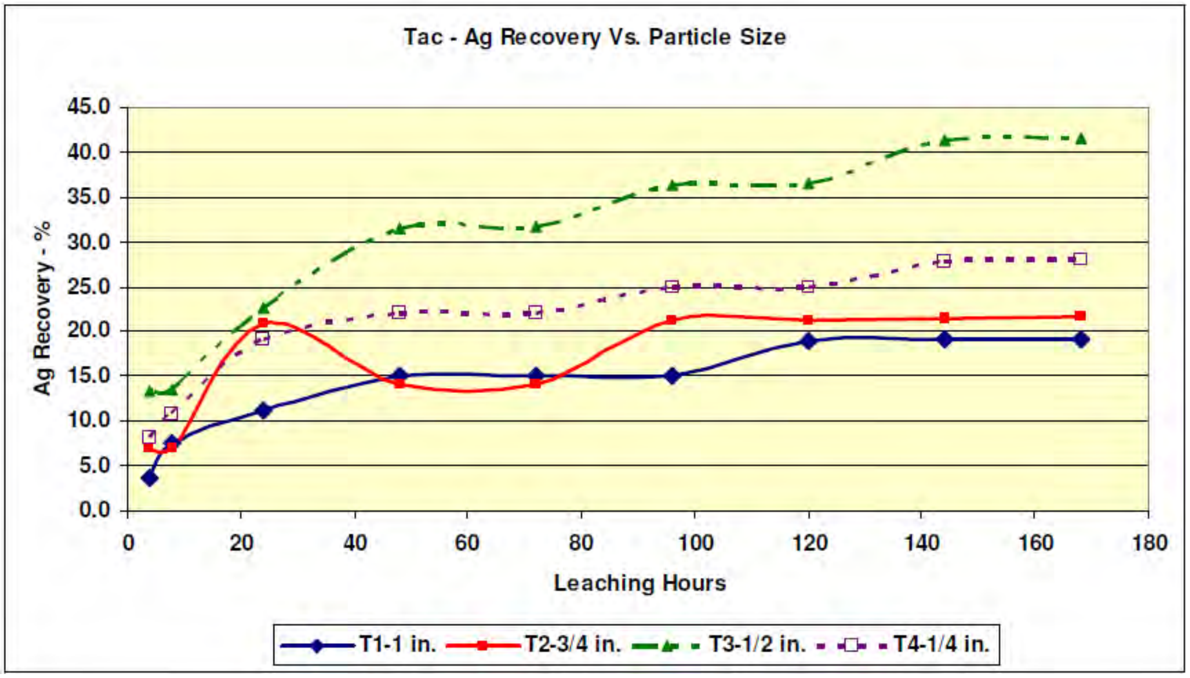

Figure 14.6: Ag Leaching Profile, Taç Composite

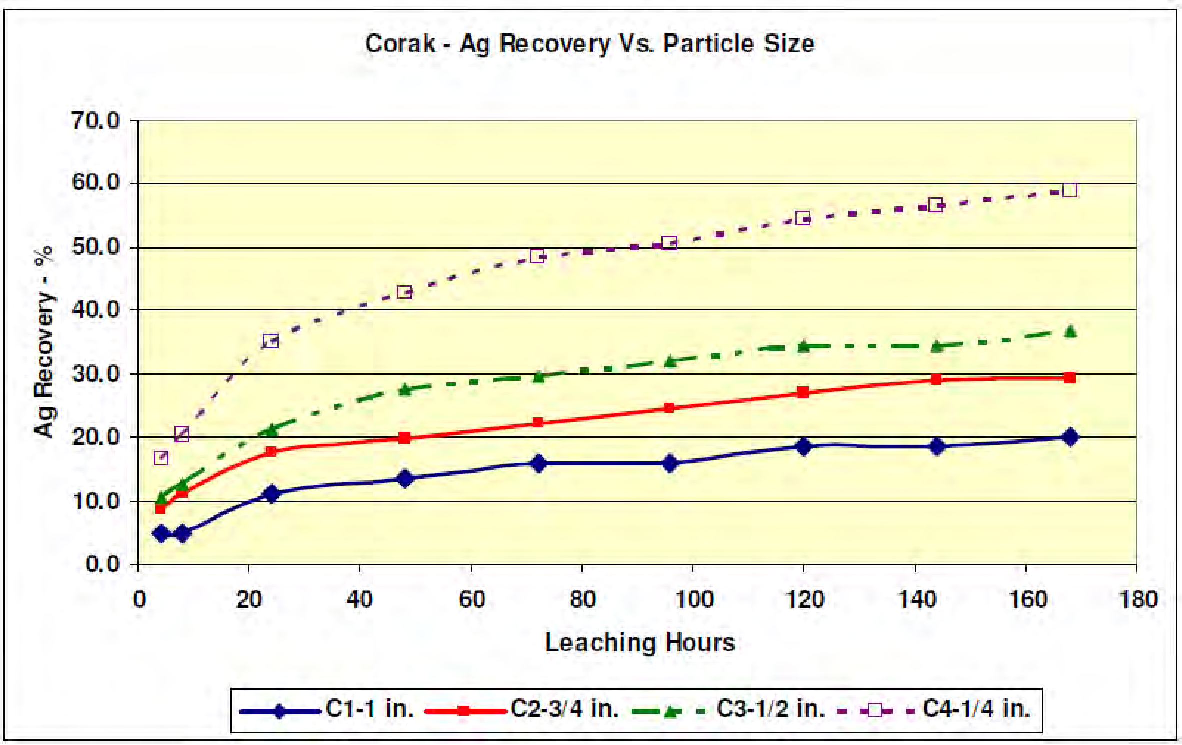

Figure 14.7: Ag Leaching Profile, Çorak Composite

14.2.3 Flotation Testwork

Comminution Test Procedures

Comminution testing was conducted on the Taç sample and an overall Çorak sample prepared by combining Çorak High and Çorak Low in equal weights. Bond ball mill work index tests were conducted in SGS Vancouver while SMC tests and Bond Abrasion tests were conducted at SGS Lakefield.

Standard laboratory tests procedures for the Bond ball mill work index and for SMC tests were used. For more details on the SMC testing refer to the SMC website http://www.smctesting.com/about.

Flotation Tests Procedures

Four different types of tests were developed to determine the flotation metallurgical performance of Taç and Çorak ore: leaching tests plus rougher, cleaner and locked cycle flotation tests. The Taç sample was studied using a conventional circuit to obtain copper concentrate containing gold and silver values. The Çorak samples were treated to obtain two different types of concentrates, lead and zinc concentrates using a differential flotation approach.

During the first stage of this program, rougher flotation tests were developed using the Taç sample which was ground to a K_{80} of 224 µm before being fed to the rougher flotation. The first rougher test for the Çorak sample was ground to a K_{80} of 210 µm in the feed to the rougher flotation. These grinding sizes were not maintained to develop the subsequent cleaner flotation stages where three different particle sizes were fed to open cycle cleaner tests.

The reagents used in the Taç rougher flotation test were Potassium Ethyl Xanthate (PEX), A3894, and 3418A. Lime was used to reach a pH of 10. The Taç sample was used in a second stage of flotation testing to develop cleaner flotation tests. The reagents used in this test were the same as the reagents used in the rougher stage and Sodium Isopropyl Xanthate (SIPX) was added as a new collector to replace the phosphine collector 3418A. During the cleaner stages the rougher flotation was developed at natural pH that reached a value of 8.5 for the Taç samples but the Çorak samples were floated a pH of 9.2, using lime addition. The ore was ground to three different levels in primary grind: K_{80} of 230, 150 and 74 µm. The first three cleaner tests for the Taç sample were developed using 3 stages of cleaning at pH between 10.5 to 11.5. A scavenger concentrate was obtained in each test but it was not added to the cleaning stages but rather used to determine extra metals recovery after the rougher stage. All the rougher concentrates in these tests were reground to a p80 of 35 µm.

The rougher concentrate for the Taç and Çorak samples were reground to a K_{80} 35 µm. A differential flotation to obtain Pb and Zn concentrates was developed using the Çorak sample only as the Taç deposit sample doesn't have conditions to develop this type of differential flotation. The Çorak sample was studied developing two cleaning stages for the Pb circuit, while the Zn circuit was studied by performing three cleaning stages and one rougher-scavenger stage. During the cleaning tests, the Çorak high ore was floated at a primary grind K_{80} of 210, 150 and 74 µm in the rougher stage, while the Çorak Low ore was floated by feeding the rougher stage with a K80 of 210 and 74 microns.

The last stage on the flotation testwork was the execution of locked cycle test for Taç, Çorak High and Çorak Low samples. Çorak locked cycle tests were executed at a K80 of 150 µm at a pulp density of 26% in the rougher circuit and pH of 9.2. At the rougher Pb flotation $ZnSO_4$ and NaCN were used as depressant agents while PEX and A242 were used as collectors. The Zn flotation stage was performed using $CuSO_4$ as a zinc activator plus PEX as a collector. The Zn scavenger was developed using SIPX as a collector in the scavenger stage, while PEX was used in the cleaner stage. The locked cycle test for the Taç sample used PEX and A 3894in the rougher stage while changing to PAX for the scavenger stage. Only lime was used in the conditioning stages before the cleaning stages of this sample.

Figures 14.8 and 14.9 show the circuits used for the Taç and Çorak tests.

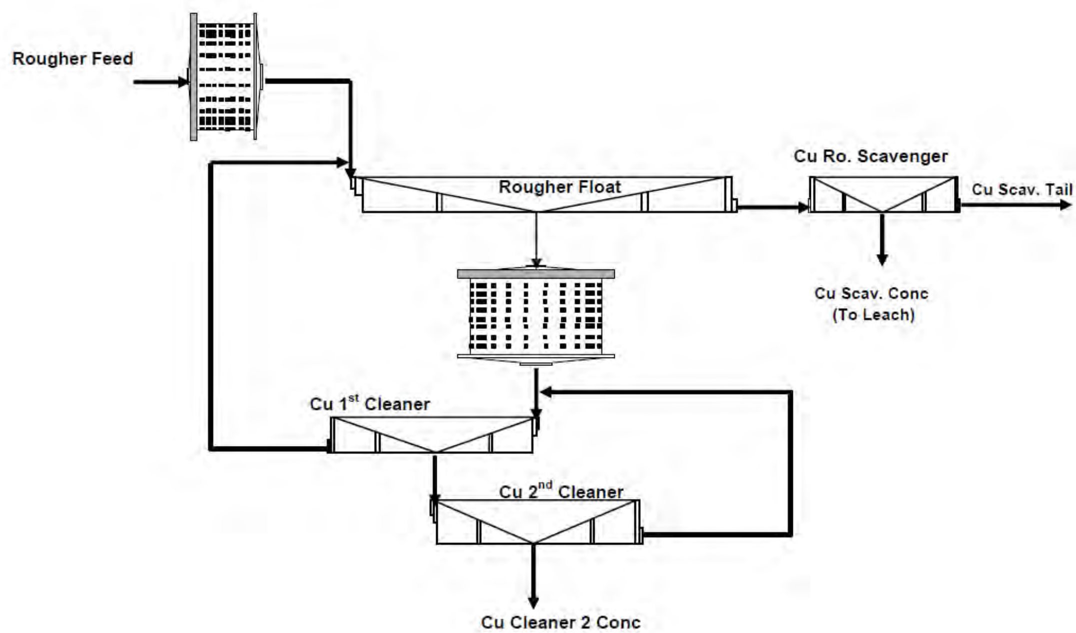

Figure 14.8: Locked circuit test for Taç samples

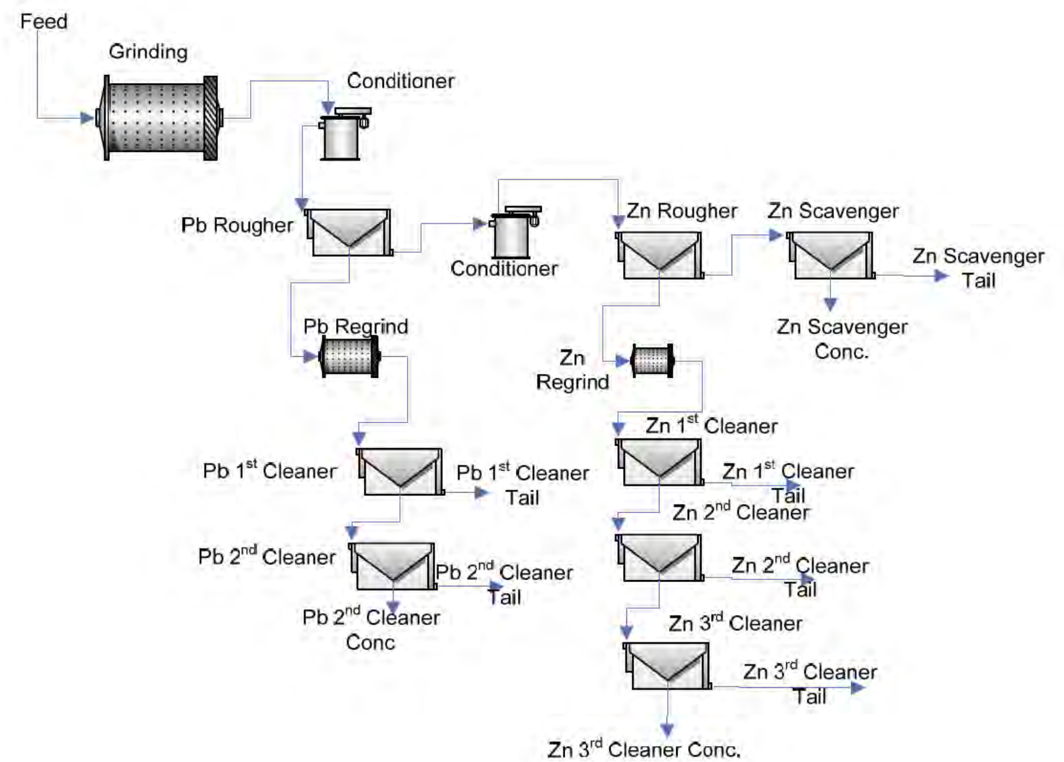

Figure 14.9: Open circuit test for Çorak samples

Mineralogical Analysis Procedures

Çorak High, Çorak Low and Taç samples were analyzed using QEMSCAN to determine mineral abundance, liberation and association. Each sample was received at SGS as a gr ound product having a K_{80} of 150 µm and sized at 150 µm and 75 µm. A portion of the two size fractions of each sample was obtained using a riffle splitter and submitted for chemical analysis (WRA, Cu, Pb, Zn, by XRF, S by Leco) for QEMSCAN data validation purposes. Another portion of each size fraction was prepared to obtain a 3 0mm graphite-impregnated polished probe. A total of three probes for the +150 µm fraction and two polished sections for the -150/+75 µm were prepared. Each polished section was then analysed using the QEMSCAN Bulk Mineral Analysis (BMA) and Specific Mineral Search (SMS) techniques to generate grain size and modal mineral abundances (BMA) and liberation/association characteristics of the ore minerals.

The SMC test results are shown in Table 14.18 including the average rock density and the drop-weight index plus the derived estimates of parameters A, b and that are required for JKSimMet comminution modelling.

Table 14.18: SMC Test® Results for the Taç and Çorak samples.

Sample Designation	DWi	DWi	Mia	Mih	Mic	A	b	SG	t_a
	kWh/m^3	%	kWh/t	kWh/t	kWh/t				
Corak Comp	5.42	46	15.7	11.2	5.8	79.6	0.65	2.82	0.48
TAC	5.24	44	15.6	11.0	5.7	73.5	0.72	2.78	0.49

The energy requirements for three particle sizes, each crushed to three different t10 values, are presented in Table 14.19.

Table 14.19: Energy Requirements Related to Particle Size for Taç and Çorak samples

Sample Designation	Particle Size (mm)								
	14.5			28.9			57.8		
	t_{10} Values for Given Specific Energies (%)								
	10 kWh/t	20 kWh/t	30 kWh/t	10 kWh/t	20 kWh/t	30 kWh/t	10 kWh/t	20 kWh/t	30 kWh/t
Corak Comp	0.27	0.59	0.97	0.21	0.43	0.70	0.15	0.32	0.51
TAC	0.27	0.58	0.96	0.20	0.43	0.68	0.15	0.32	0.50

A comparison of the Taç and Çorak Comminution results is presented in Table 14.20. This table and the derived results of this SMC test are indicating that in general terms the strength of the Taç and Çorak rocks when broken under impact conditions is approximately in the 50th percentile of the data base that SMC testing has developed using information of more than 3,000 recordings. In other words, the energy needed to crush and then to process these ores in a SAG mill would be located around the average energy consumption for these types of mills. It is recommended that Mediterranean Resources develop more SMC test or drop weight tests to assess the variability of the energy consumption that Taç and Çorak ore needs to be processed. It is desirable that composites representing the mill feed for a certain period of time (i.e one year or five years) are put together. This methodology would help to decrease the risk of making mistakes in the mill design.

Table 14.20: Derived Values for A*b and t10 at 1 kWh/t for Taç and Çorak samples

Sample Designation	A*b				t10 @ 1 kWh/t			
	Value	Category	Rank	%	Value	Category	Rank	%
Corak Comp	51.7	medium	1706	56.3%	38.0	moderately soft	2086	68.9%
TAC	52.9	medium	1743	57.6%	37.7	moderately soft	2052	67.8%

Taç Flotation Tests Results

The rougher test results showed 98% Cu, 71% Au and 83% Ag recovery to a Cu rougher/scavenger concentrate. Concentrate grades were 4.4% Cu, 6.0 g/t Au and 17.9 g/t Ag. A summary of the rough test for the Taç samples is shown in Table 14.21. The copper and silver concentration ratio was 11 times, while the Au concentration ratio was 5 times. There was a significant difference between the calculated head grade and the measured head grade for Ag and Au.

Table 14.21: Summary of Rougher Tests Results for Taç Samples

Stream	Wt. %	Assay – g/t[1], %			Recovery - %		
		Au[1]	Ag[1]	Cu	Au	Ag	Cu
Rougher Conc.	8.72	6.38	19.7	5.03	65.0	79.7	97.2
Rougher and Scav. Conc.	10.0	6.03	17.9	4.42	70.6	83.3	98.0
Rougher tail	90.0	0.28	0.40	0.01	29.4	16.7	2.0
Calculated Head		0.86	2.16	0.45			
Direct Head		1.19	1.80	0.41			

The four Taç cleaner flotation tests results are shown in Table 14.22. Copper grade in the cleaner three concentrate reached 33.8%, 31.7%, 33.7% and 30.1% showing either the presence of other copper minerals together with the chalcopyrite or that the Taç mineral is able to produce a very clean concentrate. It is suggested that a detailed mineralogical study of concentrates is performed during further engineering stages as it would show what copper species are reporting to the concentrate, helping to decide what type of reagents to use. The concentration ratio for copper is around 75 when comparing the head and final concentrates, while the gold concentration ratio is around 53. Silver concentration ratio is located between 19 and 34. This indicates that silver loses are produced in the cleaner stages. New flotation conditions could improve the silver recovery to concentrate. The third cleaner stage seems to be causing a detriment in all the metal recoveries. The Taç concentrate obtained after two cleaner stages is a product that would be easily saleable if no del eterious elements are present. It is suggested that an analysis of deleterious elements is performed over final concentrates during further engineering stages.

SGS did not optimize collectors or other flotation conditions during this stage, which is indicating that further gains can be obtained in future engineering stages if optimization of flotation conditions is included in those studies.

Table 14.22: Summary of Taç ore Cleaner Tests

Test ID	Stream ID	Wt. %	Assay – g/t[1], %			Recovery - %		
			Au[1]	Ag[1]	Cu	Au	Ag	Cu
YT-VF3	Cleaner 3 Conc.	1.01	53.0	68.0	33.8	34.9	35.0	76.8
	Cleaner 2 Conc.	1.16	54.8	64.0	31.9	41.3	37.7	83.0
	Cleaner 1 conc.	1.50	46.2	57.2	26.4	45.1	43.7	89.0
	Rougher Conc.	9.42	13.0	15.2	4.47	79.7	72.9	94.7
	Scavenger Conc.	1.75	3.60	5.10	0.79	4.1	4.5	3.1
	Scavenger Tail	88.8	0.28	0.50	0.01	16.2	22.6	2.2
	Calculated Head		1.54	1.97	0.45			
	Direct Head		1.19	1.80	0.41			
YT-VF12*	Cleaner 3 Conc.	0.75	53.4	28.3	31.7	22.7	14.8	53.8
	Cleaner 2 Conc.	1.31	68.5	37.6	29.1	50.8	34.3	86.1
	Cleaner 1 conc.	1.75	60.3	35.6	23.2	60.1	43.5	92.2
	Rougher Conc.	9.57	14.9	10.1	4.38	81.1	67.6	95.0
	Scavenger Conc.	3.68	2.44	3.20	0.36	5.1	8.2	3.0
	Scavenger Tail	86.8	0.28	0.40	0.01	13.8	24.2	2.0
	Calculated Head		1.76	1.43	0.44			
	Direct Head		1.19	1.80	0.41			
YT-VF13*	Cleaner 3 Conc.	0.68	60.0	33.0	33.7	25.8	14.7	57.0
	Cleaner 2 Conc.	0.89	68.2	37.9	32.6	38.6	22.2	72.3
	Cleaner 1 conc.	1.25	64.7	39.2	27.6	51.4	32.2	86.1
	Rougher Conc.	6.54	18.4	14.8	5.71	76.7	63.7	93.2
	Scavenger Conc.	4.13	3.68	4.70	0.44	9.7	12.8	4.5
	Scavenger Tail	89.3	0.24	0.40	0.01	13.6	23.2	2.2
	Calculated Head		1.57	1.52	0.40			
	Direct Head		1.19	1.80	0.41			
YT-VF16*	Cleaner 2 Conc.	2.80	40.1	30.1	13.0	71.6	51.5	92.4
	Cleaner 1 conc.	4.78	26.4	21.1	7.76	80.6	61.8	94.2
	Rougher Conc.	11.9	11.8	10.2	3.13	90.0	75.0	94.9
	Scavenger Conc.	3.52	1.09	2.00	0.28	2.5	4.3	2.5
	Scavenger Tail	84.5	0.14	0.40	0.01	7.6	20.7	2.6
	Calculated Head		1.57	1.63	0.39			
	Direct Head		1.19	1.80	0.41			

The Taç locked cycle tests were finished after only six cycles. The mass pull seems to have been very stable but the metals recoveries seem to be far from steady state, especially silver. It is recommended that a new set of locked cycle test is developed performing at least eight or nine cycles This would but ensure stable results before executing a pilot plant campaign. The low mass pull of Taç ore presents special challenges when developing lab test. The execution of detailed test would produce results that would minimize the project risk. Results of the Taç locked cycle test are shown in Figure 14.10. Good Cu recoveries were obtained albeit lower concentrate grade was obtained when comparing to the cleaner tests.

The difference in performance between locked and open cycle test is an indication that the locked cycle test conditions need to be r e-evaluated because recoveries are acceptable but copper concentrate grade could represent a challenge when trying to sell this product. Detailed mineralogical analysis using QEMSCAN and el ectron microprobe are suggested as a l ogical next step in Taç ore characterization. DOE tests to determine the effect of different reagents over flotation performance are also suggested.

Stream	Wt. %	Assay – g/t[1], %			Recovery - %		
		Au[1]	Ag[1]	Cu	Au	Ag	Cu
Cu 2nd Cleaner Conc.	1.73	61.7	35.9	23.0	70.0	29.1	93.5
Cu Scavenger Conc.	7.57	3.07	5.51	0.24	15.3	19.6	4.3
Flotation Tail	90.7	0.25	1.20	0.01	14.7	51.3	2.1
Calculated Head		1.52	2.13	0.42			
Direct Head		1.19	1.80	0.41			

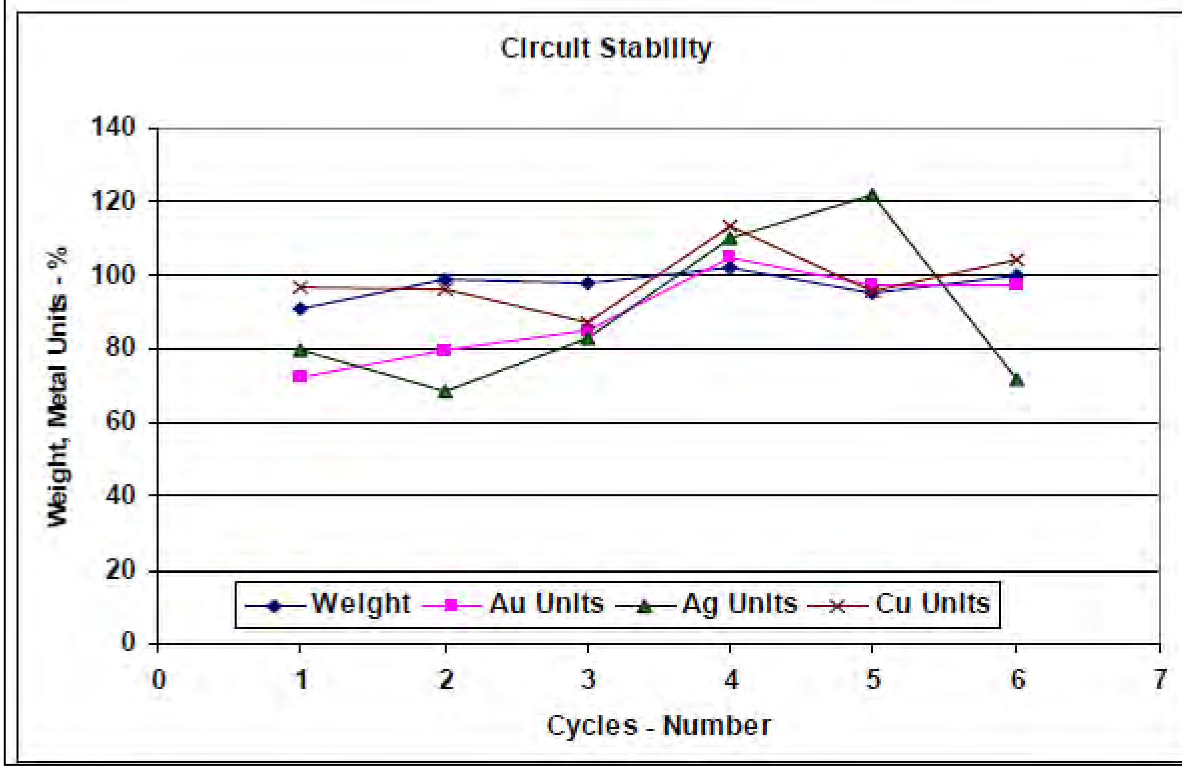

Figure 14.10: Locked Cycle Test Metallurgical Projections – Taç Sample

Taç Leaching Tests Results

The combined Cu scavenger concentrate from the locked cycle test was re-ground to reach 8 µm and then leached at 20% solids in a cyanide solution using a CIP procedure. Carbon at a concentration of 20 g/l was used to develop this leaching test during 48 hrs. A very high cyanide consumption of 12.1 k/t was needed to reach only 39% Au and 43% Ag recovery. Economic studies should be developed during future engineering stages, to asses which final product would produce more revenue; either the copper concentrate with Au and Ag contents or metal doré.

Çorak Low and Çorak High Flotation Tests Results

SGS reported problems with slurry viscosity during flotation as the reason why these tests were developed at 26% solids. This is an indication that slurry residence time at the industrial level would be higher than industry average. It is suggested that the effect of slurry percent solids and residence time is assessed during future engineering stages. A summary of the rougher test for the Çorak samples is shown in Table 14.23. Zn and Pb recoveries are high and similar for the Çorak High and Çorak Low ore. The calculated head grades are different from the measured head grades even for some Pb and Zn assays indicating that some blending issues may have been present during sampling preparation.

Small increases in recovery were achieved by including the scavenger stages in the flotation circuit.

Table 14.23: Summary of Rougher Tests Results for Çorak Samples.

Test ID	Corak ID	Sample Stream	Wt %	Assay - g/t[1], %				Recovery - %			
				Au[1]	Ag[1]	Pb	Zn	Au	Ag	Pb	Zn
YCh-VF5	High	Pb Roug. Conc	2.49	13.4	58.1	16.3	2.26	30.8	42.0	88.3	4.8
		Zn Roug. Conc	10.8	5.53	13.8	0.26	9.97	55.3	43.4	6.1	91.5
		Zn Scav. Conc	4.70	1.13	3.70	0.16	0.37	4.9	5.1	1.6	1.5
		Zn Scav. Tail	82.0	0.12	0.40	0.02	0.03	9.1	9.5	3.9	2.2
		Calculated Feed		1.08	3.44	0.46	1.18				
		Direct Head		1.37	3.30	0.50	1.21				
YCl-VF7	Low	Pb Roug. Conc	1.63	21.0	102	29.1	5.58	27.3	42.1	89.6	4.8
		Zn Roug. Conc	8.46	8.46	21.3	0.30	20.1	57.0	45.6	4.8	89.2
		Zn Scav. Conc	2.12	2.71	6.30	0.23	2.27	4.6	3.4	0.9	2.5
		Zn Scav. Tail	87.8	0.16	0.40	0.03	0.08	11.2	8.9	4.6	3.5
		Calculated Feed		1.26	3.95	0.53	1.91				
		Direct Head		0.88	4.10	0.73	2.14				

The Çorak Low and Çorak high samples cleaner tests were developed at particle size of 210, 150 and 74 m icrons. The test at 150 µm produced the best grade-recovery curve for the Pb and Zn flotation. Au and Ag recoveries were severely affected by developing flotation tests at 210 µm. It is recommended that mineralogical analysis of the flotation tail and concentrates is developed in future studies to assess the Ag and Au deportment. The SGS cleaner flotation conditions changed between one test and the other which makes difficult to draw conclusions about each parameter effect over performance.

It is suggested that Design of Experiments (DOE) is used in the future in order to assess the effect of percent solids and slurry density over metallurgical performance. Another set of DOE would be advantageous to determine what reagent suite could improve payable metal recovery. Figure 14.11 and Figure 14.12 show the grade-recovery curves for Pb to Pb concentrate and Zn to Zn concentrate respectively.

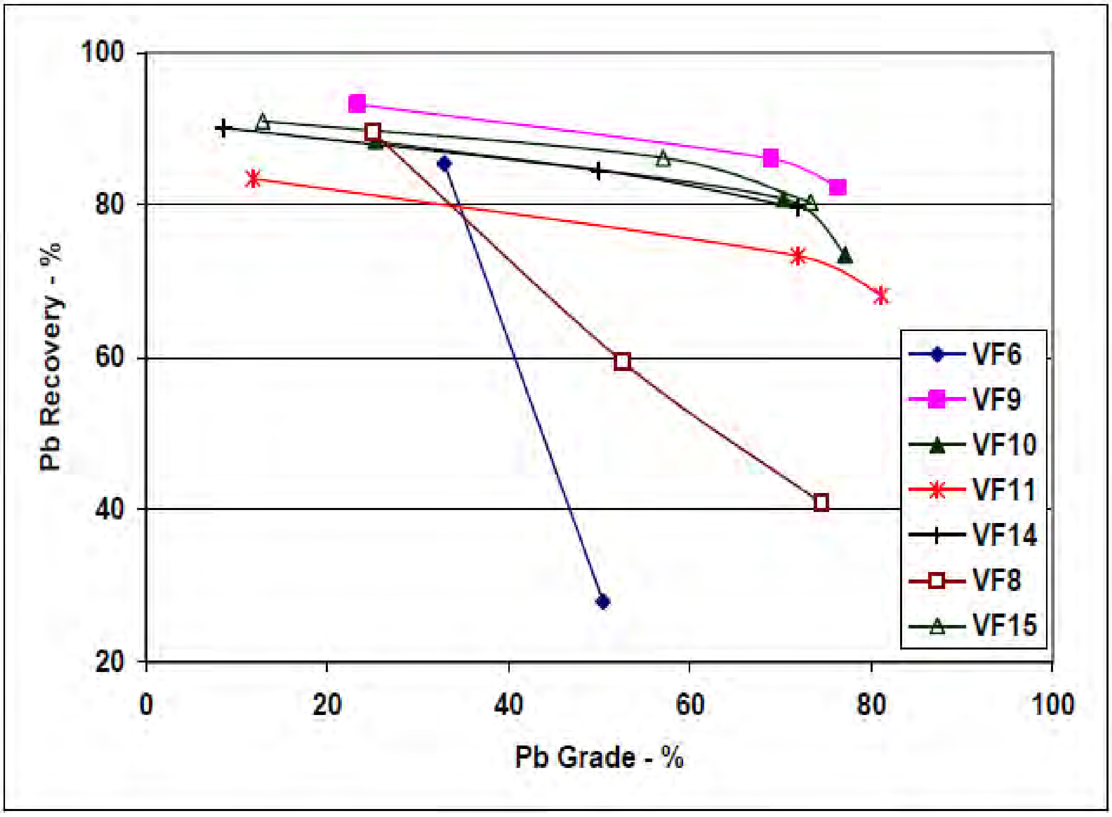

Figure 14.11: Grade and Recovery of Pb to Pb Concentrate – Çorak High and Low Grade Ore

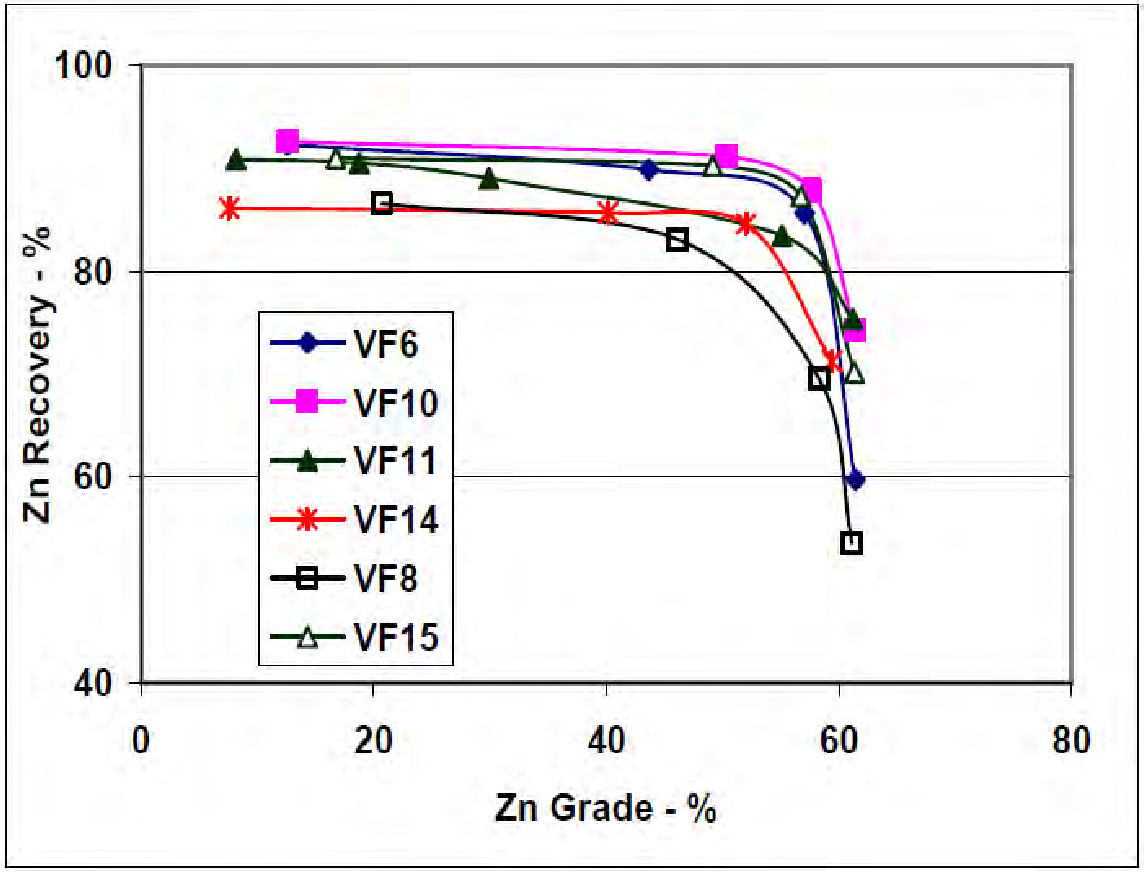

Figure 14.12: Grade and Recovery of Zn to Zn Concentrate – Çorak High and Low Grade Ore

The locked cycle tests developed at 26% solids were performed using only one cleaner stage for the Pb circuit and 2 cleaner stages for the Zn circuit. The conditions selected by SGS produced good metallurgical results. The locked cycle stability seems to reach steady state when the LCT was stopped. It is suggested that future characterizations are developed using at least two more cycles. Figure 14.13 and Figure 14.14 show the circuit stability for both the Çorak Low and Çorak High samples. Table 14.24 is showing the LCT results. The final Zn concentrate grade obtained is in the low end of saleable Zn concentrate. More work needs to be done to reach Zn concentrate grades that are in the range of 50% to avoid penalties when selling this concentrate.

Table 14.24: Locked Cycle Tests Results– Çorak high and low grade Samples

Stream	Wt	Assay – g/t[1], %				Recovery - %			
	%	Au[1]	Ag[1]	Pb	Zn	Au	Ag	Pb	Zn
Corak High – YCh- LCT 1									
Pb Concentrate	0.76	28.8	201	65.2	1.92	21.3	42.1	89.2	1.2
Zn Concentrate	2.35	23.3	56.7	0.93	47.4	53.0	36.6	3.9	95.3
Zn 1st Cleaner Tail	13.3	1.05	0.54	0.10	0.21	13.6	2.0	2.4	2.4
Zn Scavenger Tail	83.5	0.15	0.84	0.03	0.01	12.1	19.3	4.5	1.0
Calculated Head		1.03	3.64	0.56	1.17				
Direct Head		1.37	3.30	0.50	1.21				
Corak Low – YCl- LCT 3									
Pb Concentrate	0.90	22.7	203	61.3	4.40	22.1	40.5	91.2	2.1
Zn Concentrate	3.94	10.6	43.0	0.44	44.2	45.3	37.6	2.9	93.7
Zn 1st Cleaner Tail	8.70	2.17	2.87	0.12	0.15	20.5	5.5	1.7	0.7
Zn Scavenger Tail	86.5	0.13	0.85	0.03	0.07	12.2	16.3	4.2	3.5
Calculated Head		0.92	4.50	0.60	1.86				
Direct Head		0.88	4.10	0.73	2.14				

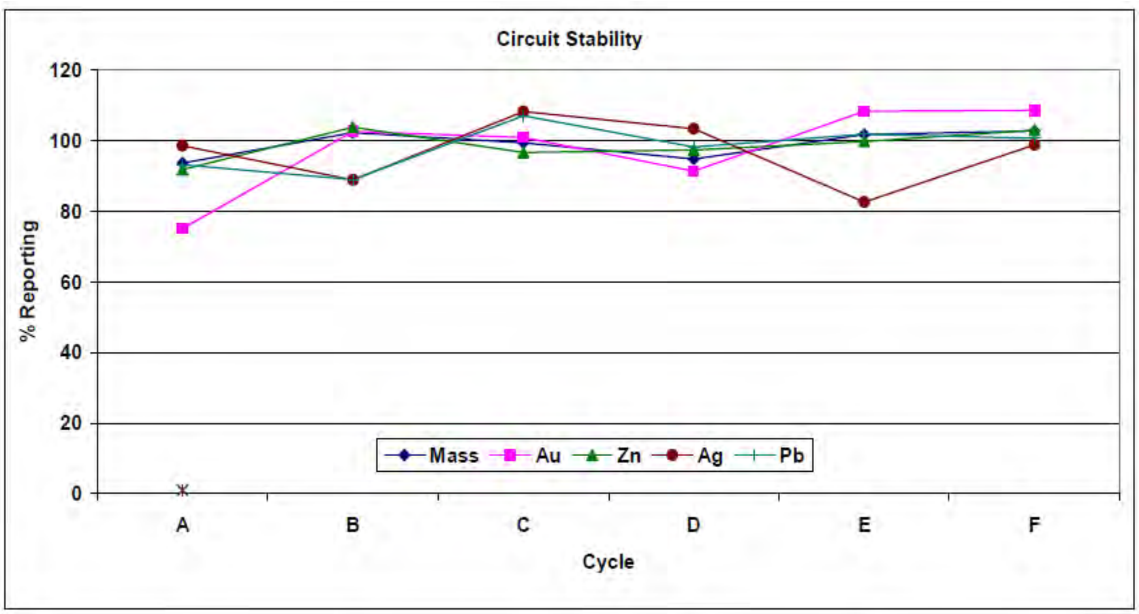

Figure 14.13: Circuit Stability – Çorak High Locked Cycle Test

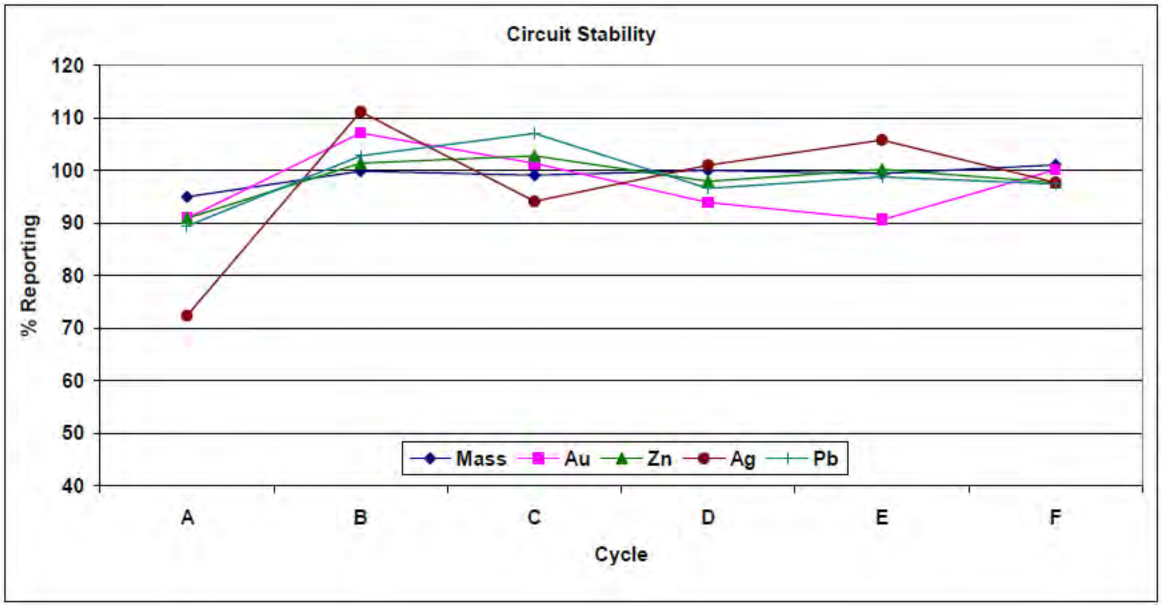

Figure 14.14: Circuit Stability – Çorak Low Locked Cycle Test

Çorak Low and Çorak High Leaching Tests Results

One sample of Çorak High was specially floated to produce concentrates for this leaching stage. This concentrate was re-ground to reach 3 µm and then leached at 35% solids in a cyanide solution using a CIP procedure. Carbon at a concentration of 20 g/l was used to develop this leaching test during 48 hrs. A very high cyanide consumption of 14.3 k/t was needed to reach 66% Au and70% Ag recovery, much higher than recoveries obtained with the Taç sample.

Four more series of leaching tests were developed using Zn 1st cleaner tails of the locked cycle tests and Çorak High and Çorak Low Zn 1st cleaner tails. Different particle sizes were used to obtain results shown in Table 14.25. Precious metal recoveries are low, in the range of 20% for gold and between 11% and 35% for silver. There is no direct correlation between recoveries and regrinding size. The NaCN consumption increases when the regrind particle size is smaller.

Economic studies should be developed during future engineering stages, to asses which final product would produce more revenues; either the copper concentrate with Au and Ag contents or metal doré.

Table 14.25: Summary of CIP Tests – Zn Scavenger Concentrates – Çorak LCT

Leach Test ID	Sample Origin – Zn 1st Clean. tail	Grind Size K_{80} - µm	NaCN kg/t		Assays – g/t				Recovery To Carbon - %	
					Calc. Head		Residue			
			Add	Cons.	Au	Ag	Au	Ag	Au	Ag
YCh-L2	YCh-LCT 1	~ 8	20.3	6.8	1.03	2.48	0.59	1.90	20.9	11.1
YCh-L3	YCh-LCT 1	35	10.8	2.6	1.04	3.24	0.81	2.40	20.3	25.3
YCl-L4	YCl-LCT 3	~ 8	21.5	6.8	2.11	3.04	1.58	2.10	17.7	20.8
YCl-L5	YCl-LCT 3	35	11.4	3.2	2.20	2.55	1.95	1.50	10.5	35.0

Mineralogical Results

Çorak High & Çorak Low Samples

The particle size of 150 and 75 µm allowed high liberation of galena at ~90% by weight with less than 5 wt% occurring as locked grains. Sphalerite liberation is high (~95% by weight) and appears slightly coarser than galena, with minor amounts (~2 wt%) occurring as locked grains • Non-liberated galena occurs as complex grains (~5wt %) with pyrite, sphalerite and non-opaque gangue minerals. To a lesser extent galena occurs as binary grains with pyrite (~2 wt %).

Pyrite occurs as euhedral grains where galena forms interstitial to pyrite grain boundaries. Non-liberated sphalerite occurs interstitial to euhedral pyrite.

A single gold particle attached to sphalerite was observed in Çorak High measuring 12 µm x 15. This is a normal type of finding in mineralogical analysis. If a more complete deportment and liberation analysis of gold in low head grade ores wants to be developed then more resources shall be assigned to this task. It is advisable that Mediterranean gold develops a more detailed mineralogical analysis to understand gold mineralogy.

Taç Samples

Chalcopyrite is the primary Cu-bearing mineral observed in the sample.

Chalcopyrite liberation is high (>90 wt%).

The composite and binary particles of chalcopyrite remaining are primarily composed of pyrite, chalcopyrite and non-opaque gangue minerals.

Non-liberated chalcopyrite occurs as interstitial grains to subhedral to euhedral pyrite grain boundaries.

The modal abundance of minerals is shown in Table 14.26. Major amounts of mica and quartz are present in each sample, with moderate amounts of feldspar, carbonates and pyrite. Taç has the highest amount of silicates close to 50% of the total sample.

Table 14.26: Modal Mineral Abundance for Taç , Çorak High and Çorak Low

Mineral Mass (%)	Corak Low	Corak High	TAC
Pyrite	5.01	6.43	6.32
Chalcopyrite	0.09	0.05	1.33
Tetrahedrite	0.19	0.07	0.01
Other Cu Minerals	0.02	0.02	0.04
Galena	0.71	0.60	0.01
Sphalerite	3.49	2.01	0.13
Other_Sulphides	0.02	0.02	0.01
Quartz	29.1	24.4	46.9
Feldspar	15.7	17.9	8.20
Amphibole	1.71	1.79	0.77
Pyroxene	0.06	0.09	0.01
Clay	2.94	2.14	2.25
Mica	31.0	33.6	25.3
Mg-silicates	1.01	1.09	3.14
Oxides	0.82	0.70	0.54
Carbonate	7.55	7.80	4.62
Phosphate	0.13	0.16	0.16
Sulphate	0.16	0.16	0.02
Other	0.03	0.02	0.04
Total	100	99	100

SGS determined the mineralogically limiting grade recovery curves for Cu, Pb and Zn based on the liberation analysis. It was found that the Çorak Low and Çorak High samples would produce the better grade recovery curve for lead recovery at the rougher circuit when the ore is at a particle size such that passes under the 75 µm opening. The Zn would have better metallurgical behaviour with particle sizes between 150 and 75 µm. The Taç ore would produce a better grade recovery curve for the size fraction that passes the 75 µm mesh. It is suggested that these starting points are used to define different grinding particle sizes that would be used to develop a design of experiments (DOE) to determine the optimum particle size for flotation.

SGS found that in the Çorak Low sample, the galena and sphalerite are both fully liberated at about 400 µm indicating that the initial primary grind will liberate the majority of the ore minerals. In the Çorak High sample the release curves indicate that sphalerite is fully liberated at a about ~400 µm whereas 90% of the galena will reach a maximum particle release at ~100 µm. These findings are indicating that flash flotation right after primary grinding may become a processing option. It is suggested that Mediterranean resources develop flash flotation tests after primary grinding to assess the impact of this processing alternative over global flotation results.

14.3 Preliminary Processing Methods

Owing to the diversity of mineralogy on the Yusufeli Property, the metallurgical process will need to be both robust and adaptable.

