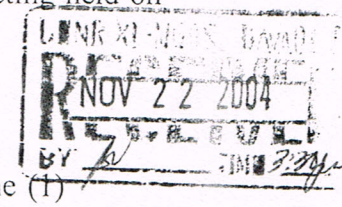
ANNEX –"A"

SECRETARY'S CERTIFICATE

(3)

SECRETARY'S CERTIFICATE

I, **CLARENCE D. GUERRERO**, of legal age, married and with office address at 7th Floor TMBC Bldg., 6772 Ayala Ave., Makati City, in my capacity as the Assistant Corporate Secretary of **APEX MINING CO., INC**. do hereby certify that the following resolutions were unanimously approved by the Board of Directors, in a meeting held on November 5, 2004 at its principal office, at which a quorum was present:



RESOLUTIONS

"RESOLVED, AS IT IS HEREBY RESOLVED, that any one (1) of the following officers are authorized to negotiate, on behalf of the Corporation for the acquisition of mining rights and surface rights from any entity or legitimate corporations and to enter into agreements for this purpose under terms and conditions he may deem beneficial for the Corporation:

RAYMUND B. PUYAT
FELICIANO L. DELA CRUZ
BENEDICTO T. JALANDOON

"RESOLVED FURTHER, that anyone of the above officers is hereby authorized to sign and execute in behalf of the Corporation any and all agreements, declarations of location of mining claims, applications for order of survey and Mineral Production Sharing Agreements (MPSA), Exploration Permit (EP) and all other documents necessary for the acquisition and perfection of mining rights covering mining claims of the Corporation and file the same with the respective government's agencies as provided for under Republic Act No. 7942, otherwise known as the "Philippine Mining Act of 1995" and its Implementing Rules and Regulations.

RESOLVED, FURTHERMORE, that anyone of the above officers be as he hereby is, authorized to act as representative of the Corporation for the foregoing purpose and to deal with any government agency or entity involving the Corporation's mineral exploration, development and mining operations;

RESOLVED LASTLY, that any and all acts relative to the above which have been consummated by anyone of the above officers prior to the adoption of these resolutions are hereby approved, confirmed and ratified."

IN WITNESS WHEREOF, I have hereunto set my hand this 16th day of November 2004 at Makati City.

CLARENCE D. GUERRERO
Assistant Corporate Secretary

SUBSCRIBED AND SWORN to before me this 18 NOV 2004 day of November 2004 at Makati City, affiant exhibiting to me his Comm. Tax Cert. No. _____ issued on _____ at Makati City.

Doc. No. 471
Page No. 95
Book No. XV

MIGNON L. BRAGAIS

REPUBLIC OF THE PHILIPPINES)
CITY OF PASIG) S.S.V

DENR XI MGBS, DAVAO CITY
RECEIVED
AUG 16 2006
BY _____ TIME 3:30 p.m.

SECRETARY'S CERTIFICATE

I, GENOVEVA S. RUINA, incumbent and duly elected Assistant Corporate Secretary of APEX MINING CO., INC. a corporation duly organized and existing under and by virtue of the laws of the Republic of the Philippines, with principal office at unit 20-B, 20th floor, Wynsum Corporate Plaza, F. Ortigas Jr., Road, Ortigas Business Center, Pasig City, Metro Manila, after having been sworn according to law, do hereby certify that at the meeting of Directors of the Corporation on the 25th day of January 2006, at its principal office, at which a quorum was present and acting throughout, the following resolution was adopted:

RESOLVE, as it is hereby resolved that any of the following is being authorized by the Company to sign, submit, follow up and receive any document relative to any of its mining applications or any document or amendments thereto with the Mines and Geosciences Bureau (MGB) or any of its regional offices or with the Department of Environment and Natural Resources (DENR) or any of its regional offices.

ATTY. LEO CLETO A. GAMOLO
JOEL D. MUYCO

I further certify that the foregoing resolution has not been revoked, amended or otherwise modified, and remain valid and subsisting.

IN WITNESS WHEREOF, I have hereunto affixed my hand on this 9th day of August 2006 at Pasig City, Philippines.

GENOVEVA S. RUINA
Assistant Corporate Secretary

REPUBLIC OF THE PHILIPPINES}
Pasig City } S.S

SUBSCRIBED AND SWORN to be before me this 09 AUG 2006 day of August 2006 at QUEZON CITY, affiant exhibiting to me his/her Community Tax Certified No. 21803034 Issued on January 7, 2006 at Pasig City, Manila.