14.3.1 General

Ore from both Taç and Çorak deposits will be processed through a common process plant.

14.3.2 Taç Processing

Test work to date indicates that the Taç material is amenable to a combination of gravity and flotation concentration to produce both a gravity concentrate as well as a copper concentrate containing gold and silver. An additional process step may be to leach the resultant flotation tailings for recovery of additional precious metals.

14.3.3 Çorak Processing

Test work to date indicates that the Çorak material is amenable to gravity concentration producing a gravity concentrate followed by selective flotation to produce a lead-silver-gold concentrate and a zinc concentrate.

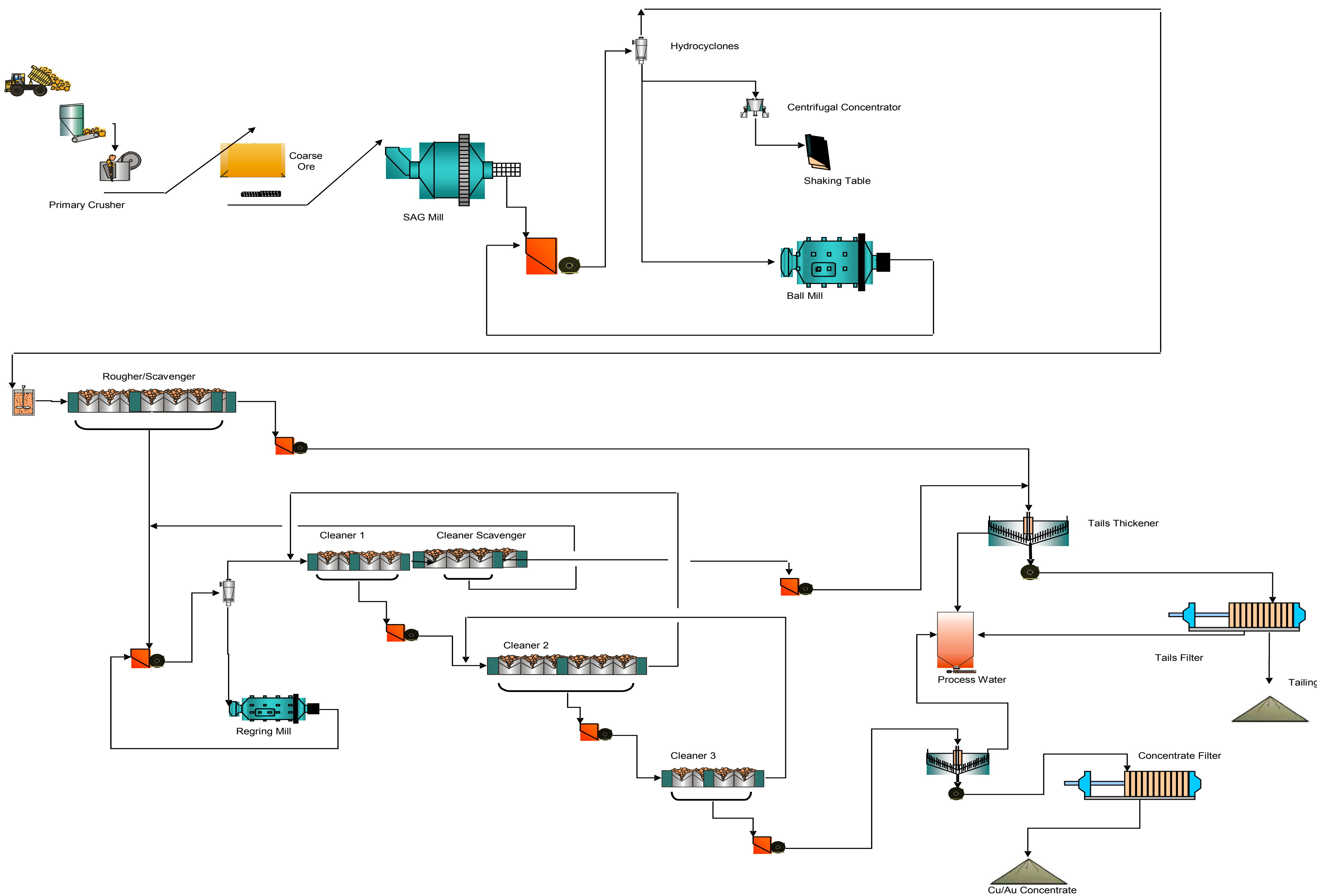

Figure 14.15: TAX copper/Gold Flowsheet

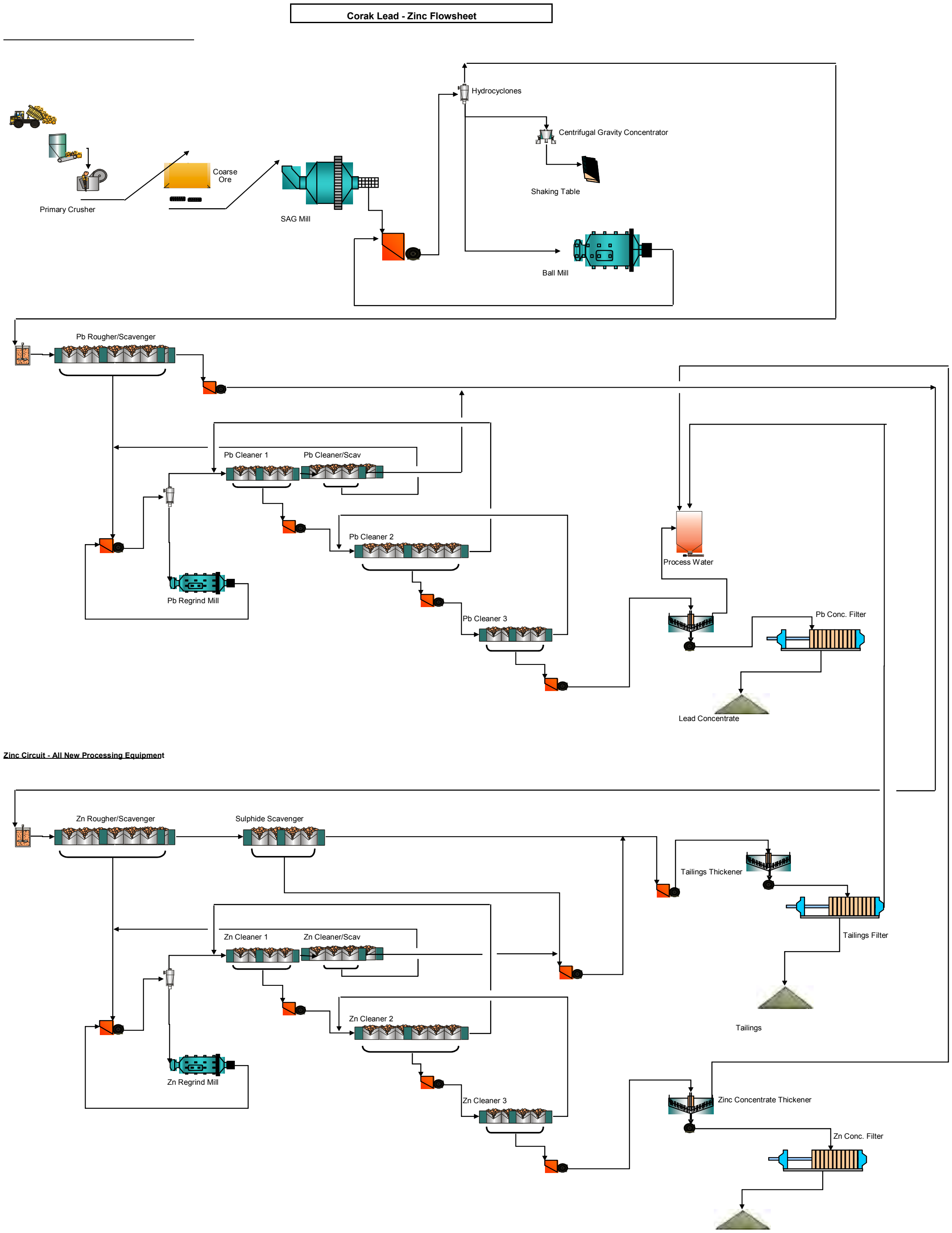

Figure 14.16: Çorak Lad – Zinc Flowsheet

14.3.4 Process Plant Design Basis

The key criteria selected for the plant design are:

- Treatment of an average 2.0M dry metric tonnes per year, after allowance for availability;
- Design availability of 91.3%, being 7,998 operating hours per year, with standby equipment in critical areas, and
- Sufficient plant design flexibility for treatment of both mineralization types at design throughput as per test work completed.

14.3.5 Processing Strategy

The process design is based on treating mill feed rock with properties similar in competency, hardness and specific gravity to that tested.

The comminution circuit was sized using Ausenco's in-house power based comminution model. Typically, mineralized rock hardness parameters were selected based on the 75th percentile, which is 75% of the mineralized rock to be processed is expected to be similar in hardness or softer than the mineralized rock hardness used for design. The grinding circuit is common for both Taç and Çorak mill feed rock.

The Taç mill feed material will be processed through a standard Cu/Au flotation circuit consisting of a rougher/scavenger flotation bank followed by regrinding of the concentrate and three stages of cleaning. When processing the Çorak mill feed material the existing Taç flotation circuit will be utilized for lead flotation and a new identical flotation circuit will be included for zinc flotation. A sulphide scavenger flotation bank will be installed on the zinc rougher/cavenger tail.

Flotation concentrate from Taç will be thickened and filtered prior to loading into 20 foot shipping containers for dispatch to smelters. This facility will be used for the lead concentrate when treating Çorak material. A new and identical concentrate handling system will be installed for the zinc concentrate.

In addition to the Taç reagent facilities, zinc sulphate and copper sulphate mixing/storage and dosing systems will be required when treating Çorak material.

14.3.6 Process Plant Design Criteria Summary

The overall approach was to design a robust process plant that could handle a range of mineralization variability and operating conditions and deliver good value for capital. The key project and mineralization-specific criteria for the plant design and operating costs are provided in Table 14.27.

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Table 14.27: Summary of the Process Plant Design Criteria.

Criteria		Units	Taç	Çorak
Crusher Feed		Mt/a	2.0	
Crusher Availability		%	75.0	
Crusher Throughput		t/d	8,000	
Mill Throughput		t/d	6,000	
Mill/Flotation Availability		%	93.1	
Physical Characteristics	BWI	kWh/t	15.0	
	RWI	kWh/t	16.0	
	CWI	kWh/t	12.0	
	DWI		5.5	
	Specific Gravity	t/m^3	2.80	
Primary Grind Size	P_{80}	µm	150	
Head Grade (Design)		% Cu	0.45	-
		% Pb	-	0.30
		% Zn	-	0.72
		g/t Au	1.56	1.10
		g/t Ag	-	1.79
Flotation Recovery	Copper	%	93	-
	Lead	%	-	86
	Zinc	%	-	93
	Gold	%	80	80
	Silver	%	-	73
Circuit Residence time	Cu and Pb Rougher/Scav	min.	66	
	Zinc Rougher/Scav	min.		66
	Sulphide Scav.	min.		66
	Cu and Pb Cleaner 1/Scav	min.	66	
	Cu/Pb Cleaner 2	min.	21	
	Cu/Pb Cleaner 3	min.	27	

Criteria		Units	Taç	Çorak
	Zinc Cleaner1/Scav	min.		66
	Zinc Cleaner2/Scav	min.		21
	Zinc Cleaner3/Scav	min.		27
Regrind	Specific energy	kWh/t	16	
	P_{80}	µm	38	
Concentrate Filtration Rate		kg/m^2/h	215	
Concentrates Thickening Flux		t/m^2/h	0.1	
Tailings Thickening Flux		kg/m^2/h	0.5	
Tailings Thickener Underflow Density		% w/w	55	
Concentrate Filtration Rate		kg/m^2/h	300	
Collector	Xanthate	g/t	3.0	195
Promoter	A3894	g/t	10.0	-
	A242	g/t	-	30.00
Frother	MIBC	g/t	30	40
Activator	Copper Sulphate	g/t		275
	Zinc Sulphate	g/t		225
Lime Consumption		kg/t	2.35	3.65
Flocculant Consumption (Concentrate and tailings)		g/t	15.6	15.8
SAG Mill Media Consumption		kg/t	0.48	
Ball Mill Media Consumption		kg/t	0.81	
Regrind Mill Media Consumption		kg/t	0.10	0.20

15 Mineral Resource Estimates

15.1 Introduction

A primary objective of SRK's work on the Taç and Çorak deposits was to produce a revised independent resource evaluation for the Taç and Çorak deposits. The mineral resource evaluation reported herein supersedes an earlier resource estimate prepared by Wardrop in 2008.

The resource estimate was completed by Mr. Abolfazl Ghayemghamian, P. Geo, an independent qualified person as this term is defined in National Instrument 43-101. The effective date of this resource estimate is 6 April 2009. Marek Nowak, P.Eng, verified data quality, reviewed and validated the mineral resource estimates.

This section describes the work undertaken by SRK and key assumptions and parameters used to prepare the mineral resource model for the Taç and Çorak deposits together with appropriate commentary regarding the merits and possible limitations of such assumptions.

In the opinion of SRK, the block model resource estimate and resource classification reported herein are a reasonable representation of the global mineral resources at Taç and Çorak deposits at the current level of sampling. The mineral resources presented herein have been estimated in conformity with generally accepted CIM "Estimation of Mineral Resource and Mineral Reserves Best Practices" guidelines and are reported in accordance with Canadian Securities Administrators' National Instrument 43-101. Mineral resources are not mineral reserves and do not have demonstrated economic viability. There is no certainty that all or any part of the mineral resource will be converted into mineral reserves. Mineral reserves can only be estimated as a result of an economic evaluation as part of a preliminary feasibility study or a feasibility study of a mineral project. Accordingly, at the present level of development there are no mineral reserves at the Taç and Çorak Projects.

The database used to estimate the Taç and Çorak mineral resources was audited by SRK and the mineralization boundaries were modelled by SRK based on lithological and structural interpretations. SRK is of the opinion that the current drilling information is sufficiently reliable to interpret with confidence the boundaries of the mineralized domains and that the assaying data is sufficiently reliable to support estimating mineral resources.

15.2 Resource Database

The database used to estimate the Taç and Çorak mineral resources was prepared by Mediterranean personnel and verified by SRK. The mineralized domains of the Taç deposit were modelled using Datamine software and the Çorak deposit was modelled using Gemcom software.

SRK is of the opinion that the current exploration and structural information is sufficiently reliable to confidently interpret the mineralized boundaries and that the assay data are sufficiently reliable to support the estimation of mineral resources.

The Taç database includes samples obtained from RC and diamond drilling, rock chip and channel sampling, and soil and silt sampling. Diamond drill recovery was 96%.

Table 15.1 provides a summary of the samples included in the Taç database.

Table 15.1: Exploration Data Used for Taç Resource Estimation

Project	Year	DD Drillholes	RC Drillholes	Number of Drill Samples	Drill Total (m)
Taç	2008	2	-	625	623
	2007	35	-	6,925	7,486
	2006	36	27	15,035	14,944
	Historical	10	44	2,620	4,300
	TOTAL	83	71	25,205	27,352

The Çorak database includes samples obtained from RC and diamond drilling, rock chip and channel sampling, and soil and silt sampling. Diamond drill recovery was 96%.

Table 15.2 provides a summary of the samples included in the Çorak database.

Table 15.2: Exploration Data Used for Çorak Resource Estimation

Project	Year	DD Drillholes	RC Drillholes	Number of Drill Samples	Drill Total (m)
Çorak	2008	34	-	6,595	7,313
	2007	48	34	16,786	17,465
	2006	-	-	-	-
	Historical	10	85	3,572	8,206
	TOTAL	92	119	26,953	32,984

15.3 Solid Modelling

15.3.1 Taç Deposit

The solids model created for Taç represents the volume of rock expected to contain mineralization. The model was created using 3D wireframes in Datamine. The geometry of these wireframes is based on the geological understanding of the mineralization determined from limited field work, maps and drillhole data.

In a similar manner to Çorak, the mineralization is associated with alteration and silica veins that are caused by epithermal fluids envisaged to have been emplaced into extensional zones adjacent fault systems.

Although there is no evidence to directly link the Taç and Çorak deposits, the similarities in mineralization and their close proximity suggest a very similar mineralization model. In general, the intensity of silicification seems higher at Taç with more common stockwork vein textures. The zones of mineralization are typically sub-vertical, representing concentrated veining from upward migrating fluids. The source of the fluids is not known.

Taç solids were constructed in the rotated space to ease the data modelling process. The angle and central coordinate of rotation are shown in Table 15.3.

Table 15.3: Rotation parameters in Taç

Rotation Angle	Direction	Rotation Point (X)	Rotation Point (Y)	Rotation Point (Z)
45	Clockwise	709216.3	4515904	1137.45

In a similar manner to Çorak, the Taç solids were designed by considering the spatial distribution of the silica alteration and mineralization intensities codes (vein and veinlets densities in the core), and copper and gold grades. Silicification was coded as a numeric field ranging from 1 to 5, where 1 corresponds to very weak intensity and 5 indicates the highest vein and veinlet density in the core. There is a very good correlation between silicification intensity coded 3 and gold and copper grades, which demonstrates a close geological relationship between silica alteration and mineralization. The geological interpretation was built on vertical sections, and the silicification intensity codes were used as the main guide for the interpretation.

The interpretation on each section was done by digitising strings that defined the contacts separating high grade domains from the low grade background domains. The interpretation on each section was also undertaken by applying geological understanding and common sense in order to create geological sensible solids and valid 3D wireframes. It was therefore not always possible to exclude all lower grade material from modelled higher grade zones.

After digitising the high grade and low grade boundaries on each section, the strings were used to make wireframe solids representing high and low grades zones. The solids were then used to code the blocks in the resource block model and assay samples as either high or low grade blocks or samples respectively. . The above interpretation resulted in the construction of two primary wireframe solids (a low grade and a high grade wireframe) in order to represent the Taç mineralization (Figure 15.3):

- The first solid (Low Grade Domain) is an outline of the mineralization with relatively low grades. The solid defined a broad zone of alteration with a sub-vertical orientation. The shape is likely to be partially influenced by large fault structures, but the relationships have not yet been adequately established; and
- The second solid (High Grade Domain) outlines a higher grade zone of mineralization defined by a higher intensity of silicification and by Au/Cu grade. It is dipping sub-vertically towards the northwest.
- One additional high grade solid (labelled “HGHP”) was constructed but not be included in the resource modelling due to a large drill hole spacing and uncertainty in zone continuity

15.3.2 Çorak Deposit

The solids model created for Çorak represents the volume of rock expected to contain mineralization. The model was created using 3D wireframes with GEMS software. The geometry of these wireframes is based on the geological understanding of the mineralization determined from limited field work, maps and drillhole data. The geological model is envisaged as a trans-pressional strike-slip environment creating zones of local compression and extension. Mineralizing fluids would be preferentially injected into zones of extension and focused more intensely as veins in more permeable stratigraphic horizons. The origin of the fluids is unknown.

Some specific geological observations affecting the model are as follows:

- Gold mineralization is mostly closely associated with quartz veins, and occurs within larger areas of alteration including zones of silica, argillic, potassic and propyllitic alteration, as well as barite, gypsum and carbonate veins. The spatial correlation between silica alteration and gold mineralization has been demonstrated statistically for Çorak. The correlation is particularly strong for logged silica intensities 3 to 5. Mineralized silica veins (typically less than 1 metre down to several centimetres thick) have a clear preferred orientation dipping 77° towards N256°E (Figure 15.1).
- The alteration intensity (including silica) is influenced by the primary volcano-sedimentary rock type layering in the area. A review of the spatial distribution of mineralization from drill core shows that there is one particular layer that contains the most well developed mineralization. Field investigations showed that the bedding is clearly developed, typically dipping toward the southwest or south-southwest at 30°-70°, sub-perpendicular to the ridgelines. Bedding steepens up towards the north-west.
- The spatial distribution of alteration (and mineralization) is complicated by the presence of north-south to north-northwest-south-southeast striking fault structures. The structures show multiple stages of reactivation that are likely to by both syn- and post-mineralization in age, and do affect the extents of alteration. The position of the most important structures was identified using previous mapping data (including structures, lithology and alteration) draped onto a 3D topography in GEMS.

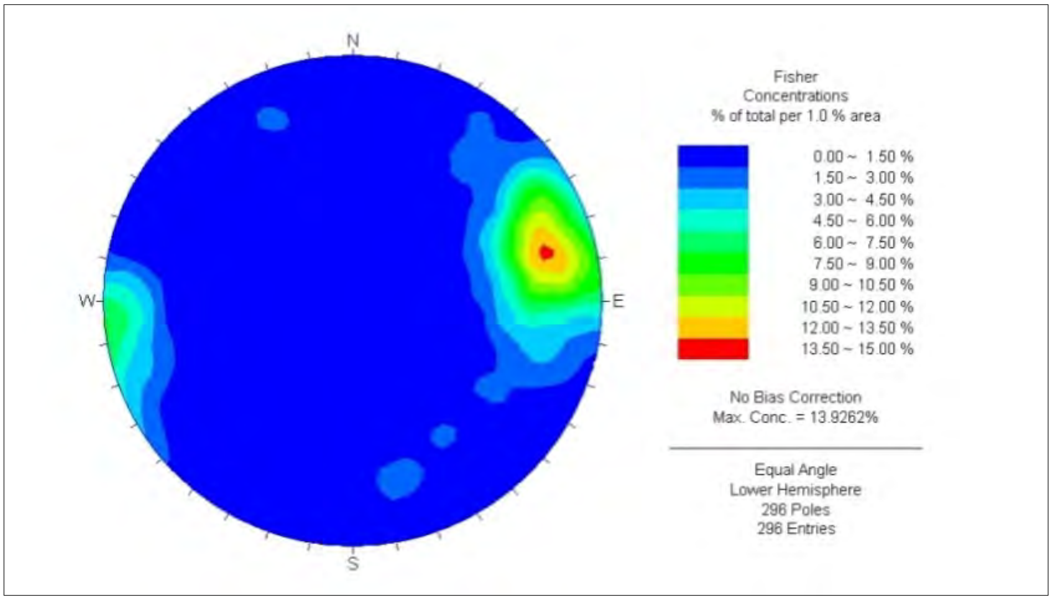


Figure 15.1: Stereonet showing Contoured Poles to Mineralized Vein Measurements at Çorak. The maxima dips at 77^{o} towards N256^{o}E

The above observations allowed the construction of two primary wireframe solids (a low grade and a high grade wireframe) in order to represent the Çorak mineralization (Figure 15.1):

- The first solid (Low Grade Central) is an outline of the mineralization including relatively low grades. The boundaries of the low grade wireframe are based on:
  - The extent of alteration, in particular the extent of silica alteration (which broadly corresponds to the full extent of alteration); and
  - The extent of the gold mineralization as defined by Leapfrog experimental grade shells using gold, silver, copper, lead and zinc assay data.

The solid is observed to be broadly flat in geometry, dipping shallowly to the southeast. This dip reflects loose control on the extent of alteration by the primary lithology. It conforms exactly to the outline of mapped alteration, but has been terminated against interpreted faults along the western and eastern edges.

- The second solid (High Grade) outlines a higher grade zone of mineralization, but is completely spatially confined to within the low grade wireframe. The boundaries of the high grade wireframe are based on:
  - The extent of greatest intensity of silica alteration (logged as intensity 3 to 5);
  - The extent of higher grade gold mineralization as defined by Leapfrog experimental grade shells using gold, silver, copper, lead and zinc assay data; and
  - The upper and lower boundaries of a presumed stratigraphic layer (dipping southeast steeply then more shallowly) creating very clear and overriding lithological control in the most intense silica alteration and associated gold mineralization.

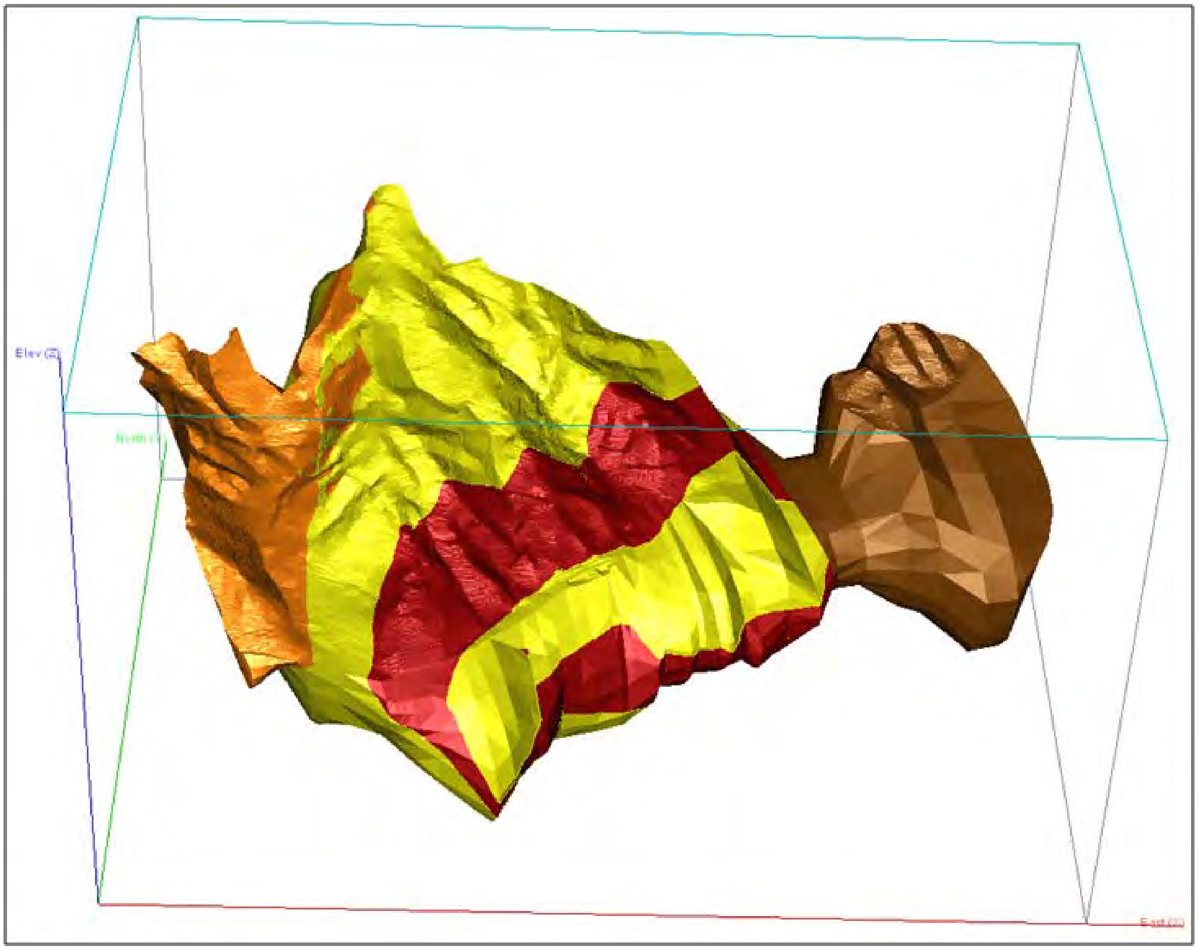


Figure 15.2: Isometric View (looking North) of the 3D Wireframe Model constructed representing Çorak Mineralization. The Primary Model (Central Domain) is represented by Low Grade Alteration Zone (yellow), with a High Grade Domain (red). The further Extent of Mapped Alteration is shown by Low Grade East Domain (orange) and Low Grade West Domain (brown), as divided by Fault Structures from the Primary Model

Bounding east and west structures were defined to limit the primary solids model in these directions. The use of these structures as model boundary features is justified by the lack of drillhole data beyond these structures and the inability to confirm geological continuity across these structures. The bounding west structure is easily detected in the topography and the previous mapping of alteration extents. Alteration does continue across the structure, but it appears to have been significantly displaced.

The bounding east structure corresponds to the centre of a tributary valley to the Çoruh River Valley, and this tributary can be observed in the field to correspond to the position of a fault. The orientation, displacement and effect on the mineralization of the fault in not known. The holes immediately east of the model do not show good correlation between silica alteration and the gold mineralization. Unfortunately the structural logs of drill core do not appear to be adequate to aid the structural interpretation.

Because mineralization extends beyond the bounding fault structures, two additional low grade wireframes were created to encompass these lower grade samples. The two wireframes are labelled Low Grade East domain and Low Grade West domain, as opposed to the Central domain that contains the primary low grade and high grade wireframes. The geological model for these additional wireframes is essentially unknown, but the wireframes are used to at least constrain in a limited capacity the mineralization within these two areas.

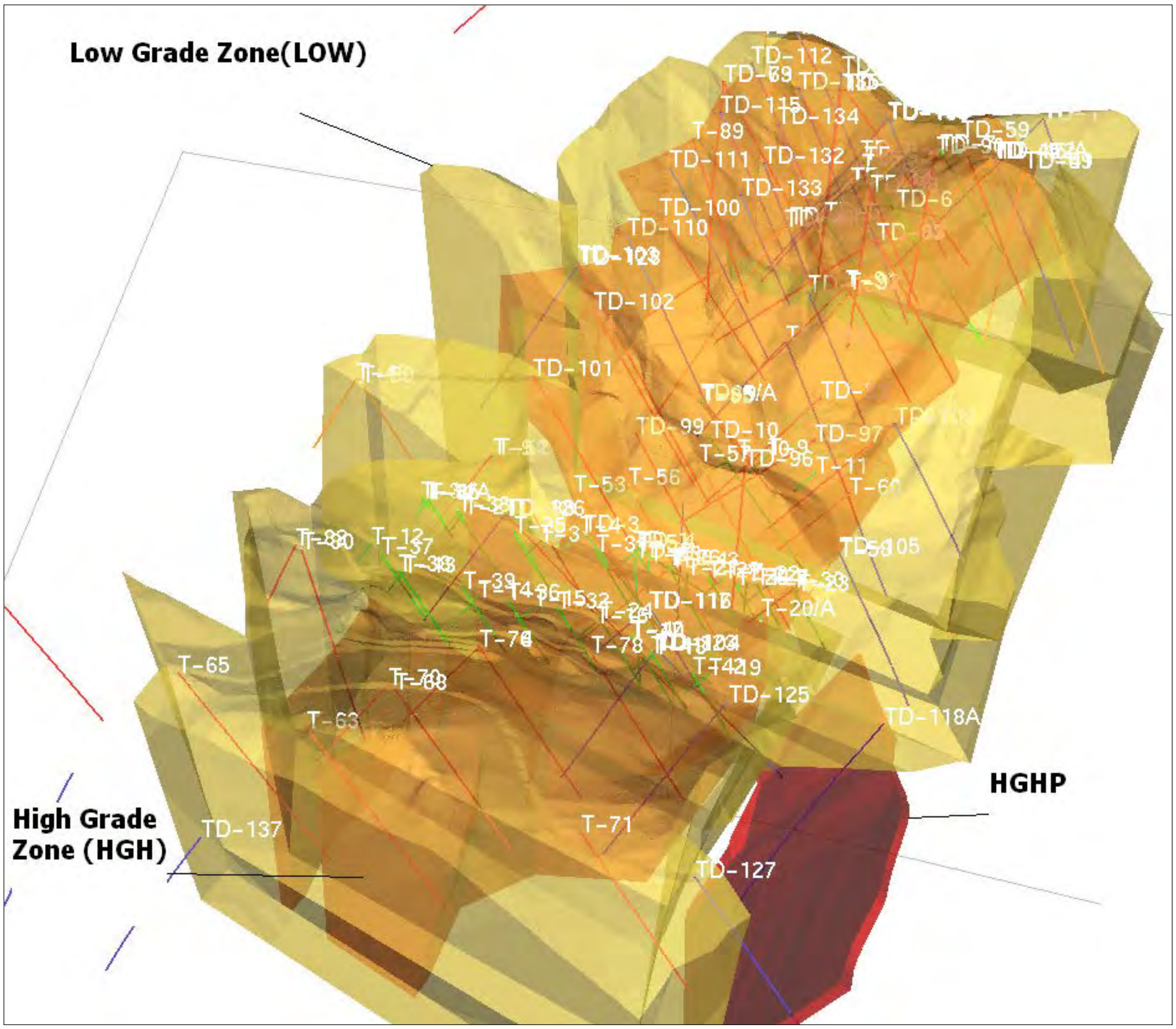
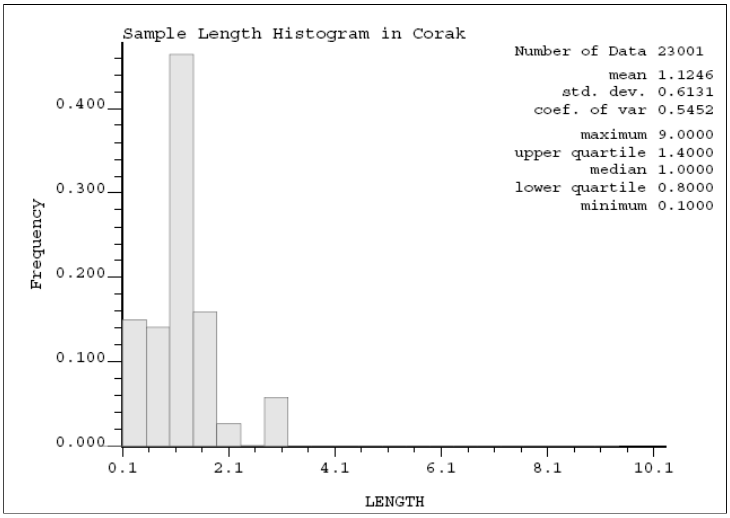


Figure 15.3: Isometric view (looking NE) of the 3D Wireframes representing the High Grade Domain (orange) and Low Grade Domain (yellow) in Taç. The separate HGHP Zone (red) should be considered for Future Drilling and Sampling

15.4 Assay Data Compositing and Statistics

The vast majority of the assay samples inside the resource domains were collected at less than 2.0 m intervals (Figure 15.4). All Çorak, Taç and Çeltik assays were composited to 2 m lengths.



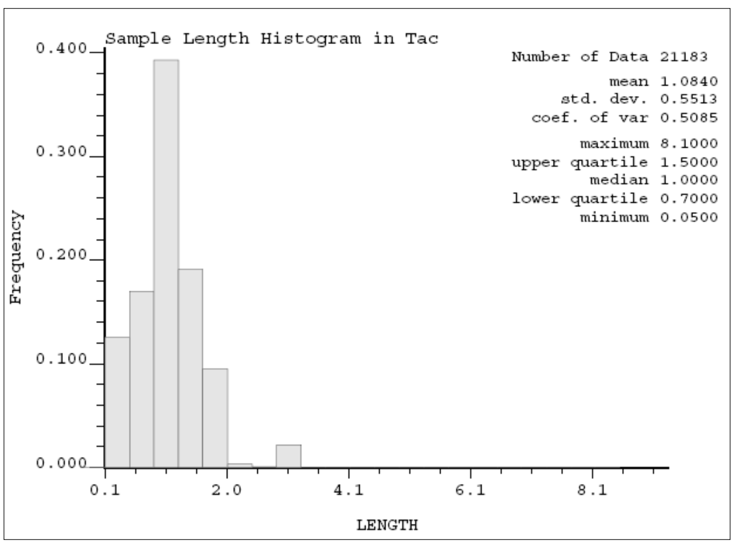
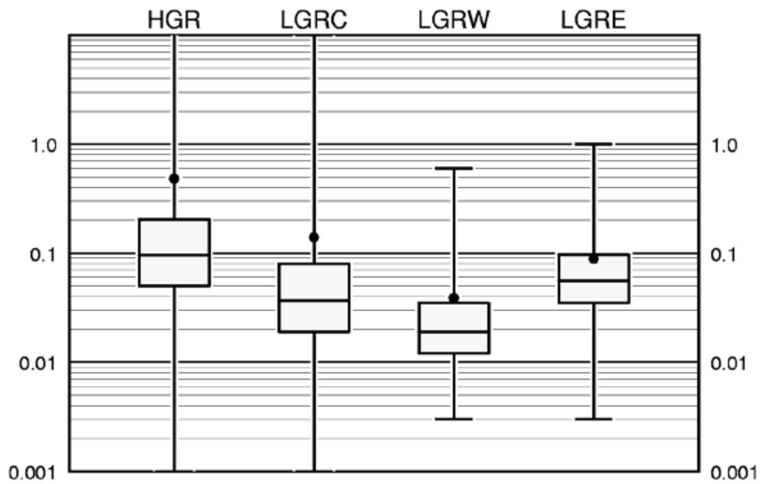
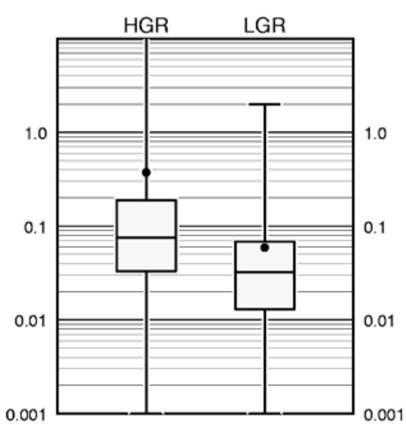


Figure 15.4: Histogram of Sample Lengths in the Taç and Çorak Mineralized Zones

By far, the most valuable metal in both deposits is gold. Statistics of the capped gold composite grades are presented in Figure 15.5.



	HGR	LGRC	LGRW	LGRE	
Number of data	4771	6730	396	1098	Number of data
Mean	0.483	0.14	0.039	0.089	Mean
Std. Dev.	2.525	0.623	0.083	0.122	Std. Dev.
Coef. of Var.	5.226	4.443	2.109	1.364	Coef. of Var.
Maximum	55.0	10.0	0.6	1.0	Maximum
Upper quartile	0.203	0.08	0.035	0.097	Upper quartile
Median	0.096	0.037	0.019	0.056	Median
Lower quartile	0.05	0.019	0.012	0.035	Lower quartile
Minimum	0.001	0.001	0.003	0.003	Minimum



	HGR	LGR	
Number of data	7506	3878	Number of data
Mean	0.375	0.059	Mean
Std. Dev.	1.725	0.118	Std. Dev.
Coef. of Var.	4.604	2.013	Coef. of Var.
Maximum	30.0	2.0	Maximum
Upper quartile	0.188	0.068	Upper quartile
Median	0.075	0.032	Median
Lower quartile	0.033	0.013	Lower quartile
Minimum	0.001	0.001	Minimum

Figure 15.5: Basic Statistics for declustered capped composite assays in Çorak (top) and Taç (bottom): HGR – high grade, LGRC – low grade central, LGRE – low grade east, LGRW – low grade west, LOWGR – low grade

15.5 Evaluation of Extreme Assay Values

Block grade estimates may be unduly affected by very high grade assays. Therefore, the assay data were evaluated for the high grades outliers and capped. There is strong negative correlation between the assay data and the sample lengths (Figure 15.6 and Figure 15.7). This indicates sampling was conducted based on visual indications of mineralization. In view of the above, capping was done on the composited assays.

The capping values were chosen by establishing a correlation between indicators of composite assays from adjacent samples at different thresholds and by reviewing probability plots. Table 15.4 and 15.5 show the capping of the high grade assays.

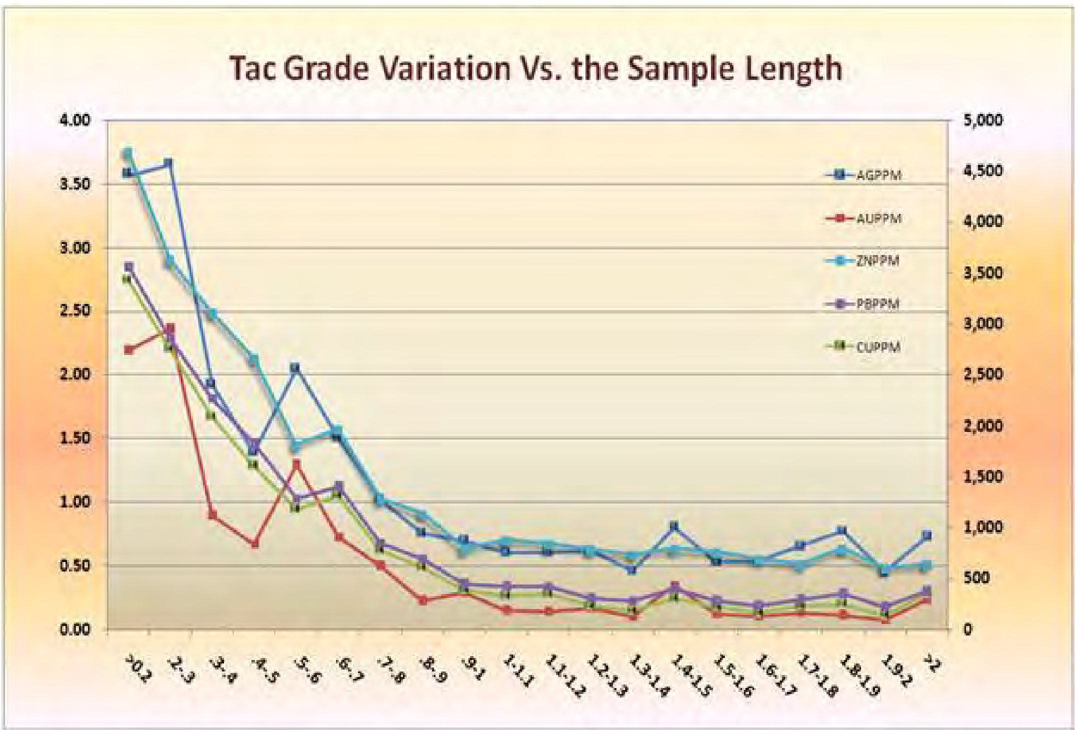


Figure 15.6: Taç Grade Variation with the Sample Length

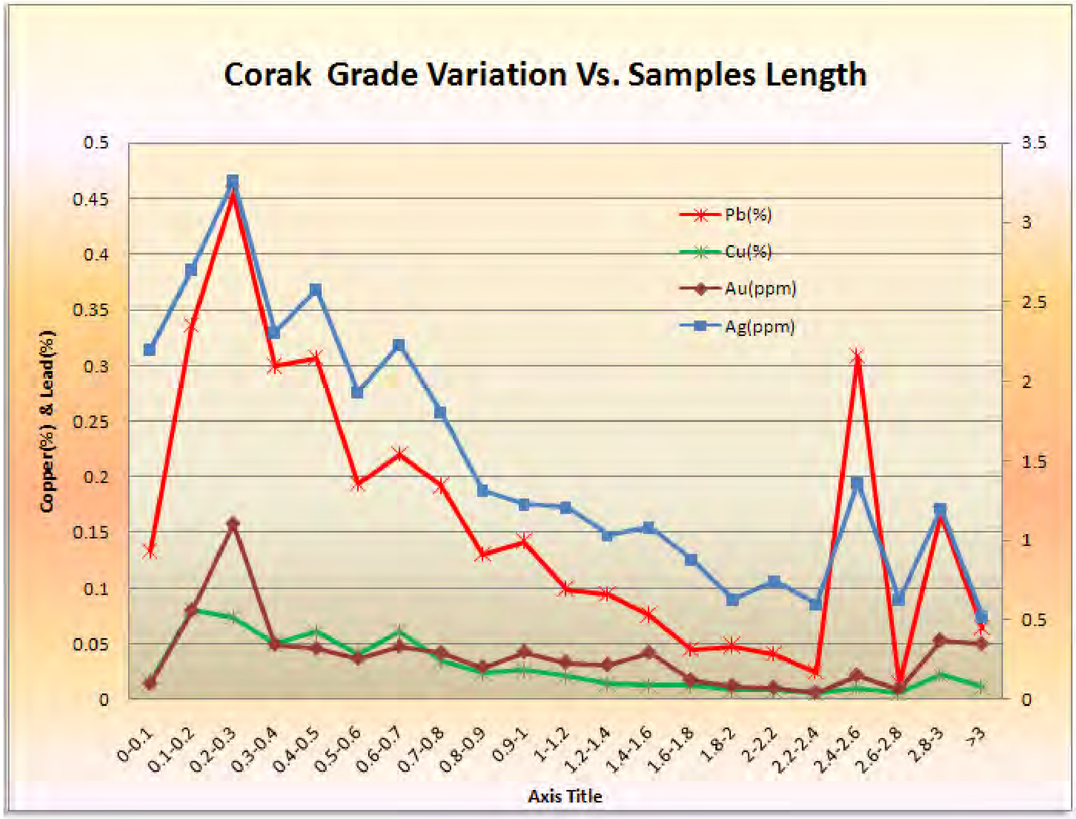


Figure 15.7: Çorak Grade Variation with the Sample Length

Table 15.4: Capping Levels Applied to the Çorak deposit

Zones	Metal	Number of Data	Maximum Value	Cap Value	Number Capped	Lost Metal (%)*
High grade	Au	4771	186.1	55	7	6
	Ag		108.9	50	6	1
	Pb		19.72	5	21	4
	Zn		22.62	10	23	3
Low grade Central	Au	6730	79.22	10	12	19
	Ag		41.45	20	12	2
	Pb		6.182	3	13	1
	Zn		23	6	20	3
Low grade West	Au	396	1.92	0.6	7	7
	Ag		4.764	2	8	4
	Pb		0.579	0.2	4	7
	Zn		1.165	0.6	4	5
Low grade East	Au	1098	2.96	1	10	8
	Ag		88.13	45	2	1
	Pb		4.999	1.5	7	11
	Zn		5.624	3	4	3

* Lost metal is (Aver - AverCap)/Aver*100 with Aver is the average grade of the declustered composites before capping and AverCap is the average grade of declustered composites after capping.

Table 15.5: Capping Levels Applied to the Taç deposit

Zones	Metal	Number of Data	Maximum Value	Cap Value	Number Capped	Lost Metal (%)*
High grade	Au	7506	171.40	30	12	11
	Cu		2.99	1.5	21	2
Low grade	Au	3878	10.90	2	8	8
	Cu		1.41	0.6	3	6

* Lost metal is (Aver - AverCap)/Aver*100 with Aver is the average grade of the declustered composites before capping and AverCap is the average grade of declustered composites after capping.

15.6 Variography

Experimental variograms and variogram models were generated for all gold, lead and zinc at the Çorak deposit and for gold and copper at the Taç deposit. The nugget effect values (i.e., metal variability at very close distance) were established from down hole variograms. The nugget values range from 25 to 45 percent of the total sill. Note that the sill represents the grade variability at a distance beyond which there is no correlation in grade.

Variogram models used for grade estimation in the Taç and Çorak deposits are summarised in Table 15.6 and 15.7. Note that no variogram models were designed for the Low Grade West domain. In this domain inversed distance squared estimates were applied.

Table 15.6: Exponential Variogram Models for the Çorak Deposit

Metal	Zone	Nugget C_0	Sill C_1 and C_2	Datamine Rotations (LLL rule)			Ranges a_1, a_2		
				around Z	around X	around Y	X-Rot	Y-Rot	Z-Rot
Gold	High Grade	0.28	0.5	270	75	0	10	30	10
			0.22				160	300	60
	Low Grade Central	0.3	0.5	270	75	0	20	37	15
			0.2				400	200	100
	Low Grade East	0.3	0.4	60	75	0	20	25	20
			0.3				70	350	150
Zinc	High Grade	0.3	0.5	150	30	0	15	45	15
			0.2				160	90	50
	Low Grade Central	0.3	0.5	150	30	0	30	80	15
			0.2				120	200	50
	Low Grade East	0.3	0.4	60	60	0	10	35	20
			0.3				70	800	200
Lead	High Grade	0.35	0.55	150	30	0	15	45	25
			0.1				160	66	60
	Low Grade Central	0.4	0.5	150	30	0	30	55	20
			0.1				200	400	100
	Low Grade East	0.3	0.4	60	60	0	10	25	20
			0.3				70	1200	150

Table 15.7: Exponential Variogram Models for the Taç Deposit

Metal	Zone	Nugget C_0	Sill C_1 and C_2	Datamine Rotations (LLL rule)			Ranges a_1, a_2		
				around Z	around X	around Y	X-Rot	Y-Rot	Z-Rot
Gold	High Grade	0.25	0.35	0	0	-15	45	35	45
			0.4				200	100	400
	Low Grade	0.25	0.4	60	45	0	15	190	20
			0.35				150	600	400
Copper	High Grade	0.45	0.4	0	0	-15	40	40	30
			0.15				70	70	120
	Low Grade	0.45	0.4	60	45	0	20	40	40
			0.15				80	300	300

15.7 Resource Estimation Methodology

15.7.1 Taç Deposit

The geometrical parameters of the block model are summarised in Table 15.8.

Table 15.8: Specification for the Taç Block Model

Description	Easting (X)	Northing (Y)	Elevation (Z)
Block Model Origin	709,500	4,515,200	200
Parent Block Dimension	15	15	15
Number of Blocks	167	80	73
Minimum Sub- Block Dimension	No Sub-block		
Rotation	0	0	0

Block metal grades were estimated in three successive steps. The first step considered a relatively small search ellipsoid while for the second and third steps the search ellipsoid dimensions were increased as indicated in Table 15.9.

The parameters to estimate copper were similar. The procedure was designed to ensure that all gold estimated blocks were also estimated for copper.

Table 15.9: Taç Resource Estimation Parameters for Gold Grades

Search Parameters	Orientation Domain			
	High	Low	Low E	Low W
Step I search radii	50,80,35	100,80,80	25,80,50	100,80,80
Step II search radii	75,120,52	150,120,120	37.5,120,75	150,120,120
Step III search radii	100,160,70	200,160,160	50,160,50	200,160,160
Rotations	270,75,0	270,75,0	60,75,0	270,75,0
Rotations axis (clockwise)	Z, X	Z, X	Z, X	Z, X
Step I minimum and maximum number of samples	4,16	4,16	4,16	4,16
Step II minimum and maximum number of samples	4,16	4,16	4,16	4,16
Step III minimum and maximum number of samples	3,16	3,16	3,16	3,16
Maximum Number of Samples each Drillholes	3	3	3	3

15.7.2 Çorak Deposit

The geometrical parameters of the block model are summarised in Table 15.10.

Table 15.10: Specifications for the Çorak Block Model

Description	Easting (X)	Northing (Y)	Elevation (Z)
Block Model Origin	703,200	4,510,100	350
Parent Block Dimension	15	15	15
Number of Blocks	103	133	60
Minimum Sub- Block Dimension	No Sub-block		
Rotation	0	0	0

Block metal grades were estimated in three successive steps. The first step considered a relatively small search ellipsoid while for the second and third steps the search ellipsoid dimensions were increased as indicated in Table 15.11.

The procedure was designed to ensure that all gold estimated blocks were also estimated for other metals. To estimate a block, data from at least three octants of a search ellipsoid had to be located.

Note that in the Low Grade Central domain the search neighbourhood is almost spherical. This helped to remove some of the odd streakiness of estimated higher grade blocks, probably related to areas with fewer drillhole data.

Table 15.11 presents an example of estimation parameters for gold grades. The parameters to estimate other metals were similar.

Table 15.11: Çorak Resource Estimation Parameters for Gold Grades

Search Parameters	Orientation Domain			
	HGH Domain	Low Domain	Low_E Domain	Low_W Domain
	Gold			
Step I search radii	50,80,35	100,80,80	25,80,50	100,80,80
Step II search radii	75,120,52	150,120,120	37.5,120,75	150,120,120
Step III search radii	100,160,70	200,160,160	50,160,50	200,160,160
Rotations	270,75,0	270,75,0	60,75,0	270,75,0
Rotations axis (clockwise)	Z, X	Z, X	Z, X	Z, X
Step I minimum and maximum number of samples	4,16	4,16	4,16	4,16
Step II minimum and maximum number of samples	4,16	4,16	4,16	4,16
Step III minimum and maximum number of samples	3,16	3,16	3,16	3,16
Maximum Number of Samples each Drillholes	3	3	3	3

In most domains block metal grades were estimated using ordinary kriging. An inverse distance squared algorithm was used in the Low Grade West domain. In addition to the various grade estimates, the block model parameters also include distance to nearest sample, resource category, orientation domain category, geological category, number of samples used for estimation of each block, and search volume number.

15.8 Specific Gravity Estimation

There is sufficient variation in specific gravity data (Figure 15.8) to warrant estimating specific gravity into the block model. Block specific gravity values were estimated by the moving average method. At least eight samples within a 200 m radius were needed to estimate a block. The radius was progressively increased to 400 and 600 m to allow estimating specific gravity in every block.

Blocks in non-mineralized areas were assigned the SG values as presented in Table 15.12.

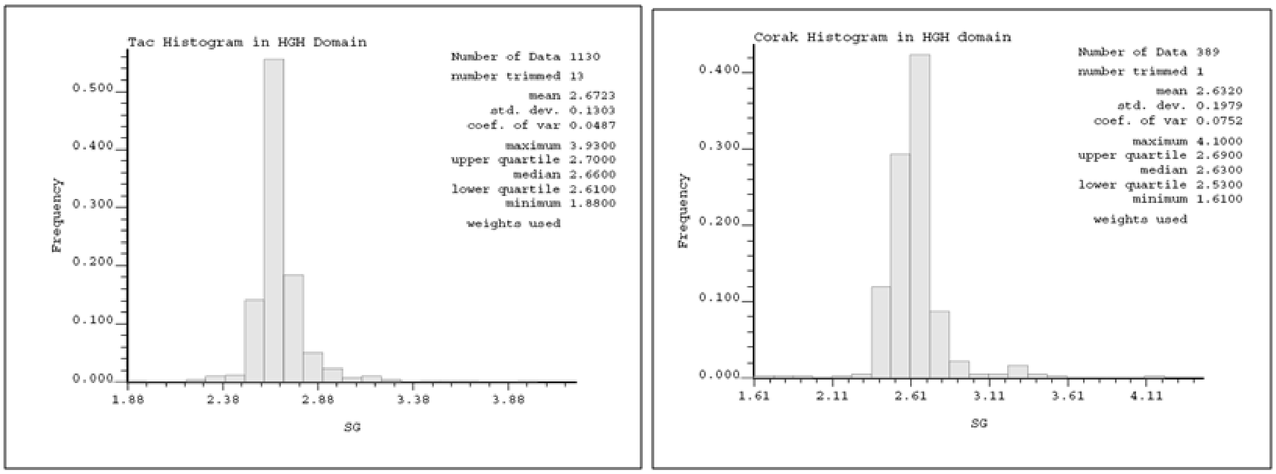


Figure 15.8: Distribution of SG values at Taç (left) and Çorak (right) in the High Grade domains

Table 15.12: Assigned SG Values in Non-Mineralized Areas

Deposit	Non-mineralized	Specific Gravity
Taç	Overburden	2.20
	Waste	2.60
Çorak	Overburden	2.20
	Waste	2.65

15.9 Mineral Resource Classification

Mineral resources were estimated in conformity with generally accepted CIM "Estimation of Mineral Resource and Mineral Reserve Best Practices" Guidelines. Mineral resources are not mineral reserves and do not have demonstrated economic viability.

The mineral resources may be impacted by further infill and exploration drilling that may result in increase or decrease in future resource evaluations. The mineral resources may also be affected by subsequent assessment of mining, environmental, processing, permitting, taxation, socio-economic and other factors.

There is insufficient information in this early stage of study to assess the extent to which the mineral resources will be affected by these factors that are more suitably assessed in a conceptual study.

Mineral reserves can only be estimated based on the results of an economic evaluation as part of a preliminary feasibility study or feasibility study. As such, no mineral reserves have been estimated by SRK as part of the present assignment. There is no certainty that all or any part of the mineral resources will be converted into a mineral reserve.

Mineral Resources for the Taç and Çorak projects were classified according to the CIM Definition Standards for Mineral Resources and Mineral Reserves (December 2005) by Abolfazl Ghayemghamian, P.Geo., Senior Resource Geologist, an “independent competent person” as defined by National Instrument 43-101.

The Taç deposit was sampled by core boreholes spaced at 75 m by 75 m to a depth of about 150 m. Below that depth, the deposit was sampled on a wider drill pattern casting a higher uncertainty on the interpretation of gold mineralization boundaries at depth. The Çorak deposit was sampled by core boreholes spaced at approximately 35 m to a depth of about 220 m.

Drillhole spacing in both deposits is sufficient for geostatistical analysis and evaluating spatial grade variability. SRK is therefore of the opinion that the amount of sample data is adequate to demonstrate reasonable confidence of the grade estimates for both Taç and Çorak.

In order to classify mineralization as an Indicated Mineral Resource, “the nature, quality, quantity and distribution of data” must be “such as to allow confident interpretation of the geological framework and to reasonably assume the continuity of mineralization.” (CIM Definition Standards on Mineral Resources and Mineral Reserves, December 2005) To satisfy this requirement, the following two step procedure was used to classify blocks as Indicated at Yusufeli.

In the first step, blocks were flagged according to the following criteria:

- For Taç, blocks were flagged if estimated by at least four composites from two or more separate drillholes within an ellipse of the same orientation as used for estimating the block (see Table 15.9), but a reduced maximum axial length of 50 m; and
- For Çorak, blocks were flagged if estimated by at least two composite samples each in at least three octants of the ellipse (six or more composites) within an ellipse of the same orientation as used for estimating the block (see Table 15.11), but a reduced maximum axial length of 50 m.

In the second step, for both Taç and Çorak, a 3D envelope was created around the densest concentrations of the above flagged blocks; one envelope for Taç and one for Çorak. All blocks within these envelopes were classified as Indicated Mineral Resource. All other blocks were classified as Inferred Mineral Resources.

15.10 Validation of the Block Models

Both the Çorak and the Taç deposits were validated by completing a series of visual inspections and by:

- Comparison of local "well-informed" block grades with composites contained within those blocks;
- Assessment of the desired variability of gold block estimates from volume-variance relationships; and
- Comparison of average assay grades with average block estimates along different directions – swath plots.

15.10.1 Taç Deposit

Figure 15.9 shows a comparison of estimated gold and copper block grades with borehole assay composite data contained within those blocks. On average, the estimated blocks are similar to the composite data, although there is a large scatter of points around the x = y line. This scatter is typical of smoothed block estimates compared to the more variable assay data used to estimate those blocks.

Estimated block grades should not only be unbiased, but should also exhibit variability comparable to the grade variability of the selective mining unit ("SMU") expected during mining.

The SMU grade variability during mining can be assessed by an application of an indirect log-normal change of support correction ("ILC") to the composite assays. The ILC adjustment results in the assay distribution mimicking the true block grades. In other words, under ideal circumstances, with no dilution taking place during mining, the adjusted grade distribution should be similar to the distribution of mined block grades.

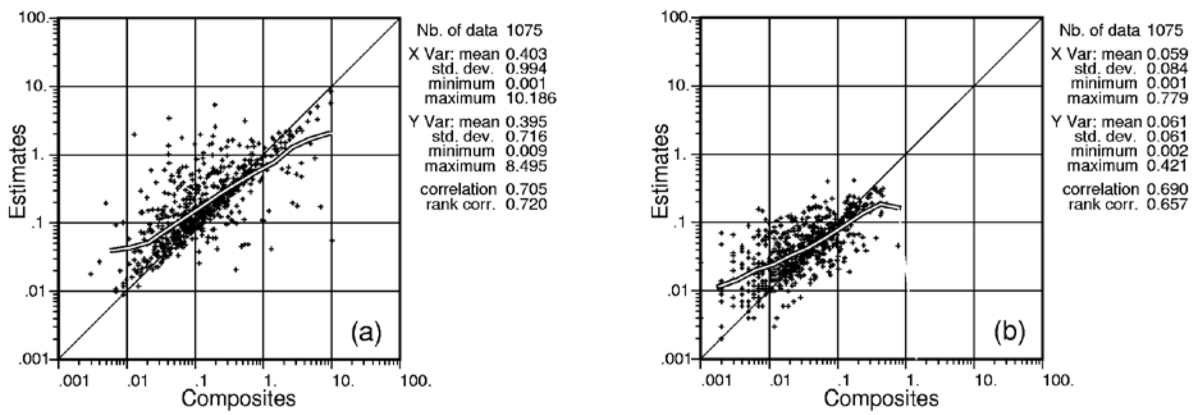


Figure 15.9: Comparison of Block Estimates with Borehole Assay Data Contained Within the Blocks in the High Grade Domain: (a) Au; (b) Cu

Table 15.13 shows coefficients of variation ("CV") for the estimated gold grades and the ILC adjusted gold assays in the High Grade domain. The CV for the gold grades is the ratio of the standard deviation of the gold grade to the mean gold grade. The CV values from block estimates ("CVe") are much lower than the CV values from the adjusted assay distributions ("CVt"). This suggests a strong possibility that the block estimates are much too smooth. This is not surprising, considering very high variability of the assay values and relatively large drillhole spacing. The results indicate that once more data are available, the estimated grade can be higher and the tonnage lower.

Table 15.13: Coefficients of Variation of ILC Adjusted Au Composite Assays and Au Block Estimates within the High Grade domain

Metal	CVe of estimated block grades	CVt of ILC adjusted assays	(CVe-CVt)/CVt (%)	Approximate CVe desired = ~0.90 CVt
Au	1.78	3.31	-46	2.98

As a final check average composite grades and average block estimates were compared along different directions. This involves calculating de-clustered average composite grades and comparison with average block estimates along east-west, north-south and horizontal swaths (Figure 15.10).

In the High Grade domain the average gold composite grades and the average gold estimated block grades are quite similar in all directions. A similar relationship can be shown for copper data. Overall, the validation shows that current resource estimates are very good reflection of drillhole assay data.

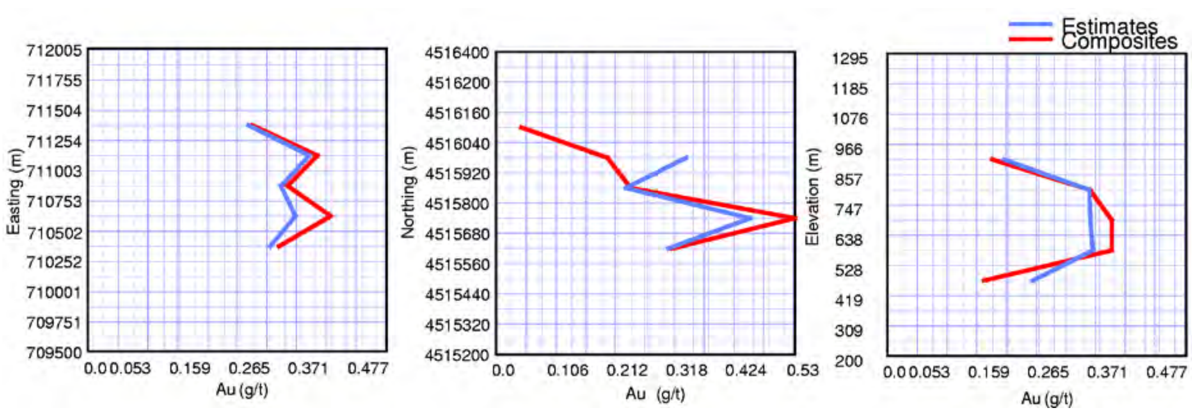


Figure 15.10: Declustered Average Au Composite Grades Compared to Au Block Estimates in the High Grade Domain

15.10.2 Çorak Deposit

Figure 15.11 shows a comparison of estimated gold and zinc block grades with borehole assay composite data contained within those blocks in the High Grade domain. On average, the estimated blocks are similar to the composite data, although there is a large scatter of points around the x = y line. This scatter is typical of smoothed block estimates compared to the more variable assay data used to estimate those blocks.

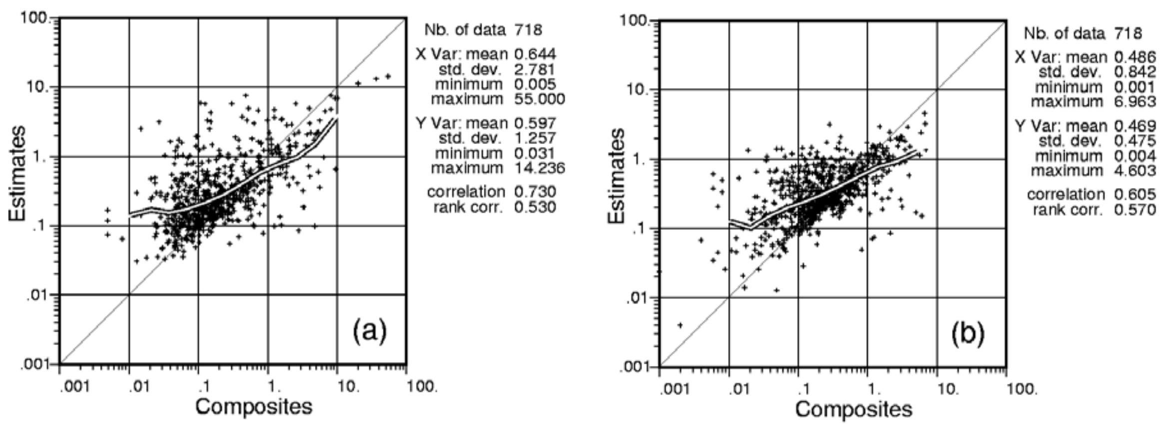


Figure 15.11: Comparison of Block Estimates with Borehole Assay Data Contained Within the Blocks in the Çorak High Grade Domain: (a) Au; (b) Zn

Estimated block grades should not only be unbiased, but should also exhibit variability comparable to the grade variability of the selective mining unit (“SMU”) expected during mining. The SMU grade variability during mining can be assessed by an application of an indirect log-normal change of support correction (“ILC”) to the composite assays. The ILC adjustment results in the assay distribution mimicking the true block grades. In other words, under ideal circumstances, with no dilution taking place during mining, the adjusted grade distribution should be similar to the distribution of mined block grades.

Table 15.14 shows coefficients of variation (“CV”) for the estimated gold grades and the ILC adjusted gold assays in the High Grade domain. The CV for the gold grades are the ratio of the standard deviation of the gold grade to the mean gold grade. The CV values from block estimates (“CVe”) are much lower than the CV values from the adjusted assay distributions (“CVt”).

This suggests a strong possibility that the block estimates are too smooth. This is not surprising, considering very high variability of the assay values and relatively large drillhole spacing. The results indicate that once more data are available, the estimated block grades can be higher and the tonnage lower.

Table 15.14: Coefficients of Variation of ILC Adjusted Au Composite Assays and Au Block Estimates within the Çorak High Grade domain

Metal	CVe of estimated block grades	CVt of ILC adjusted assays	(CVe-CVt)/CVt (%)	Approximate CVe desired = ~0.90 CVt
Au	1.71	2.57	-34	2.31

As a final check average composite grades and average block estimates were compared along different directions. This involves calculating de-clustered average composite grades and comparison with average block estimates along east-west, north-south and horizontal swaths (Figure 15.12).

In the High Grade domain the average gold composite grades and the average gold estimated block grades are quite similar in all directions. A similar relationship can be shown for all other metals. Overall, the validation shows that current resource estimates are very good reflection of drillhole assay data.

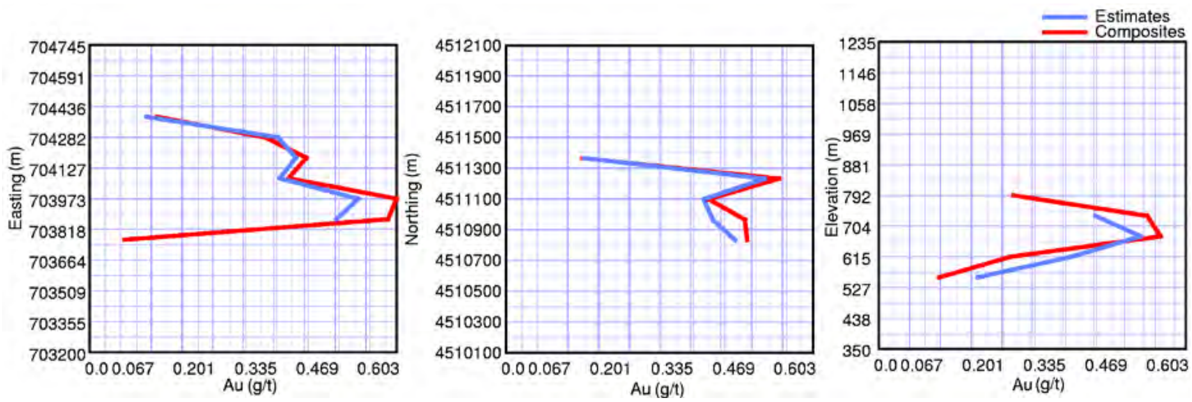


Figure 15.12: Çorak Declustered Average Au Composite Grades Compared to Au Block Estimates in the High Grade Domain

15.11 Mineral Resource Statement

CIM Definition Standards for Mineral Resources and Mineral Reserves (December 2005) defines a mineral resource as:

"[A] concentration or occurrence of diamonds, natural solid inorganic material, or natural solid fossilized minerals in or on the Earth's crust in such form and quantity and of such a grade or quality that it has reasonable prospects for economic extraction. The location, quantity, grade, geological characteristics and continuity of a Mineral Resource are known, estimated or interpreted from specific geological evidence and knowledge."

The "reasonable prospects for economic extraction" requirement generally implies that the quantity and grade estimates meet certain economic thresholds and that the mineral resources are reported at an appropriate cut-off grade taking into account the likely extraction scenarios and process metal recoveries.

In order to meet this requirement, SRK considers that both the Çorak and the Taç deposits are amenable for open pit extraction.

The open pit mineral resources are reported at a cut-off value of US$11 per tonne Net Smelter Return ("NSR") based on a combined processing and G&A cost of US$11.25 per tonne of material processed, and metal prices of US$900 per ounce gold, US$12 per ounce silver, US$1.00 per pound for both zinc and lead, and US$2.00 per pound for copper. This US$11 per tonne NSR cut-off grade is consistent with marginal cut-off grades used on other similar properties in Europe. The open pit mineral resources are constrained by an optimized Whittle shell based on the NSR model, overall slope angles of 55º and the site operating costs listed above.

Table 15.15: Mineral Resource Statement*, Yusufeli Property, Artvin Province, Turkey, SRK Consulting (Canada) Inc, May 8, 2009

Deposit	Quantity	Grade						Contained Metal				
	Tonnes (millions)	Au (g/t)	Cu (%)	Ag (g/t)	Pb (%)	Zn (%)	AuEq (g/t)	Au (Moz)	Cu (Mlb)	Ag (Moz)	Pb (Mlb)	Zn (Mlb)
Indicated Mineral Resource												
Taç	23.80	1.24	0.12	-	-	-	1.39	0.95	64.00	-	-	-
Çorak	25.70	0.76	-	1.57	0.25	0.60	1.26	0.63	-	1.30	141.00	340.34
Total Indicated	**49.50**	**0.99**	**0.12**	**1.57**	**0.25**	**0.60**	**1.32**	**1.58**	**64.00**	**1.30**	**141.00**	**340.34**
Inferred Mineral Resource												
Taç	3.20	1.56	0.14	-	-	-	1.72	0.16	9.81		-	-
Çorak	7.80	0.53	-	1.42	0.20	0.48	0.93	0.13	-	0.35	34.76	82.00
Total Inferred	**11.00**	**0.83**	**0.14**	**1.42**	**0.20**	**0.48**	**1.16**	**0.29**	**9.81**	**0.35**	**34.76**	**82.00**

* Mineral resources that are not mineral reserves do not have demonstrated economic viability. All figures rounded to reflect the relative accuracy of the estimates. Reported at an NSR cut-off grade of US$11 per tonne, within Whittle shells with slope angles of 55 degrees, using 15 by 15 by 15 m block models. NSR and gold equivalent (AuEq) calculated using metal prices of US $900 per ounce of gold, $2 per pound of copper, $1 per pound each of zinc and lead and considering metal recoveries of 90% and 85% for gold at Taç and Çorak, respectively, and 80% copper, 80% silver, 81% zinc, and 81% lead. NSR and gold equivalent values include transportation refining/smelting and royalty costs. Mining and processing (to a concentrate) costs are not included.

15.12 Sensitivity of the Block Model to Cut-off Grade

The mineral resources are sensitive to the selection of cut-off grade. Tables 15.15 and 15.16 show global quantities and grade in the Taç and Çorak block models at different NSR cut-off grades. The reader is cautioned that these figures should not be misconstrued as a mineral resource. The reported quantities and grades are only presented as a sensitivity of the resource model to the selection of cut-off grade. Grade tonnage curves for both the Taç and Çorak deposits are presented in Figure 15.13 and Figure 15.14.

Table 15.16: Sensitivity Analysis of Tonnage and Grades* For The Taç Deposit At Various NSR Cut-Offs

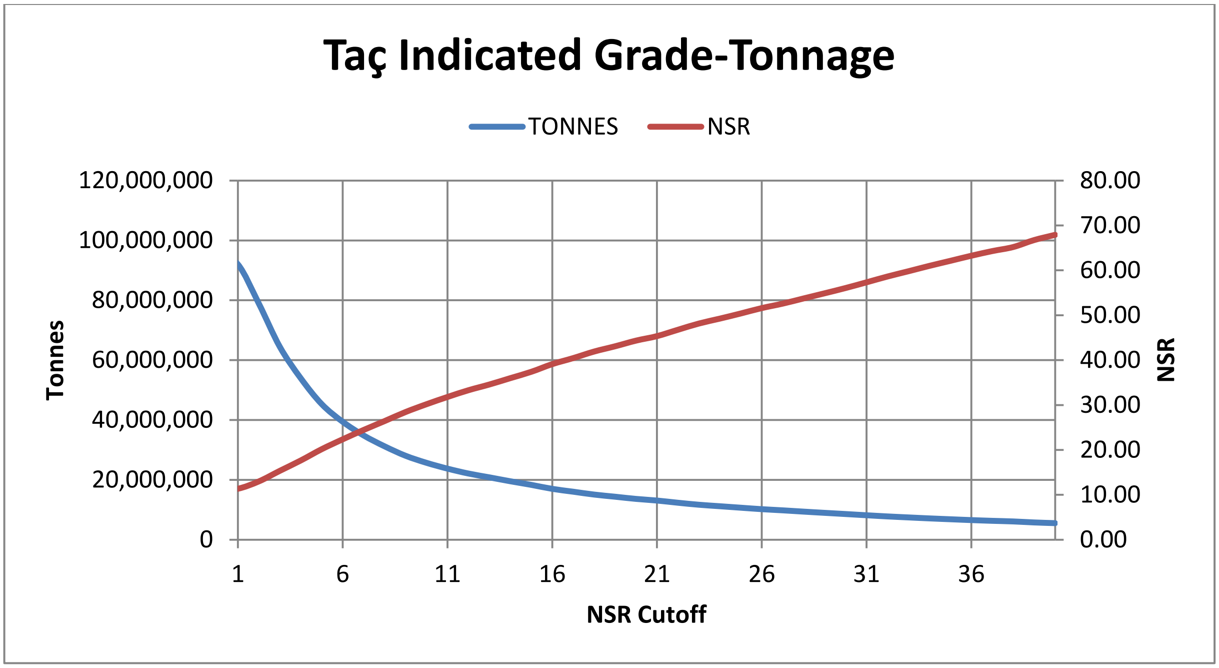
NSR Cutoff ($/t)	Classification	Tonnes (millions)	Au (g/t)	Cu (%)	Au (MOz)	Cu (Mlbs)	AuEq (g/t)
9	IND	28.06	1.11	0.12	1.00	71	1.25
	INF	3.42	1.49	0.13	0.16	10	1.65
11	IND	23.76	1.24	0.12	0.95	64	1.39
	INF	3.23	1.56	0.14	0.16	10	1.72
13	IND	20.84	1.36	0.13	0.91	58	1.51
	INF	3.11	1.60	0.14	0.16	10	1.77
15	IND	18.33	1.48	0.13	0.87	53	1.64
	INF	2.83	1.71	0.14	0.16	9	1.89
17	IND	16.04	1.61	0.14	0.83	48	1.77
	INF	2.65	1.79	0.15	0.15	9	1.97
19	IND	14.37	1.72	0.14	0.79	44	1.89
	INF	2.44	1.88	0.15	0.15	8	2.07
21	IND	13.09	1.81	0.14	0.76	41	1.99
	INF	2.21	2.00	0.16	0.14	8	2.19

* Within a Whittle shell with slope angles of 55 degrees using a 15x15x15 block model. The reader is cautioned that the figures presented in this table should not be misconstrued as mineral resources. The reported quantities and grades are only presented to show how the Taç deposit is sensitive to the selection of a cut-off NSR.

Table 15.17: Sensitivity Analysis of Tonnage and Grades* For The Çorak Deposit At Various NSR Cut-Offs

NSR Cutoff ($/t)	Classification	Tonnes (millions)	Au (g/t)	Ag (g/t)	Pb (%)	Zn (%)	AU (MOz)	Ag (MOz)	Pb (Mlbs)	Zn (Mlbs)	AuEq (g/t)
9	IND	29.48	0.69	1.52	0.24	0.56	0.65	1.44	153.00	365.00	1.16
	INF	9.04	0.47	1.42	0.20	0.46	0.14	0.41	39.00	91.00	0.86
11	IND	25.70	0.76	1.57	0.25	0.60	0.63	1.30	141.00	340.00	1.26
	INF	7.77	0.53	1.42	0.20	0.48	0.13	0.35	35.00	82.00	0.93
13	IND	22.71	0.83	1.61	0.26	0.63	0.61	1.17	130.00	315.00	1.35
	INF	6.73	0.57	1.43	0.21	0.50	0.12	0.31	31.00	73.00	0.99
15	IND	19.67	0.91	1.66	0.27	0.66	0.58	1.05	118.00	288.00	1.46
	INF	5.57	0.63	1.45	0.21	0.52	0.11	0.26	26.00	63.00	1.06
17	IND	16.98	1.01	1.70	0.28	0.69	0.55	0.93	106.00	259.00	1.58
	INF	4.50	0.69	1.47	0.21	0.53	0.10	0.21	21.00	53.00	1.13
19	IND	14.79	1.10	1.73	0.29	0.71	0.52	0.82	96.00	232.00	1.69
	INF	3.54	0.76	1.50	0.22	0.55	0.09	0.17	17.00	43.00	1.21
21	IND	13.01	1.18	1.76	0.30	0.74	0.49	0.74	86.00	212.00	1.79
	INF	2.65	0.81	1.59	0.24	0.60	0.07	0.14	14.00	35.00	1.31

* Within a Whittle shell with slope angles of 55 degrees using a 15x15x15 block model. The reader is cautioned that the figures presented in this table should not be misconstrued as mineral resources. The reported quantities and grades are only presented to show how the Çorak deposit is sensitive to the selection of a cut-off NSR.



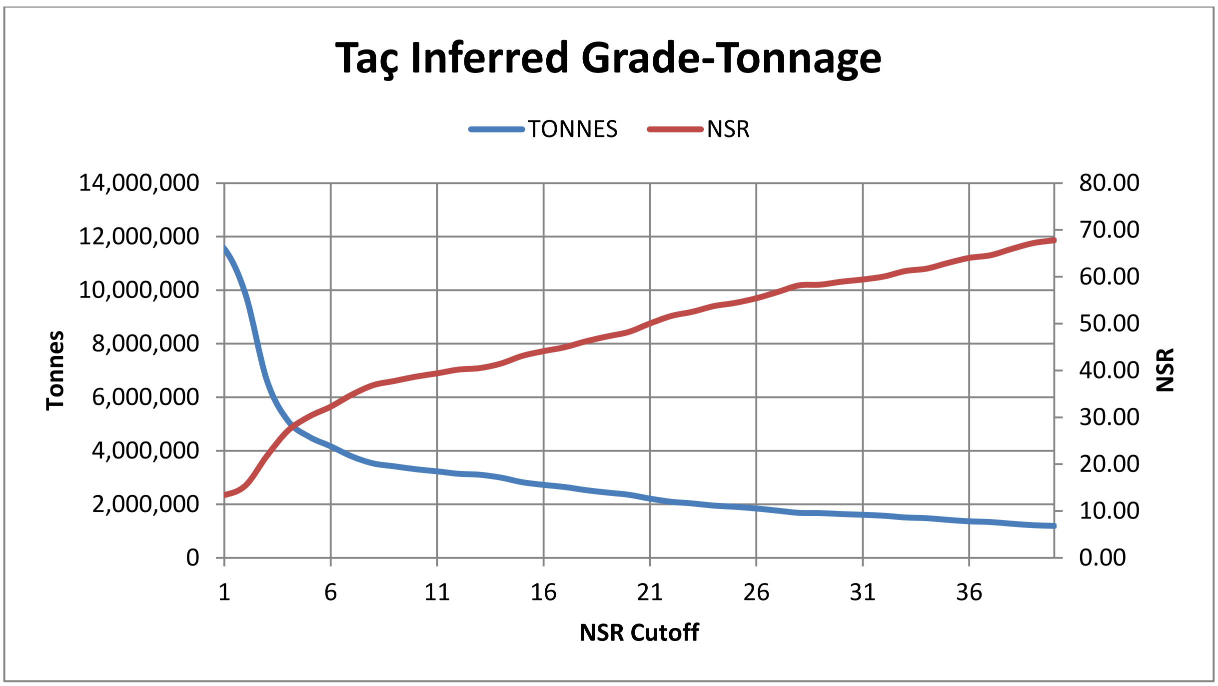
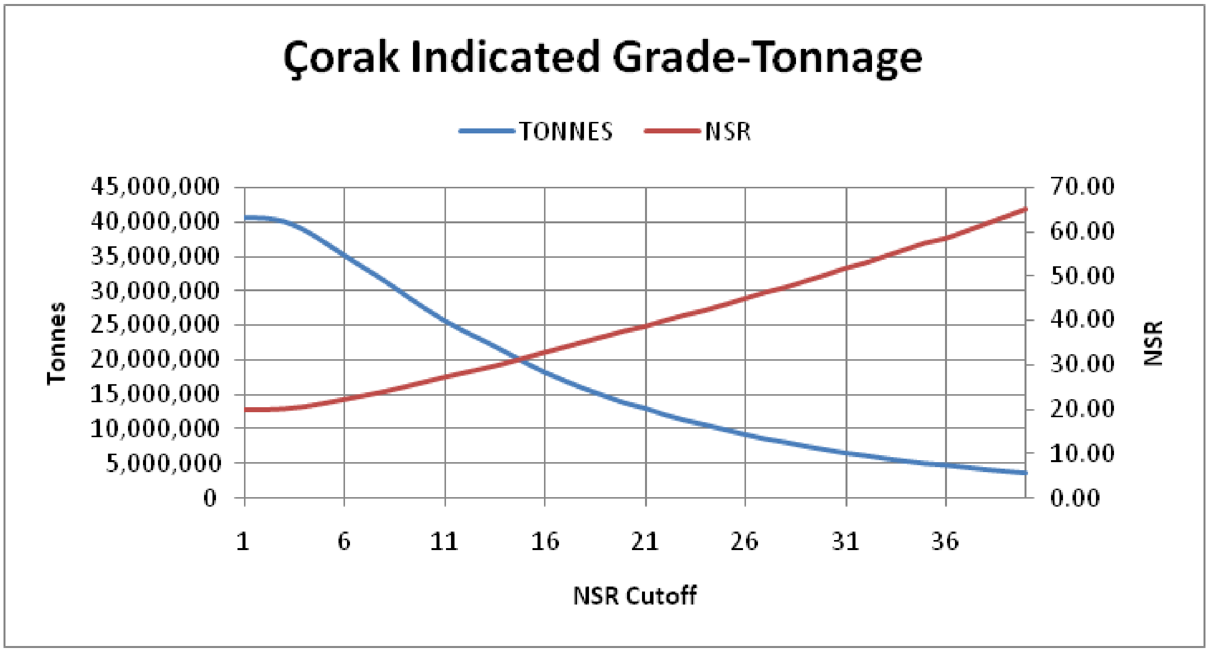


Figure 15.13: Taç Deposit Grade Tonnage Curve for Indicated and Inferred Resources



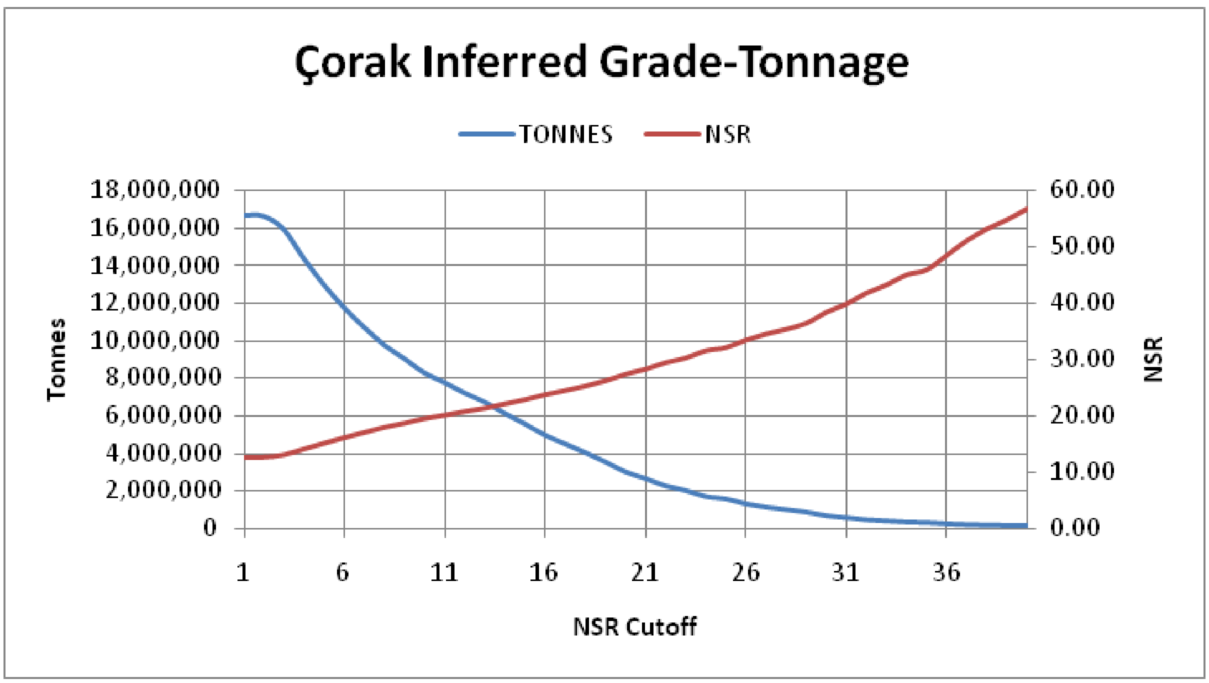


Figure 15.14: Çorak Deposit Grade Tonnage Curve for Indicated and Inferred Resources

15.13 Çeltik Project

The Çeltik Project is located approximately 4 km northeast of the Taç Project. There has been insufficient exploration work at this project to support evaluation of mineral resources.

Six diamond drillholes (1,861 m) have investigated this target in 2008. The drilling was conducted within an area 350 by 550 m and a total of 1,411 core samples were assayed. The average core recovery was 92%. The average specific gravity of the samples is 2.72.

The potential tonnage and grade of a mineral deposit at Çeltik, which is the target of further exploration, is expressed as ranges in Table 15.17. The potential quantity and grade are conceptual in nature as there has been insufficient exploration to define a mineral resource and it is uncertain if further exploration will result in the target being delineated as a mineral resource.

The potential tonnage and grade in Table 15.18 are based on the results of the diamond drilling to date and the current geological and structural understanding of the distribution of the copper and gold mineralization.

An arbitrary ellipsoidal wireframe model was created around the drillhole samples in the silica altered zone. The tonnage and grade ranges were estimated based on the values of the samples within this solid.

Table 15.18: Potential Ranges of Grade within A Defined Volume On The Çeltik Property

Quantity Range (MTonnes)	Grade Ranges	
	Au (g/t)	Cu (%)
3 to 7	0.8 to 1.3	0.07 to 0.14

* The potential quantity and grade is conceptual in nature as there is insufficient exploration to define a mineral resource and it is uncertain if further exploration will result in the target being delineated as mineral resource

The Mineral Resources in this report are reported in accordance with NI 43-101 and have been estimated in conformity with generally accepted CIM "Estimation and Mineral Resource and Mineral Reserve Best Practices" guidelines. Mineral resources are not mineral reserves and do not have demonstrated economic viability. There is no certainty that all or any part of the mineral resource will be converted into mineral reserves.

16 Mineral Reserve Estimate

The Taç and Çorak project contains no mineral reserves as defined in the CIM Standards and referenced in NI 43-101.

17 Mining Methods

17.1 Mining Operations

17.1.1 Whittle™ Shell Optimization

Net Smelter Return Model

The 3D mineral resource block models as developed by SRK (2008) were used as the basis for deriving the economic shell limits for the Taç and Çorak deposits. Economic shell limits were not evaluated for Çevreli and Çeltik as resource models have not yet been developed for these deposits. A number of calculations were performed on the models in order to determine the net smelter return ("NSR") of each individual block. These parameters are summarized in Table 17.1.

The NSR calculations considered the following factors:

- Mineralized Zone grades (Cu, Au, Ag, Zn, Pb), thus taking into account the variability in the metal content of the deposit;
- Ore percentage within each block;
- Process recoveries for various concentrates;
- Operating costs;
- Contained metal in concentrates;
- Deductions and Payable Metal Value;
- Metal prices;
- Freight costs (trucking, rail, shipping, insurance);
- Smelting and refining charges (TC/RC); and
- Royalty charges.

Table 17.1: NSR Parameters Used in the Whittle™ Optimization Model

Item	Unit	Çorak	Taç	Comments
Metal Prices				
Copper	$/lb	2.75		
Gold	$/oz	1000.00		
Silver	$/oz	16.00		
Zinc	$/lb	0.90		
Lead	$/lb	0.85		
Process Recovery				
Copper	%	N/A	93.0	
Gold	%	80.0	80.0	
Silver	%	73.0	N/A	
Zinc	%	92.5	N/A	
Lead	%	86.0	N/A	
Zn Concentrate Grade				
Zinc	%	50		
Gold	g/t	Variable		
Silver	g/t	Variable		
Moisture content	%	10		
Pb Concentrate Grade				
Lead	%	70		
Gold	g/t	Variable		
Silver	g/t	Variable		
Moisture content	%	10		
Cu Concentrate Grade				
Copper	%		20	
Gold	g/t		Variable	
Moisture content	%		10	
Operating Costs				
Mining cost	$/t rock	1.95		Based on contract mining
Milling cost	$/t milled	24.60	22.60	Based on dry-stack tailings and contract power
G&A/Sustaining Capital	$/t milled	3.50		Includes TSF Management
Royalties	%	2.0		Percentage of NSR
Off site costs				
Zn concentrate TC	$/dmt	190.00		
Pb concentrate TC	$/dmt	180.00		
Au refining	$/pay oz	5.00		
Ag refining	$/pay oz	0.40		
Transport to port	$/wmt	20.00		
Port cost	$/wmt	6.00		
Insurance	$/wmt	2.00		
Ocean Freight	$/wmt	30.00		
Cu concentrate TC	$/dmt		65.00	
Cu Refining	$/pay lb		0.065	
Au refining	$/pay oz		2.50	
Transport to port	$/wmt		20.00	
Port cost	$/wmt		6.00	
Insurance	$/wmt		2.00	
Ocean Freight	$/wmt		30.00	
Smelter Payables for Concentrate				
Copper deduction	unit	N/A	0	
Payable Copper	%	N/A	95.0	
Gold deduction	g/t Au	1.0	0.0	
Payable Gold	%	93.0	95.0	
Silver deduction	g/t Ag	50.0	N/A	
Payable Silver	%	95.0	N/A	
Payable Zinc	%	92.0	N/A	
Payable Lead	%	95.0	N/A	
Mine Parameters				
Mining Recovery	%	100		
Grade factor	%	100		
Production capacity	Mt/yr	2.0		Mill feed tonnage
Economics				
Discount Rate	%	7.0		

17.1.2 Economic Pit Limit

The ultimate economic shell limits for Taç-Çorak were based on Whittle™ optimization evaluations of the resources in the NSR models. This evaluation included the aforementioned NSR calculations as well as geotechnical parameters and mining/milling costs. The economic shell limits included indicated and inferred mineral resources. Inferred mineral resources are considered too speculative geologically to have the economic considerations applied to them to be categorized as mineral reserves, and there is no certainty that the inferred resources will be upgraded to a higher resource category.

17.1.3 Cut-off Grade

The base case economic parameters (Table 17.1) were used to calculate NSR cut-off grades for the Taç and Çorak deposits. The incremental cut-off grade incorporates all operating costs except mining. This cut-off is applied to material contained within an economic shell where the decision to mine a given block was determined by the Whittle™ optimization. The incremental NSR cut-off of $26.10/t and $28.10/t was applied to all of the mineral resource estimates that follow for both Taç and Çorak, respectively.

17.1.4 Optimization Parameters and Results

The geotechnical parameters as well as mining, milling, G&A and power costs are summarized in Table 17.2 for the Taç and Çorak deposits. The projected topography of early 2010 was used as the starting surface for the optimization.

A series of Whittle™ shells were generated based on varying revenue factors. The results were analyzed with shells chosen as the basis for ultimate limits and preliminary phase selection.

Table 17.2: Operating Costs and Geotechnical Parameters Used for Optimization

Parameter	Unit	Çorak	Taç
Waste Mining OPEX	US$/waste tonne	1.95	1.95
Mineralized Zone Mining OPEX	US$/mill feed tonne	1.95	1.95
Processing, and G&A OPEX	US$/milled tonne	28.10	26.10
Overall Pit Slope Angles w/ Ramps			
NE sector	degrees	46	
SE sector	degrees	45	
SW sector	degrees	47	
NW sector	degrees	44	
NE sector	degrees		43-44
SE sector	degrees		38-45
SW sector	degrees		46
NW sector	degrees		47

The resources within the various pit shells were generated from the following 3D block model items:

- Block centroid coordinates;
- Copper grade (Taç only);
- Gold grades;
- Silver Grade (Çorak only);
- Zinc grade (Çorak only);
- Lead grade (Çorak only);
- Resource category (indicated, inferred);
- Rock code;
- Ore percentage;
- Topography percentage; and
- Specific gravity.

The results of the Whittle™ pit optimization evaluation on the Taç deposit for varying revenue factors values (are summarized in Table 17.3, and Figure 17.1 to Figure 17.3, for indicated and inferred resources.

The Çorak optimization results are summarized in Table 17.4 and Figures 17.4 to 17.6.