NOTARY PUBLIC
ATTY. DELFIN R. AGCAOILI, JR.
NOTARY PUBLIC
UNTIL DECEMBER 31, 2006
PTR NO. [illegible] 01/02/2006/Q.C.
IBP NO. 648214/ROLL NO. 24655

Doc No. 274;
Page No. 55;
Book No. XXXV;
Series of 2006

REPUBLIKA NG PILIPINAS
DOCUMENTARY STAMP
00137866300
"Ika-100 Anibersaryo ng Rentas Internas"

CERTIFICATE OF REGISTRATION

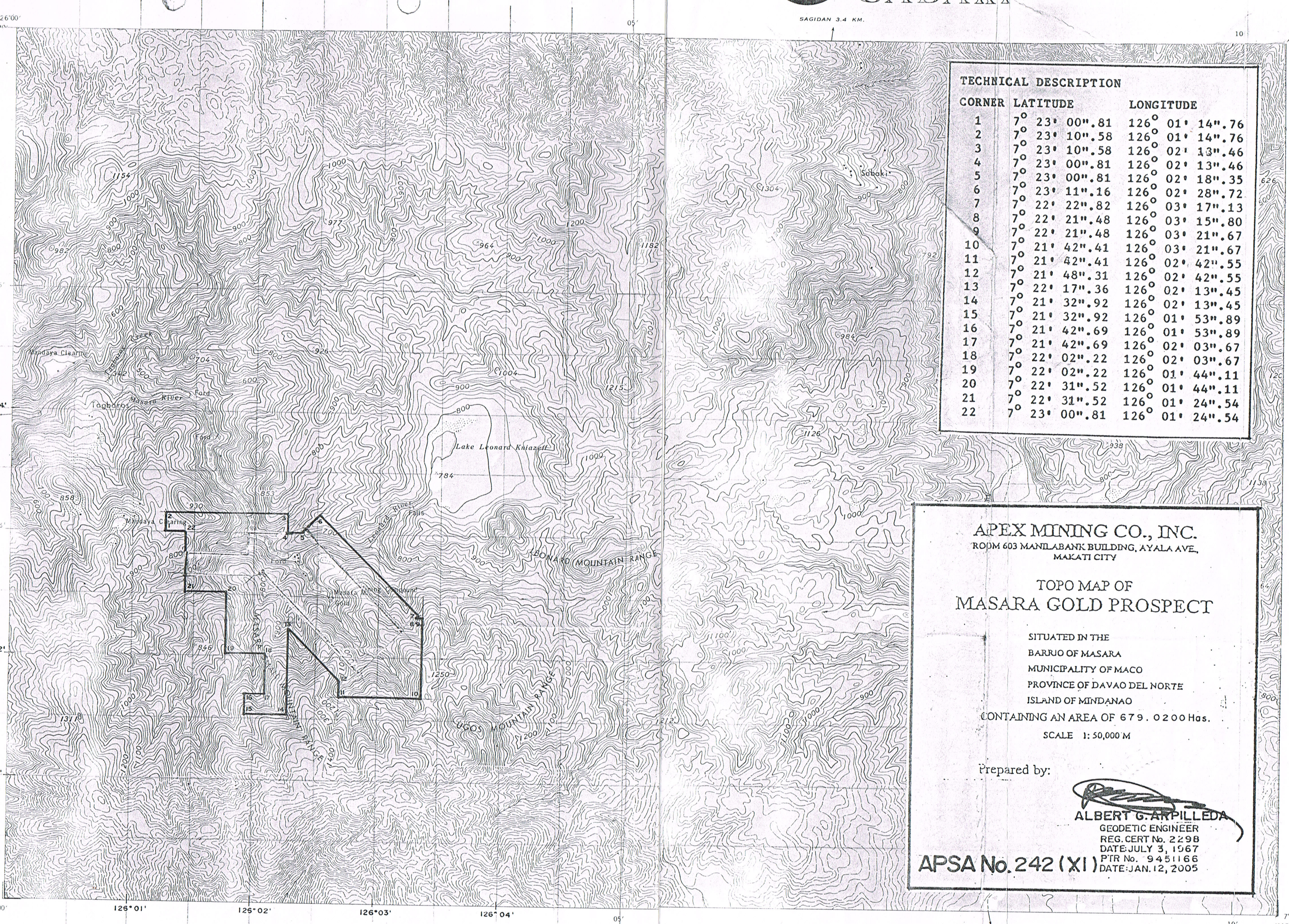
Republic of the Philippines
Department of Environment and Natural Resources
MINES AND GEOSCIENCES DEVELOPMENT SERVICE
Region XI, Davao City