Table 17.3: Whittle™ Optimization Results – Taç

Final Shell	Revenue Factor	Mine Life	In-Situ Mineralized (tonnes)	In-Situ Grades			Waste (tonnes)	Strip Ratio	Total (tonnes)	Total CF (US$)	NPV Best $ disc	NPV Worst $ disc	Incr. In-situ Mineralized Rock tonne	Incr. tonne waste	Incr. strip ratio	NPV best incr. $ disc	NPV worst incr. $ disc
				Au (g/t)	Cu (%)	NSR (US$/t)											
1	0.38	0.0	73,187	3.89	0.18	101.12	337,113	4.61	410,300	4,690,064	4,678,509	4,678,509	0	0	0	0	0
2	0.40	0.0	82,758	3.77	0.17	97.76	340,686	4.12	423,443	5,104,848	5,090,629	5,090,629	9,571	3,573	0.37	412,120	412,120
3	0.42	0.1	110,144	3.38	0.19	89.24	393,867	3.58	504,012	5,971,364	5,949,239	5,949,239	27,386	53,181	1.94	858,610	858,610
4	0.48	0.1	235,841	3.36	0.17	88.05	1,104,895	4.68	1,340,736	11,996,563	11,901,585	11,901,585	125,697	711,028	5.66	5,952,346	5,952,346
5	0.50	0.1	241,968	3.33	0.17	87.33	1,106,703	4.57	1,348,671	12,186,165	12,087,191	12,087,191	6,127	1,808	0.30	185,606	185,606
6	0.52	0.1	275,976	3.19	0.17	83.73	1,164,040	4.22	1,440,016	13,097,307	12,976,051	12,976,051	34,008	57,337	1.69	888,860	888,860
7	0.54	0.2	312,210	3.10	0.19	82.64	1,428,918	4.58	1,741,128	14,257,110	14,107,877	14,107,877	36,234	264,878	7.31	1,131,826	1,131,826
8	0.56	0.2	339,166	3.05	0.19	81.26	1,553,915	4.58	1,893,081	15,016,725	14,846,047	14,846,047	26,956	124,997	4.64	738,170	738,170
9	0.60	0.3	589,938	2.70	0.17	72.32	2,864,486	4.86	3,454,424	20,531,489	20,127,300	20,127,300	250,772	1,310,571	5.23	5,281,253	5,281,253
10	0.62	0.3	626,024	2.64	0.17	70.80	2,919,282	4.66	3,545,306	21,066,867	20,627,037	20,627,037	36,086	54,796	1.52	499,737	499,737
11	0.64	0.3	644,055	2.63	0.17	70.60	3,027,967	4.70	3,672,022	21,497,651	21,036,039	21,036,039	18,031	108,685	6.03	409,002	409,002
12	0.66	1.0	2,103,612	2.16	0.16	58.87	10,092,331	4.80	12,195,942	45,162,762	42,188,085	42,190,911	1,459,557	7,064,364	4.84	21,152,046	21,154,872
13	0.68	1.1	2,157,754	2.15	0.16	58.58	10,189,861	4.72	12,347,614	46,010,105	42,964,699	42,963,856	54,142	97,530	1.80	776,614	772,945
14	0.70	2.1	4,172,474	2.25	0.14	59.87	25,958,098	6.22	30,130,572	82,159,565	74,085,596	73,067,790	2,014,720	15,768,237	7.83	31,120,897	30,103,934
15	0.72	2.2	4,325,528	2.23	0.14	59.42	26,484,309	6.12	30,809,837	84,044,376	75,685,361	74,429,581	153,054	526,211	3.44	1,599,765	1,361,791
16	0.74	2.2	4,408,653	2.23	0.14	59.43	27,194,962	6.17	31,603,615	85,327,528	76,770,903	75,430,807	83,125	710,653	8.55	1,085,542	1,001,226
17	0.76	2.2	4,499,401	2.22	0.14	59.24	27,653,531	6.15	32,152,932	86,424,223	77,687,661	76,259,313	90,748	458,569	5.05	916,758	828,506
18	0.78	2.3	4,526,378	2.23	0.14	59.46	28,291,478	6.25	32,817,856	87,022,029	78,192,425	76,762,550	26,977	637,947	23.65	504,764	503,237
19	0.80	2.3	4,554,848	2.23	0.14	59.40	28,445,667	6.25	33,000,515	87,320,108	78,438,673	76,994,688	28,470	154,189	5.42	246,248	232,138
20	0.82	2.7	5,389,837	2.24	0.14	59.68	37,551,958	6.97	42,941,794	97,232,382	86,425,267	83,042,699	834,989	9,106,291	10.91	7,986,594	6,048,011
21	0.84	3.6	7,315,771	2.09	0.15	56.87	50,733,657	6.93	58,049,428	111,876,308	97,216,425	90,415,064	1,925,934	13,181,699	6.84	10,791,158	7,372,365
22	0.86	3.6	7,324,806	2.09	0.15	56.84	50,742,803	6.93	58,067,609	111,927,031	97,250,708	90,430,924	9,035	9,146	1.01	34,283	15,860
23	0.88	3.9	7,828,594	2.07	0.15	56.51	55,134,430	7.04	62,963,024	115,295,175	99,541,685	91,001,770	503,788	4,391,627	8.72	2,290,977	570,846
24	0.90	4.0	8,066,511	2.06	0.15	56.24	56,848,172	7.05	64,914,683	116,501,686	100,326,682	91,228,068	237,917	1,713,742	7.20	784,997	226,298
25	0.92	4.3	8,590,458	2.05	0.15	55.79	61,283,355	7.13	69,873,813	118,756,398	102,000,667	92,281,924	523,947	4,435,183	8.46	1,673,985	1,053,856
26	0.94	4.5	8,980,533	2.02	0.15	55.36	64,227,111	7.15	73,207,644	119,986,036	102,876,913	91,797,154	390,075	2,943,756	7.55	876,246	-484,770
27	0.96	4.5	9,079,495	2.04	0.15	55.79	67,420,299	7.43	76,499,794	120,395,052	103,166,962	91,280,872	98,962	3,193,188	32.27	290,049	-516,282
28	**0.98**	**4.8**	**9,625,911**	**2.03**	**0.15**	**55.37**	**72,690,424**	**7.55**	**82,316,335**	**121,224,766**	**103,700,443**	**90,052,215**	**546,416**	**5,270,125**	**9.64**	**533,481**	**-1,228,657**
29	1.00	4.8	9,634,729	2.03	0.15	55.36	72,784,079	7.55	82,418,808	121,225,869	103,700,001	90,034,647	8,818	93,655	10.62	-442	-17,568
30	1.02	4.9	9,778,882	2.03	0.15	55.32	74,652,340	7.63	84,431,222	121,106,669	103,594,061	89,484,238	144,153	1,868,261	12.96	-105,940	-550,409
31	1.04	5.1	10,274,634	2.00	0.15	54.76	79,006,885	7.69	89,281,519	120,351,175	103,004,198	87,371,167	495,752	4,354,545	8.78	-589,863	-2,113,071
32	1.06	5.1	10,292,966	2.00	0.15	54.76	79,270,589	7.70	89,563,555	120,302,869	102,968,824	87,225,833	18,332	263,704	14.38	-35,374	-145,334
33	1.08	5.2	10,376,801	2.00	0.15	54.77	80,645,186	7.77	91,021,987	119,976,280	102,733,113	86,650,629	83,835	1,374,597	16.40	-235,711	-575,204
34	1.10	5.3	10,641,536	1.99	0.15	54.57	83,797,256	7.87	94,438,792	118,846,047	101,928,274	85,149,596	264,735	3,152,070	11.91	-804,839	-1,501,033
35	1.12	5.3	10,704,093	1.99	0.15	54.50	84,442,177	7.89	95,146,270	118,483,649	101,673,711	84,780,995	62,557	644,921	10.31	-254,563	-368,601
36	1.14	5.7	11,440,942	2.00	0.15	54.68	98,267,672	8.59	109,708,614	113,059,719	97,969,091	76,744,358	736,849	13,825,495	18.76	-3,704,620	-8,036,637
37	1.16	5.7	11,512,875	2.00	0.15	54.57	98,783,053	8.58	110,295,928	112,664,250	97,708,187	76,298,197	71,933	515,381	7.16	-260,904	-446,161
38	1.18	5.8	11,647,963	1.99	0.15	54.48	100,721,515	8.65	112,369,477	111,456,822	96,907,821	74,636,087	135,088	1,938,462	14.35	-800,366	-1,662,110
39	1.20	5.8	11,666,081	1.99	0.15	54.45	100,866,154	8.65	112,532,235	111,306,928	96,809,166	74,425,157	18,118	144,639	7.98	-98,655	-210,930
40	1.22	5.8	11,675,114	1.99	0.15	54.43	100,920,532	8.64	112,595,646	111,187,377	96,729,786	74,319,380	9,033	54,378	6.02	-79,380	-105,777

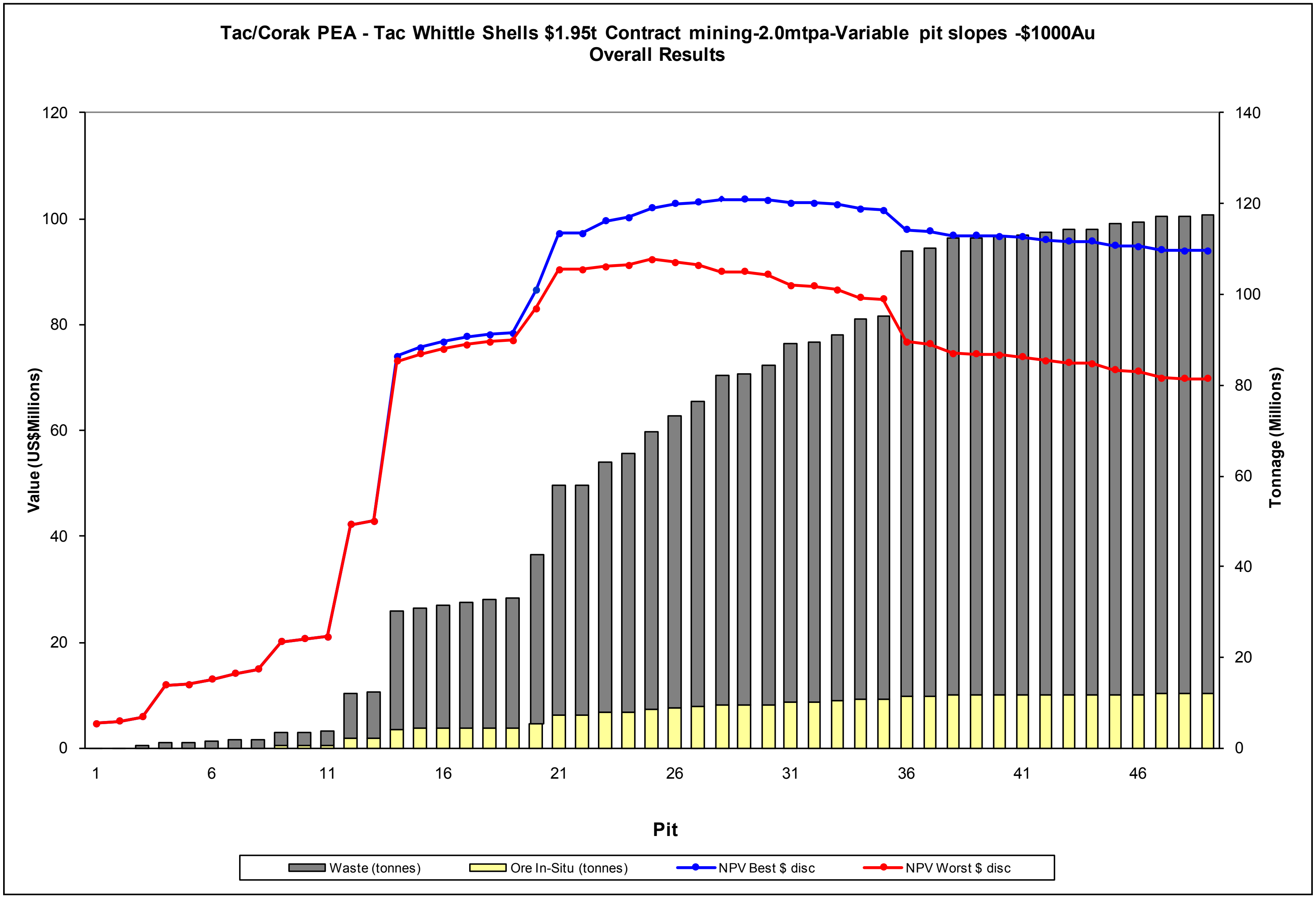


Figure 17.1: Whittle™ Optimization Results – Taç

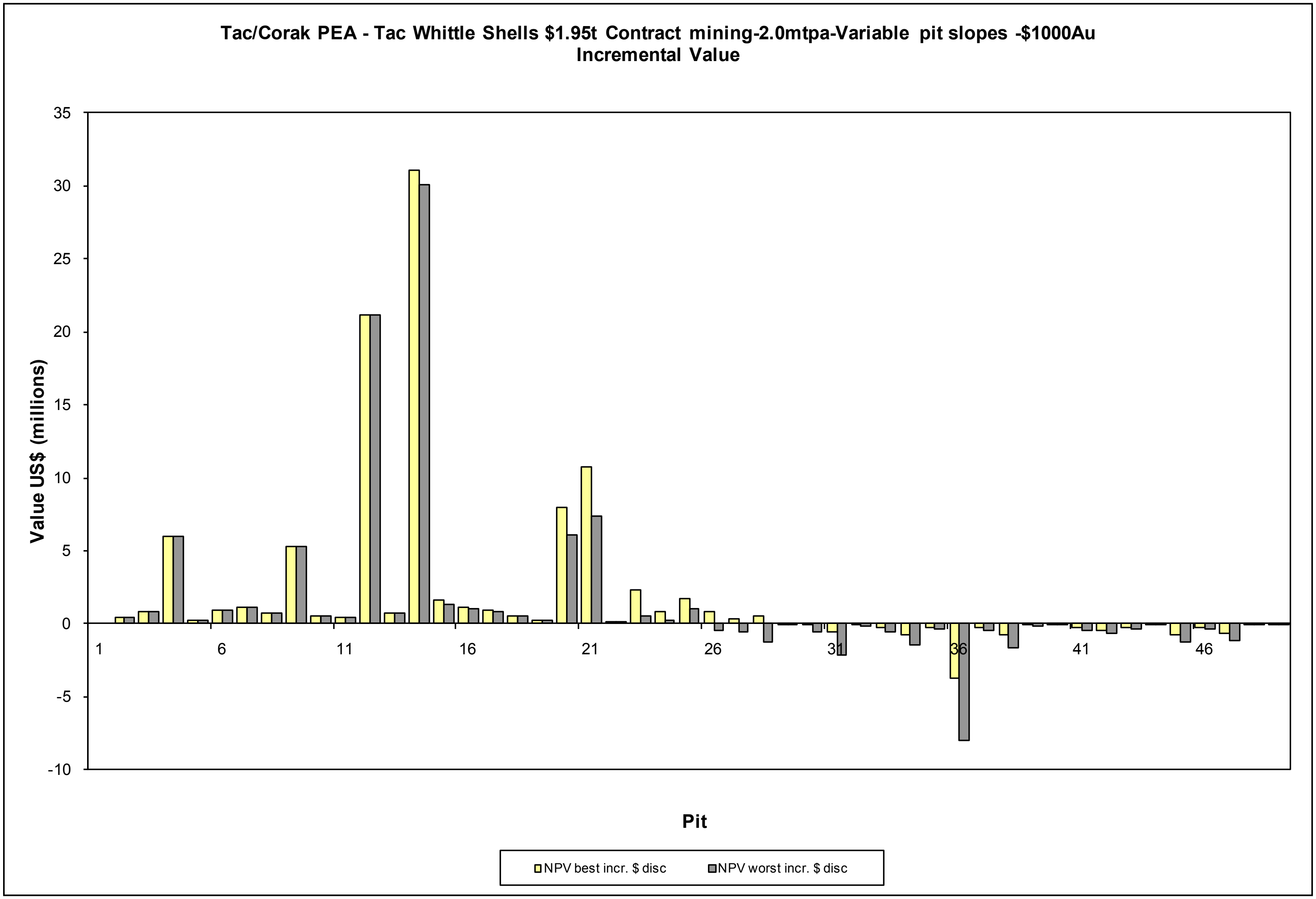


Figure 17.2: Incremental Whittle™ Value Results - Taç

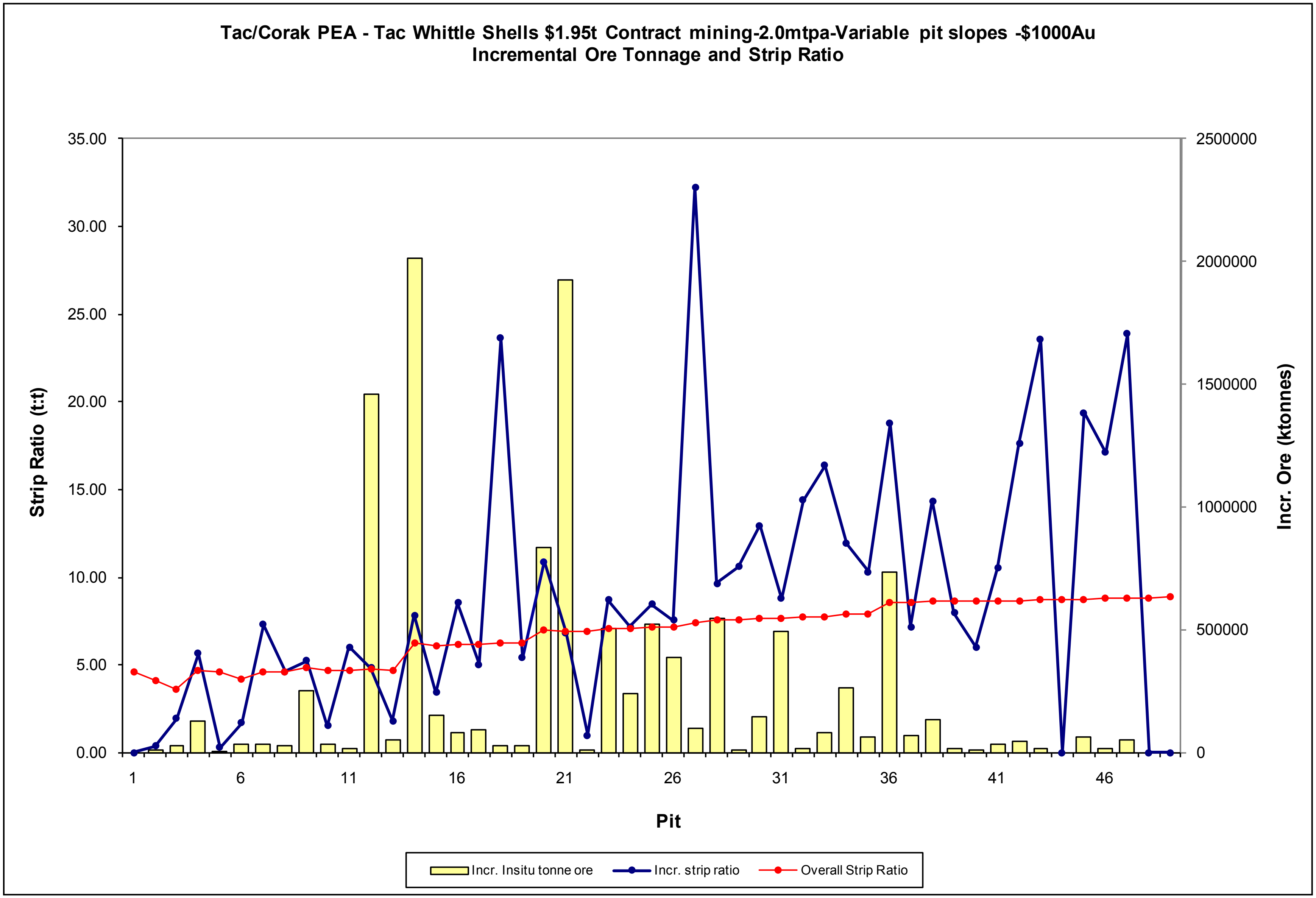


Figure 17.3: Incremental Whittle™ Tonnage Results - Taç

Table 17.4: Whittle™ Optimization Results – Çorak

Final Shell	Revenue Factor	Mine Life	In-Situ Mineralized Rock (tonnes)	In-Situ Grades					Waste (tonnes)	Strip Ratio	Total (tonnes)	Total CF (US$)	NPV Best $ disc	NPV Worst $ disc	Incr. In situ Mineralized Rock tonne	Incr. tonne waste	Incr. strip ratio	NPV best incr. $ disc	NPV worst incr. $ disc
				Au (g/t)	Ag (g/t)	Zn (%)	Pb (%)	NSR (US$/t)											
1	0.30	0.1	216,786	5.46	4.49	1.33	0.39	129.59	373,855	1.72	590,642	20,849,082	20,697,307	20,697,307	0	0	0	0	0
2	0.36	0.1	270,048	5.37	3.85	1.30	0.35	126.94	531,532	1.97	801,580	25,128,658	24,900,989	24,900,989	53,262	157,677	2.96	4,203,682	4,203,682
3	0.38	0.1	287,885	5.29	3.75	1.26	0.34	124.72	563,571	1.96	851,456	26,154,601	25,902,061	25,902,061	17,837	32,039	1.80	1,001,072	1,001,072
4	0.42	0.2	332,015	5.05	3.67	1.20	0.35	119.35	678,310	2.04	1,010,325	28,327,559	28,012,344	28,012,344	44,130	114,739	2.60	2,110,283	2,110,283
5	0.44	0.2	339,897	5.00	3.63	1.19	0.35	118.24	678,310	2.00	1,018,207	28,653,490	28,327,122	28,327,122	7,882	0	0.00	314,778	314,778
6	0.46	0.2	348,851	4.95	3.59	1.17	0.35	116.95	678,310	1.94	1,027,161	28,991,223	28,652,361	28,652,361	8,954	0	0.00	325,239	325,239
7	0.48	0.2	392,754	4.67	3.37	1.09	0.35	110.32	706,469	1.80	1,099,223	30,150,111	29,753,645	29,753,645	43,903	28,159	0.64	1,101,284	1,101,284
8	0.50	0.2	401,779	4.63	3.33	1.06	0.35	109.25	711,861	1.77	1,113,641	30,432,008	30,022,701	30,022,701	9,025	5,392	0.60	269,056	269,056
9	0.52	0.2	464,787	4.52	3.13	1.01	0.33	106.24	1,168,878	2.51	1,633,666	33,133,380	32,618,400	32,618,400	63,008	457,017	7.25	2,595,699	2,595,699
10	0.54	0.3	571,981	4.12	2.99	1.00	0.34	98.24	1,441,298	2.52	2,013,279	36,192,019	35,501,012	35,501,012	107,194	272,420	2.54	2,882,612	2,882,612
11	0.56	0.3	657,669	3.84	2.84	1.07	0.33	93.26	1,635,607	2.49	2,293,275	38,384,505	37,543,059	37,543,059	85,688	194,309	2.27	2,042,047	2,042,047
12	0.58	0.3	685,057	3.76	2.78	1.06	0.33	91.76	1,655,755	2.42	2,340,812	39,047,376	38,156,162	38,156,162	27,388	20,148	0.74	613,103	613,103
13	0.60	0.4	886,882	3.38	2.80	1.02	0.39	84.24	2,374,979	2.68	3,261,862	43,427,389	42,148,530	42,148,530	201,825	719,224	3.56	3,992,368	3,992,368
14	0.62	0.5	942,061	3.27	2.79	1.04	0.41	82.48	2,491,975	2.65	3,434,036	44,531,896	43,140,208	43,140,208	55,179	116,996	2.12	991,678	991,678
15	0.64	0.5	1,018,797	3.19	2.80	1.02	0.41	80.58	2,787,124	2.74	3,805,921	46,048,752	44,494,439	44,494,439	76,736	295,149	3.85	1,354,231	1,354,231
16	0.66	0.6	1,291,635	3.15	3.23	1.15	0.43	81.60	6,531,214	5.06	7,822,848	53,850,758	51,556,825	51,556,825	272,838	3,744,090	13.72	7,062,386	7,062,386
17	0.68	0.7	1,354,006	3.09	3.16	1.12	0.42	79.97	6,599,864	4.87	7,953,870	54,727,532	52,286,224	52,286,224	62,371	68,650	1.10	729,399	729,399
18	0.70	0.7	1,454,651	2.97	3.19	1.12	0.43	77.71	6,761,823	4.65	8,216,474	56,136,239	53,450,477	53,450,477	100,645	161,959	1.61	1,164,253	1,164,253
19	0.72	0.8	1,524,585	2.90	3.16	1.12	0.43	76.35	6,919,528	4.54	8,444,113	57,093,563	54,234,019	54,234,019	69,934	157,705	2.26	783,542	783,542
20	0.74	0.8	1,639,555	2.80	3.11	1.10	0.42	74.10	7,116,073	4.34	8,755,629	58,353,184	55,216,184	55,216,184	114,970	196,545	1.71	982,165	982,165
21	0.76	0.9	1,839,341	2.62	3.05	1.11	0.43	70.70	7,399,154	4.02	9,238,495	60,339,136	56,712,221	56,712,221	199,786	283,081	1.42	1,496,037	1,496,037
22	0.78	0.9	1,875,745	2.59	3.02	1.12	0.43	70.10	7,411,860	3.95	9,287,605	60,672,681	56,955,794	56,955,794	36,404	12,706	0.35	243,573	243,573
23	0.80	1.1	2,224,109	2.39	2.90	1.10	0.44	65.99	8,388,069	3.77	10,612,178	63,578,598	59,395,087	59,318,140	348,364	976,209	2.80	2,439,293	2,362,346
24	0.82	1.1	2,260,251	2.36	2.93	1.10	0.44	65.53	8,390,283	3.71	10,650,534	63,830,571	59,624,564	59,529,777	36,142	2,214	0.06	229,477	211,637
25	0.84	1.2	2,443,841	2.30	2.83	1.08	0.44	63.89	9,069,952	3.71	11,513,793	65,022,177	60,700,199	60,472,052	183,590	679,669	3.70	1,075,635	942,275
26	0.86	1.3	2,515,211	2.27	2.80	1.07	0.43	63.13	9,147,471	3.64	11,662,682	65,378,098	61,016,132	60,721,665	71,370	77,519	1.09	315,933	249,613
27	0.88	1.5	3,017,095	2.12	2.77	1.07	0.42	60.00	11,448,830	3.79	14,465,925	68,025,369	63,324,947	62,519,149	501,884	2,301,359	4.59	2,308,815	1,797,484
28	0.90	1.5	3,061,461	2.10	2.76	1.07	0.42	59.62	11,448,830	3.74	14,510,291	68,188,681	63,461,450	62,583,591	44,366	0	0.00	136,503	64,442
29	0.92	1.7	3,503,372	1.99	2.63	1.05	0.41	56.99	12,786,827	3.65	16,290,200	69,460,793	64,483,019	62,789,535	441,911	1,337,997	3.03	1,021,569	205,944
30	0.94	1.9	3,894,493	1.92	2.54	1.03	0.40	55.20	14,066,767	3.61	17,961,260	70,530,814	65,311,605	62,668,803	391,121	1,279,940	3.27	828,586	-120,732
31	0.96	2.0	3,985,187	1.89	2.55	1.03	0.40	54.74	14,211,504	3.57	18,196,692	70,683,908	65,417,335	62,577,076	90,694	144,737	1.60	105,730	-91,727
32	0.98	2.2	4,337,041	1.84	2.44	1.01	0.40	53.36	15,440,544	3.56	19,777,586	70,993,313	65,673,456	62,417,090	351,854	1,229,040	3.49	256,121	-159,986
33	**1.00**	**2.4**	**4,811,392**	**1.79**	**2.32**	**0.98**	**0.38**	**51.87**	**17,321,059**	**3.60**	**22,132,451**	**71,216,289**	**65,856,127**	**62,039,609**	**474,351**	**1,880,515**	**3.96**	**182,671**	**-377,481**
34	1.02	2.5	5,001,205	1.77	2.27	0.96	0.37	51.28	17,960,690	3.59	22,961,895	71,145,254	65,792,161	61,745,104	189,813	639,631	3.37	-63,966	-294,505
35	1.04	2.6	5,188,710	1.76	2.28	0.95	0.37	50.88	19,049,775	3.67	24,238,485	70,927,424	65,605,780	61,235,692	187,505	1,089,085	5.81	-186,381	-509,412
36	1.06	2.6	5,297,916	1.75	2.26	0.95	0.37	50.51	19,320,622	3.65	24,618,538	70,734,965	65,443,437	60,890,878	109,206	270,847	2.48	-162,343	-344,814
37	1.08	2.8	5,533,040	1.73	2.20	0.93	0.37	49.87	20,293,916	3.67	25,826,956	70,079,390	64,897,760	59,921,013	235,124	973,294	4.14	-545,677	-969,865
38	1.10	3.0	5,925,242	1.69	2.17	0.93	0.36	49.14	22,892,102	3.86	28,817,344	68,473,054	63,586,657	57,979,234	392,202	2,598,186	6.62	-1,311,103	-1,941,779
39	1.12	3.0	6,090,238	1.68	2.15	0.93	0.36	48.74	23,639,887	3.88	29,730,124	67,749,144	63,000,456	57,231,077	164,996	747,785	4.53	-586,201	-748,157

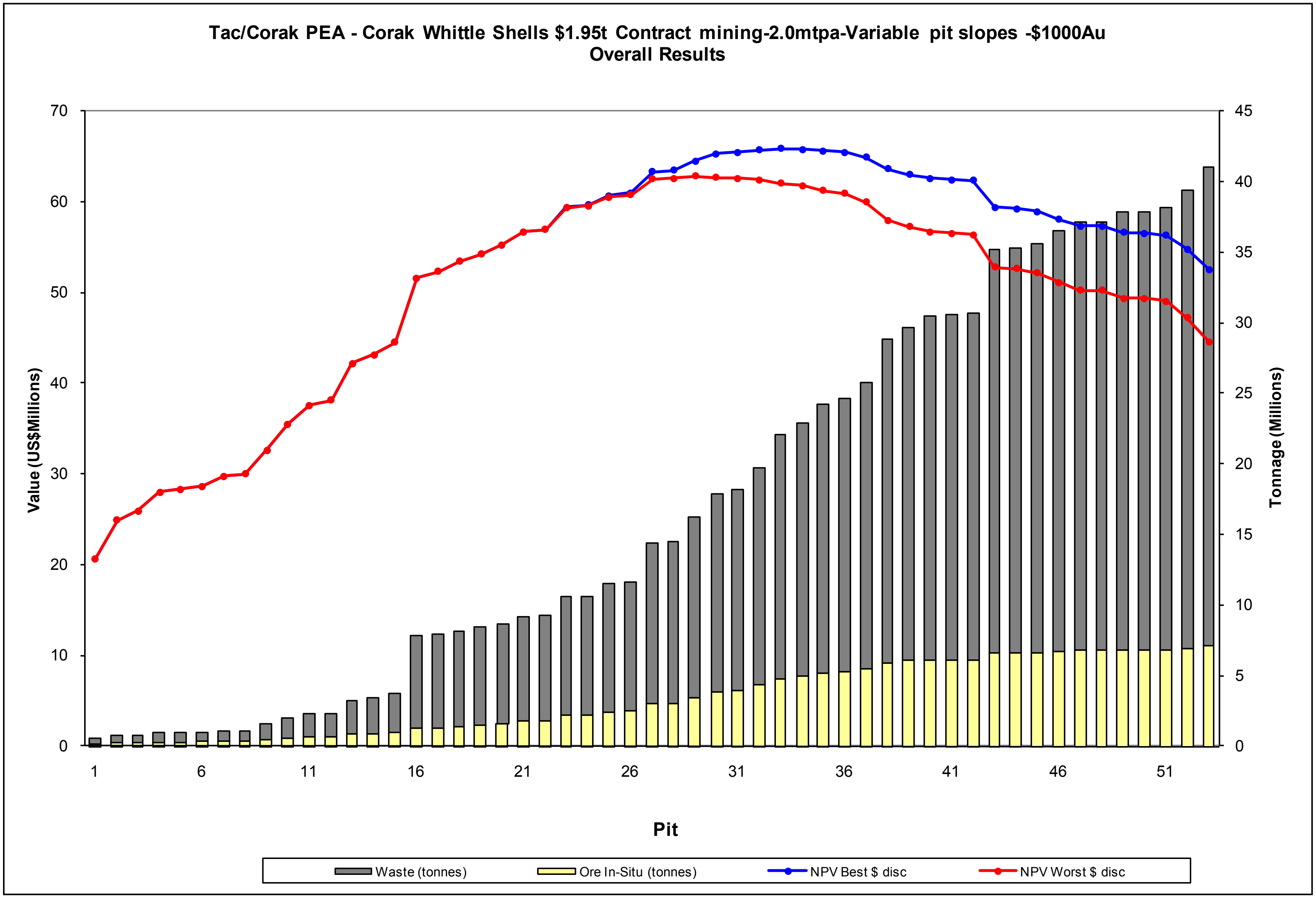


Figure 17.4: Whittle™ Optimization Results - Çorak

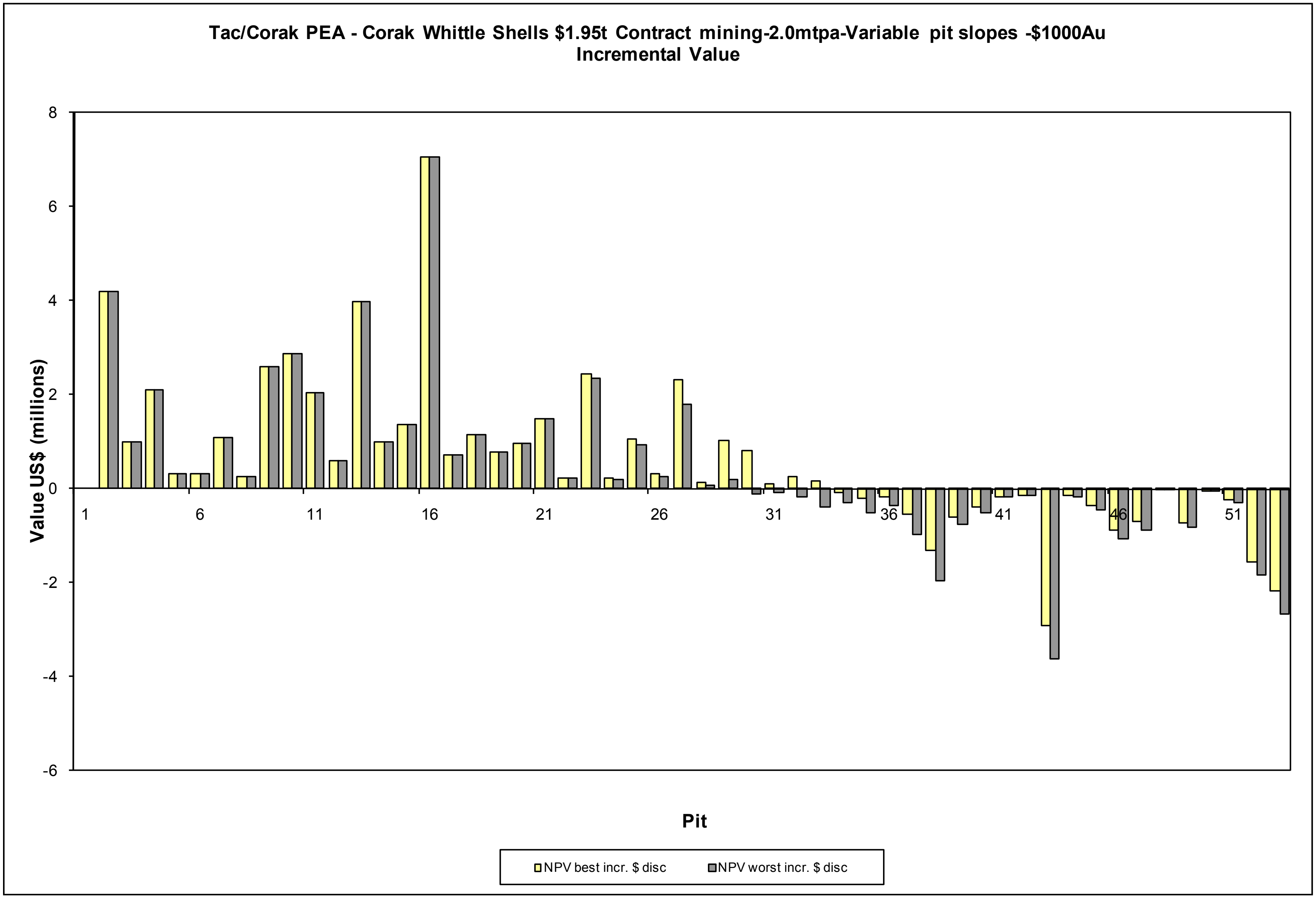


Figure 17.5: Incremental Whittle™ Value Results – Çorak

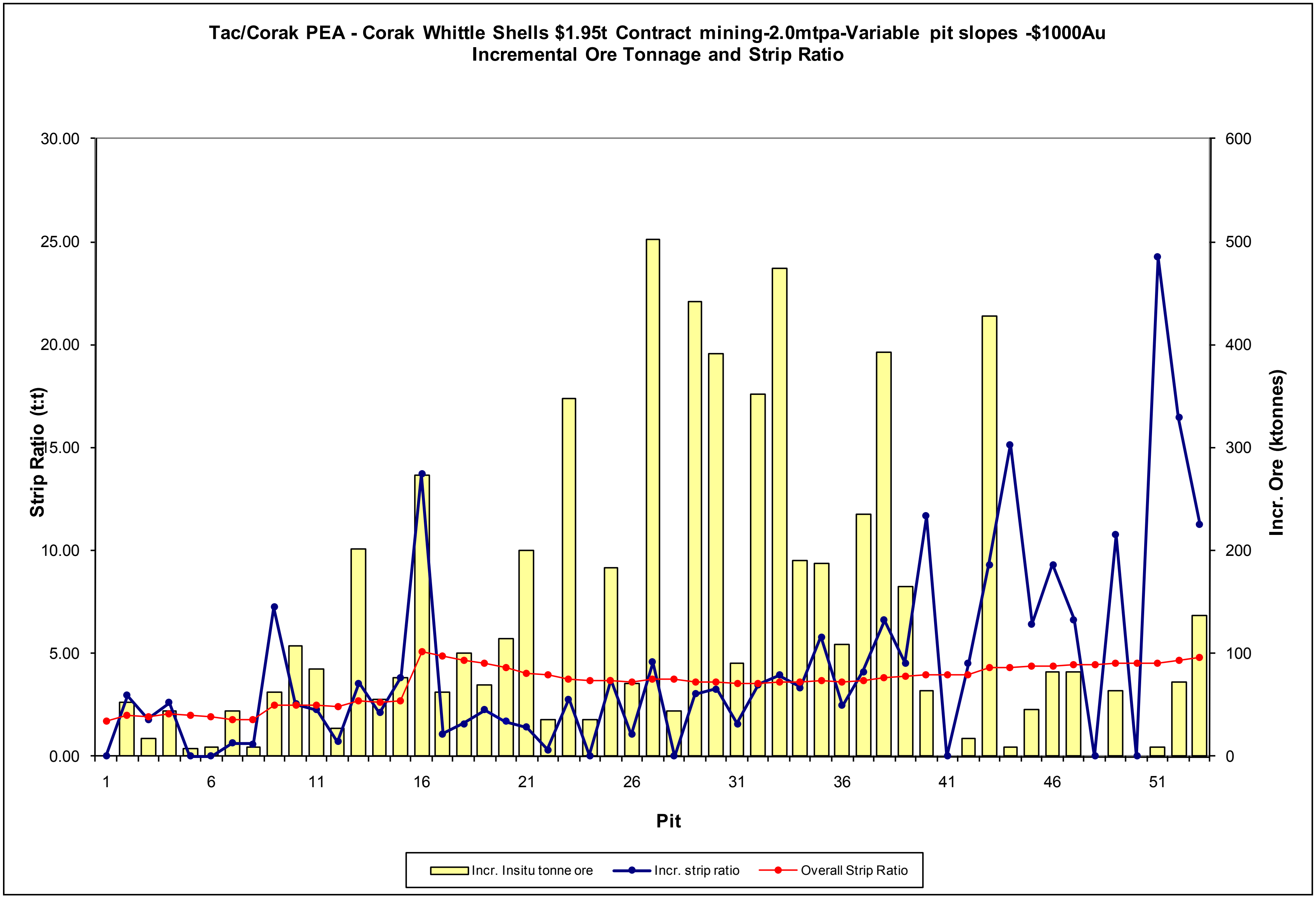


Figure 17.6: Incremental Whittle™ Tonnage Results - Çorak

For the Taç deposits, shells beyond 28 add mineralized rock and waste tonnages to the overall pit but have higher incremental strip ratios with minimal impact on the NPV.

To better determine the optimum Whittle™ shell on which to base the phasing and scheduling, and to gain a better understanding of the deposit, the shells were analyzed in a preliminary schedule. The schedule assumed a maximum milling capacity of 2.0 Mt/yr. No stockpiles were used in the analysis and no capital costs were added. Both best case (i.e. mine out shell 1, the smallest shell, and then mine out each subsequent shell from the top down, before starting the next shell) and a worst case (mine each bench completely to final limits before starting next bench) scenarios were analyzed. The shells were each scheduled at varying revenue factors (0.3 through to 1.4 of base case) to produce a series of nested shells with the NPV results shown in Figures 17.1 through Figure 17.3.

Based on the analysis of the Whittle™ shells and preliminary schedule, Whittle™ shell 28 was chosen as the base case shell for further phasing and scheduling for the Taç deposit, as this shell maximises the best case NPV of the deposit. This shell contains 9.6 Mt of mineralized rock above cut-off with an average copper grade of 0.15% and 33 Mlb of contained copper. The total waste tonnage in the shell is 72.7 Mt for a strip ratio of 7.6:1.

A similar analysis was conducted for the Çorak optimization and in this case, shell 33 was chosen as the base case shell, as this shell maximizes the best case NPV of the deposit. This shell contains 4.8 Mt of mineralized rock above cut-off and the total waste tonnage in the shell is 17.3 Mt for a strip ratio of 3.6:1.

Table 17.5 summarizes the tonnages and grades contained within the shell limits (using the incremental cut-off grade of $26.10/t and $28.10/t for Taç and Çorak, respectively).

A typical long section (looking North East) of the Taç deposit is shown in Figure 17.7 with existing topography, selected Whittle™ shell, and NSR value block model outlines shown. Figure 17.8 is a typical section through the Çorak deposit (looking North East).

Table 17.5: Resources Extracted in LOM Plan by Classification

Description	Unit	Çorak	Taç	Total
Indicated Resources				
In-situ Tonnage	Mt	4.6	9.1	13.7
In-situ Grades				
Au	g/t	1.82	2.00	1.94
Ag	g/t	2.28	N/A	2.28
Cu	%	N/A	0.15	0.15
Zn	%	0.96	N/A	0.96
Pb	%	0.38	N/A	0.38
NSR	US$/t	52.24	54.60	53.81
Contained Metal				
Au	koz	270	586	856
Ag	koz	337	N/A	337
Cu	mlbs	N/A	30	30
Zn	mlbs	97	N/A	97
Pb	mlbs	38	N/A	38
Inferred Resources				
In-situ Tonnage	Mt	0.2	0.5	0.7
In-situ Grades				
Au	g/t	1.07	2.50	2.10
Ag	g/t	3.20	N/A	3.20
Cu	%	N/A	0.21	0.21
Zn	%	1.45	N/A	1.45
Pb	%	0.40	N/A	0.40
NSR	US$/t	43.28	69.28	61.92
Contained Metal				
Au	koz	7	41	48
Ag	koz	21	N/A	21
Cu	mlbs	N/A	2	2
Zn	mlbs	6	N/A	6
Pb	mlbs	2	N/A	2
Total Waste Tonnage	Mt	17.3	72.7	90.0
Strip Ratio	t:t	3.6	7.6	6.2

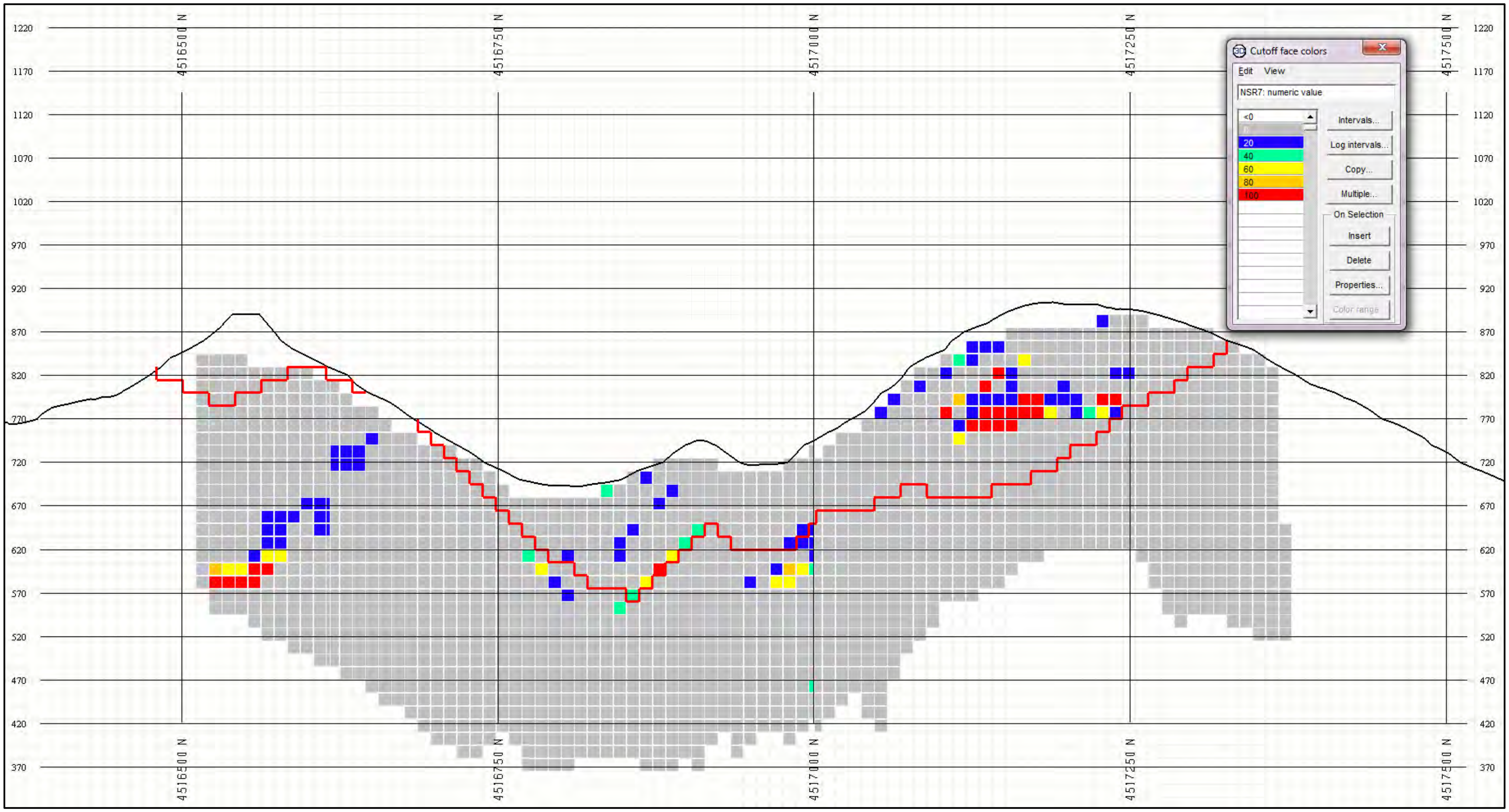


Figure 17.7: Typical Section (looking north east) - Taç

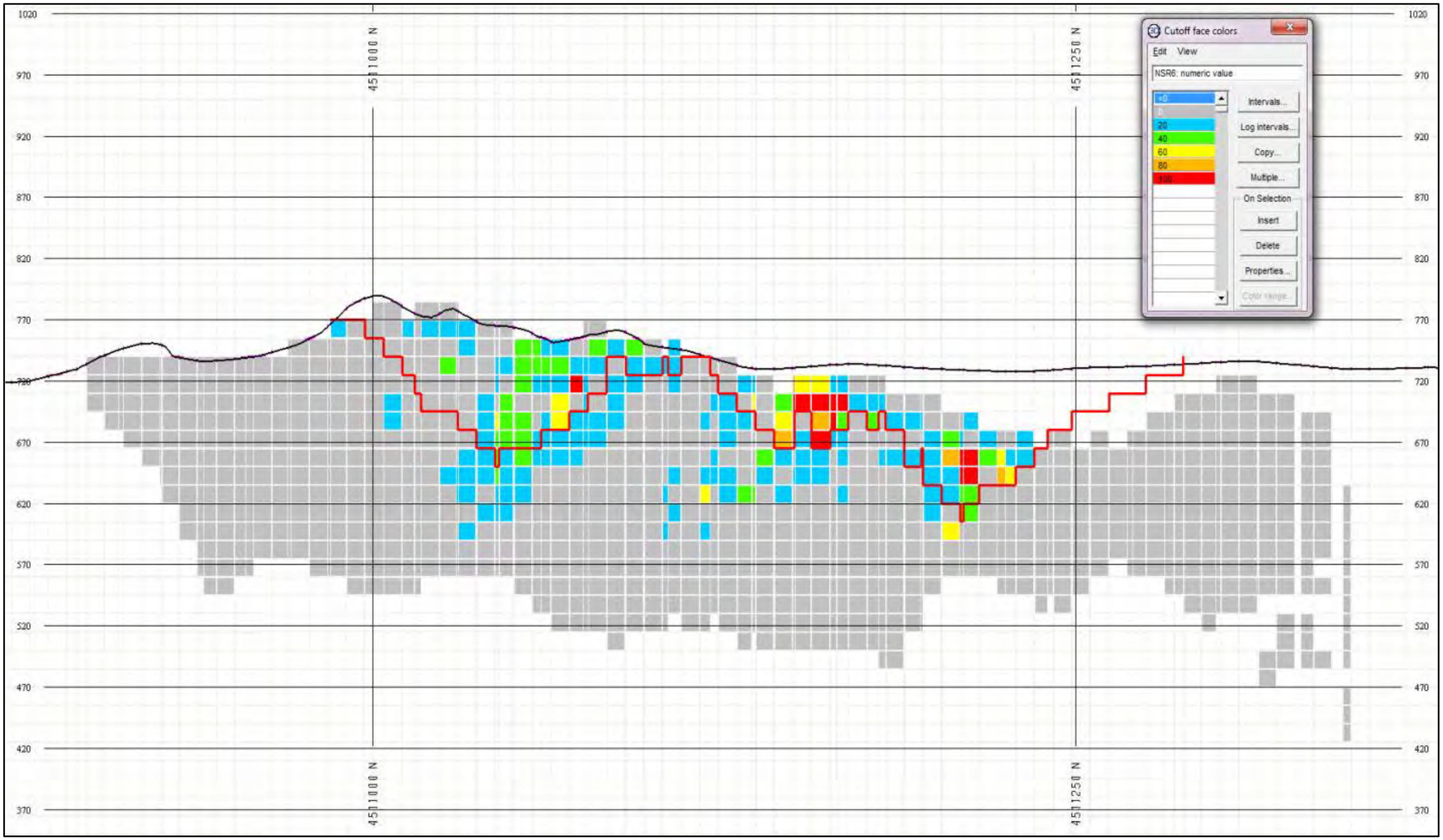


Figure 17.8: Typical Section (looking north east) - Çorak

17.2 Mine Design

Mine planning for the Taç-Çorak deposits was conducted using a combination of software, including Mintec Inc. MineSight™, Gemcom GEMS™, and Whittle™. The base 3D block models, along with subsequent NSR modeling were analyzed using GEMS™. The phase selection and production scheduling was undertaken with the use of MineSight™ and Whittle™ software.

For both Taç and Çorak deposits, the ultimate shell limits, along with the associated phasing, were based on the Whittle™ shell analysis described in this report. Preliminary waste dumps were then designed to account for the material produced in each mining phase and shell.

Whittle™ shell 28 was chosen as the base case limit for the Taç deposit, while shell 33 was chosen for the Çorak deposit. Figure 17.9 represents an isometric view of the shell for the Taç base case Whittle™ shell with the Çorak shell shown in Figure 17.10.

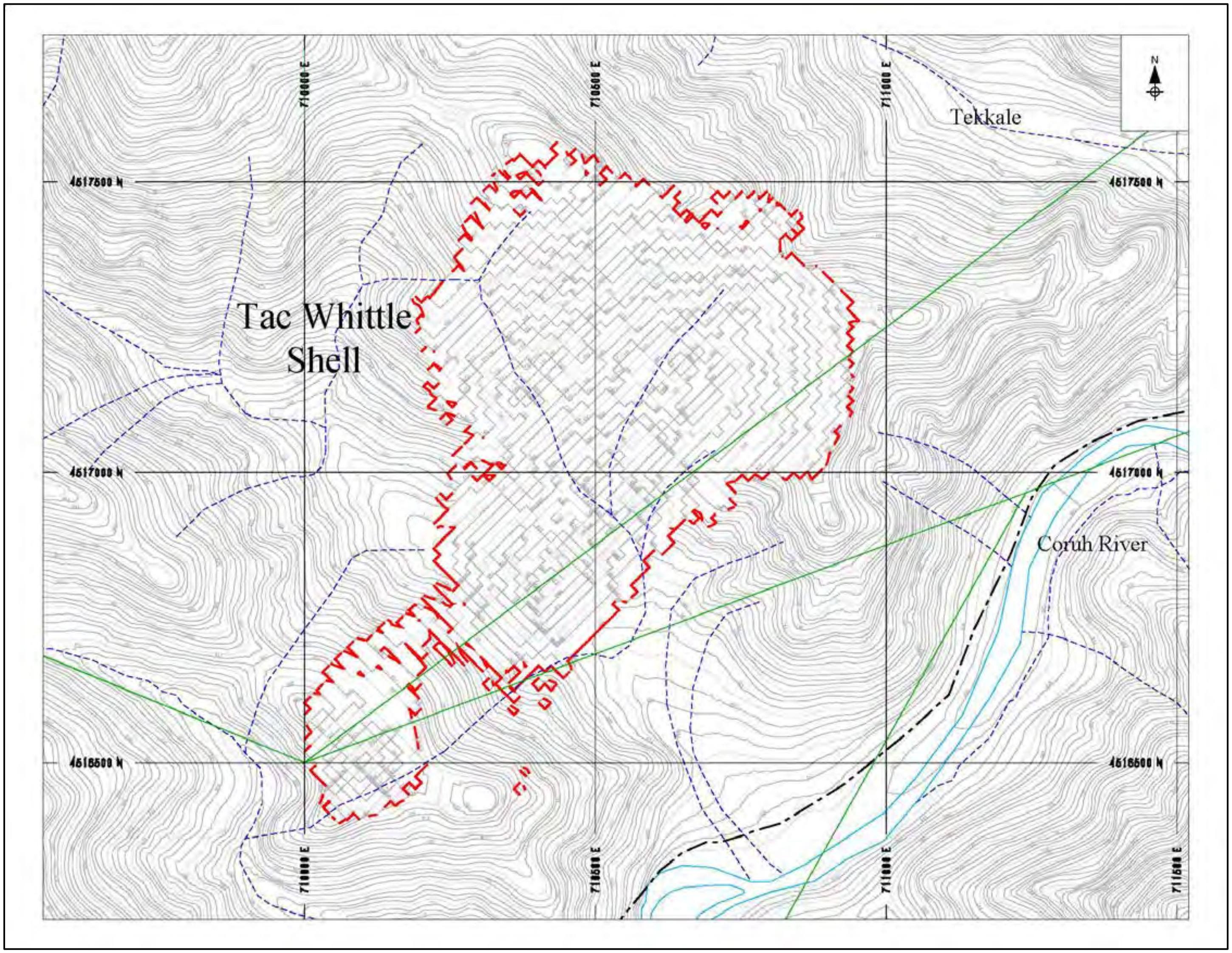


Figure 17.9: Preliminary Shell - Taç Deposit Plan View

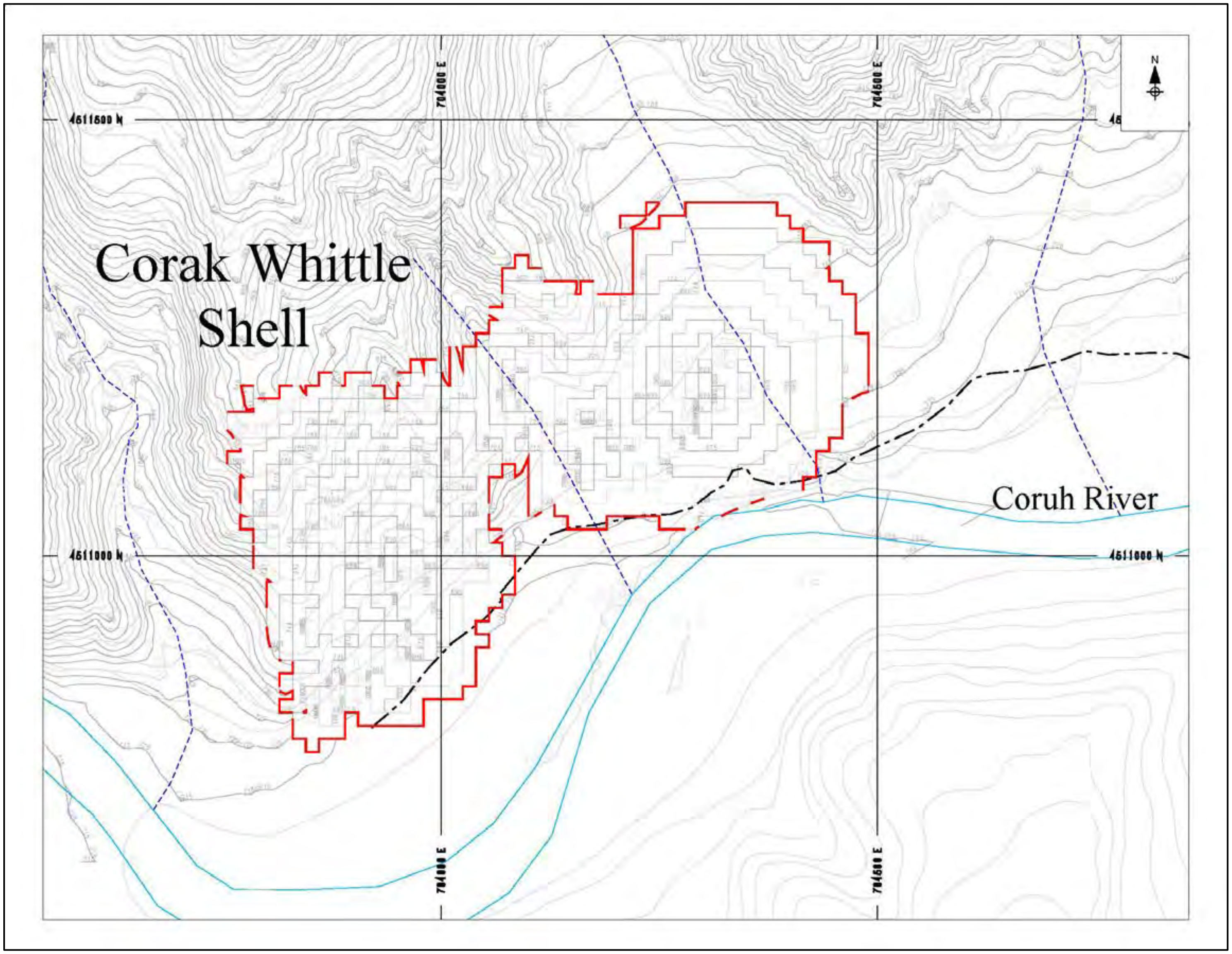


Figure 17.10: Preliminary Shell Designs – Çorak Plan View

Mine Operation

The open pit mining activities for the Taç-Çorak pits were assumed to be primarily undertaken by a mining contractor as the basis for this preliminary economic assessment. The unit mining cost used in the Whittle™ optimization was $1.95/t of material mined for pit and dump operations, road maintenance, mine supervision and technical services. The cost estimate was based on a preliminary budgetary quote from a mining contractor in Turkey, along with estimates built from first principles and based on experience of similar sized open pit operations.

Equipment

Although the mining contractor will ultimately decide on equipment requirements, Table 17.6 summaries equipment requirements based on similar sized open pit operations. The proposed plant processing rate of 2.0 Mtpa was used, along with deposit and shell geometry constraints, to estimate the mining equipment fleet needed. The fleet has an estimated maximum capacity of 50,000 t/d total material, which will be sufficient for the Life Of Mine ("LOM") plan, and is to be shared between the deposits.

Table 17.6: Major Open Pit Mining Equipment

Equipment Type	No. of units
Cat D9-class Dozer	3
Diesel, 9.9 m^3 Front Shovel	2
Diesel, 8.4 m^3 Wheel Loader	1
Cat 777, 90 t Haul Truck	7
Cat 14H-class Grader	2
165 mm dia. Rotary, Crawler Drill	3
155 mm dia. Tophammer Drill	1
40,000 litre Water Truck	1

Unit Operations

The 165 mm diameter drills performs the majority of the production drilling in the mine (both mineralized and waste rock), with the 115 mm diameter hydraulic drill to be used for secondary blasting requirements and may be used on the tighter spaced patterns required for pit development blasts. The main loading and haulage fleet consists of 90 t haul trucks, which are loaded primarily with the diesel 9.9 m^3 front shovels or the 8.4 m^3 wheel loader, depending on pit conditions.

As pit conditions dictate, the Cat D9-class dozers are used to rip and push material to the excavators, as well as maintaining the waste dumps and heap leach pad.

The additional equipment listed in Table 17.6 will be used to maintain and build access roads, and to meet various site facility requirements, (including coarse mill feed stockpile maintenance, and further exploration development).

The work schedule is based on two twelve hour shifts per day, seven days per week, 365 days per year.

17.2.1 Production Schedule

Mine Sequence/Phasing

The preliminary Whittle shells for both Taç and Çorak were further divided into a number of phases for the mine plan development to maximize the grade in the early years, reduce the pre-stripping requirements in the early years, and to maintain the process plant at full production capacity.

Both Taç and Çorak were each divided into contained three phases. The shell tonnages, grades and metal recoveries of the preliminary shells are summarized in Table 17.7.

Table 17.7: Taç-Çorak Phase Tonnages and Grades

Description	Unit	Çorak Phase 1	Çorak Phase 2	Çorak Phase 3	Çorak Total	Taç Phase 1	Taç Phase 2	Taç Phase 3	Taç Total	Çorak/Taç Total
Whittle Shell Number	#	15	25	33	33	14	21	28	28	-
In-situ Mill Feed Tonnage	Mt	1.0	1.4	2.4	4.8	4.2	3.1	2.3	9.6	14.4
In-situ Grades										
Au	g/t	3.19	1.66	1.27	1.79	2.25	1.89	1.82	2.03	1.95
Ag	g/t	2.80	2.85	1.78	2.32	N/A	N/A	N/A	N/A	2.32
Cu	%	N/A	N/A	N/A	N/A	0.14	0.17	0.16	0.15	0.15
Zn	%	1.02	1.13	0.87	0.98	N/A	N/A	N/A	N/A	0.98
Pb	%	0.41	0.46	0.32	0.38	N/A	N/A	N/A	N/A	0.38
NSR	$/t	80.58	51.96	39.46	51.87	59.87	52.87	50.63	55.37	54.20
Contained Metal										
Au	koz	104	76	97	277	301	191	135	628	905
Ag	koz	92	131	136	359	N/A	N/A	N/A	N/A	359
Cu	Mlb	N/A	N/A	N/A	N/A	13	12	8	32	32
Zn	Mlb	23	35	45	104	N/A	N/A	N/A	N/A	104
Pb	Mlb	9	14	17	40	N/A	N/A	N/A	N/A	40
NSR	US$M	82	74	93	250	250	166	117	533	783
Waste Tonnage	Mt	2.8	6.3	8.3	17.3	26.0	24.8	22.0	72.7	90.0
Total Tonnage	Mt	3.8	7.7	10.6	22.1	30.1	27.9	24.3	82.3	104.4
Strip Ratio	t:t	2.7	4.4	3.5	3.6	6.2	7.9	9.5	7.6	6.2

Figure 17.11 further summarizes the phase designs for Çorak, with the preliminary phase layout shown in isometric view, while Figure 17.12 illustrates the Taç preliminary Whittle phases and ultimate shell outlines.

The Çorak phases were based on the Whittle™ shells #15 and #25. The Çorak waste will be placed into a waste rock facility ("WRF") to the east of the final shell limits. All mineralized material will be hauled to the primary crusher to the south west of the deposit.

The Taç phases were based on Whittle shells #14 and #21 with all waste generated from Taç to be placed in a WRF to the south west of the deposit. All mineralized material will be hauled to the primary crusher located near the Çorak deposit.

Figure 17.13 provides an overall site plan of the Taç-Çorak project, outlining the proposed Çorak and Taç shells, various WRF's, process facilities, and dry-stack TMF.

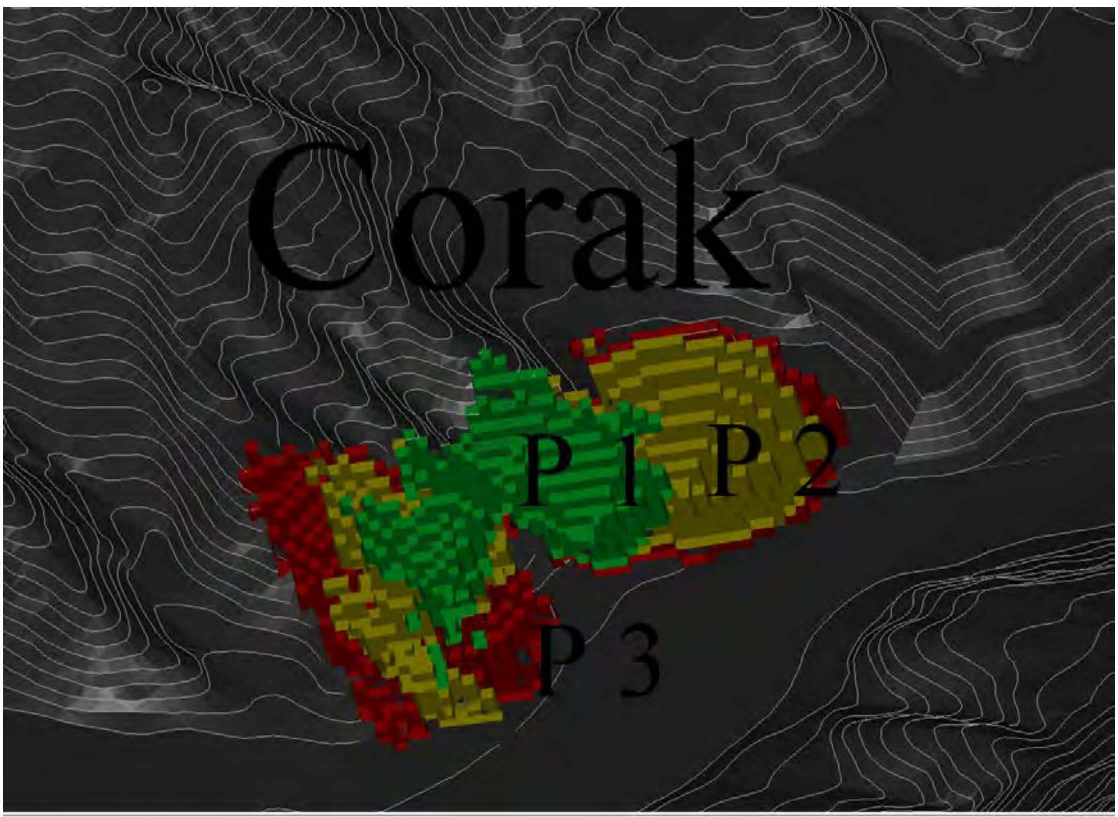


Figure 17.11: Çorak Phases in Isometric View (looking NE)

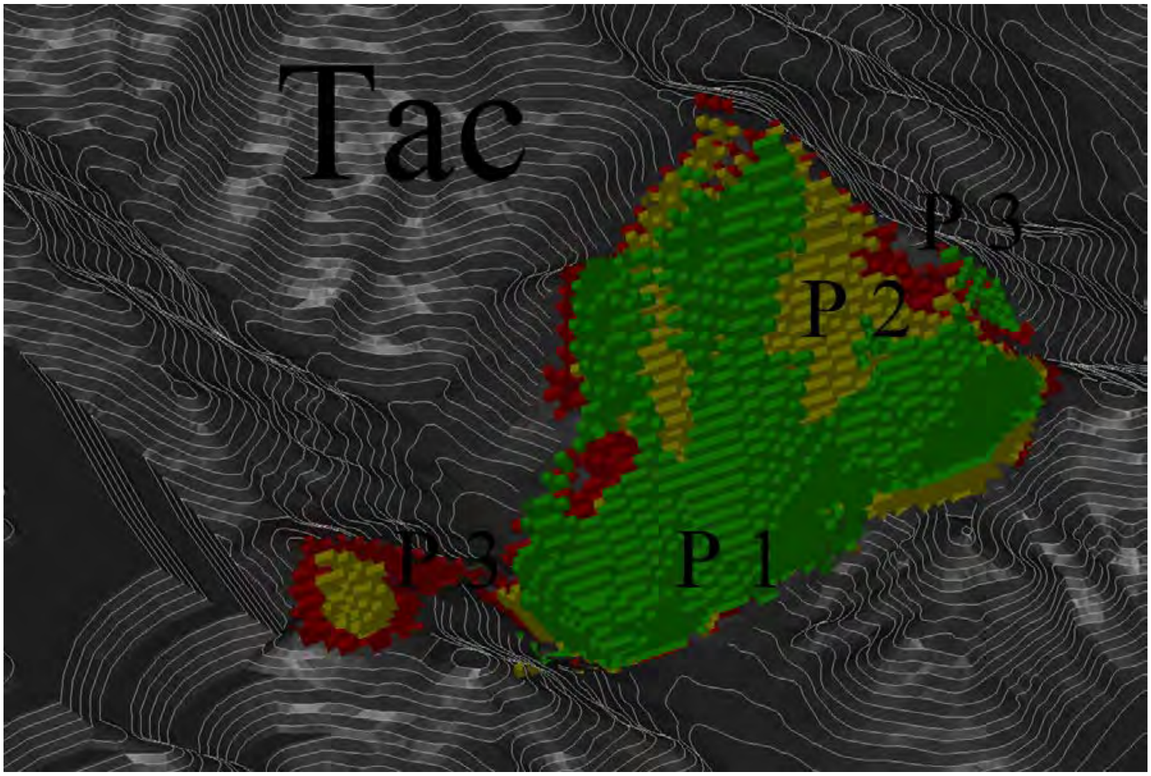
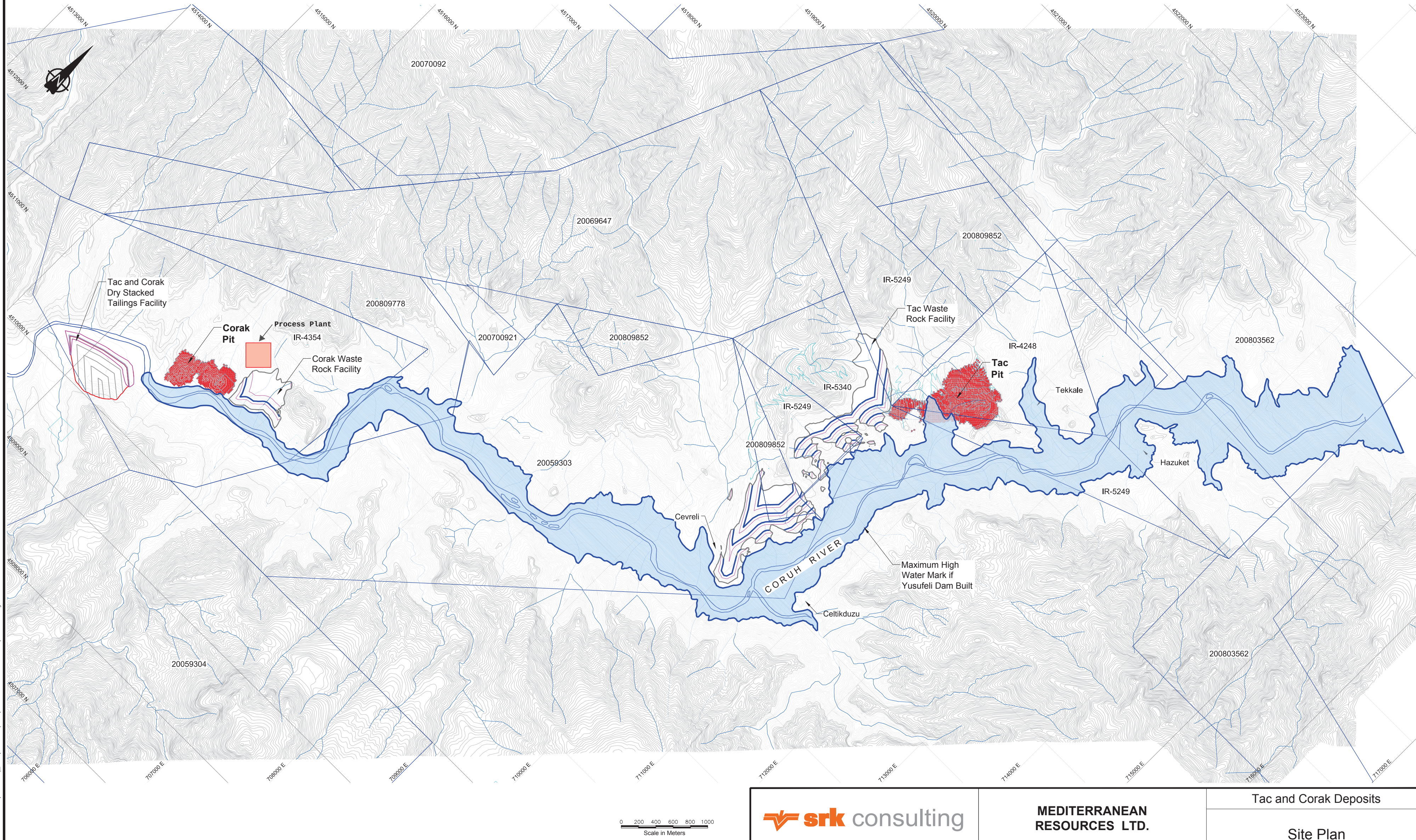


Figure 17.12: Taç Phases in Isometric View (looking NE)



srk consulting

MEDITERRANEAN RESOURCES LTD.

Yusufeli Project

Tac and Corak Deposits

Site Plan

SRK JOB NO.: 2CM026.001

FILE NAME: Site Plan.dwg

DATE: July 2011

APPROVED:

FIGURE: T-1

Mine Production Schedule

The production schedule for the Taç and Çorak deposits was developed with the aid of Whittle™ and MineSight™ software, and incorporated the various phases mentioned above.

The proposed plant processing rate of 2.0 Mtpa was used, along with deposit and shell geometry constraints, to estimate the mining equipment fleet needed (mining contractor will determine final fleet requirements). The fleet has an estimated maximum capacity of 50,000 tpd of total material, which will be sufficient for LOM plan. The plant throughput was planned at 2.0 Mtpa of material. Due to limited pre-stripping requirements, with the mineralized material near surface at Çorak, Year 1 represents the commencement of mill processing. The maximum planned amount of total material to be moved is approximately 50,000 t/d. The average total mining rate was planned to be 36,000 t/d from both the Taç and Çorak deposits. Indicated and inferred resources were used in the LOM plan, with inferred resources representing only 5% of the material processed.

Inferred mineral resources are considered too speculative geologically to have the economic considerations applied to them to be categorized as mineral reserves, and there is no certainty that the inferred resources will be upgraded to a higher resource category.

Table 17.8 is a summary of total material movement by year for the mine production schedule, for both Taç and Çorak deposits.

Table 17.8: Proposed Production Schedule

All in US$		UNIT	TOTAL	YEAR -1	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6	YEAR 7
MATERIAL SCHEDULE											
Mining & Milling	Taç Mill Feed Material	Mt	**9.6**	-	-	-	1.50	2.01	2.01	2.01	2.11
	Taç Waste	Mt	**72.7**	-	-	-	15.5	16.0	16.0	15.8	9.4
	Taç S.R.	W:O	**7.6**				10.3	8.0	8.0	7.9	4.5
	Çorak Mill Feed Material	Mt	**4.8**	0.4	2.0	2.0	0.4				
	Çorak Waste	Mt	**17.3**	2.2	6.9	8.2	0.1				
	Çorak S.R.	W:O	**3.6**	6.2	3.4	4.1	0.2				
	Total Mill Feed Material	Mt	**14.4**	0.4	2.0	2.0	1.9	2.0	2.0	2.0	2.1
	Total Waste	Mt	**90.0**	2.2	6.9	8.2	15.6	16.0	16.0	15.8	9.4
	Total Material	Mt	**104.4**	2.5	8.9	10.2	17.5	18.0	18.0	17.8	11.5
	Total S.R.	W:O	**6.2**	6.2	3.4	4.1	8.0	8.0	8.0	7.9	4.5
Taç Head Grade	Cu	% Cu	**0.15**	-	-	-	0.16	0.14	0.15	0.19	0.13
	Au	g/t Au	**2.03**	-	-	-	1.61	2.52	1.97	1.77	2.15
Çorak Head Grade	Au	g/t Au	**1.79**	2.12	2.18	1.34	1.83	-	-	-	-
	Ag	g/t Ag	**2.32**	2.56	2.84	1.94	1.44	-	-	-	-
	Zn	% Zn	**0.98**	0.92	1.10	0.93	0.70	-	-	-	-
	Pb	% Pb	**0.38**	0.43	0.44	0.35	0.21	-	-	-	-
	Combined Copper equivalent head grade	%Cu	**1.64**	1.58	1.68	1.14	1.35	1.47	1.19	1.13	1.27
	Combined Gold equivalent head grade	g/t Au	**3.10**	2.98	3.16	2.14	2.55	2.78	2.25	2.13	2.39

The Taç and Çorak deposits will produce a total of 14.4 Mt of mill feed and 90 Mt of waste (6.2:1 overall strip ratio) over an eight year mine operating life. The current life of mine ("LOM") plan focuses on achieving consistent mill feed production rates, mining of higher grade material early in schedule, and balancing grade and strip ratios. No blending of stockpiled material has been included in this preliminary schedule

Figure 17.14 summarizes mill feed and waste tonnages, strip ratios and gold grades by period. Figure 17.15 illustrates the mill feed tonnages by phase, as well as overall gold grades and strip ratio. Çorak phases 1 through 3 are represented as CK1, CK2 and CK3, while the Taç phases are labelled as TC1 through TC3.

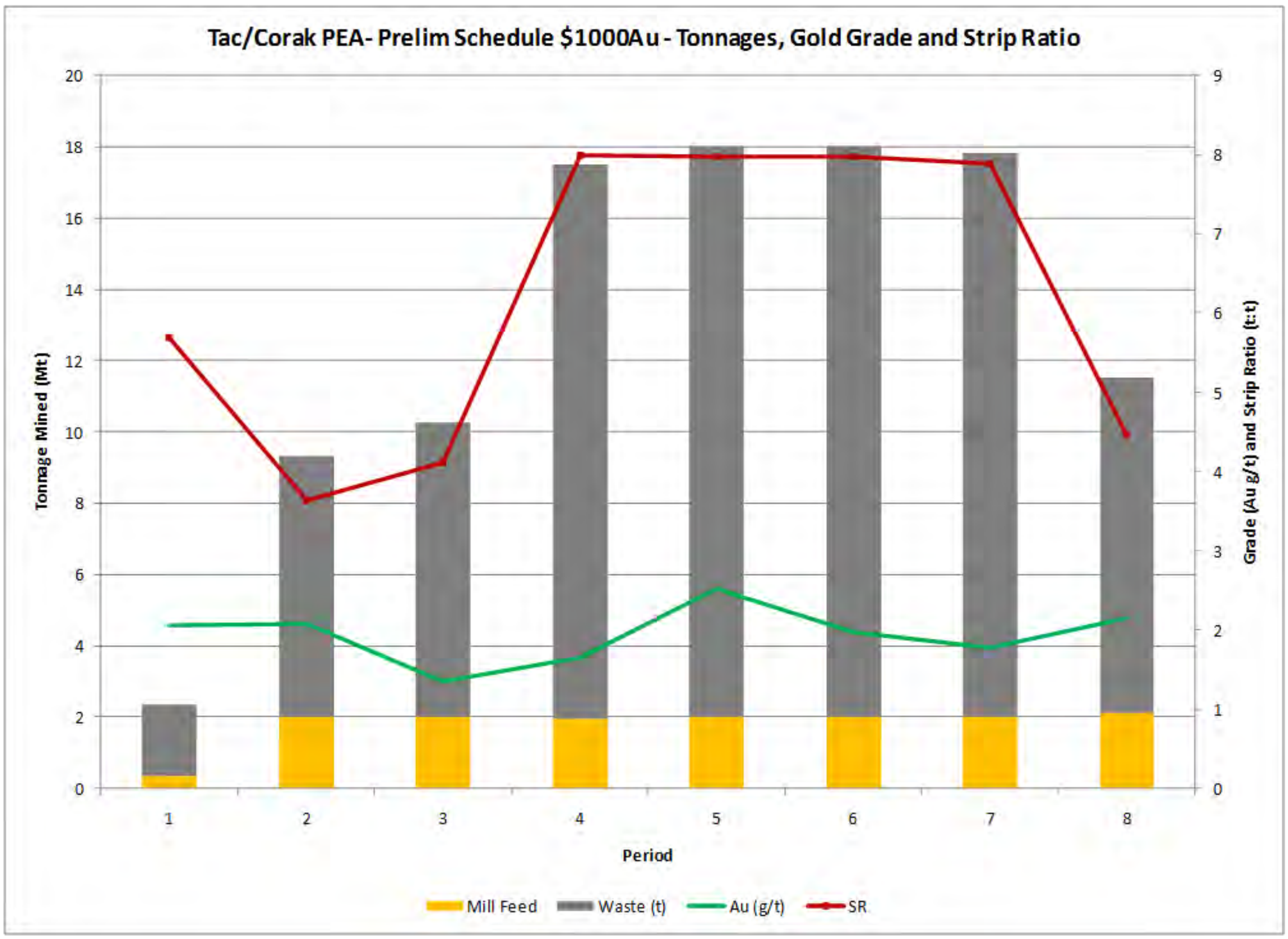


Figure 17.14: Material Tonnages and Strip Ratio

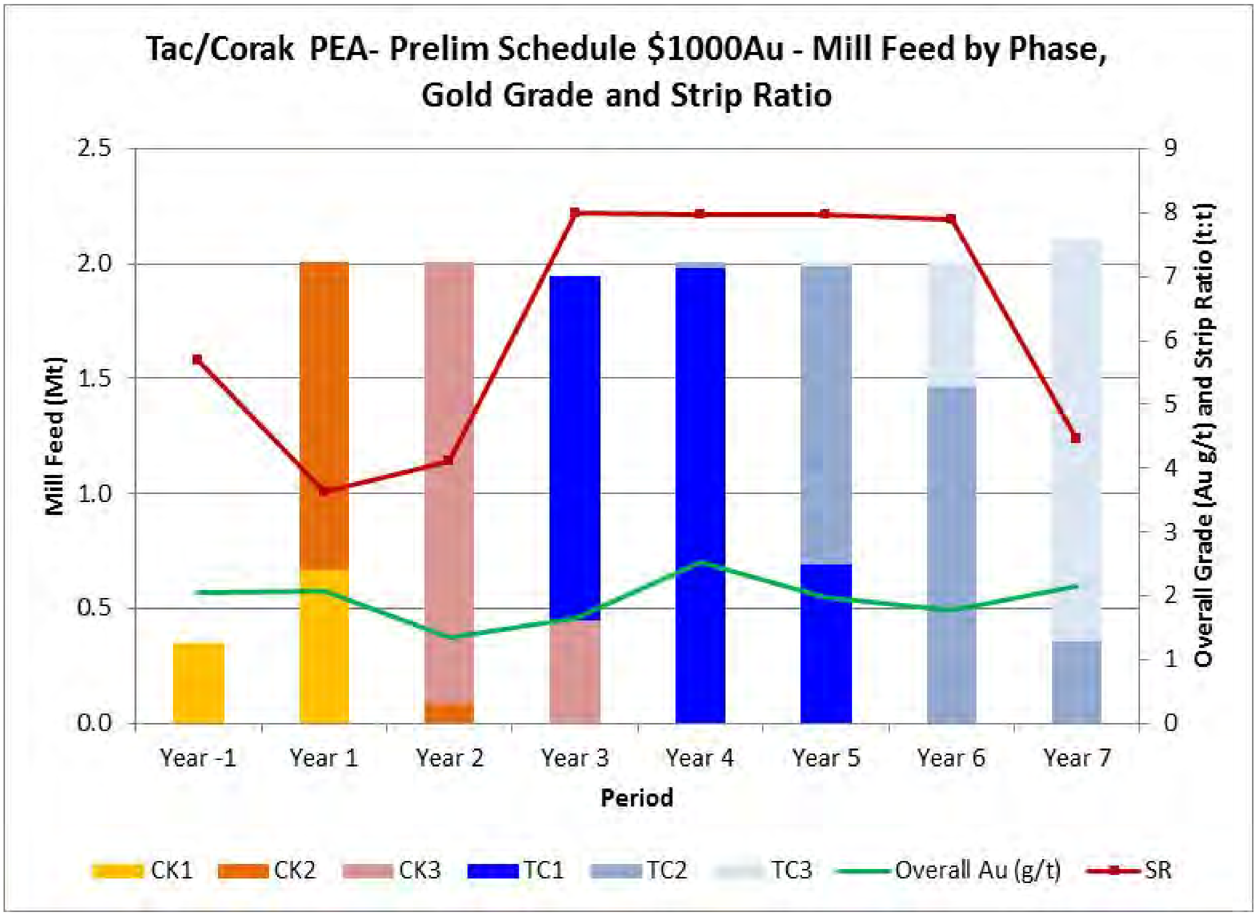


Figure 17.15: Period Mill Feed Tonnages and Overall Au Grade and Strip Ratio

Figures 17.16 to 17.17 provide a plan view of the final shell and waste rock facility configurations for the Çorak and Taç deposits, respectively.

The Taç and Çorak deposits provide maximum returns when the Çorak shell is mined out prior to commencing the Taç deposit. Both the Çorak and Taç deposits, are mined out in a series of push-backs. The mining fleet was selected based on the need for this flexibility and mobility.

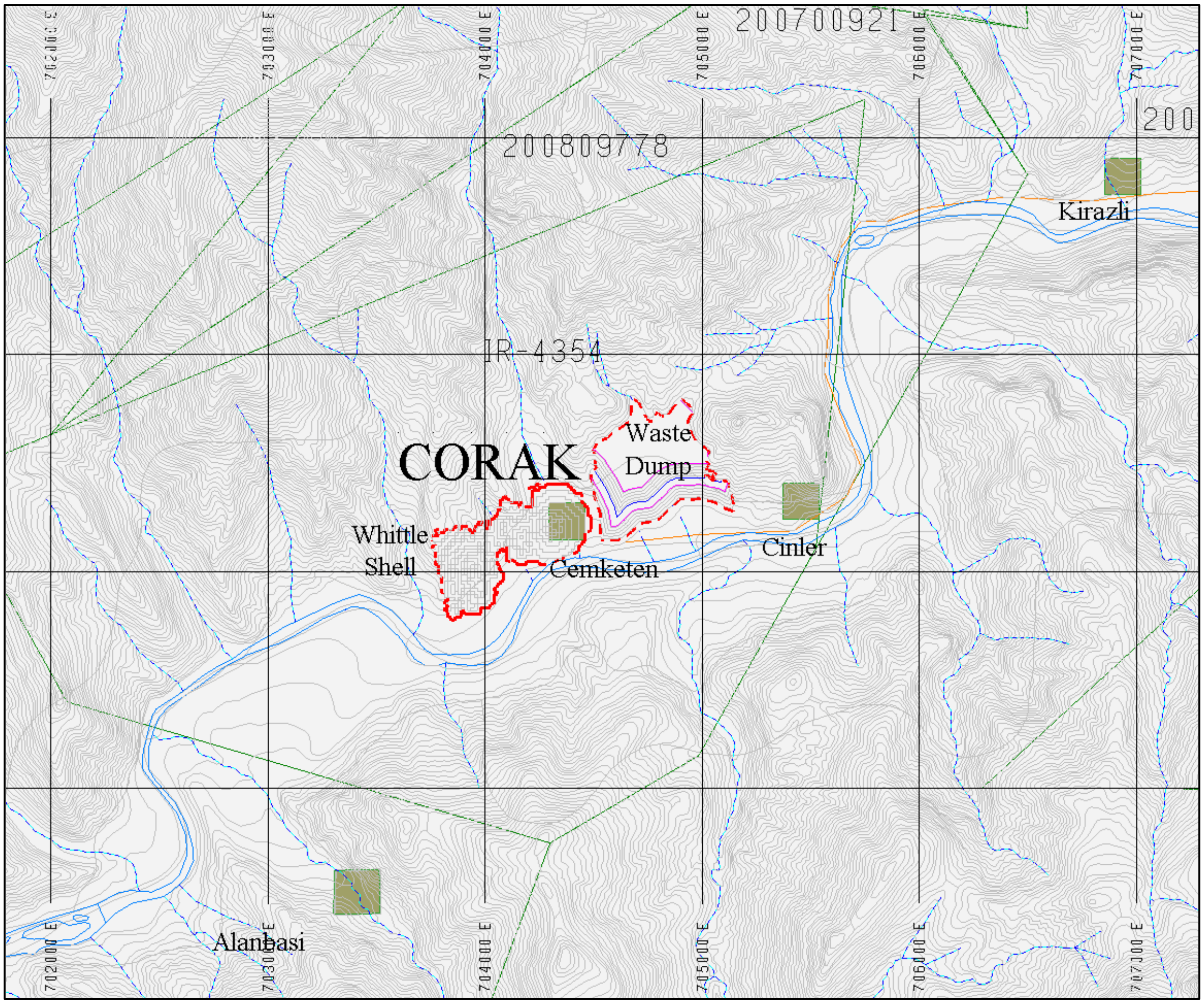


Figure 17.16: Çorak Shell and WRF Final Configuration (SRK 2011)

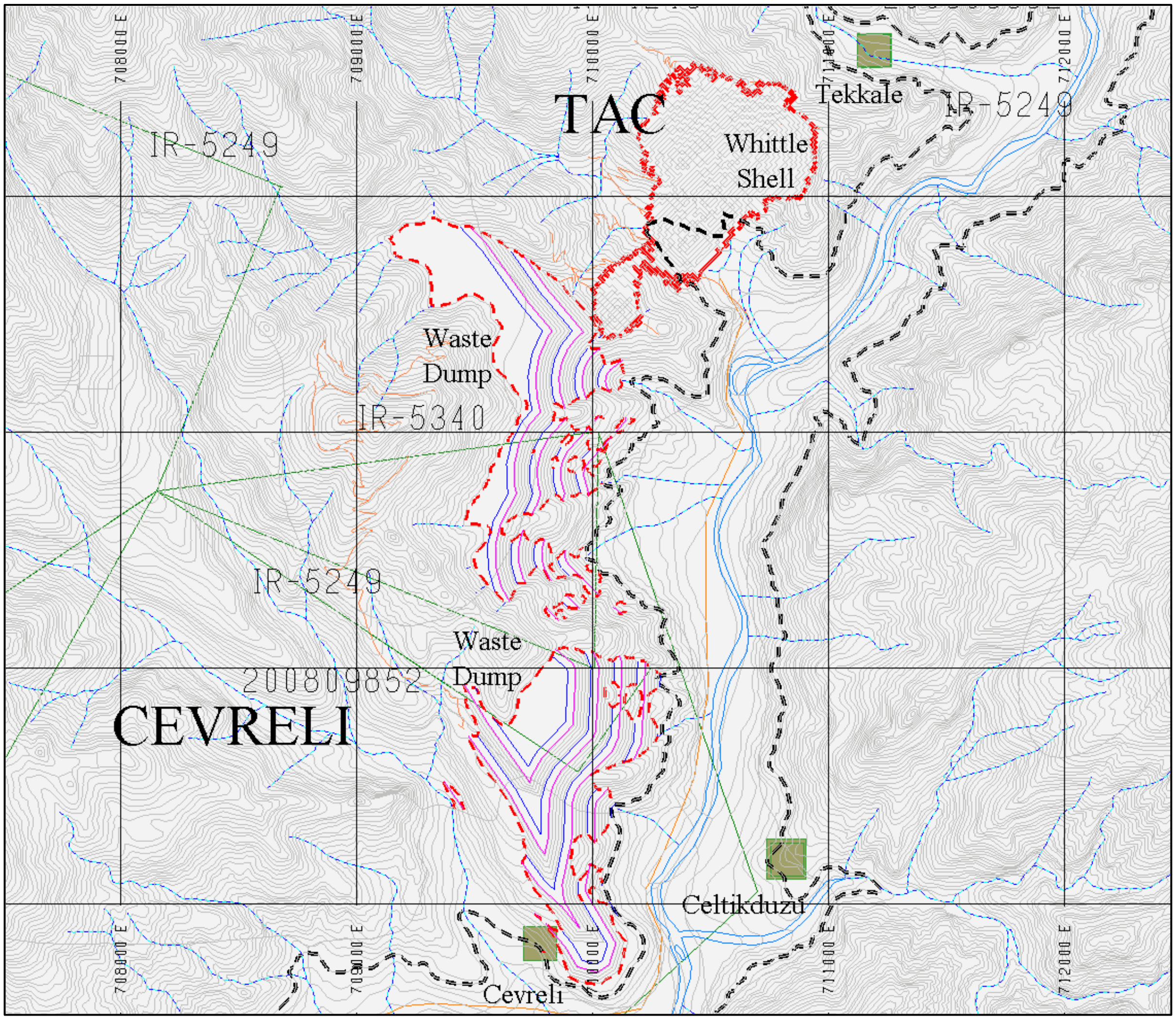


Figure 17.17: Taç Shell and WRF Final Configuration (SRK 2011)

Shell Development

Year -1: Development of the Taç and Çorak project commences with mining of Çorak Phase 1 along with pre-stripping in Çorak Phase 2. A total of 0.35 Mt of mill feed and 2.2 Mt of waste is produced. The average gold grade is 2.12 g/t Au with an overall strip ratio of 6.2:1 (waste:mill feed).

Year 1: The 2.0 Mtpa target mill feed is attained with mining completed at Phase 1 in Çorak, while mining progresses in Çorak Phase2. The average grades are 2.18 g/t Au, 1.10% Zn and 0.44% Pb. A total of 6.9 Mt of waste rock is produced at a mined strip ratio of 3.4:1.

Year 2: Mill feed production is maintained at the target of 2.0 Mtpa and mining at Çorak nears completion. Total waste mined from the Çorak phases is 8.2 Mt for a strip ratio of 4.1. The average gold grade is 1.34 g/t Au.

Year 3: Mining is completed at Çorak and commences at Taç with pre-stripping of all phases. Mill feed produced from Taç accounts for 1.5 Mt of the 2.0 Mt total delivered. Stripping of push backs increases the waste mined to 15.6 Mt at an overall strip ratio of 8.0:1. Production rates reach 48,000 t/d total material.

Year 4: Mining is concentrated in Phase 1 and Phase 2 of the Taç deposit with a total of 18 Mt of material mined while the overall strip ratio remains at 8.0:1. The average grades are 0.14% Cu and 2.52 g/t Au.

Year 5: Taç Phase 1 is completed along with mining of Phase 2 and Phase 3. The overall strip ratio remains at 8.0:1 with 16 Mt of waste and 2.0 Mt of mill feed mined in the period.

Year 6: The final two phases in Taç produce 2.0 Mt of mill feed with average grades of 0.19% Cu and 1.77 g/t Au. Overall strip ratio is 7.9:1.

Year 7: Mining at the Taç and Çorak deposits is completed with overall strip ratio dropping to 4.5 as the bottom, lower strip ratio, benches are completed. The average grades are 2.15 g/t Au and grades of 0.13% Cu. A total of 11.5 Mt of material (mill feed and waste) is mined.

17.3 Waste Management Facilities

17.3.1 Waste Rock Facilities ("WRF")

The waste rock facilities are planned to be located adjacent to the final shell limits for both the Taç and Çorak deposits. An East WRF has been designed for the Çorak deposit, along with a dump to the south west of the Taç shell. Due to the shell and deposit geometry, along with the LOM schedule, and in order not to sterilize any potential resources, the potential for backfilling into previously mined out areas is limited and has not been utilized in this study.

The Çorak East WRF and Taç Southwest WRF are planned to be built in a series of lifts in a "bottom-up" approach in order to maximize stability. The WRFs would be constructed by placing material at its natural angle of repose (approximately 1.5H:1V) with safety berms spaced at regular intervals (25 to 50m lifts) to allow for a final reclaimed slopes of 2:1.

The Çorak East WRF is designed to contain 18 Mt of waste, while the Taç Southwest WRF is designed at 73 Mt.

17.3.2 Tailings Management Facilities

A dry-stack TMF is proposed to be constructed across the Çoruh River from the Çorak deposit, near the process facilities and above the proposed high water mark created by the Yusufeli Dam Project. Due to the small available footprint and the steep natural terrain, a containment dyke constructed from local borrow materials is planned to be constructed to facilitate higher stacking of the tailings. The containment dyke is deigned to reach heights of about 30 m with an average height of about 15 m. The upstream and downstream slopes of are designed at 2H:1V and it will have a final crest width of 10 m.

The upstream slope of the containment dyke, and the entire basin of the TMF facility is designed to be lined using a bituminous liner. Filtered tailings is planned to be stacked in the TMF using dump trucks loaded at the filter press. A dozer of grader would be used to spread the tailings in thin lifts prior to compacting with suitable compaction equipment. Tailings stacking is designed to be limited to a overall final slope of 3H:1V, and in order to stack 15 Mt of tailings, the final tailings elevation above the crest of the dyke would be about 120 m high.

A surface water diversion trench is proposed to be constructed along the upstream edge of the TMF to direct clean water away from the facility. Downstream of the facility a pollution control pond is designed to collect contact water from runoff from the facility. Water from this pond would discharged in a controlled manner assuming it meets the discharge standards for the project.

18 Recovery Methods

18.1 Mineral Processing

Prediction of the flotation performance was determined following the latest round of locked cycle tests. The design recoveries of the target metals are in line with those achieved in the locked cycle tests. The results of the locked cycle tests for Taç and Çorak are presented in Table 18.1 and Table 18.2, respectively.

Table 18.1: Grade/Recovery from Taç Locked Cycle Test YT-VF-LCT2

Ore Type	Primary Grind (P_{80})	Secondary Grind (P80)	Feed Grade		Concentrate Recovery		Concentrate Grade	
			Cu (%)	Au (g/t)	Cu (%)	Au (%)	Cu (%)	Au (g/t)
Taç	150	35	0.45	1.61	94.5	80.8	23.7	62.8

Table 18.2: Grade/Recovery from Çorak Locked Cycle Tests YCH-LCT-1 and YCL-LCT-3

Ore Type	Prim. Grind (P_{80})	Sec. Grind (P80)		Feed Grade				Concentrate Recovery				Concentrate Grade			
		Pb	Zn	Pb (%)	Zn (%)	Ag (g/t)	Au (g/t)	Pb (%)	Zn (%)	Ag (g/t)	Au (g/t)	Pb (%)	Zn (%)	Ag (g/t)	Au (g/t)
Çorak - Hi	150	35	37	0.56	1.16	3.66	1.05	89.3	95.6	77.7	84.8	66.2	47.7	201	22/54
Çorak - Lo	150	35	37	0.61	1.88	4.62	0.91	91.3	93.9	82.5	80.9	61.6	43.3	201	19/47

Gold recoveries include cyanide leach on the sulphide concentrate (Çorak 1st cleaner tail and Taç cleaner scavenger).