The filing fee therefor having been paid, the foregoing instruments was filed at the office at 3 o'clock and 30 minutes p.m. on the day of August 14, 2006 and has been recorded in Book No. I of the Records of Powers of Attorney of this Region, on pages 63 as Document No. 3
Filing fee paid under Official Receipt No. 2884570 dated August 16, 2006 in the amount of ₱220.00

EDILBERTO L. ARREZA
OIC, Regional Director

ANNEX – "B"

LOCATION MAP
OR
SKETCH PLAN



TECHNICAL DESCRIPTION

CORNER	LATITUDE	LONGITUDE
1	7° 23' 00".81	126° 01' 14".76
2	7° 23' 10".58	126° 01' 14".76
3	7° 23' 10".58	126° 02' 13".46
4	7° 23' 00".81	126° 02' 13".46
5	7° 23' 00".81	126° 02' 18".35
6	7° 23' 11".16	126° 02' 28".72
7	7° 22' 22".82	126° 03' 17".13
8	7° 22' 21".48	126° 03' 15".80
9	7° 22' 21".48	126° 03' 21".67
10	7° 21' 42".41	126° 03' 21".67
11	7° 21' 42".41	126° 02' 42".55
12	7° 21' 48".31	126° 02' 42".55
13	7° 22' 17".36	126° 02' 13".45
14	7° 21' 32".92	126° 02' 13".45
15	7° 21' 32".92	126° 01' 53".89
16	7° 21' 42".69	126° 01' 53".89
17	7° 21' 42".69	126° 02' 03".67
18	7° 22' 02".22	126° 02' 03".67
19	7° 22' 02".22	126° 01' 44".11
20	7° 22' 31".52	126° 01' 44".11
21	7° 22' 31".52	126° 01' 24".54
22	7° 23' 00".81	126° 01' 24".54

APEX MINING CO., INC.
ROOM 603 MANILABANK BUILDING, AYALA AVE, MAKATI CITY

TOPO MAP OF MASARA GOLD PROSPECT

SITUATED IN THE
BARRIO OF MASARA
MUNICIPALITY OF MACO
PROVINCE OF DAVAO DEL NORTE
ISLAND OF MINDANAO
CONTAINING AN AREA OF 679.0200 Has.
SCALE 1:50,000 M

Prepared by:

ALBERT G. ARPILLEDA
GEODETIC ENGINEER
REG. CERT No. 2298
DATE: JULY 3, 1967
PTR No. 9451166
DATE: JAN. 12, 2005

APSA No. 242 (XI)

Scale 1:50,000

ANNEX – C

EXPLORATION WORK PROGRAM

EXPLORATION WORK PROGRAM

1.0. NAME AND ADDRESS OF THE APPLICANT

Name : **APEX MINING CO., INC.**

Address : 6th Floor, Manila Bank Building
Ayala Avenue, Makati City

Contact Person : **Mr. Raymund B. Puyat**
President

Mr. Feliciano L. De La Cruz
Executive Vice President for Finance and Administration

Tel. No. : (02) 810-08-82

Fax No. : (02) 810-0887

2.0. LOCATION OF THE PROJECT

The area applied for Mineral Production Sharing Agreement (Project Area) is located in the Barangays of Teresa and Masara, Municipality of Maco, Province of Compostela Valley and specifically bounded by the following technical description (see Annex A):

Corner	Latitude	Longitude
1	7° 23' 00.81"	126° 01' 14.76"
2	7° 23' 10.58"	126° 01' 14.76"
3	7° 23' 10.58"	126° 02' 13.46"
4	7° 23' 00.81"	126° 02' 13.46"
5	7° 23' 00.81"	126° 02' 18.35"
6	7° 23' 11.16"	126° 02' 28.72"
7	7° 22' 22.82"	126° 03' 17.13"
8	7° 22' 21.48"	126° 03' 15.80"
9	7° 22' 21.48"	126° 03' 21.67"
10	7° 21' 42.41"	126° 03' 21.67"
11	7° 21' 42.41"	126° 02' 42.55"
12	7° 21' 48.31"	126° 02' 42.55"
13	7° 22' 17.36"	126° 02' 13.45"
14	7° 21' 32.92"	126° 02' 13.45"
15	7° 21' 32.92"	126° 01' 53.89"
16	7° 21' 42.69"	126° 01' 53.89"
17	7° 21' 42.69"	126° 02' 03.67"
18	7° 22' 02.22"	126° 02' 03.67"
19	7° 22' 02.22"	126° 01' 44.11"