Gold concentrate grades reflect Pb/Zn concentrates from test work.

The overall design grade and recovery numbers are shown in Table 18.3. Prediction of the flotation performance was determined following analysis of the locked cycle tests.

Table 18.3: Final Grade/Recovery Used For Taç and Çorak Mill Feed Material

Deposit	Concentrate Grade					Concentrate Recovery				
	%Pb	%Zn	%Cu	g/t Au	g/t Ag	%Pb	%Zn	%Cu	%Au	%Ag
Taç	-	-	20	Variable	Variable	-	-	93	80	-
Çorak	70	50	-	Variable	Variable	86	93	-	80	73

In light of the test work to date, SRK believes these recoveries are reasonable for the Taç and Çorak mineralized zones. The values selected are generally lower than the actual test work values shown.. Prediction of the flotation performance was determined following the latest round of locked cycle tests. The design recoveries of the target metals are in line with those achieved in the locked cycle tests. This is due to typical scale-up issues resulting in target metals misreporting during the separation stages.

19 Project Infrastructure

The project infrastructure for the Taç -Çorak project will consist of:

- Process plant site preparation;
- Upgrade of access roads;
- Contracted High Voltage power supply provided from nearby electrical grid;
- Fuel storage and distribution;
- Water supply and distribution;
- Sewage treatment;
- Administration building and warehouse/workshop;
- Assay laboratory;
- Mobile equipment;
- Communications.

All infrastructure items were planned and costed using factored estimates based on past experience.

20 Market Studies and Contracts

20.1 Market Studies

SRK did not pursue a concentrate market study for the PEA but rather smelting terms that were based on the client's preliminary discussions with smelters in Turkey.

The metal price selections for the study were sourced as follows:

Case A: SRK review of common metal prices used in Technical Reports filed on SEDAR

Case B: Historical 3-year average metal prices up to May 2011

Case C: Historical 2-year average metal prices up to May 2011

Case D: Historical 1-year average metal prices up to Mat 2011

The detailed smelter terms and metal pricing scenarios are contained in the OPEX and Economic Analysis Sections of this report.

20.2 Contracts

SRK is not aware of any significant or long-term contracts in place for the project.

21 Environmental Studies, Permitting and Social or Community Impact

21.1 Environmental Studies

An environmental baseline study was conducted by Dama Engineering Incorporated (July, 2008; September, 2009). The baseline study involved:

- Meteorological monitoring: 2 m high on-site weather station for a period of two years;
- Water quality monitoring: 37 locations along the Çoruh River, creeks draining the property, and at alluvium groundwater monitoring wells for a period of two years;
- Acid Rock Drainage ("ARD") testing: Static testing on 20 samples, and kinetic testing on six samples;
- Terrestrial flora and fauna survey; and
- Identification of land use, and protected and prohibited areas.

An environmental due-diligence study carried out by Golder Associates in November 2009 identified several shortfalls with the environmental baseline study. The due diligence study indicated that:

- Some endemic flora species of limited distribution were noted in the project area. However, inconsistencies were observed in the methodology of the survey; and a new flora survey was recommended to cross-check these findings. If findings are verified, then technical implementation of mitigation measures as well as the cost may pose significant obstacle for the project.
- Some gaps and inconsistencies with respect to the number of mammals as compared to the other fauna elements were identified. A new fauna survey was recommended.
- Sample selection for ARD testing was found to be insufficient. Additional sampling from drill cores and testing was recommended to represent site specific conditions and make considerations about appropriate and cost-effective mitigation measures.
- Sample location selection and analytical parameter suite for water quality sampling were found to be insufficient. Recommendations were made to review sample locations and include drinking water quality parameters at nearby settlements.
- Surface quantity (hydrology) measurements were not conducted during the baseline study. Given the proximity of the Çoruh River and future plans for construction of the Yusufeli Dam, it was recommended that a water quantity measurement program is carried out for a period of at least one year.
- No noise or air quality baseline measurements were conducted. These were recommended for future baseline studies.
- The baseline hydrogeological study conducted was found to be insufficient to provide an understanding of the site hydrogeological conditions and assessment of the mining units on the local groundwater resources. This is due to the fact that no groundwater testing and monitoring wells were developed to test the hydraulic properties of the volcanics and alluvium and to characterize the hydraulic interaction between them.
- No baseline socio-economic study and/or stake holder engagement were conducted. However, no public misunderstandings or potential public negative opinions were observed towards the project. A public consultation and formal stakeholder engagement program were recommended.

The environmental due-diligence review concluded that with the exception of a wetland issue and construction of Yusufeli dam, there were no risks associated with the site-specific environmental and social parameters. However, SRK notes that certain environmental studies (such as ARD, hydrogeology, hydrology) which were incomplete/inconclusive at the time of the due diligence study can become important in terms of mine feasibility during the course of the Environmental and Social Impact Assessment ("ESIA") and Feasibility Studies. To fully understand the cost implication of the environmental factors, a comprehensive environmental baseline and impact assessment study need to be completed.

21.2 Environmental Permitting

The main legislative framework based on national laws and regulations and international treaties applicable to the mining projects in Turkey is shown in Table 21.1. The Environment Law and its subsidiary regulations, and the Mining Law comprise the backbone of the legislation on the permitting, construction, operation, closure, and post closure issues in mining activities. Other laws and regulations on particular land use and protection statutes define requirements for land acquisition and permitting, natural resource management, and relevant restrictions for mine related activities. The Mining Law (Law No. 3213) and Amending Law on Mining Law (Law No. 5995) provide industry-specific statutory responsibilities and delineate the relations with other laws and regulations such as the environmental legislative framework. The details on the environmental management methodologies and standards are provided in the subsidiary regulations of Environment Law. The detailed list of the environmental rules and regulations is provided in Table 21.1.

Table 21.1: The Legislative Framework of Environmental Considerations in the Turkish Mining Industry

Law	Regulations
Mining Law (No. 3213)	
Environment Law (No. 2872)	Permitting Regulations Regulations on Waste Management Regulations on Water Resources Regulations on Soil Quality Regulations on Air Quality and Noise Regulations on Land Use and Protection Areas
Laws Concerning Land Use or Protection Status	Forest Law (No. 6831) Pastureland Law (No. 4342) Soil Protection and Land Use Law (No. 5403) Cultural and Natural Assets Protection Law (No. 2863) National Parks Law (No. 2873) Law on Advancement of Olive Cultivation (No. 3573) Inland Hunting Law (No. 4915)
International Agreements and Treaties	Ramsar Convention Bern Convention CITES Wildlife Convention

Table 21.2: Turkish Environmental Legislation Framework

Legislation	Laws and Regulations
Permitting Regulations	Environmental Impact Assessment (“EIA”) Regulation Regulation on Permitting of Mining Activities Regulation on the Permits Required by the Environment Law Regulation on the Establishment and Operation of Workplaces
Regulations on Waste Management	Framework Regulation on the Waste Management Landfill Regulation Solid Waste Control Regulation Hazardous Waste Control Regulation Excavation and Construction Waste Regulation Waste Batteries and Accumulators Regulation Radioactive Waste Regulation Medical Waste Control Regulation Packaging Waste Regulation Waste Oil Control Regulation
Regulations on Water Resources	Aquatic Products Law (No. 1380) Aquatic Products Regulation Water Pollution Control Regulation
Regulation on Soil Quality	Regulation on Soil Pollution Control and Contaminated Lands
Regulations on the Air Quality and Noise	Air Quality Assessment and Control Regulation Industrially Originated Air Pollution Control Regulation Regulation on the Assessment and Control of Noise
Regulations on Land Use	Soil Protection and Land Use Law (No. 5403) Coastline Law (No. 3621) Regulation on the Implementation of the Coastline Law Regulation on the Protection of Wetlands Regulation on the Reclamation of Mined Lands

The Environmental Impact Assessment (“EIA”) Regulation, first issued on 07.02.1993 (final amendment in 19.12.2009), is based on Article 10 of the Turkish Environment Law (Law No: 2872). According to Article 10 of the Law, "All institutions, organizations or companies are responsible for the preparation of an EIA Report or a Project Inception Report (“PIR”) for their projects that are deemed to have significant environmental impacts on the environment. No permits, construction or operation licenses can be granted for any of these projects unless the EIA Positive Certificate or Certificate Relieving from the Obligation of the EIA Study is issued."

The EIA Regulation provides the list of the criteria for the screening of the projects to be classified as having significant effects on the environment. The regulation also describes the scope and legal procedures of the environmental impact assessment study. The general rules on the auditing during pre-operation, operation and, post-operation stages are also provided in the regulation. Annex 1 and Annex 2 of the EIA Regulation set criteria for the screening of the projects. Annex 1 gives the criteria for projects classified as having significant impact on the environment. For the projects in this class, preparation of an EIA report is obligatory. Annex 2 gives criteria for projects that have relatively less significant or local effects on the environment compared to the Annex 1 listed projects. For projects within the scope of Annex 2, a PIR is required to be prepared for more detailed screening and evaluation of the environmental impacts. For mining projects, Annex 1 (Article 28) sets the below thresholds: quarries, surface mining and ore processing facilities, where the surface of the site exceeds 25 ha (total surface area of the excavation and fill), open-cast peat extraction and processing, where the surface of the site exceeds 150 ha (total surface area of the excavation and fill), beneficiation facilities where biological, chemical, electrolytic, or thermal processing are conducted, and installations with the capacity equal to or exceeding 100,000 m^3/year for the processing (crushing, milling, etc.) of Group I and Group II extractive products (materials from borrow pits, minerals and rocks such as dolomite, calcite, marble, granite, etc.) defined by the Mining Law.

Additionally, any change to or extension of projects listed in Annex 1, where such a change or extension in itself meets the thresholds, if any, set out in Annex 1, is also subject to the obligation for preparation of an EIA report. For the project extension or change meeting the Annex 2 thresholds, a Project Inception Report preparation is accepted as sufficient. All other extractive activities (quarries, surface mining, peat extraction, etc.) including underground mining and all other ore processing and beneficiation facilities that do not fit into the above criteria are within the scope of Annex 2 (Article 42) of the regulation.

The EIA regulation allows a maximum of 18 months (including optional one-time 6-month extension) to complete the EIA permitting process. However, this official process does not provide sufficient time to complete the environmental baseline studies, which take additional 12 months to complete a full-seasonal cycle. The official EIA process requires a minimum of one public hearing. In this regard, the minimum Turkish EIA regulation deviates from internationally accepted stakeholder engagement and public consultation and disclosure process. Additional studies would be needed to bring Turkish EIA studies in agreement with international ESIA guidelines/practices (e.g. IFC Environmental and Social Performance Standards).

21.3 Environmental Permitting Status of the Project

The current project due to its size will be subject to Annex 1 of the EIA regulation, indicating that due to potential significant environmental impacts, the project will have to go through a comprehensive EIA study. Mediterranean Resources Ltd. has not yet started EIA permitting activities for the Project.

Mediterranean Resources Ltd. does not currently hold all the surface rights for the Property. Some surface rights are currently held by local private property owners in cases where the land is privately owned and is not forest land. For forest land, Mediterranean will need to obtain the opinion of the General Directorate of Forestry in writing before or over the course of the EIA process.

Similarly, in the case of pasture lands and agricultural lands within the project area, Mediterranean will need to file an application for temporary modification of land use for mining activities before or during the EIA process.

The environmental due diligence study carried out by Golder draws attention to possible implications of the Regulation on the Protection of Wetlands owing to the proximity of the planned Yusufeli Dam. The Regulation on Protection of Wetlands has since been amended (in 2010). The amended articles redefine the concept of "wetland" and allow provisions for permitting of mining activities within buffer zones even if the reservoir would be declared a wetland. Mediterranean will need to liaise with the authorities on this topic at the time of the EIA permitting studies. While the "wetlands" concept no longer provides a legal obstacle to the project, the full implications with respect to land use limitations cannot be fully determined at the time being.

There may exist other uncertainties with regard to the Yusufeli Dam and Hydroelectric Power Plant. The Golder report (2009) states that verbal communications with the State Hydraulic Works (DSİ) indicate that the district of Yusufeli would be resettled in the village of Cevreli, which conflicts with the statement in the resettlement action plan prepared by Encon (2006), whereby the Yusufeli district would be resettled in Yansiticilar, closer to Yusufeli's present location. Moreover, the conflicting information could result from an ongoing review of alternatives to the dam project. Hence, the current known dam project configuration might possibly be subject to change. Mediterranean will need to liaise with authorities for updates on the status and design of the dam project as well as any planned purposes other than the cited power production (such as drinking water supply, which could have implications on permitting and siting of processing facilities with regard to proximity to drinking water resources).

21.4 Environmental Costs

21.4.1 Permitting Costs

The main environmental permitting costs during the project development stage will be those relevant to the Environmental and Social Impact Assessment ('ESIA") studies. Estimated environmental costs for the project are given below:

ESIA: A new ESIA process would involve public consultation, official review meetings with the government, preparation of an EIA report outlining the nature of the project and associated impacts. The order-of-magnitude cost for an EIA study for the site would be US$ 400,000 including the costs.

Waste Geochemistry Assessment: Due to changes in the waste rock composition and dump design, additional geochemical tests and predictive modeling would need to be conducted. While it is difficult to predict the exact scope of the geochemical testing at this stage, an order-of-magnitude combined cost of US$350,000 for the geochemical tests and predictive modeling can be quoted (of which US$ 100,000 is assumed to constitute the testing costs).

Hydrogeological/Hydrological Assessment: The hydrogeological/hydrological assessment for the ESIA as well as mine Feasibility studies will involve establishment of groundwater wells, pump testing etc. The technical studies involving environmental hydrogeology, mine dewatering, and surface diversion hydrology studies would cost about US$ 350,000 excluding the drilling costs.

At the moment it is not possible to estimate the drilling costs. However, for the purposes of this estimate a typical cost of US$ 150,000 is assumed.

21.4.2 Reclamation and Closure

Reclamation/closure costs estimated at $20 M were based on experience from analogous projects, assuming water treatment not to be required at closure.

The Turkish Regulation on Reclamation of Mined Land governs the requirement for reclamation. The newly amended Mining Law (June 24, 2010) has introduced mine closure bond concept. At present, the implementation of this law is still in development.

22 Capital and Operating Costs

22.1 Operating Costs

Mining Cost Estimate

The open pit mining activities for the Taç and Çorak deposits were assumed to be primarily undertaken by a mining contractor as the basis for this preliminary economic assessment. The cost estimate was built from a quote from a mining contractor in Turkey, along with first principles, input from Mediterranean, as well as SRK experience of similar sized open pit operations. Equipment efficiency was estimated based on site conditions (e.g. estimated haul routes for each phase).

Local labour rates (for operating, maintenance, and supervision/technical personnel) and estimates on diesel fuel pricing were taken into consideration for the mining cost estimate.

Open pit mining costs for this preliminary assessment were estimated to be $1.95/t material mined or $14.11/t processed, for open pit and dump operations, road maintenance, mine supervision and technical services.

Processing Cost Estimate

Operating costs for the processing plant are summarized in Table 22.1 for Çorak. Labour and supervision costs were built up from detailed manning charts and local wage rate information. Power costs were built up from estimates of installed power and a cost of US$0.15/kWh. Consumables costs were based on estimated reagent cost and usage, wear items, and maintenance supplies. The processing costs include concentrate transportation to the port. No operating cost contingency was included.

Table 22.1: Summary of Operating Costs for the Mill Circuit for Çorak

Operating Area	M$/year	$/t[1]
Labour	8.1	4.02
Power	7.3	3.65
Maintenance Materials	1.1	0.57
Reagents and Consumables	17.6	8.77
Miscellaneous	1.7	0.87
Total Operating Costs	**35.8**	**17.88**

Note 1. Based on 2 Mt/year throughput

The processing cost estimate for Taç is $18.80/t or $37.7M/per annum based on a 2.0 Mtpa throughput rate.

The mill tailings will be hauled and stacked onto the Dry-stack Tailings Management Facility located near the mill facilities at Çorak. The additional cost of filtering and hauling the tailings has estimated at $3.80/t milled.

General and Administration Cost Estimate

G&A costs were estimated to be $3.7M/yr or an average of $1.88/t of mill feed material.

Off-site Costs

The following off-site costs and smelter terms were estimated and used in the economic analysis.

- Copper concentrate treatment charge: $65.00/dmt
- Copper refining charge: $ 0.065/ payable lb
- Gold refining charge: $ 5.00/ payable oz
- Zinc concentrate treatment charge: $190/dmt
- Lead concentrate treatment charge: $180/dmt
- Concentrate transport cost: $58.00/wmt
- Copper payable in Cu concentrate: 95% with no deductions
- Gold payable in Cu concentrate: 95% with 1 g/t Au deduction
- Zinc payable in Zn concentrate: 92% with no deductions
- Lead payable in Pb concentrate: 95% with no deductions
- Royalty: 2.0% of net smelter return

22.2 Capital Costs

Summary

Capital costs for the project were developed from a mix of first principles, reference projects, and experience. The annual capital costs by major category are shown in Table 22.2. No open pit mining fleet capital costs are included since contract mining is assumed and the contractor will be responsible for supplying an adequate mining fleet. Power for the project has also been assumed to be undertaken by a contractor.

Table 22.2: Capital Cost Estimate Summary

Category	Unit	Total	Year					
			-2	-1	1	2	3	4 to 8
Mine (assumes contract mining)	M$	2	2					
Mill and Infrastructure	M$	56	40	16				
Construction Indirect	M$	21.2	15	6.2				
Dry-stackTailings Facility	M$	31.5		15.8	4.7	4.7	3.2	3.2
Owners Costs	M$	4.7	2.9	1.9				
Closure	M$	20						20
General sustaining capital	M$	9			1.1	1.1	1.1	5.6
Contingency (25%)	M$	36.1	15	10	1.5	1.5	1.1	7.2
Working Capital	M$	-			3.6			-3.6
Total Capital Cost	**M$**	**180.5**	**74.8**	**49.8**	**10.9**	**7.3**	**5.3**	**32.3**

Mine Equipment

Open pit mine capital costs were estimated to be $2.0M and include only shell development costs (i.e. pumps and pipeline for dewatering). No capital costs for the open pit mine equipment have been included in the estimate and were assumed to be the responsibility of the mining contractor.

Infrastructure and Power

Infrastructure to provide access to the site (road improvements) and on-site infrastructure were developed from a combination of factored costs and budgetary quotes. Power costs have been assumed to be supplied by a contractor. The infrastructure cost estimates are shown in Table 22.3.

Table 22.3: Infrastructure Capital Estimate

Item	Cost Estimate (M$)
Site preparation	1.3
Access Roads (upgrading)	2.2
Buildings and Assay Lab	3.3
Sewage and Waste Water	0.2
Fuel storage, water supply, communication	0.9
Mobile Equipment	2.7
Power Supply and Distribution (contracted)	1.1
Total Infrastructure and Power Costs	**11.7**

Flotation Process Plant

The mill feed material at the Taç deposit requires crushing, grinding and flotation to produce a copper concentrate for sale to a toll smelter. The Çorak mill feed material will produce both a zinc and a lead concentrate for sale.

The initial capital cost for the process plant is summarized in Table 22.4. These costs are drawn from a variety of sources including vendor budgetary quotations, equipment cost data bases and bench marking against similar projects. The summary tables exclude engineering, procurement and construction management fees, owner’s costs and working capital.

Table 22.4: Flotation Capital Cost Estimate

Area	Cost Estimate (M$)
General Plant earthworks, steel, building, electrical, etc.	23.5
Primary Crushing	1.0
Primary Grinding	9.2
Flotation	5.5
Tailings Thickening and Disposal	4.0
Reagents	0.4
Services	0.5
Construction indirects, support, and camp	5.0
Commissioning	0.6
Vendor Representatives	0.4
Freight	1.0
First Fills and Spares	2.9
Total	54.0

Tailings Management Facility

The TMF cost estimate has been produced based on the following key assumptions:

- Unit rates have been calculated using first principles assuming local rates for an independent contractor to complete the work (inclusive of fuel, profit, maintenance and insurance)
- The capital costs exclude the operational cost which is estimated at $3.80/tonne to be added to operating cost
- The containment dike is assumed to be constructed from local borrow materials located within 5 km from the site
- The entire TMF is designed to be lined using a bituminous liner

The TMF costs are shown in Table 22.5.

Table 22.5: Dry-stack TMF Capital Estimate

Area	Cost Estimate (M$)
Earthworks – construct berm, clear/grub	17.5
Liner deployment - installation	0.4
Bituminous Liner	7.2
Indirect costs	6.3
Total	**31.5**

Reclamation

Reclamation/closure costs were estimated at $20 M based on other similar projects. Water treatment was assumed not to be required at closure. This has not been confirmed with testing.

Owner's Costs

Owner's costs prior to the production decision on the project have been excluded. These costs would normally include preliminary and final feasibility studies (including the related field work), definition diamond drilling, environment and social impact assessments, permit applications, corporate office expenses, camp expenses, insurance, property taxes, etc. Owner's costs, once a project go/no go decision is made, were assigned an allowance of 5% ($4.7 M) of the capital costs of infrastructure, process plant, and tailings management facility.

EPCM and Contingency

Engineering, procurement and construction management costs were estimated at approximately 20% of capital costs for infrastructure and process plant. The total EPCM cost was estimated to be $11.2 M.

A 25% contingency allowance was applied to all capital costs. A total contingency estimate of $36.1 M was used in the capital cost.

Working Capital

A working capital allowance equivalent to 25% of the operating costs in the first year of production ($3.6M) was used in Year 1. The working capital was recouped during the last production year.

23 Economic Analysis

The economic analysis described in this report provides only a preliminary overview of the project economics based on broad, factored assumptions. The mineral resources used in the LOM plan and economic analysis include no measured resources, 13.7 Mt (95%) of indicated resources and 0.7 Mt (5%) of inferred resources.

Inferred mineral resources are considered too speculative geologically to have the economic considerations applied to them to be categorized as mineral reserves, and there is no certainty that the inferred resources will be upgraded to a higher resource category. Based on this, there is no certainty that the results of this preliminary economic assessment will be realized.

23.1.1 Assumptions

Simplified pre-tax engineering economic analyses were compiled for four cases using varying metal prices. For each case the mill feed tonnes were held constant and the metal prices were varied only in the economic model. The base case (Case A) metal prices used for Whittle optimization and mine planning were $2.75/lb Cu, $1,000/oz Au, $16.00/oz Ag, $0.90/lb Zn and $0.85/lb Pb. The metal prices used in the economic model for the four cases are shown in Table 23.1.

Table 23.1: Metal Prices by Case

Case	Copper ($/lb)	Gold ($/oz)	Silver ($/oz)	Zinc ($/lb)	Lead ($/lb)
Case A (Base Case used for mine design)	2.75	1,000	16.00	0.90	0.85
Case B (3-year average)	3.06	1,094	19.00	0.86	0.89
Case C (2-year average)	3.41	1,207	21.96	0.97	1.00
Case D (1-year average)	3.84	1,346	27.36	1.00	1.06

Common assumptions to all cases included:

- 5% discount rate (“DR”) for net present value (“NPV”) calculation;
- 100% equity financing (no financing costs) as per guidance by Mediterranean;
- Exclusion of all duties and taxes;
- 2.0% royalty on net smelter return;

The results of the economic analysis indicate that the project is economic for the assumptions made as shown in Table 23.2.

23.1.2 Results

Table 23.2 summarizes the key economic results for each case.

Table 23.2: LOM Key Economic Results

Parameter	Unit	Results
Case A		
EBITDA $NPV_{0\%}$	M$	87
EBITDA $NPV_{5\%}$	M$	51
EBITDA IRR	%	16
EBITDA payback period	Production years	3.0
Case B		
EBITDA $NPV_{0\%}$	M$	157
EBITDA $NPV_{5\%}$	M$	105
EBITDA IRR	%	25
EBITDA payback period	Production years	2.5
Case C		
EBITDA $NPV_{0\%}$	M$	256
EBITDA $NPV_{5\%}$	M$	184
EBITDA IRR	%	37
EBITDA payback period	Production years	1.0
Case D		
EBITDA $NPV_{0\%}$	M$	366
EBITDA $NPV_{5\%}$	M$	270
EBITDA IRR	%	48
EBITDA payback period	Production years	0.5

The base Case A economic model is shown in Table 23.3.

For all cases, gold contributes approximately 82% to the project revenue. Copper, silver, zinc and lead contribute less than 18% of total revenue.

Table 23.3: Base Case Economic Model

		UNIT	TOTAL	-2	-1	1	2	3	4	5	6	7	8
MATERIAL SCHEDULE													
Mining & Milling	Tac Ore	Mt	9.6		-	-	-	1.5	2.01	2.01	2.01	2.11	-
	Tac Waste	Mt	72.7		-	-	-	15.5	16	16	15.8	9.4	-
	Tac S.R.	W:O	7.6					10.3	8	8	7.9	4.5	
	Çorak Ore	Mt	4.8		0.4	2	2	0.4					
	Çorak Waste	Mt	17.3		2.2	6.9	8.2	0.1					
	Çorak S.R.	W:O	3.6		6.2	3.4	4.1	0.2					
	Total Ore	Mt	14.4		0.4	2	2	1.9	2	2	2	2.1	-
	Total Waste	Mt	90		2.2	6.9	8.2	15.6	16	16	15.8	9.4	-
	Total Material	Mt	104.4		2.5	8.9	10.2	17.5	18	18	17.8	11.5	-
	Total S.R.	W:O	6.2		6.2	3.4	4.1	8	8	8	7.9	4.5	
Tac Head Grade	Cu	% Cu	0.15		-	-	-	0.16	0.14	0.15	0.19	0.13	-
	Au	g/t Au	2.03		-	-	-	1.61	2.52	1.97	1.77	2.15	-
Çorak Head Grade	Au	g/t Au	1.79		2.12	2.18	1.34	1.83	-	-	-	-	-
	Ag	g/t Ag	2.32		2.56	2.84	1.94	1.44	-	-	-	-	-
	Zn	% Zn	0.98		0.92	1.1	0.93	0.7	-	-	-	-	-
	Pb	% Pb	0.38		0.43	0.44	0.35	0.21	-	-	-	-	-
	Combined Copper equivalent head grade	%Cu	1.64		1.58	1.68	1.14	1.35	1.47	1.19	1.13	1.27	-
	Combined Gold equivalent head grade	g/t Au	3.1		2.98	3.16	2.14	2.55	2.78	2.25	2.13	2.39	-
NET SMELTER RETURN													
Metal Prices	Cu	$/lb		2.75	2.75	2.75	2.75	2.75	2.75	2.75	2.75	2.75	2.75
	Au	$/oz		1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
	Ag	$/oz		16	16	16	16	16	16	16	16	16	16
	Zn	$/lb		0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
	Pb	$/lb		0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Tac Recoveries	Cu recovery	%		93	93	93	93	93	93	93	93	93	93
	Au recovery	%		80	80	80	80	80	80	80	80	80	80
	Cu in Cu conc.	Mlb	30.4	-	-	-	-	5.1	5.8	6	7.9	5.7	-
		t	13,784	-	-	-	-	2,297	2,627	2,726	3,566	2,568	-
	Au in Cu conc.	oz	501,734	-	-	-	-	62,221	129,787	101,819	91,619	116,288	-
	Cu conc grade	%Cu		20	20	20	20	20	20	20	20	20	20
		g/t Au		-	-	-	-	168	307	232	160	282	-
	Cu Conc Tonnes	dmt	68,922	-	-	-	-	11,486	13,133	13,630	17,831	12,841	-
		w mt	75,814	-	-	-	-	12,634	14,447	14,994	19,614	14,125	-
	Payable Cu	Mlb	28.9	-	-	-	-	4.8	5.5	5.7	7.5	5.4	-
	Payable Au	oz	476,647	-	-	-	-	59,110	123,298	96,728	87,038	110,473	-
Tac Offsite Costs	Cu conc (TC/RC/Trans)	M$	10.8	-	-	-	-	1.8	2	2.1	2.8	2	-
	Au costs (RC)	M$	2.4	-	-	-	-	0.3	0.6	0.5	0.4	0.6	-
	Total Offsite Costs	M$	13.1	-	-	-	-	2.1	2.7	2.6	3.2	2.6	-
Tac Cu Conc NSR	Cu NSR	M$	68.6	-	-	-	-	11.4	13.1	13.6	17.8	12.8	-
	Au NSR	M$	474.3	-	-	-	-	58.8	122.7	96.2	86.6	109.9	-
	Total Cu Conc NSR	M$	542.9	-	-	-	-	70.3	135.8	109.8	104.4	122.7	-
Çorak Recoveries	Au recovery	%		80	80	80	80	80	80	80	80	80	80
	Ag recovery	%		73	73	73	73	73	73	73	73	73	73
	Zn recovery	%		93	93	93	93	93	93	93	93	93	93
	Pb recovery	%		86	86	86	86	86	86	86	86	86	86
Zn Concentrate	Zn in Zn conc.	Mlb	96	-	6.5	45.1	38	6.4	-	-	-	-	-
		t	43,563	-	2,965	20,450	17,237	2,911	-	-	-	-	-
	Au in Zn conc.	oz	221,690	-	19,115	112,477	69,055	21,042	-	-	-	-	-
	Ag in Zn conc.	oz	261,549	-	21,001	134,017	91,453	15,079	-	-	-	-	-
	Zn in Zn conc grade	%Zn	50	50	50	50	50	50	50	50	50	50	50
	Au in Zn conc grade	g/t Au	79	-	100	86	62	112	-	-	-	-	-
	Ag in Zn conc grade	g/t Au	93	-	110	102	83	81	-	-	-	-	-
	Zn Conc Tonnes	dmt	87,126	-	5,930	40,900	34,475	5,821	-	-	-	-	-
		w mt	95,838	-	6,523	44,990	37,922	6,403	-	-	-	-	-
	Payable Zn	Mlb	88.4	-	6	41.5	35	5.9	-	-	-	-	-
	Payable Au	oz	203,566	-	17,600	103,381	63,190	19,395	-	-	-	-	-
	Payable Ag	oz	115,402	-	10,894	64,848	34,226	5,434	-	-	-	-	-
	Cu conc (TC/RC/Trans)	M$	22.1	-	1.5	10.4	8.7	1.5	-	-	-	-	-
	Total Offsite Costs	M$	22.1	-	1.5	10.4	8.7	1.5	-	-	-	-	-
	Zn NSR	M$	57.4	-	3.9	26.9	22.7	3.8	-	-	-	-	-
	Au NSR	M$	203.6	-	17.6	103.4	63.2	19.4	-	-	-	-	-
	Ag NSR	M$	1.8	-	0.2	1	0.5	0.1	-	-	-	-	-
	Total Zn Conc NSR	M$	262.8	-	21.7	131.4	86.5	23.3	-	-	-	-	-
Pb Concentrate	Pb in Pb conc.	Mlb	34.6	-	2.9	16.8	13.3	1.8	-	-	-	-	-
		t	15,708	-	1,293	7,607	6,012	797	-	-	-	-	-
	Pb conc grade	%Zn		70	70	70	70	70	70	70	70	70	70
	Pb Conc Tonnes	dmt	22,440	-	1,847	10,867	8,589	1,138	-	-	-	-	-
		w mt	24,684	-	2,031	11,953	9,447	1,252	-	-	-	-	-
	Payable Pb	Mlb	32.9	-	2.7	15.9	12.6	1.7	-	-	-	-	-
	Pb conc (TC/RC/Trans)	M$	5.5	-	0.5	2.6	2.1	0.3	-	-	-	-	-
	Pb concentrate NSR	M$	22.5	-	1.9	10.9	8.6	1.1	-	-	-	-	-
Unit NSR	Tac Unit NSR value	$/t ore	56.4	-	-	-	-	46.87	67.68	54.71	51.99	58.26	-
	Çorak Unit NSR value	$/t ore	59.3	-	67.24	70.86	47.35	54.79	-	-	-	-	-
Payable Metal	Cu	Mlb	29	-	-	-	-	4.8	5.5	5.7	7.5	5.4	-
	Au	oz	680,213	-	17,600	103,381	63,190	78,505	123,298	96,728	87,038	110,473	-
	Ag	pz	115,402	-	10,893.81	64,848.12	34,226	5,434	-	-	-	-	-
	Zn	Mlb	88	-	6.01	41.48	35	5.9	-	-	-	-	-
	Pb	Mlb	33	-	2.71	15.93	12.6	1.7	-	-	-	-	-
NSR Value by Metal	Cu	M$	69	-	-	-	-	11	13	14	18	13	-
	Au	M$	678	-	18	103	63	78	123	96	87	110	-
	Ag	M$	2	-	0	1	1	0	-	-	-	-	-
	Zn	M$	57	-	4	27	23	4	-	-	-	-	-
	Pb	M$	22	-	2	11	9	1	-	-	-	-	-
Total NSR	Tac Total NSR value	M$	543	-	-	-	-	70	136	110	104	123	-
	Çorak Total NSR value	M$	285	-	24	142	95	24	-	-	-	-	-
	Total NSR - all concentrates	M$	828	-	23.5	142.3	95.1	94.7	135.8	109.8	104.4	122.7	-
Royalty	Royalty	M$	16.6	0	0.5	2.8	1.9	1.9	2.7	2.2	2.1	2.5	0
Total NSR after Royalty	Total NSR after Royalty	M$	812	0	23.1	139.4	93.2	92.8	133	107.6	102.3	120.3	0
OPERATING COST													
Unit OPEX/t milled	Unit mining cost	$/t mined	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95
	Unit mining cost	$/t milled	14.11	0	13.98	8.66	9.87	17.55	17.5	17.49	17.33	10.66	0
	Tac Unit processing cost	$/t milled	17.88	17.88	17.88	17.88	17.88	17.88	17.88	17.88	17.88	17.88	17.88
	Çorak Unit processing cost	$/t milled	17.88	17.88	17.88	17.88	17.88	17.88	17.88	17.88	17.88	17.88	17.88
	Unit Tailings Cost	$/t milled	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8
	Unit G&A cost	$/t milled	1.88		2.67	1.86	1.86	1.92	1.87	1.86	1.86	1.78	
	Unit OPEX	**$/t milled**	**37.67**	**-**	**38.33**	**32.21**	**33.41**	**41.16**	**41.04**	**41.03**	**40.87**	**34.12**	**-**
Total OPEX	Mining cost	M$	204	-	4.9	17.4	19.8	34.1	35.1	35.1	34.8	22.5	-
	Tac Processing cost	M$	172	-	-	-	-	26.8	35.9	35.9	35.9	37.7	-
1	Çorak Processing cost	M$	86	-	6.3	35.9	35.9	8	-	-	-	-	-
	Tailings cost	M$	55	-	1.3	7.6	7.6	7.4	7.6	7.6	7.6	8	-
	G&A	M$	27	-	0.9	3.7	3.7	3.7	3.7	3.7	3.7	3.7	
	Total OPEX	**M$**	**544**	**-**	**13**	**65**	**67**	**80**	**82**	**82**	**82**	**72**	**-**
Unit OPEX/oz Au	**Unit OPEX**	**$/oz Au**	**799**	**-**	**762**	**625**	**1,061**	**1,020**	**668**	**851**	**943**	**650**	**-**
	By-product credits	**$/oz Au**	**221**	**-**	**337**	**376**	**504**	**210**	**106**	**140**	**204**	**116**	**-**
	Unit OPEX (net by-product credits)	**$/oz Au**	**578**	**-**	**425**	**249**	**557**	**810**	**562**	**711**	**739**	**535**	**-**
NET OPERATING INCOME													
	NET OPERATING INCOME	**M$**	**268**	**-**	**9.6**	**74.8**	**26.1**	**12.8**	**50.7**	**25.3**	**20.2**	**48.4**	**-**
CAPITAL COST													
	Mine (assumes contract mining)	M$	2	2									
	Mill & Infrastructure	M$	56	40	16								
	Construction Indirects	M$	21.2	15	6.2								
	Dry-Stack Tailings Management Facility	M$	31.5		15.8	4.7	4.7	3.2	3.2				
5%	Owners costs	M$	4.7	2.9	1.9								
	Closure	M$	20										20
2%	General sustaining capital	M$	9			1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
25%	Contingency	M$	36.1	15	10	1.5	1.5	1.1	1.1	0.3	0.3	0.3	5.3
Sensitivity factor:	Working capital	M$	-			3.4							-3.4
1	**TOTAL CAPITAL COST**	**M$**	**180.5**	**75**	**50**	**11**	**7**	**5**	**5**	**1**	**1**	**1**	**23**
Earnings Before Interest, Taxation, Depreciation and Amortization (EBIT													
Pre-tax	Undiscounted Annual EBITDA	M$	87	-75	-40	64	19	7	45	24	19	47	-23
5%	Discounted EBITDA	M$	51	-75	-38	58	16	6	36	18	13	32	-15
	Undiscounted Cumulative EBITDA	M$		-75	-115	-51	-32	-25	21	45	63	110	87
	Discounted Cum. EBITDA	M$		-75	-113	-55	-39	-33	3	21	34	66	51

23.1.3 Sensitivity Analysis

Sensitivity analyses were conducted for each case by individually increasing and decreasing the capital cost, operating cost, metal price and grade by 20% to show the sensitivity of the pre-tax net present value using a 5% discount rate (“PT-NPV$_{5\%}$”).

The results of the sensitivity analyses show that the project is most sensitive to metal price and mill feed grade. For base Case A, a 20% increase in metal price (or mill feed grade) leads to a $136M (370%) increase in PT-NPV$_{5\%}$ from $51M to $187M. The converse occurs if the metal price or mill feed grade drops by 20% which makes the project uneconomic with a PT- NPV$_{5\%}$ of -$84M.

Operating costs are the next most sensitive parameter. In the base case, a 20% increase in operating costs results in a negative PT-NPV$_{5\%}$ of -$35M.

For capital costs, a 20% increase results in a PT-NPV$_{5\%}$ reduction of $33M from $51M to $18M.

A summary of the sensitivity analyses for each case is shown in Table 23.4. Figure 23.1 shows a graphical representation of the sensitivity results for Case A.

Table 23.4: Sensitivity Analysis Results

Case	Variable	EBITDA NPV$_{5\%}$ (M$)		
		-20% Variance	0% Variance	20% Variance
Case A (Base Case)	Capital Cost	84	51	18
	Operating Cost	137	51	-35
	Metal Price or Grade	-84	51	187
Case B	Capital Cost	138	105	72
	Operating Cost	191	105	19
	Metal Price or Grade	-41	105	252
Case C	Capital Cost	217	184	151
	Operating Cost	270	184	98
	Metal Price or Grade	22	184	346
Case D	Capital Cost	303	270	237
	Operating Cost	356	270	185
	Metal Price or Grade	91	270	450

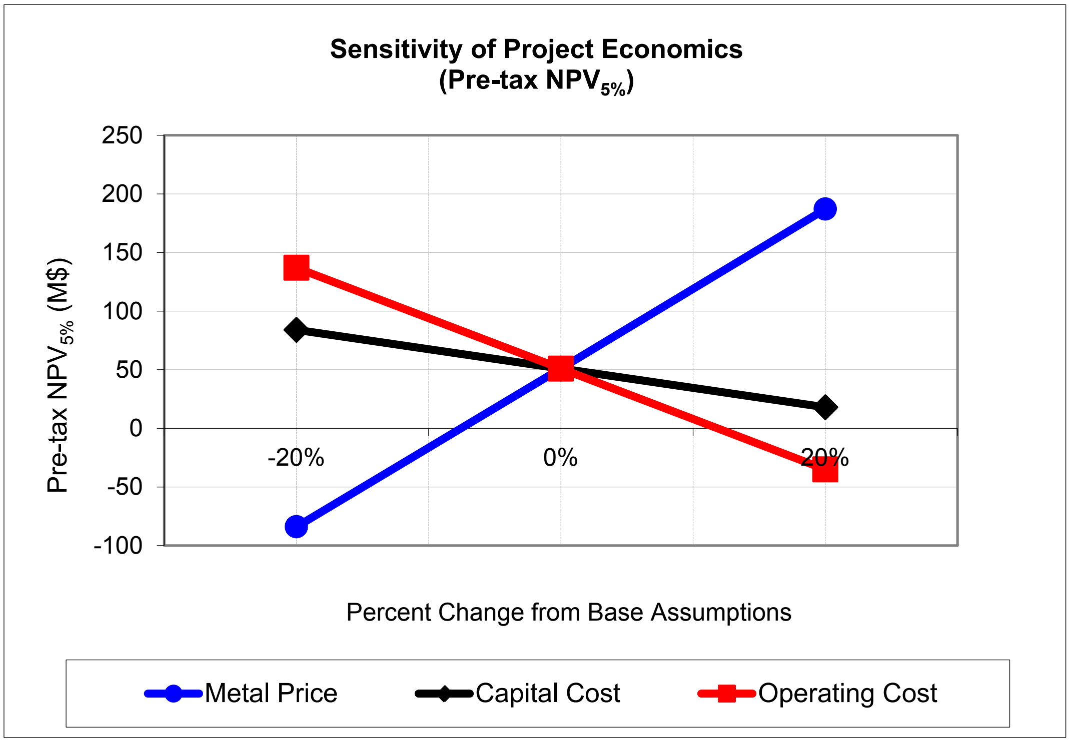


Figure 23.1: Case A Sensitivity Analysis Results

23.2 Payback Period

Payback period for the base case (Case A) using an undiscounted cashflow is approximately three years after commissioning. The payback estimates do not include capital expenditures prior to commencement of construction.

23.3 Mine Life

The life of mine is seven production years based on a flotation circuit capacity of 2.0 Mt/y (5,500 t/d). Two years of pre-production construction including infrastructure, mill facilities and open pit pre-stripping was assumed.

24 Adjacent Properties

There are no adjacent properties that are considered material to the Yusufeli Property.

25 Other Relevant Data and Information

25.1 Geotechnical Evaluation

During the site visit, SRK undertook a review of representative drill core from both the Taç (three holes) and Çorak (five holes) Deposits. During the core review, general geological aspects such as lithology, alteration and fault structures were considered. At the same time, the following rock mass characteristics where reviewed: intact rock strength, rock quality designation and an estimate of rock mass ratings ("RMRs") were undertaken. The findings of this review were then used as a calibration for interpreting the other holes in the drillhole database.

Taç Deposit

SRK had previously undertaken a structural geology review (2008) as part of the exploration program and generated a general deposit section as indicated in Figure 25.1. At Taç, the hangingwall consists of conglomerates, breccias and sandstones, containing occasional shaley horizons.

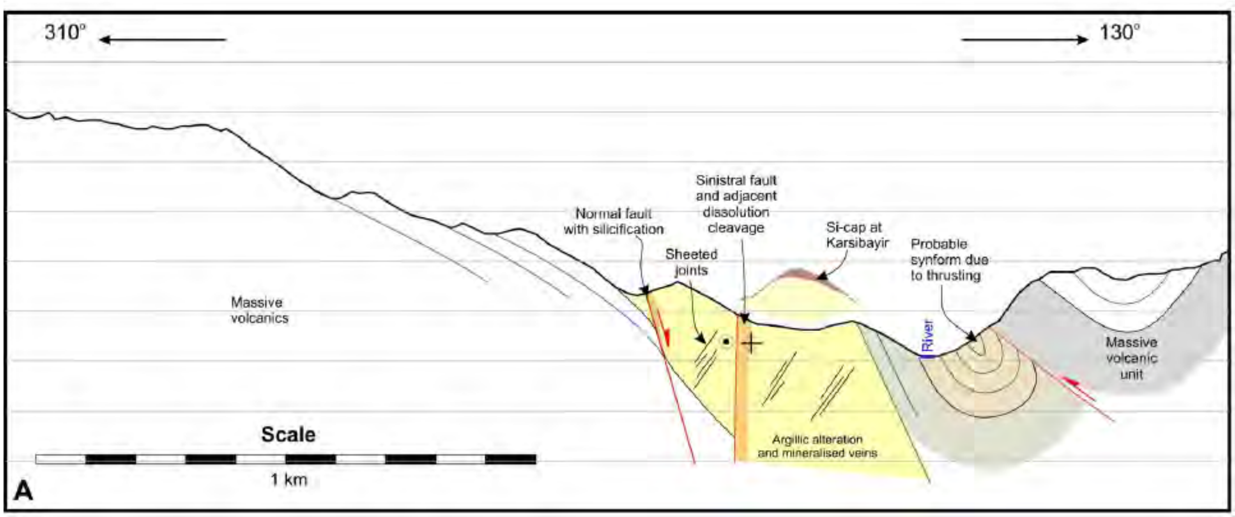


Figure 25.1: Schematic cross-section of the Taç Deposit area (Bonson, 2008)

The Taç deposit lies just north of the main structural axis and within a relatively complex area where bedding changes in dip from approximately 70°SE in the southeast of the deposit (i.e. the hangingwall), to approximately 30°SE, in the footwall of the deposit. Understanding the structure of the interior of the deposit is not simple due to the limited good exposures and the pervasive nature of the alteration. The massive altered rocks which host the main mineralization are extensively fractured by a steep system of sheeted joints, dipping approximately 50°-60° NNW. The joints are broadly parallel to the trend of mineralized veins in the Taç prospect (Bonson, 2008).

Critical elements that would impact a slope design in this deposit are the fault structures and the alteration impact on the rock mass. This rock mass variability resulting from this alteration was evaluated using the available drillhole RQD (Figure 25.2) and calibrated against the on-site review logging. Representative rock mass parameters were then determined for the various design sectors in the pit.

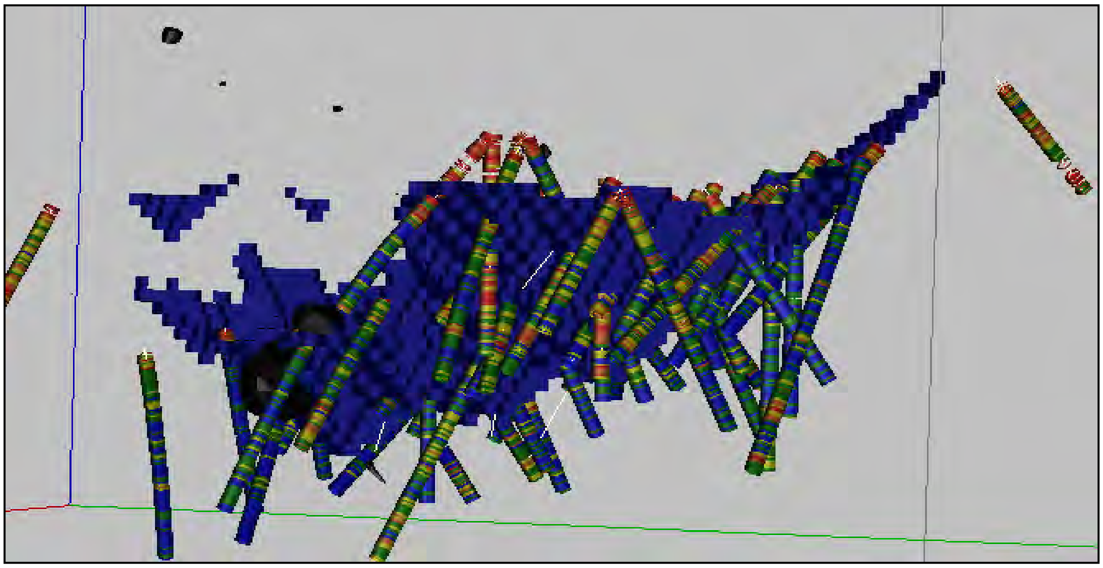


Figure 25.2: South East view of the Proposed Taç Pit Shell with the Drillholes showing the RQD. The Orange, Red and Yellow Zones are an Indication of Weaker Ground Conditions

Çorak

Argillic alteration at Çorak has a predominantly stratiform and stratabound geometry, replacing moderate to steeply dipping layers of andesite composition pyroclastic rocks. The geological hangingwall to the alteration and mineralization at Çorak consists of bedded volcanogenic sediments (tuffaceous silts and sands) locally containing a moderate schistose foliation, interpreted to indicate shear along this contact zone .The preferential alteration of the massive pyroclastic dominated succession volcanics is suggested to be due to higher porosity and permeability of these units, owing to their coarse grain size. It is also possible that some of the finer grained sediments form an impermeable cap to the top of the pyroclastics (Bonson, 2008).

The critical elements that impact the slope design at Çorak is the variable nature of the rock mass as this is punctuated by alteration zones. This variability is reflected in the drill core RQD values as can be seen in Figure 25.3. Another critical factor that will impact the slope design and more specifically the southern slopes of the proposed excavation is that it is in close proximity to the river. Connectivity between the open pit excavation and the river will need to be further evaluated in subsequent geotechnical evaluations.

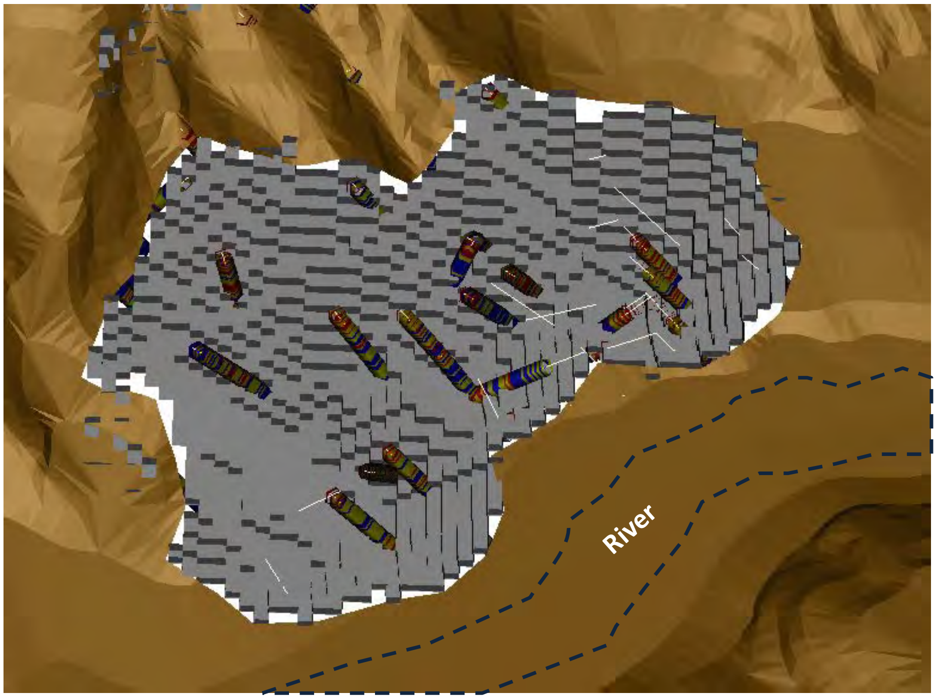


Figure 25.3: Plan view of the Çorak Pit Shell with the Drillholes reflecting RQD Values. The Orange, Red and Yellow Zones are an Indication of Weaker Ground Conditions. Note the Proximity of the Proposed Shell to the River

Slope Angle Recommendations

The slope angles to be used for the pit optimization where largely determined from the empirical design chart of Haines and Terbrugge (1990) which relates the slope angle to the projected slope height and determined RMR (Figure 25.4). Based on the rock mass review and the initially proposed pit shells, the Taç and Çorak deposits were divided into slope design sectors and the optimization slope angles were determined. The recommended angles and plan view depictions of the slope design sectors are given in Figures 25.5 and 25.6. All overburden areas would need to be optimized at 30°.

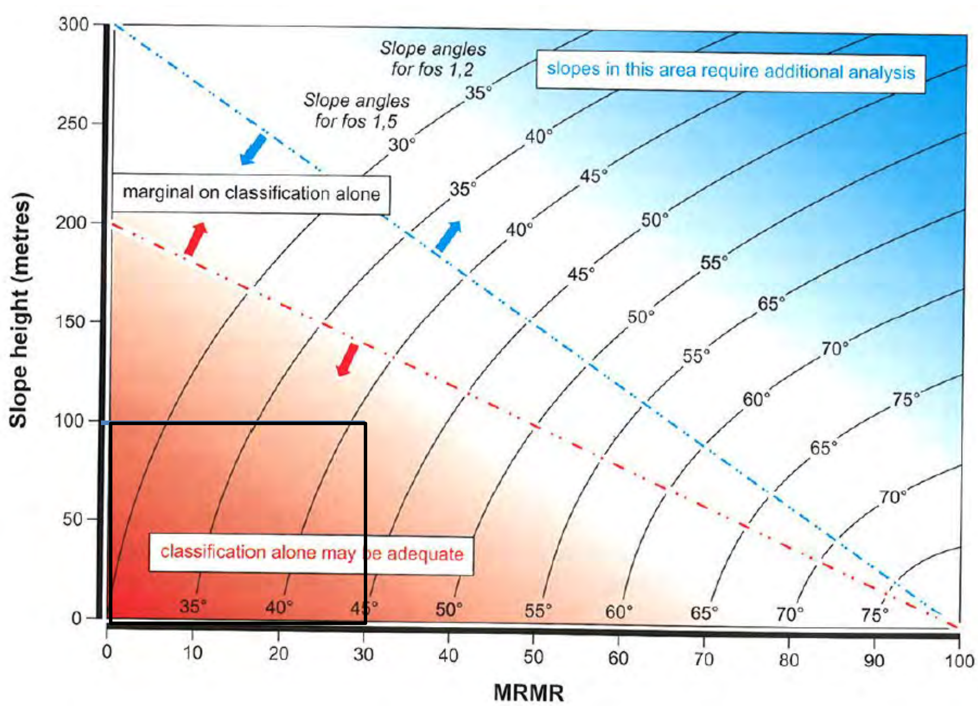


Figure 25.4: Empirical Slope Angle Determination Design Chart Based on the Predicted Slope Height and Mining Rock Mass Rating. Çorak North Slope Angle Determination is given as an Example

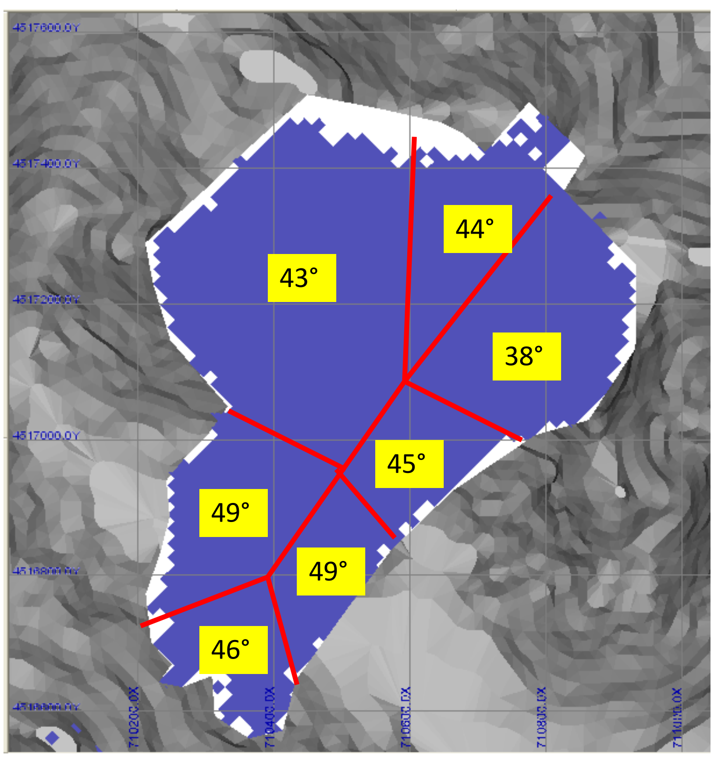


Figure 25.5: Recommended Optimization Angle per Rock Slope Design Sector for the Taç Deposit

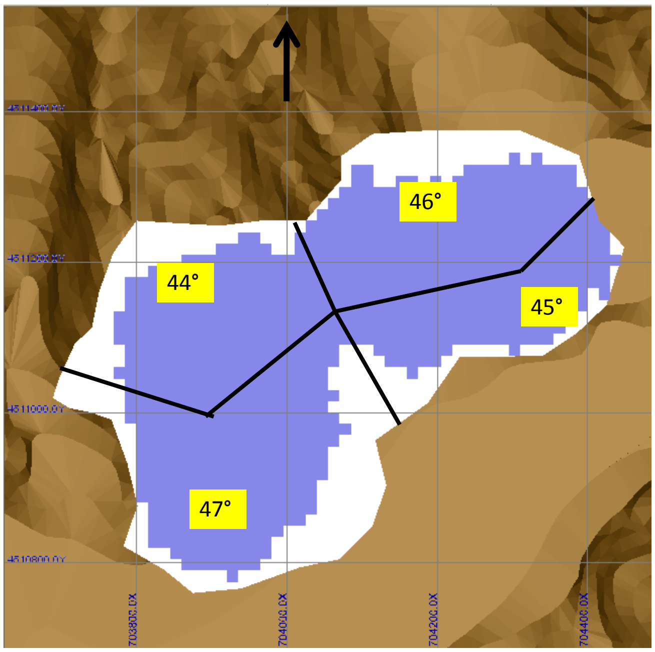


Figure 25.6: Recommended Design Angle per Rock Slope Design Sector for the Çorak Deposit

For the pre-feasibility slope evaluation, it will be essential that an additional investigation/evaluation is undertaken to develop reliable 3D structural (orientated major and minor structures), lithological and alteration models. The alteration model would need separate models of alteration type and intensity so the impact of these on rock mass strength can be further evaluated.

25.2 Yusufeli Dam

The Turkish Government plans to build the Yusufeli Dam and Hydro Electric Power Plant ("HEPP") on the Çoruh River downstream of the Çorak and Taç deposits. This facility is included in the Development Plan of the Çoruh River Basin to regulate the Çoruh River flow for energy production. The mining and viability of the Taç pit could be at risk depending on the timing of the dam construction. The high-water level of the proposed dam is above the low point of the Taç pit crest. If the Yusufeli Dam is constructed after the Taç pit is mined out, the pit would become flooded at closure. If the Yusufeli Dam is constructed before the Taç pit is mined then the deposit would have to be abandoned, the pit made considerably smaller or a water exclusion dam would have to be built around the pit. Due to the nature of the soils in the valley dissecting the pit, it is unknown if a water exclusion dam would be an economical solution.

The construction of the Yusufeli Dam is projected to require the displacement of the people of the town of Yusufeli (population +6,000).

It is projected that dam construction will take six years plus another two years to fill the dam to its design level of 713 masl.

The final dam elevation requires the construction of a new road between the Taç and Çorak properties so mill feed material can be transported from the Taç pit to the mill near Çorak and for the movement of waste rock from the Taç pit to the waste site.

Mediterranean reports that the Turkish General Directorate of State Hydraulic Works ("DSI"), under the aegis of the Ministry of Environment and Forestry, has classified the Yusufeli Dam for hydropower production and sediment retention and not as a water pond or dam for drinking water or utilization water purposes. This means the use of "restriction zones" is avoided and, consequently, Mediterranean's mining operations may not be effected by this event other than the consideration that access roads located alongside the river, depending on the timing of an open pit mine development at Taç, a retaining wall may have to be built to protect the Taç mining operation. These issues must be addressed at the next level of study as more information is received from the government.

Mediterranean holds operating licenses and operating permits for both Taç and Çorak which were issued after the master plan for the power project was finalized in 1982. These licenses and permits are normally issued after the EIA permit has been obtained.

26 Interpretation and Conclusions

Industry standard mining, process design, construction methods and economic evaluation practices have been used to assess the Taç-Çorak Project. In SRK's opinion, there is adequate geological and other pertinent data available to generate a PEA.

Based on current knowledge and assumptions, the results of this study show that the project has positive economics (within the very preliminary parameters of a PEA) and should be advanced to the next level of study by conducting the work indicated in the recommendations section.

As with almost all mining ventures, there are a large number of risks and opportunities that can influence the outcome of the Taç and Çorak project. Most of these risks and opportunities are based on a lack of scientific information (test results, drill results, etc.) or the lack of control over external drivers (metal price, exchange rates, etc.). The following section identifies the most significant potential risks and opportunities currently identified for the project, almost all of which are common to mining projects at this early stage of project development.

Subsequent higher-level engineering studies will need to further refine these risks and opportunities, identify new ones and define mitigation or opportunity implementation plans.

While a significant amount of information is still required to do a complete assessment, at this point there do not appear to be any fatal flaws for the project.

The study achieved its original objective of providing a preliminary review of the potential economic viability of the Taç-Çorak project.

26.1 Risks

As with most early-stage projects there are a multitude of risks that could influence the economic potential of the project. Many of these risks are based on lack of knowledge and can be managed with appropriate engineering and additional studies. External risks are beyond the control of project proponents and are much harder to anticipate and mitigate although, in many instances, some risk reduction can be achieved. Tables 26.1 and 26.2 identify some of the more internal and external significant project risks, potential severity and possible mitigation approaches.

Table 26.1: Internal Project Risks

Risk	Explanation	Potential Impact	Possible Risk Mitigation
Çorak Mineral Resource Estimate	Approximately 35% of the current assay database at Çorak is comprised of RC drillholes. Average core assays are 25% lower than the average RC assays. This potential for the RC assays to be too high, or the core assays to be too low adds to uncertainty to the overall resource estimates.	If the core assays are correct then the Çorak resource grade may be overestimated. If the RC assays are correct then the Çorak resource grades made be underestimated.	A further investigation of the difference in results is recommended and could possibly require re-sampling, re-assaying and/or re-drilling.
Process Recoveries	A reduction in metal recoveries would have a significant impact on project economics	A reduction in metal recovery of 1% would reduce the Case A PT-$NPV_{5\%}$ by $7M	Further metallurgical testing is required
CAPEX and OPEX	The ability to achieve the estimated CAPEX and OPEX costs would be an important element of success	As shown in the sensitivity analysis, an increase in CAPEX and/or OPEX would have a negative effect on the project economics.	Further cost accuracy with the next level of study as well as the active investigation of potential cost-reduction measures
Permit Acquisition	The ability to secure a mining permit is of paramount importance and is likely the biggest risk to the project, particularly due to its proximity to the Çoruh River.	Failure to secure a mining permit would stop the project.	The development of close relationship with the communities and government along with a thorough ESIA and a project design that gives appropriate consideration to the environment and local people is required.
Hydrogeology	The bottoms of the planned open pits are below the elevation of the Çoruh River and insufficient hydrogeological testwork has been conducted to determine the potential connectivity of the proposed pits and the river. This is of particular concern at Çorak where the pit approaches the edge of the river.	A hydraulic connection between the river and the pits would mean a considerable mitigation cost (millions of dollars) or the potential decrease in pit size.	Further hydrogeology work is required to define the local conductivity of the rocks and geological structures in the pit areas. In the worst case, a grout wall may be required to keep water out of the pits.
Water Management	The Taç pit spans a valley that has a considerable stream flowing through it. The detailed diversion of the	Water diversion costs in the area, due to the nature of the topography may be considerably more than estimated.	Full hydrology studies are needed to fully define potential water diversion volumes.

	stream was not designed and could add significant costs to the project.		
Dry-Stack TMF Location and Stability	The dry-stack TMF site needs to be fully engineered to ensure it is in an appropriate location and be able to sustain an appropriate seismic event. The tailings characteristics also need to be tested for filtration suitability.	The dry-stack TMF location may have to change if foundation conditions are not suitable. This may lead to increased TMF construction and/or operating costs. If the tailings are not suitable for filtration, the project would face a considerable cost increase for an alternative to dry-stack deposition.	The TMF could be moved to a different site or its design changed to improve stability. Test work is needed on the TMF foundations and the tailings themselves.
Waste Rock Facility and Stability	The WRF sites need to be fully engineered to ensure they are located in an appropriate location and be able to sustain an appropriate seismic event.	The WRF locations may have to change if foundation conditions are not suitable. This may lead to increased WRF construction and/or operating costs. This additional cost may be substantial as there are limited sites available for waste deposition in the immediate area.	The WRF could be moved to different sites or their designs changed to improve stability. Stability testwork and a seismic study are needed.
Smelter Terms	Smelter terms used in the study are only preliminary could affect the project economics if the terms (payable % and penalties) change.	A reduction in the net smelter return would have a direct effect on project economics. Low concentrate grade and/or the presence of deleterious elements in the concentrates could impact the desirability of the concentrate and the price smelters are will to pay	More work on identifying any potential deleterious elements and ways to increase copper concentrate should be undertaken
Inclusion of taxation and financing costs	No taxation or financing costs were included in the economic evaluation.	Taxation and financing costs will reduce the NPV of the project.	Include taxation and financing costs in the next level of study.

Table 26.2: External Project Risks

Risk	Explanation	Potential Outcome	Possible Risk Mitigation
Metal prices	Metal prices (and in particular gold price) have significant impact on the economic viability of the project.	In the base case, a 20% drop in metal prices produces a negative return.	Current strong demand for copper and gold make it possible to forward sell production to reduce the risk of metal price volatility. This can be done for all or a portion of production.
Yusufeli Project	Proposal to dam the Çoruh River downstream of Project area, which, depending on the timing of dam construction, could have a significant impact on project economics	Proposed high water level from Yusufeli Dam would flood the Taç andÇorak Çorak pits (if a retaining structure is not built) and the access road between Taç and Çorak.	Complete mining of Taç-Çorak prior to high water mark being reached
Earthquakes	The project is located in a seismically active area which could impact the stability of infrastructure, open pits and building	A significant earthquake could create a number of problems for the site from power failure to destruction of buildings, equipment and infrastructure. The current TMF design is the most susceptible to seismic activity of the options reviewed.	Appropriate design locations and standards must be adhered to should the project reach the construction phase to ensure all design work and building practices reasonably consider the potential impact of an earthquake.
Project Financing	The project will require a JV partner, purchase from a larger producing company or extensive bank financing (or a combination of the above).	Failure to secure funding could slow the project or stop its development altogether	Continued value-adding field work including additional resource development and technical studies as well as developing a financing plan if the project continues to develop are needed
Hiring of Mining Contractor	The selection of an appropriate, experienced Mining Contractor will be critical to success of project	The inability of the company to retain a skilled mining contractor could have a negative impact on project timing, costs and overall success	The early search for an experienced mining contractor would is required
Recruiting Experienced Professionals for the development and operating teams	The selection of appropriate, experienced people for the project will be important to its success	The inability of the company to retain a skilled development and operating team could have a negative impact on project timing, costs and overall success	The early search for an experienced workforce would be required along with appropriate compensation and benefits

26.2 Opportunities

Table 26.3: Project Opportunities

Opportunity	Explanation	Potential Benefit
Metal prices	Metal prices (and in particular gold prices) have a significant impact on the economic viability of the project.	In the base case, every 1% increase in the combined metal price improves the base case PT-NPV$_{5\%}$ by about $7M.
Electrical power costs	The project is located in a region of significant hydro-power capacity and the cost of power could be reduced if the government rate system permits	Electrical power is estimated to account for 20% of processing and G&A costs. Every $0.01/kWhr reduction in power cost improves base case PT-NPV$_{5\%}$ by $2.7M.
Exploration potential	Favourable exploration potential in the area could increase resources and might have a positive impact on the project mineral resources	Increased resources would lead to a potentially better project economics if they could be converted to reserves in the future. The more economic tonnes available to mine the better the project economics would be as total revenues would increase, potentially without adding more capital cost.

27 Recommendations

27.1.1 General Recommendations

- Conduct a preliminary feasibility study. The estimated cost of the PFS, including field work, metallurgical testing and resource definition drilling to upgrade inferred resources is expected to be $4M to $6M.
- Continued work on the environmental baseline study and ESIA.

The following recommendations provide framework improving the understanding of the geology of the deposits, justify additional drilling and prepare better future resource models.

- SRK considers Mediterranean's data management procedures to be acceptable and satisfactory. To gain further improvement, SRK recommends that Mediterranean implement more rigorous quality control procedures with better documentation. Analytical quality control procedures should include the following:
- In addition to standards, field blanks, non-commercial blanks and sample duplicates should be inserted into the sample stream at an appropriate frequency depending on the size of sample batches processed by the primary laboratory;
- A representative suite of samples should be submitted to an umpire laboratory for check assaying;
- At least three standards should be used; one at or near the cut-off grade, one at or near the average grade of the resource, and one of high grade;
- Assay sample lengths vary from 20 cm to 9 m. Sampling intervals should be no less than one metre in the mineralized zones; and
- A representative suite of coarse rejects from available historical samples should be re-assayed to validate historical assaying data.

The results obtained from exploration work completed on the Yusufeli Property are of sufficient merit to recommend additional exploration drilling to improve the understanding of the geology of the deposits with the objectives of upgrading the resource classification. SRK recommends that the proposed drilling program includes 12,000 m of core drilling to investigate the following targets:

- At Çorak SRK recommends to twin eight to ten RC boreholes with core boreholes. In addition of validating the RC data, the core boreholes would provide additional geological and structural information that would be beneficial to improve the understanding of the geology of that deposit;
- SRK recommends drilling three core boreholes in the valley between Çorak Central Domain and East Domain with the objective of extending the High Grade Domain towards the east, but also to locate more precisely the position of the fault zone;
- SRK recommends drilling 6 to 10 geotechnical core boreholes per site in order to support selecting appropriate geotechnical design parameters for open pit mine design at a pre-feasibility level. These holes drilled to recover oriented core and logged according to the geotechnical standards provided to Mediterranean; and

  SRK also recommends drilling shallow holes to study the overburden thickness at Taç and Çorak. Such data will be used to develop a more precise overburden surface (DTM) for both areas.

Specific gravity should be routinely measured at regular intervals on core samples in different mineralized, overburden and non-mineralized lithological units. Finally SRK noted a few down-hole surveying errors in the borehole database for Taç and Çorak. These errors should be investigated and corrected.

Mineral resource classification is a subjective concept incorporating confidence in the quantity and quality of assay data, but also the confidence in the geological continuity of the mineralization. After reviewing available data, SRK considers that the understanding of the geological controls on the distribution of the mineralization at Taç and Çorak can be improved if Mediterranean considers the following recommendations:

- The boundaries of the gold and base metal mineralization are defined using a combination of silica alteration, grade and mineralization intensity. SRK considers that the confidence in the geological model can be improved through basis petrographic, geological and structural investigations to document the relative timing relationships between the different lithologies, structural features and phases of hydrothermal alteration;
- The geometry of mineralization at both Taç and Çorak are structurally controlled. Additional structural investigations on outcrops and core can help elucidate the local controls on the distribution of the useful mineralization and serve as a powerful exploration guide elsewhere on the Yusufeli Property. Such structural data will be required to support geotechnical studies.
- Finally, the Mediterranean exploration database represents a collection of data acquired by various project operators using different logging procedures. The lithological, mineralogical data are stored using different coding. SRK recommends that the data be re-logged, where possible, to standardize the descriptive data.

28 Acronyms, Abbreviations and Definitions

Distance	
μm	micron (micrometre)
mm	millimetre
cm	centimetre
m	metre
km	km
” or in	inch
’ or ft	foot
Area	
ac	acre
ha	hectare
Time	
s	second
m or min	minute
h or hr	hour
d	day
y or yr	year
Volume	
l	litre
usg	US gallon
lcm	loose cubic metre
bcm	bank cubic metre
Mbcm	million bcm
Mass	
kg	kilogram
g	gram
t	metric tonne
Kt	kilotonne
lb	pound
Mt	megatonne
oz	troy ounce
wmt	wet metric tonne
dmt	dry metric tonne
Pressure	
psi	pounds per square inch
Pa	pascal
kPa	kilopascal

Unit Prefixes	
μ	micro (one millionth)
m	milli (one thousandth)
c	centi (one hundredth)
d	deci (one tenth)
k or K	kilo (one thousand)
M	Mega (one million)
G	Giga (one trillion)
Temperature	
oC	degree Celsius (Centigrade)
oF	degree Fahrenheit
Misc.	
Btu or BTU	British Thermal Unit
Ø	diameter
r	radius
hp	horsepower
s.g.	specific gravity
masl	metres above sea level
elev	elevation above sea level
Rates and Ratios	
p or /	per
mph	miles per hour
cfm	cubic feet per minute
usgpm	United States gallon per minute
tph	tonnes per hour
tpd	tonnes per day
mtpa	million tonnes per annum
ppm	parts per million
ppb	parts per billion
Acronyms	
SRK	SRK Consulting (Canada) Inc.
CIM	Canadian Institute of Mining
NI 43-101	National Instrument 43-101
ABA	acid- base accounting
AP	acid potential
NP	neutralization potential
ML/ARD	metal leaching/ acid rock drainage

MPa	megapascal
Elements and Compounds	
Au	gold
Ag	silver
As	arsenic
Cu	copper
Fe	iron
Mo	molybdenum
Pb	lead
S	sulphur
Zn	zinc
CN	cyanide
NaCN	sodium cyanide
Electricity	
kW	kilowatt
kWh	kilowatt hour
V	volt
W	watt
Ω	ohm
A	ampere

PAG	potentially acid generating
non-PAG	non-potentially acid generating
RC	reverse circulation
DD / DDH	diamond drill / diamond drillhole
IP	induced polarization
HL	heap leach
COG	cut off grade
NSR	net smelter return
NPV	net present value
LOM	life of mine
EBITDA	earnings before interest, taxation, depreciation and amortization
IRR	internal rate of return
DR	discount rate
PEA	preliminary economic assessment
PFS	preliminary feasibility study
FS	feasibility study
Conversion Factors	
1 tonne	2,204.6 lb
1 troy ounce	31.1035

29 References

Ceyhan, N., Atalar, E., Celen, T., & Oğuz, E. (2006). Taç Property Exploration 2006 Year-End Report. Teck Cominco Arama ve Madencilik Sanayi A.Ş.

CIM Standing Committee on Reserve Definitions. (December 2005). CIM Definition Standards on Mineral Resources and Mineral Reserves.

ENCON Çevre Danışmanlık Ltd. Şti (Encon), 2006. Yusufeli Dam and HEPP Project Resettlement Action Plan.

Erkül, F. (2006). Report on the volcanic stratigraphy and alteration / mineralization styles of the Taç prospect area, Yusufeli - Artivin / Turkey.

Esenbil, M. O. (May 2007). Akdeniz Resources Madencilik (the "Company") - Due Diligence. Ankara.

Golder Associates (Golder), 2009. Environmental Due Diligence Report. November 2009, Ankara.

Okay, A. I., & Şahintürk, O. (1997). Geology of the Eastern Pontides. Regional and Petroleum Geology of the Black Sea and Surrounding Regions (American Association of Petroleum Geologists (AAPG) Memoir 68), 291-311.

Process Research Associates Ltd. (2008). Metallurgical Testing of Samples Originating from the Taç and Çorak Projects - Artvin Province, Turkey.

Robinson, A., Banks, C., Rutherford, M., & Hirst, J. (1995). Stratigraphic and structural development of the Eastern Pontides, Turkey. Journal of the Geological Society (152), 861-872.

Şengör, A., & Yılmaz, Y. (1981). Tethyan evolution of Turkey: a plate tectonic approach. Technophysics (75), 181-241.

SGS Canada Inc., “AN INVESTIGATION INTO RECOVERY OF BASE AND PRECIOUS METALS FROM THE TAC AND CORAK SAMPLES” February 18, 2011

SGS Canada Inc., “AN INVESTIGATION INTO METALLURGICAL TESTING OF TAC AND CORAK SAMPLES FOR HEAP LEACHING” January 7, 2010

SRK Consulting (UK) Ltd. (2008). Evaluation of the Structural Geology of the Çoruh River Area, Artvin Province, Turkey.

Teck Cominco. (2006). Taç Property Exploration 2006 Year-End Report.

Wardrop. (2005). Technical Report on the Çorak Property - Artvin Province, Turkey.

Wardrop. (2008). Technical Report on the Çorak Property - Artvin Province, Turkey.

Wardrop. (2008). Technical Report on the Taç Property - Artvin Province, Turkey (Resource Estimate Update).

Wardrop. (2005). Technical Report on the Taç Property - Artvin Province, Turkey.

Wardrop. (2007). Technical Report on the Taç Property - Artvin Province, Turkey.

Yigit, O. (2000). Gold in Turkey - a missing link in Tethyan metallogeny. Ore Geology Reviews (28), 147-179.

Yılmaz, A., Adamia, S., Chabukiani, A., Chkhotua, T., Erdoğan, K., Tuzcu, S., et al. (2000). Structural correlation of the southern Transcaucasus (Georgia)-eastern Pontides (Turkey). (E. Bozkurt, J. Winchester, & J. Piper, Eds.) Techtonics and Magmatism in Turkey and the Surrounding Area , Special Publications (173), 171-182.

30 Date and Signature Page

The effective date of this technical report is June 14, 2011. This report was prepared by the following Qualified Persons and was signed on August 19, 2011:

Prepared by

Wayne Barnett, Pri.Sci.Nat.

Gordon Doerksen, P.Eng.

Bruce Murphy, FSAIMM

Marek Nowak, P.Eng.

Dino Pilotto, P.Eng.

Maritz Rykaart, P.Eng.

Chris Bonson, EurGeol

Reviewed by

Chris Elliott, MAusIMM, Principal Consultant
Dr. Gilles Arseneau, P.Geo, Principal Consultant

SRK Consulting (Canada) Inc.
Suite 2200 - 1066 West Hastings Street
Vancouver, BC V6E 3X2

T: +1.604.681.4196
F: +1.604.687.5532

vancouver@srk.com
www.srk.com

CERTIFICATE OF QUALIFIED PERSON

Wayne Barnett, Pri.Sci.Nat.

I, Wayne Barnett, am a Senior Structural Geologist, employed as a Principal Consultant - Mining with SRK Consulting (Canada) Inc.

I am a graduate of the University of Cape Town, from which I obtained a BSc. Honours degree in Geology in 1995, and a MSc. in Structural Geology in 1997. I completed a PhD on the structural controls and mechanics on kimberlite emplacement at the University of Kwa-Zulu Natal in 2006. I have practiced my profession continuously since 1996, publishing a paper on structural or engineering geology on average once a year. From 1996 to 1997, I worked on the 3D structural and engineering geology of Finsch Mine in De Beers, South Africa. I was Geotechnical Engineer at Venetia Mine, South Africa, from 1998 to 2003, during which time I worked as part of the geology team, but directly responsible for the geotechnical engineering and development of the 3D structural geology model for the mine. During this time I achieved certification in Rock Mechanics from the South African Chamber of Mines. In 2003, I moved to Cullinan Mine in the capacity of Geotechnical Engineer. From 2004 to 2005, I worked in De Beers Exploration as a geological services manager and a structural geology specialist. I then worked as a structural geology and modeling consultant for De Beers from 2006 to 208. In 2008, I joined SRK Consulting and moved to Canada where I work as a structural geology and resource modeling specialist. I have authored and co-authored sacral independent technical reports on several base and precious metals exploration and mining projects in Africa, Europe, Australia, Asia and North America.

I am registered as a Professional Natural Scientist with the South African Council for Natural Scientific Professions in the field of practice of Geological Science (License #400237/04). I am also a member of the South African Geological Society and of the American Geophysical Union (#11209778).
I certify that by virtue of my education, affiliation to a professional association and past relevant work experience, that I fulfill the requirements of a Qualified Person for resource estimation as defined by and for the purposes of National Instrument 43-101 *Standards of Disclosure of Mineral Projects* (NI 43-101).

I have visited the Taç and Çorak site on October 6, 2008 for a duration of five days.

I am responsible for Sections 5 to 10 of “Preliminary Economic Assessment on the Taç and Çorak Deposits, Yusufeli Property, Artvin Province, Turkey”.

I am independent of Mediterranean Resources Ltd. as independence is described by Section 1.4 of NI 43-101.

I have been involved with the Taç and Çorak Project since 2008.

I have read National Instrument 43-101 and this report has been prepared in compliance with that Instrument.
As of the effective date of the report, June 14, 2011, to the best of my knowledge, information and belief, the technical report contains all scientific and technical information that is required to be disclosed to make the technical report not misleading.

ORIGINAL SIGNED

Wayne Barnett, Pri.Sci.Nat..
Dated: August 19, 2011

SRK Consulting (Canada) Inc.
Suite 2200 - 1066 West Hastings Street
Vancouver, BC V6E 3X2

T: +1.604.681.4196
F: +1.604.687.5532

vancouver@srk.com
www.srk.com

CERTIFICATE OF QUALIFIED PERSON

E. Maritz Rykaart, P.Eng.

I, Maritz Rykaart, am a Professional Engineer, employed as a Principal Consultant with SRK Consulting (Canada) Inc.

This certificate applies to the technical report titled “Preliminary Economic Assessment on the Taç and Çorak Deposits, Yusufeli Property, Artvin Province, Turkey” dated October 27, 2010 (Effective Date: June 14, 2011).

I am a member of the Association of Professional Engineers and Geoscientists of British Columbia. I graduated with B.Eng. (Civil) and M.Eng. (Civil) degrees from Rand Afrikaans University in 1991 and 1993 respectively. I obtained a Ph.D. (Civil Engineering) in 2001 at the University of Saskatchewan.

I have been involved in mine waste management and geotechnical engineering since 1993 and have practiced my profession continuously since 1993. I have been involved in the design, construction, monitoring and closure of mine waste management facilities and water dams covering projects in Africa, South America, North America, Australia and Europe.

As a result of my experience and qualifications, I am a Qualified Person as defined in National Instrument 43-101 *Standards of Disclosure of Mineral Projects* (NI 43-101).

I have visited the Taç and Çorak site on February 16 – 17, 2010.

I am responsible for Sections 17.3 of “Preliminary Economic Assessment on the Taç and Çorak Deposits, Yusufeli Property, Artvin Province, Turkey” dated October 27, 2010 (Effective Date: June 14, 2011).

I am independent of Mediterranean Resources Ltd. as independence is described by Section 1.4 of NI 43-101.

I have been involved with the Taç and Çorak Project since 2009.

I have read National Instrument 43-101 and this report has been prepared in compliance with that Instrument. As of the date of this certificate, to the best of my knowledge, information and belief, the technical report contains all scientific and technical information that is required to be disclosed to make the technical report not misleading.

ORIGINAL SIGNED AND STAMPED

E. Maritz Rykaart, Ph.D., P.Eng. Dated: August 19, 2011

SRK Consulting (Canada) Inc.
Suite 2200 - 1066 West Hastings Street
Vancouver, BC V6E 3X2

T: +1.604.681.4196
F: +1.604.687.5532

vancouver@srk.com
www.srk.com

CERTIFICATE OF QUALIFIED PERSON

Marek Nowak, P.Eng.

I, Marek Nowak, am a Professional Engineer, employed as a Principal Consultant - Geostatistics with SRK Consulting (Canada) Inc.

This certificate applies to the technical report titled "Preliminary Economic Assessment on the Taç and Çorak Deposits, Yusufeli Property, Artvin Province, Turkey" dated August 19, 2011 (Effective Date: June 14, 2011).

I am a member of the Association of Professional Engineers and Geoscientists of British Columbia. I have a Master of Science degree from the University of Mining and Metallurgy, Cracow, Poland, and a Master of Science degree from the University of British Columbia, Vancouver, Canada

I have over 25 years of experience in the mining industry, as a mining engineer (in Poland), geologist and geostatistician (in Canada). I specialize in natural resource evaluation and risk assessment using a variety of geostatistical techniques. I have co-authored several independent technical reports on base and precious metals exploration and mining projects in Canada, and United States.

As a result of my experience and qualifications, I am a Qualified Person as defined in National Instrument 43-101 *Standards of Disclosure of Mineral Projects* (NI 43-101).

I have not visited the Taç and Çorak site and relied on the site visit completed by other authors of this report.

I am responsible for Section 12, 13 and 16 of "Preliminary Economic Assessment on the Taç and Çorak Deposits, Yusufeli Property, Artvin Province, Turkey".

I am independent of Mediterranean Resources Ltd. as independence is described by Section 1.4 of NI 43-101.

I have been involved with the Taç and Çorak Project since August 2008.

I have read National Instrument 43-101 and this report has been prepared in compliance with that Instrument.
As of the effective date of the report, June 14, 2011, to the best of my knowledge, information and belief, the technical report contains all scientific and technical information that is required to be disclosed to make the technical report not misleading.

ORIGINAL SIGNED

Marek Nowak, P.Eng.
Dated: August 19, 2011

SRK Consulting (Canada) Inc.
Suite 2200 - 1066 West Hastings Street
Vancouver, BC V6E 3X2

T: +1.604.681.4196
F: +1.604.687.5532

vancouver@srk.com
www.srk.com

CERTIFICATE OF QUALIFIED PERSON

Gordon Doerksen, P.Eng.

I, Gordon Doerksen, am a Professional Engineer, employed as a Principal Consultant - Mining with SRK Consulting (Canada) Inc.

This certificate applies to the technical report titled "Preliminary Economic Assessment on the Taç and Çorak Deposits, Yusufeli Property, Artvin Province, Turkey" dated August 19, 2011 (Effective Date: June 14, 2011).

I am a member of the Association of Professional Engineers and Geoscientists of British Columbia. I graduated with a BS (Mining) degree from Montana College of Mineral Science and Technology in May 1990. I am also a registered member of the Society of Mining Engineers of the AIME and a member of the Canadian Institute of Mining.

I have been involved in mining since 1985 and have practised my profession continuously since 1990. I have been involved in mining operations, mine engineering and consulting covering a wide range of mineral commodities in Africa, South America North America and Asia.

As a result of my experience and qualifications, I am a Qualified Person as defined in National Instrument 43-101 *Standards of Disclosure of Mineral Projects* (NI 43-101).

I visited the Taç and Çorak site on February 16 and 17, 2010.

I am responsible for the Exec. Sum., Sections 1 to 4, 14, 18 to 24, 25.2 and 26 to 30 of "Preliminary Economic Assessment on the Taç and Çorak Deposits, Yusufeli Property, Artvin Province, Turkey".

I am independent of Mediterranean Resources Ltd. as independence is described by Section 1.4 of NI 43-101.

I have been involved with the Taç and Çorak Project since 2009.

I have read National Instrument 43-101 and this report has been prepared in compliance with that Instrument.
As of the effective date of the report, June 14, 2011, to the best of my knowledge, information and belief, the technical report contains all scientific and technical information that is required to be disclosed to make the technical report not misleading.

ORIGINAL SIGNED

Gordon Doerksen, P.Eng.
Dated: August 19, 2011

SRK Consulting (Canada) Inc.
Suite 2200 - 1066 West Hastings Street
Vancouver, BC V6E 3X2

T: +1.604.681.4196
F: +1.604.687.5532

vancouver@srk.com
www.srk.com

CERTIFICATE OF QUALIFIED PERSON

Dino Pilotto, P.Eng.

I, Dino Pilotto, am a Professional Engineer, employed as a Principal Consultant - Mining with SRK Consulting (Canada) Inc.

This certificate applies to the technical report titled "Preliminary Economic Assessment on the Taç and Çorak Deposits, Yusufeli Property, Artvin Province, Turkey" dated August 19, 2011 (Effective Date: June 14, 2011).

I am a member of the Association of Professional Engineers and Geoscientists of Saskatchewan and Alberta. I graduated with a B.A.Sc. (Mining & Mineral Process Engineering) from the University of British Columbia in May 1987.

I have practiced my profession continuously since June 1987. I have been involved with mining operations, mine engineering and consulting covering a variety of commodities at locations in North America, South America, and Africa.

As a result of my experience and qualifications, I am a Qualified Person as defined in National Instrument 43-101 *Standards of Disclosure of Mineral Projects* (NI 43-101).

I have visited the Tepal Taç and Çorak site on February 16-17, 2010.

I am responsible for the Sections 15, 17.1 and 17.2 of "Preliminary Economic Assessment on the Taç and Çorak Deposits, Yusufeli Property, Artvin Province, Turkey".

I am independent of Mediterranean Resources as independence is described by Section 1.4 of NI 43-101.

I have not had prior involvement with the Taç and Çorak Project.

I have read National Instrument 43-101 and this report has been prepared in compliance with that Instrument.
As of the date of this certificate, to the best of my knowledge, information and belief, the technical report contains all scientific and technical information that is required to be disclosed to make the technical report not misleading.

ORIGINAL SIGNED AND STAMPED

Dino Pilotto, P.Eng. Dated: August 19, 2011

SRK Consulting (Canada) Inc.
Suite 2200 - 1066 West Hastings Street
Vancouver, BC V6E 3X2

T: +1.604.681.4196
F: +1.604.687.5532

vancouver@srk.com
www.srk.com

CERTIFICATE OF QUALIFIED PERSON

Bruce Murphy, FSAIMM.

I, Bruce Murphy, a Fellow of the South African Institute of Mining and Metallurgy, am employed as a Principal Consultant – Rock Mechanics with SRK Consulting (Canada) Inc.

This certificate applies to the technical report titled "Preliminary Economic Assessment on the Taç and Çorak Deposits, Yusufeli Property, Artvin Province, Turkey (Effective Date: June 14, 2011).

I am a Fellow of the South African Institute of mining and Metallurgy. I graduated with a MSc.Eng (Mining) degree from the University Witwatersrand, in May 1996.

I have been involved in mining since 1990 and have practised my profession continuously since then. I have been involved in mining operations, mining related rock mechanics and consulting covering a wide range of mineral commodities in Africa, South America North America and Asia.

As a result of my experience and qualifications, I am a Qualified Person as defined in National Instrument 43-101 *Standards of Disclosure of Mineral Projects* (NI 43-101).

I have visited the Taç and Çorak site on February 16 – 17, 2010.

I am responsible for Section 25.1 of "Preliminary Economic Assessment on the Taç and Çorak Deposits, Yusufeli Property, Artvin Province, Turkey (Effective Date: June 14, 2011)."

I am independent of Mediterranean Resources Ltd. as independence is described by Section 1.4 of NI 43-101.

I have been involved with the project since 2009.

I have read National Instrument 43-101 and this report has been prepared in compliance with that Instrument.
As of the effective date of the report, June 14, 2011, to the best of my knowledge, information and belief, the technical report contains all scientific and technical information that is required to be disclosed to make the technical report not misleading.

ORIGINAL SIGNED

Bruce Murphy, FSAIMM.
Dated: August 19, 2011

SRK Consulting (Canada) Inc.
Suite 2200 - 1066 West Hastings S
Vancouver, BC V6E 3X2

T: +1.604.681.4196
F: +1.604.687.5532

vancouver@srk.com
www.srk.com

CERTIFICATE OF QUALIFIED PERSON

Chris Bonson, EurGeol

I, Chris Bonson, am employed as a Senior Consultant (Structural Geology) with SRK Consulting (UK) Ltd.

I am a graduate of the University of Liverpool, UK, from which I obtained a First Class BSc. Honours degree in Geology in 1993. I completed a PhD entitled "Fracturing, fluid processes and mineralisation in the Cretaceous magmatic arc of northern Chile (25°15'-27°15'S)" at Kingston University, UK in 1998. I have practiced my profession as a geologist continuously since 1998, publishing several papers on pure and applied structural geology whilst working as a Post-doctoral researcher and subsequently working as a consultant to the minerals industry.

I am currently employed by SRK Consulting (UK) Ltd., where I work as a Senior Consultant, primarily offering technical advice on structural geology, resource modelling and exploration geology. I have authored and co-authored independent technical reports on numerous base and precious metal exploration projects in Africa, Europe and Latin America.

I am registered as a European Geologist (EurGeol 745) with the Institute of Geologists of Ireland and European Federation of Geologists.

I certify that by virtue of my education, affiliation to a professional association and past relevant work experience, that I fulfill the requirements of a Qualified Person for resource estimation as defined by and for the purposes of National Instrument 43-101 *Standards of Disclosure of Mineral Projects* (NI 43-101).

I have visited the Taç and Çorak site on two occasions: July 14th, 2008 for a duration of five days for the purposes of verifying exploration practices; and, 18th September 2008 for twelve days for the purposes of geological mapping and structural analysis.

I am responsible for Section 11 of "Preliminary Economic Assessment on the Taç and Çorak Deposits, Yusufeli Property, Artvin Province, Turkey".

I am independent of Mediterranean Resources Ltd. as independence is described by Section 1.4 of NI 43-101.

I have been involved with the Taç and Çorak Project since 2008.

I have read National Instrument 43-101 and this report has been prepared in compliance with that Instrument.
As of the effective date of the report, June 14, 2011, to the best of my knowledge, information and belief, the technical report contains all scientific and technical information that is required to be disclosed to make the technical report not misleading.

C Bonson

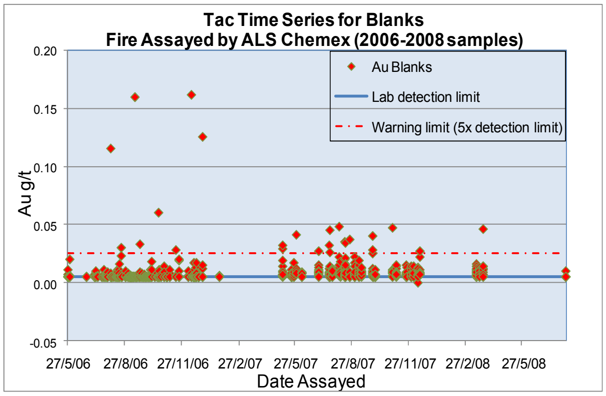
Chris Bonson, EurGeol
Dated: August 19, 2011

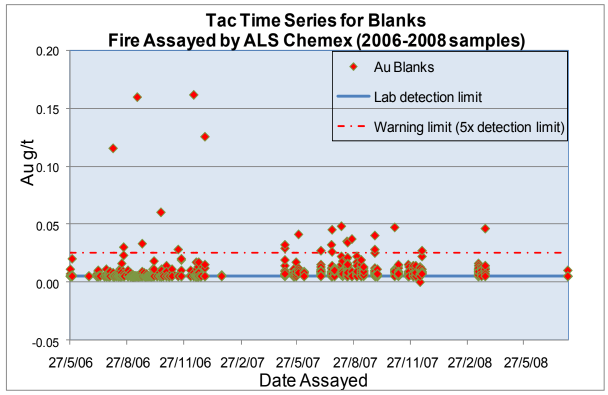
APPENDIX A

Quality Control Data

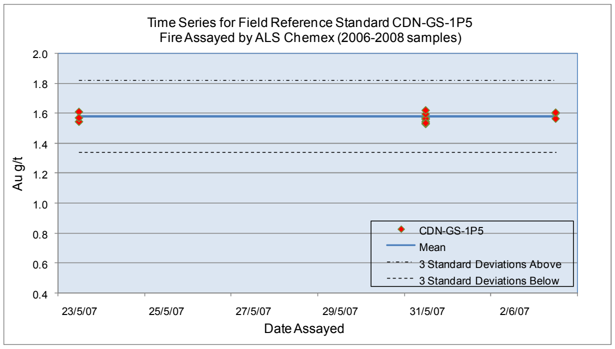
Time Series for Control Samples, Scatterplots of re-assays on failed batches, Scatterplots of Original-Duplicate Samples and Relative Deviation Plots, Scatterplots of All Re-assayed pulps, Scatterplots of Core versus RC assays

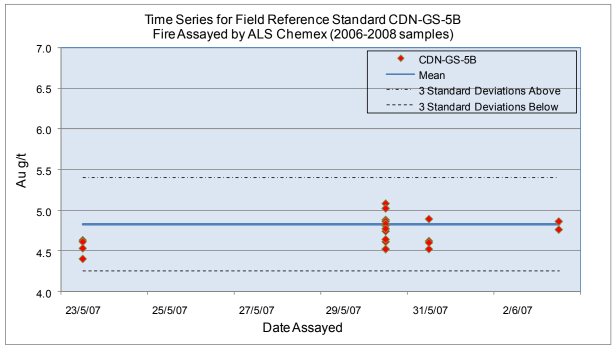
Assay results for blank samples inserted with samples submitted for assaying.

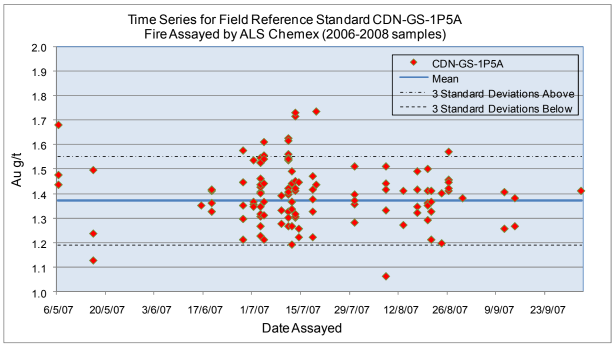


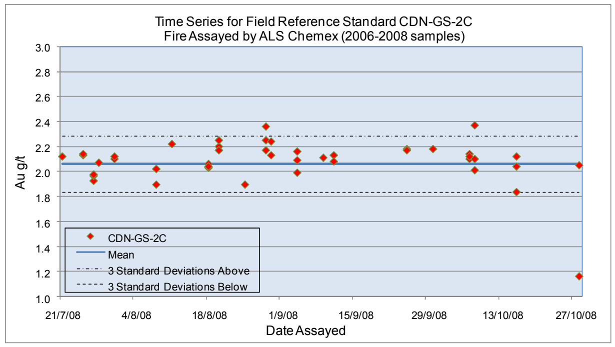


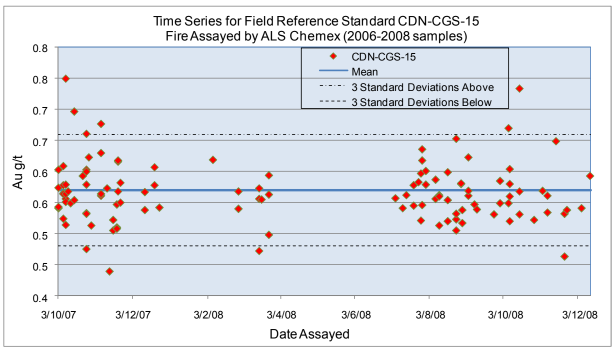
Assay results for Corak gold standards.

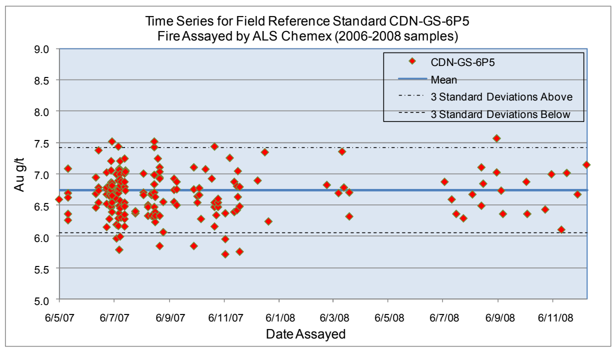




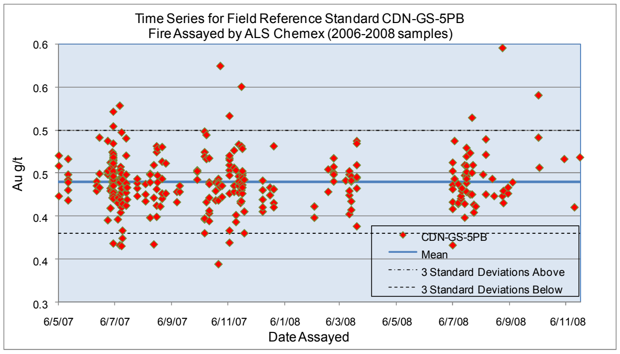


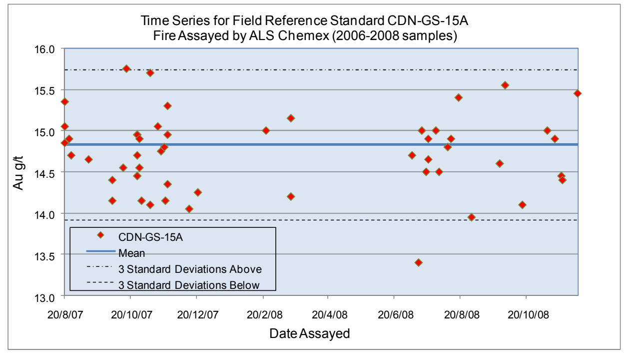


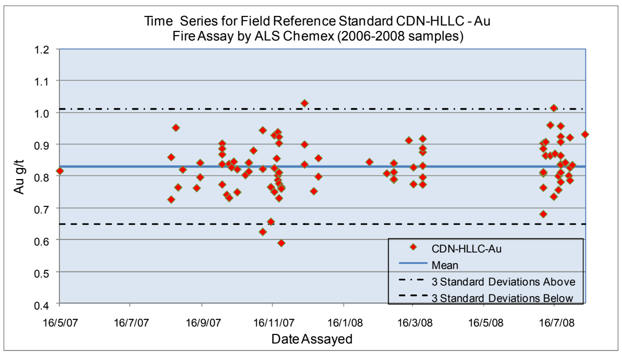


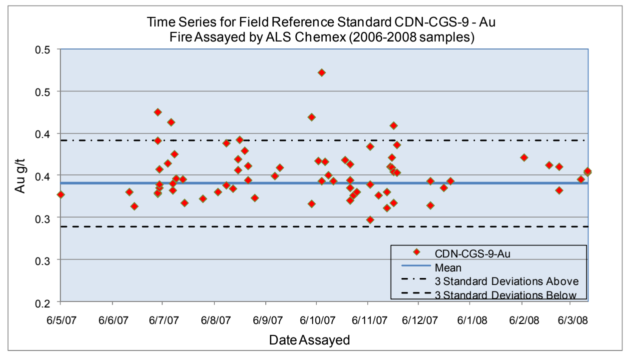


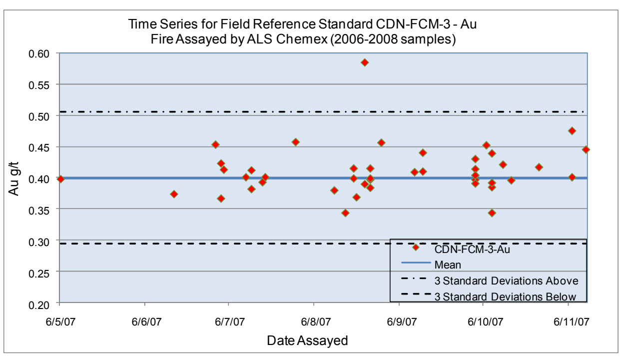
Assay results for Corak gold standards.

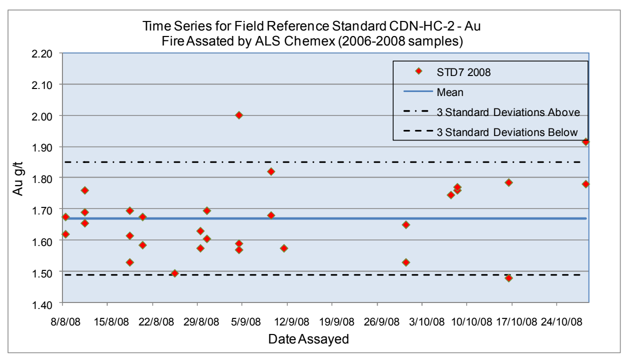




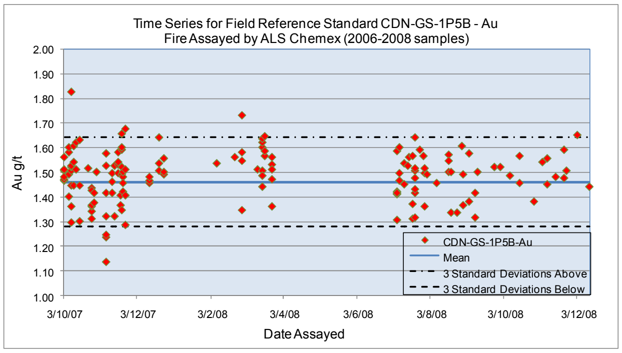


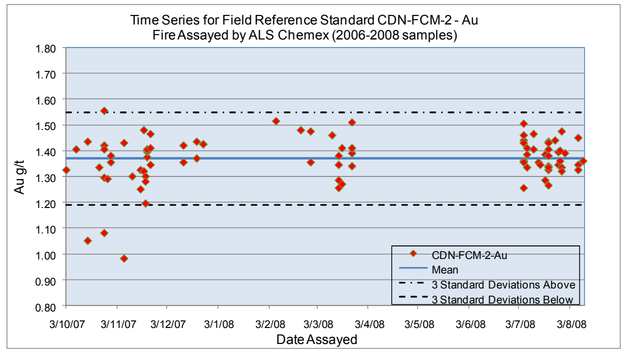




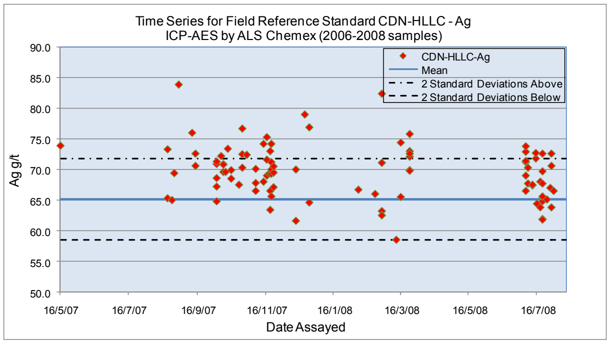


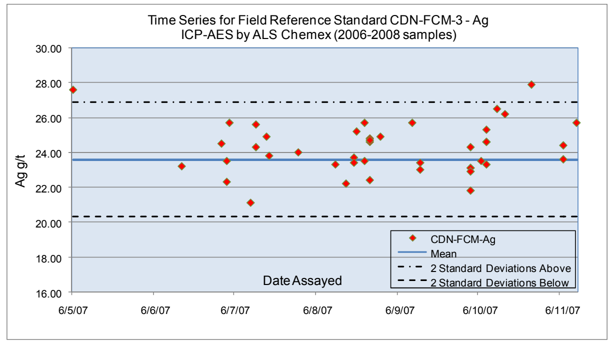
Assay results for Corak gold standards.

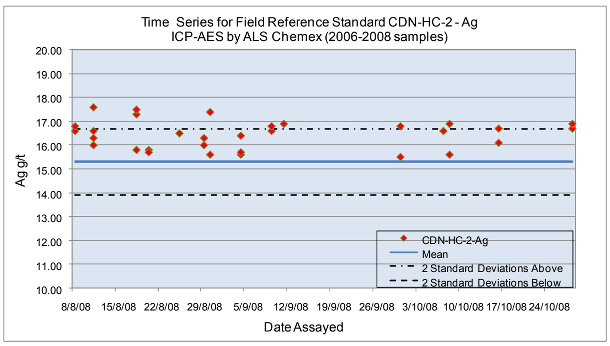


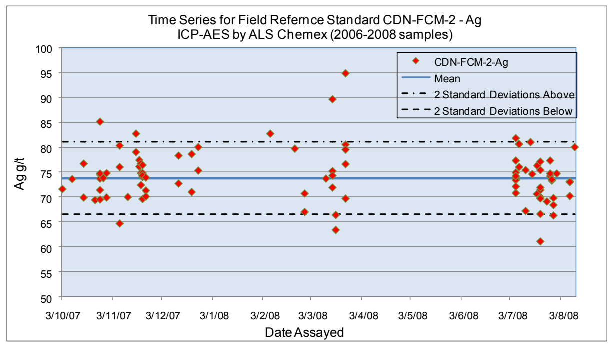


Assay results for Corak silver standards.

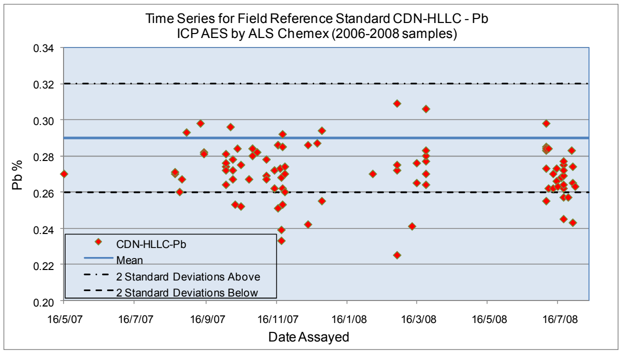


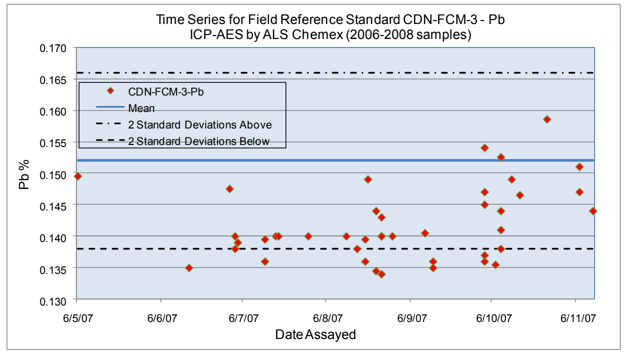


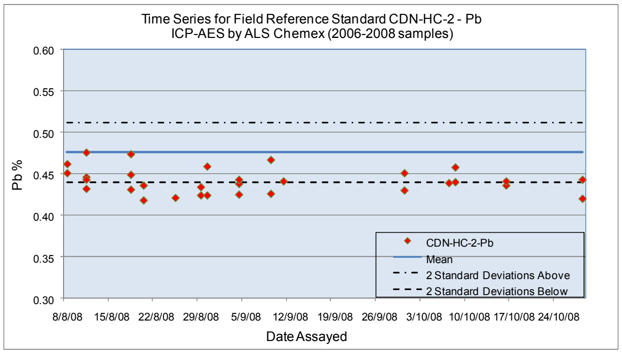


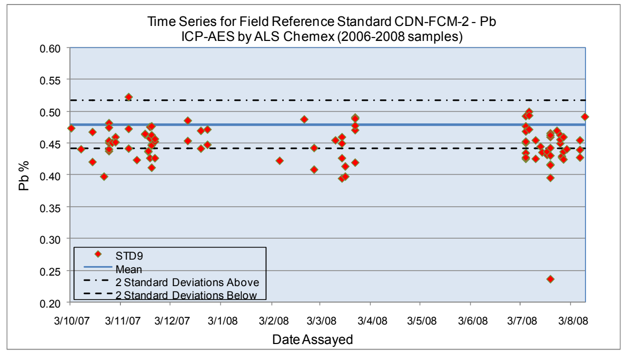


Assay results for Corak lead standards

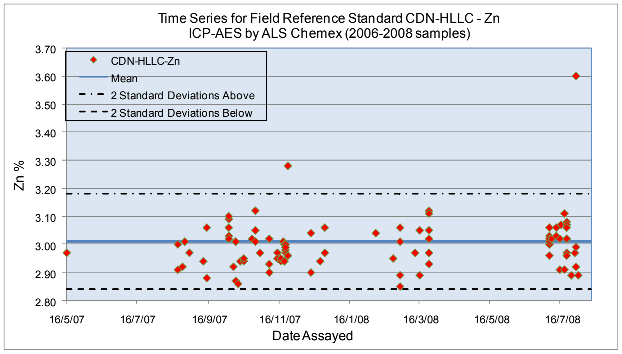


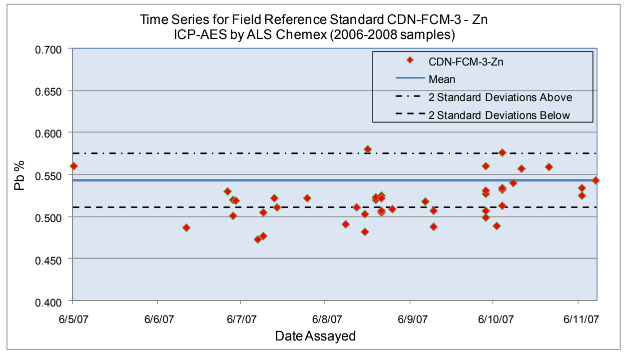


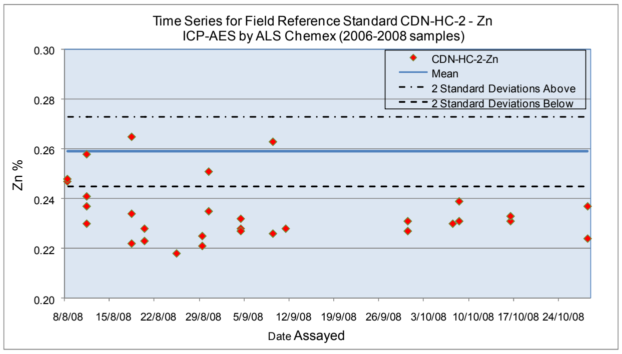


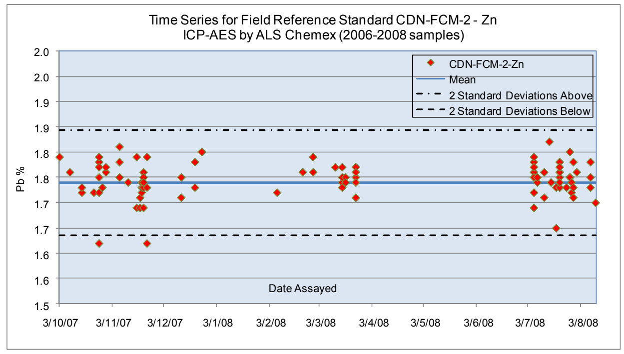


Assay results for Corak zinc standards

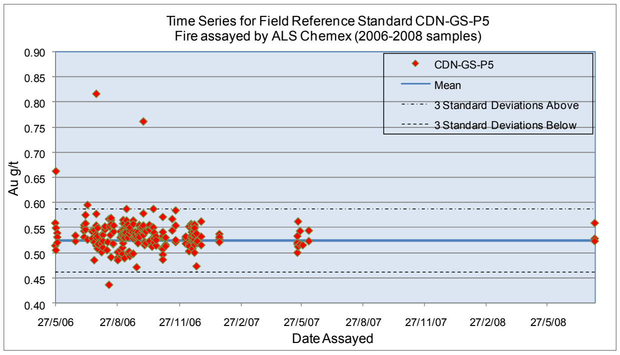


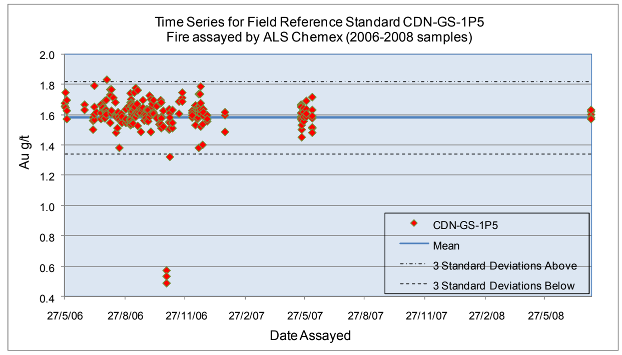


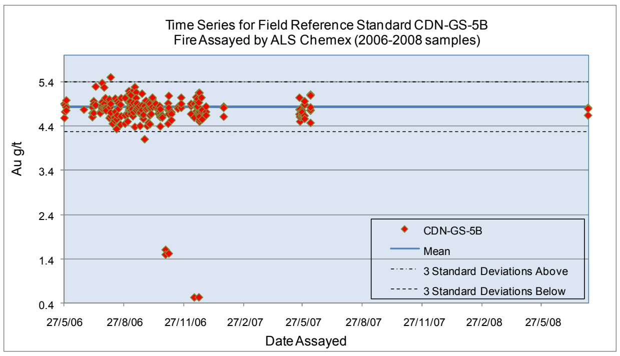


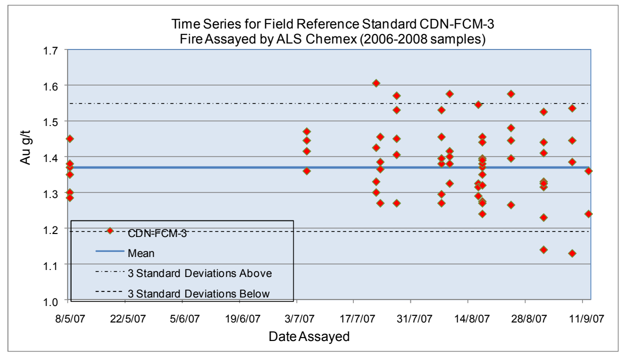


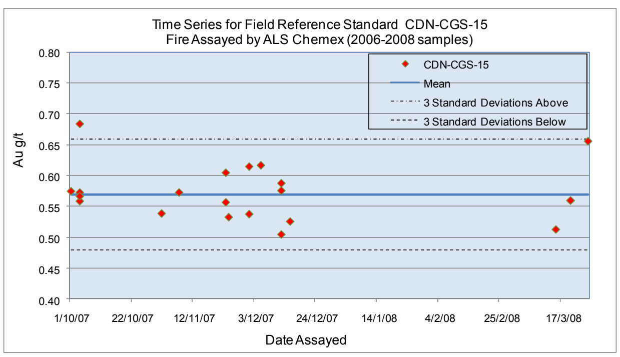
Assay results for Tac gold standards

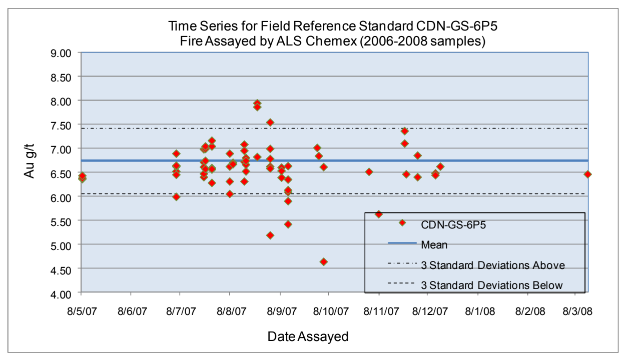




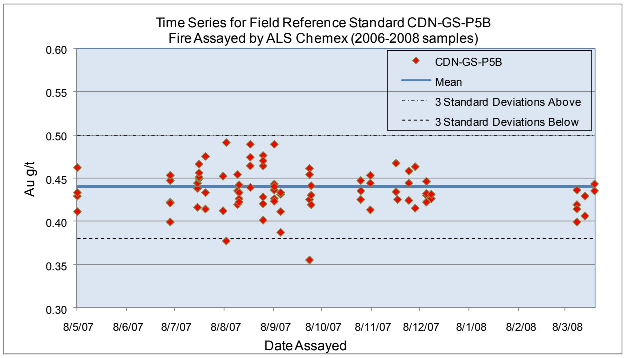


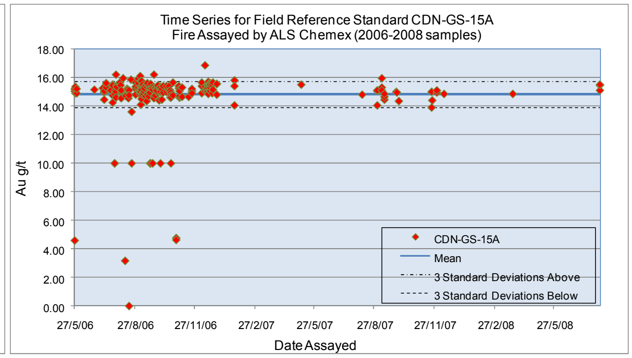


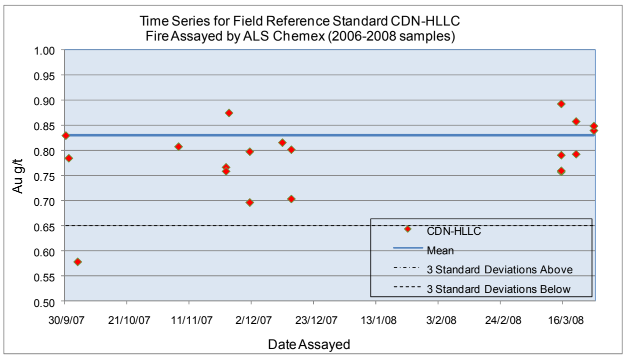


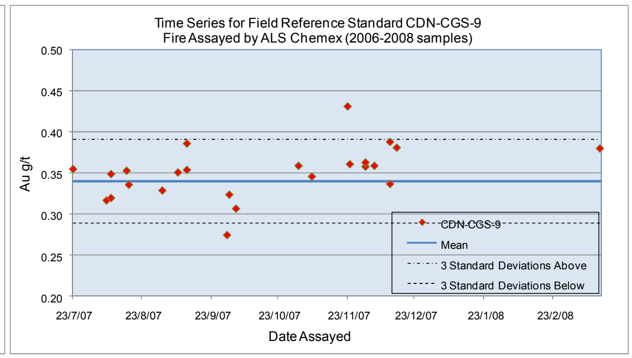


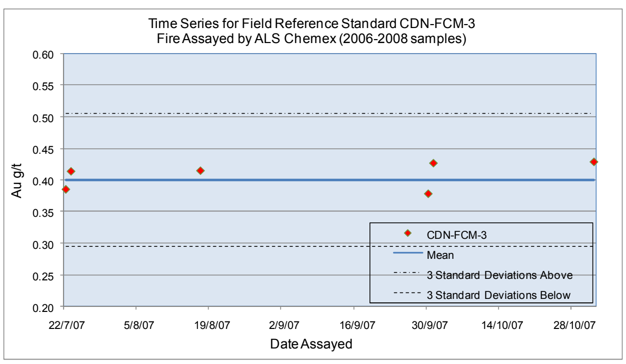
Assay results for Tac gold standards

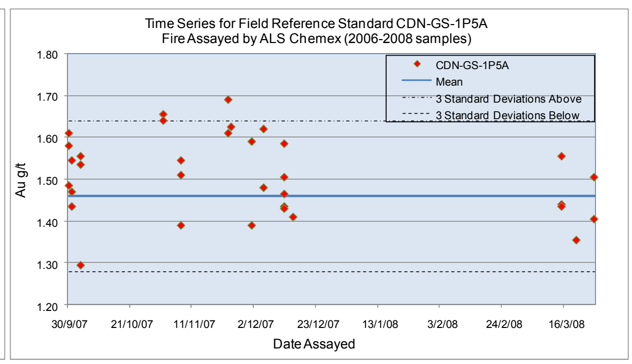


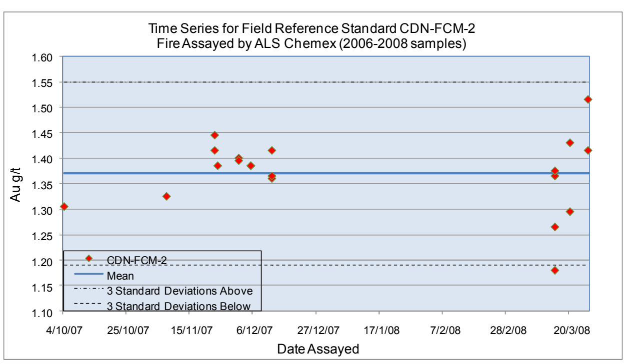




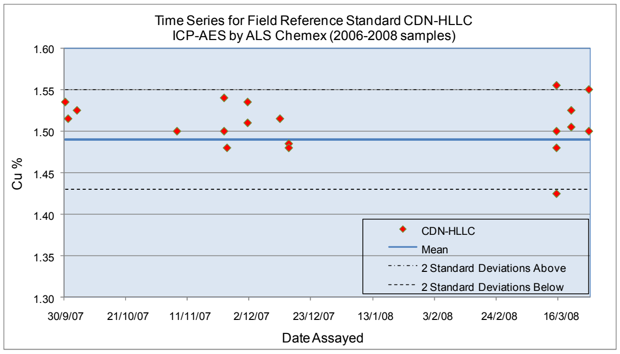


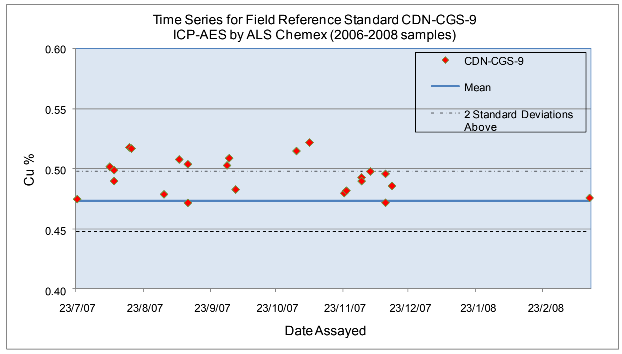


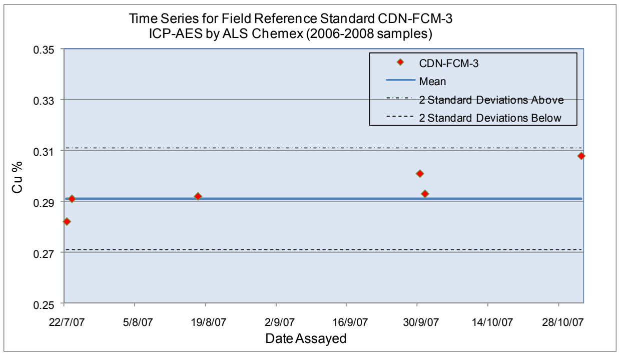




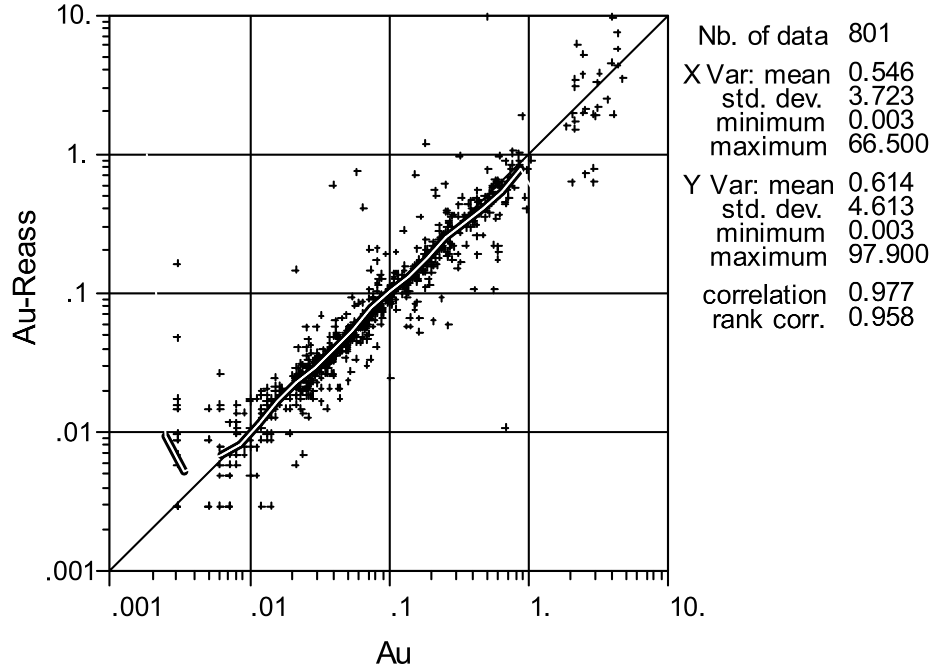
Assay results for Tac copper standards



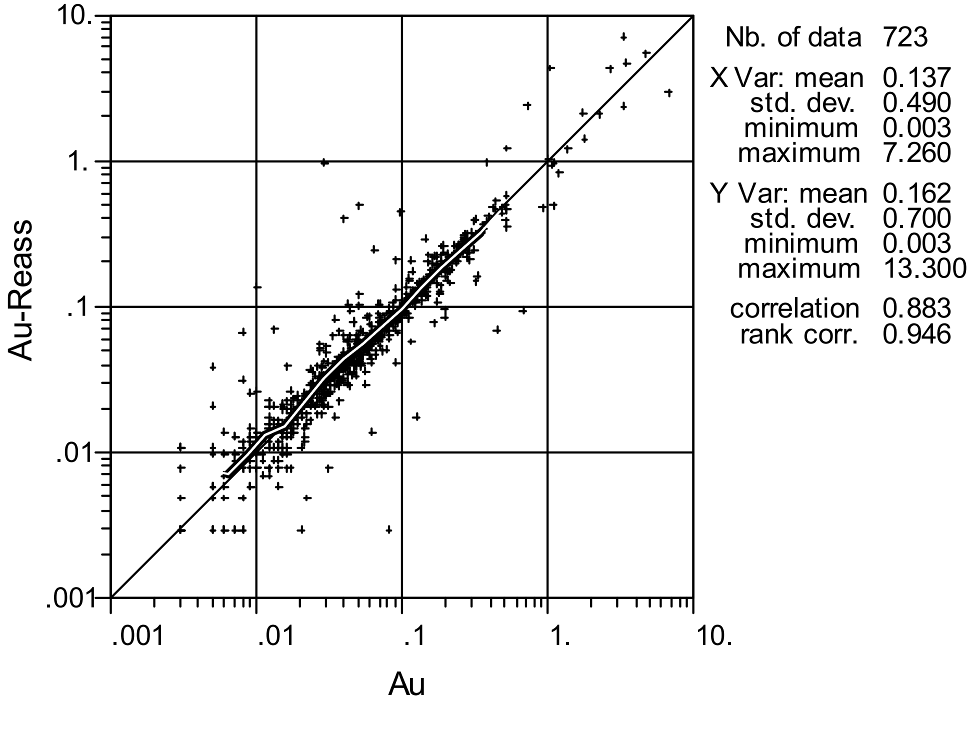




Corak and Tac re-assays on failed batches

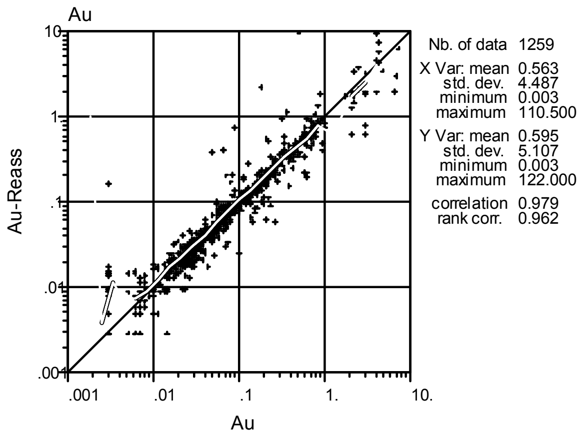


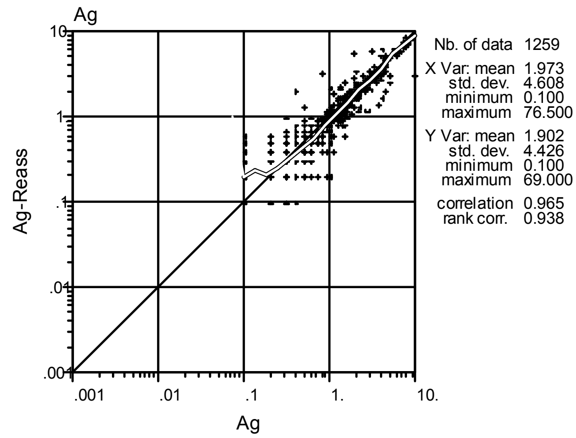
Corak re-assays on failed batches

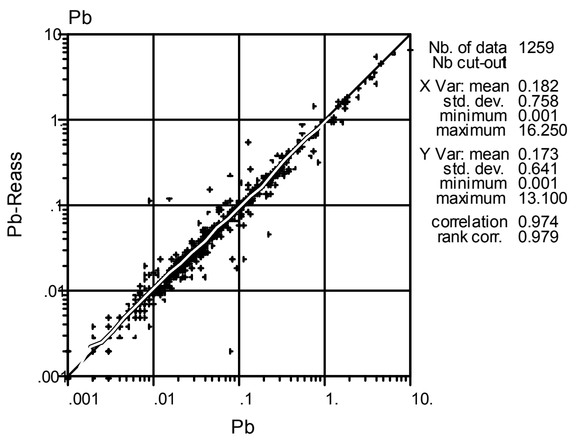


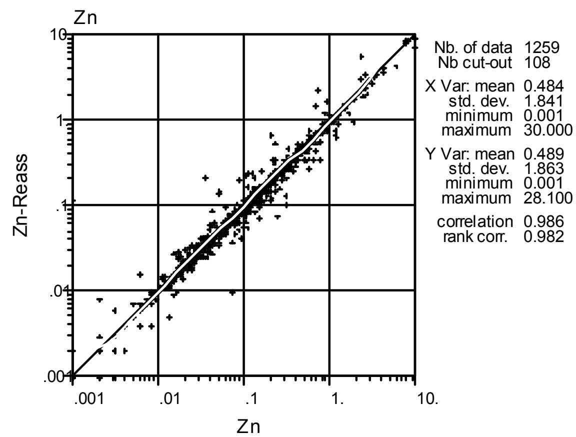
Tac re-assays on failed batches

Corak all re-assayed pulps

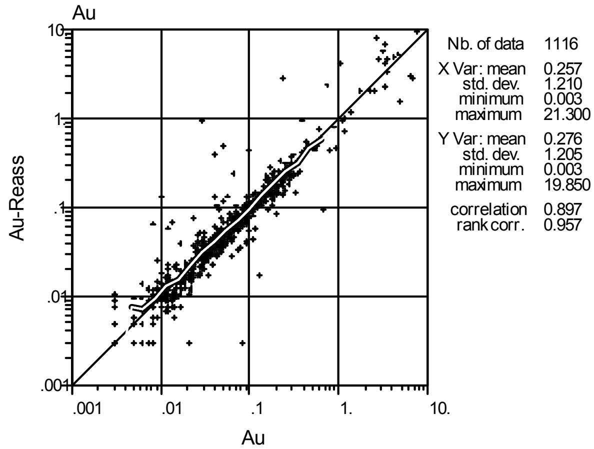


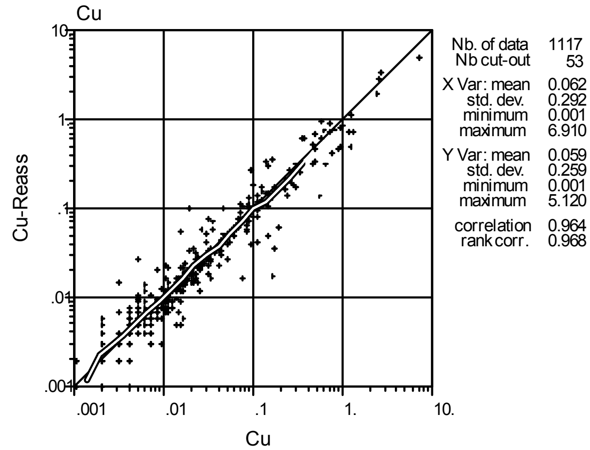




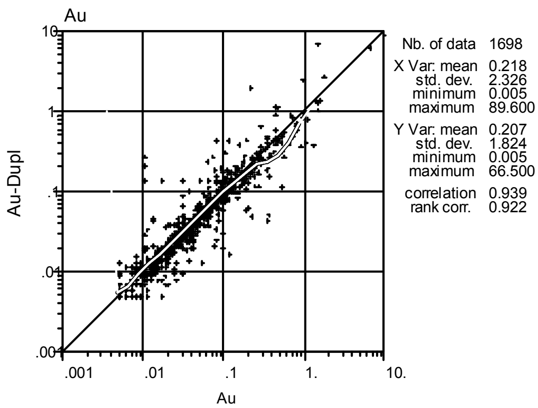


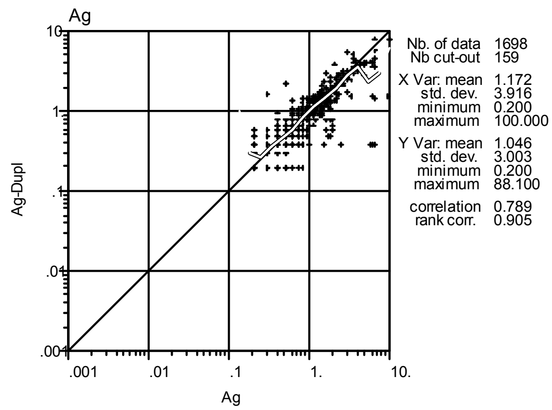
Tac all re-assayed pulps

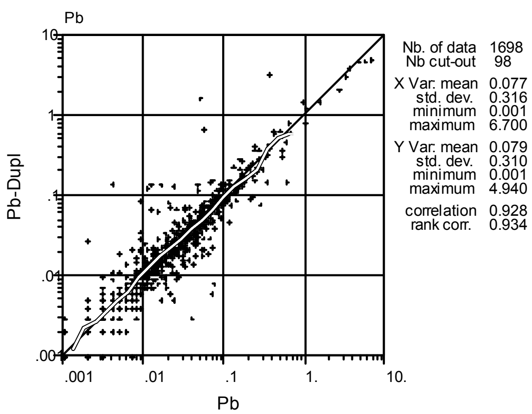


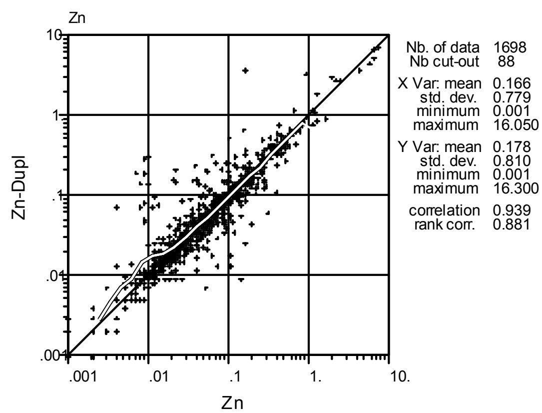


Corak assay results for split core duplicate samples

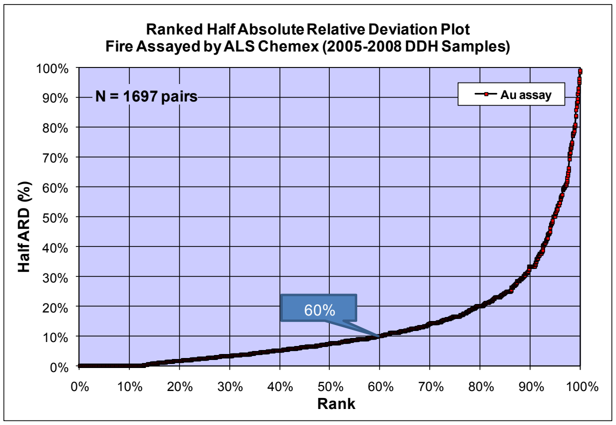


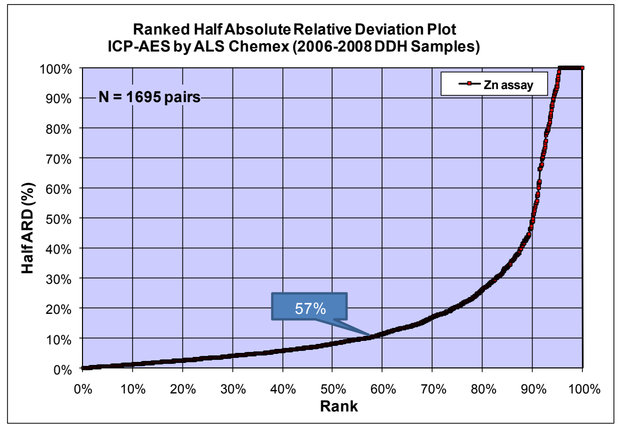


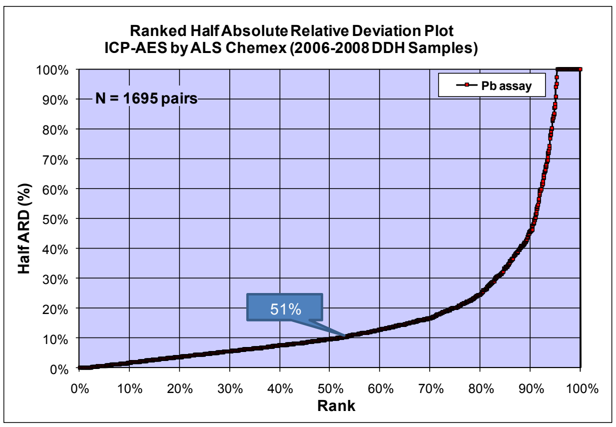


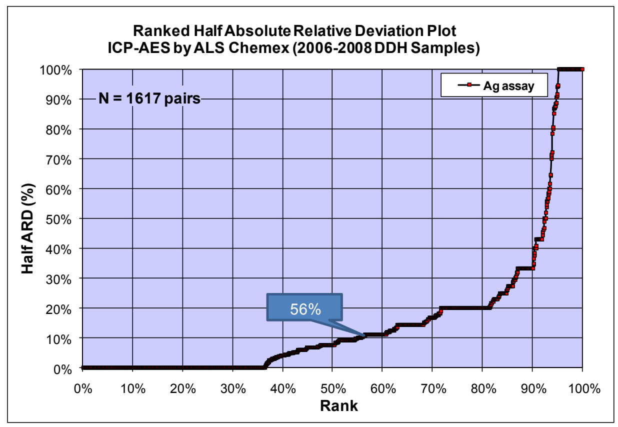


Corak assay results for split core duplicate samples

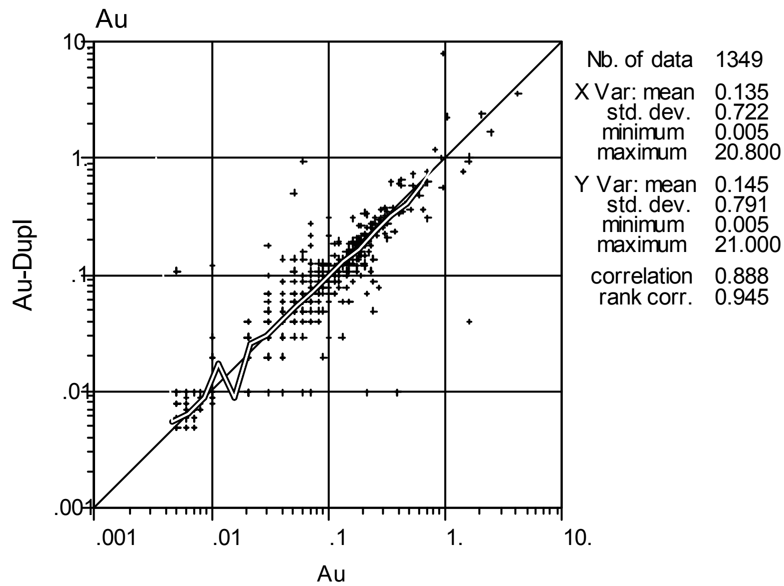


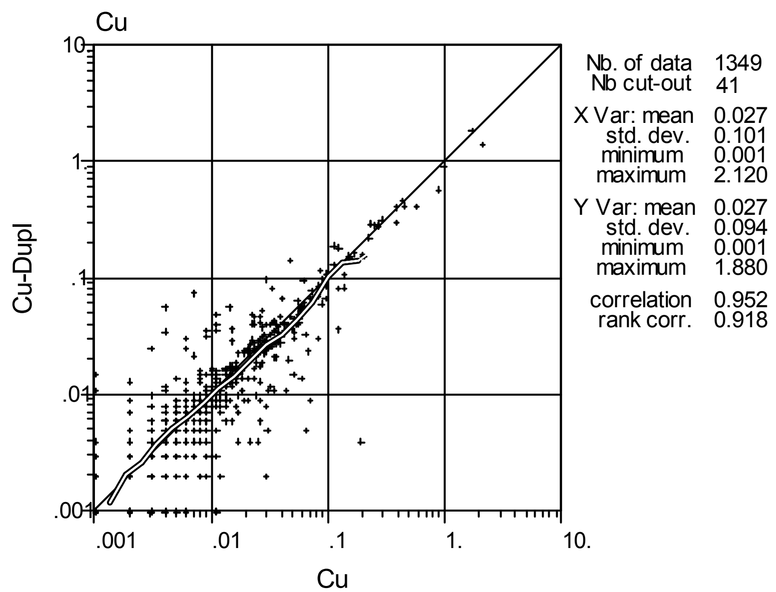




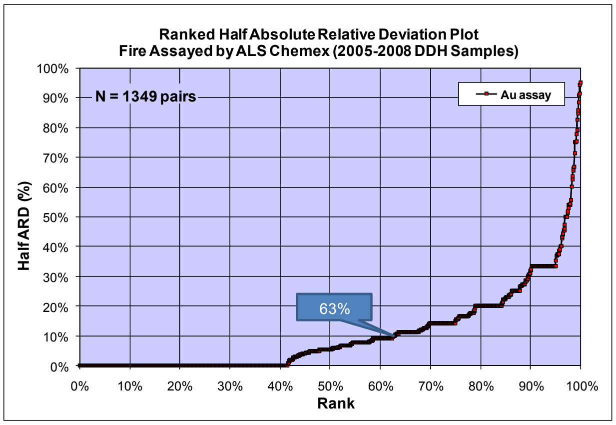


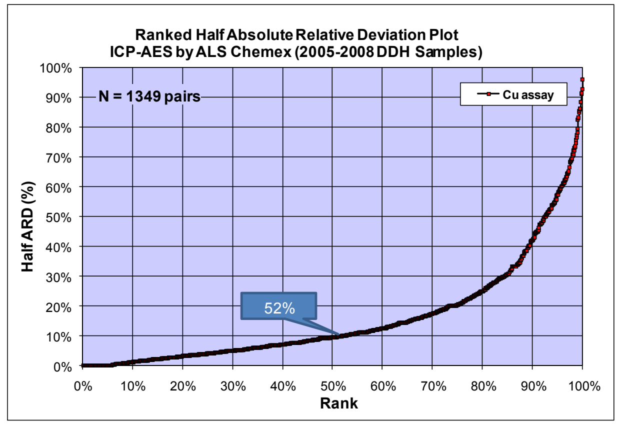
Tac assay results for split core duplicate samples





Tac assay results for split core duplicate samples





Comparison of core versus RC assays at Corak (top), and Tac (bottom)