20	7° 22' 31.52"	126° 01' 44.11"
21	7° 22' 31.52"	126° 01' 44.54"
22	7° 23' 00.81"	126° 01' 24.54"

3.0. AREA COVERAGE

The Project Area covers **six hundred seventy nine and 200/10000 (679.0200)** hectares.

4.0. PROJECT AREA DESCRIPTION

4.1. Terrain/Physiography

Rugged topography characterized the Project Area with lowest elevation at 740 meters and abruptly rising to 1,240 meters above sea level. It is abounded with steep precipitous slopes and V-shaped valleys.

4.2. Accessibility

The Project Area is approximately 104 kilometers from Davao City. It takes about two (2) hours travel by motor vehicle thru the well-paved Maharlika Highway reaching the Municipality of Mawab, Compostela Valley. From Mawab, Masara district can be reached thru the 30-kilometer municipal road.

Davao City is located approximately one thousand three hundred (1,300) aerial kilometers southeast of Manila. It is very much accessible by air transportation. The New Davao International Airport has daily flights from Manila and other cities like Zamboanga City and Cebu City. It can be reached by plane on a one and a half (1½) flight serviced by Philippine Airlines, Cebu Pacific Air and Air Philippines.

Davao City is one of the country's busiest seaports that can accommodate both local and international shipping lines.

4.3. Drainage Systems

The Project Area is drained mainly by Masara River. This is a dendritic natural receiving body of water with contributing tributaries in the upstream. It is a tributary of Hijo River in the downstream which empties its load into the Davao Gulf.

4.4. Vegetation

Secondary growths of the soft wood varieties cover the Project Area as the tropical forests has been exploited by logging concessionaires and in some areas by slash and burn farmers. Thick vegetation covers most of the area except in some isolated logged-over portions.

The Proponent has conducted reforestation in the Project Area. Reforested stands of specie *Acacia manguim, Gmelina arborea, Leucaena leucocephala* (common name Ipil-ipil), and *Swietenia senegalensis* (common name Mahogany) dominated the Project Area. Conversely, vegetation is bare along some slopes and gullies that are frequently affected and moved by the action of water. Cogonal grasses are abundant in rolling and flat lying topographies.

Gradual slopes are being planted with rice, fruit trees, coconut tress, bananas, tropical cogon grass, ipil-ipil and other trees of less significance.

4.5. Land Use

Most part of the Project Area is within the timberland classification while other portions area classified as alienable and disposable land. The present land use of the Project Area is generally agricultural.

It is noted however that the Project Area is previously covered by Mining/Lode Lease Contract Nos. V-83; V-95; V-96 , V-97, V-124 and V-125 which were issued in 1994. By virtue of the said Contracts, Apex Mining Corporation (Apex) was then known to be one of the leading producers of gold in the entire Philippines.

4.6. Climate

The Philippines has a tropical climate, with a mean annual lowland temperature of about 27°C (80°F). The climate over any particular locality in the Philippines is due to the so-called climate controls acting with various intensities and in different combinations. These climate controls are topography and geography of the place, the prevailing wind regimes (the Northeast monsoon, the Southwest monsoon and the North Pacific trades), the semi-permanent cyclones and anti cyclones which produce the wind regimes over the country, ocean current, various linear systems and tropical cyclones affecting the country.

Its climate has been describe in terms of classification is the Modified Coronas. With the use of the average monthly distribution of rainfall of different stations, four types of rainfall distribution in the Philippines are defined.

The Province of Compostela Valley falls in the second type of climate in the tradition classification, which is characterized with no pronounced dry season but with a very pronounced wet season with heavy precipitation from the month of December to early part of March.

Throughout the year, a northerly wind prevails over the Province with varying average wind speed. The recorded annual average rainfall of the Province is 150.35 mm.

5.0. DESCRIPTION OF EXPLORATION PROGRAM

The Project Area is also covered by Three-Year Work Program, Certificate of Non-Coverage and Environmental Protection and Enhancement Program intended for the continuous operation of mining operations in the Area.

However, due to limited remaining mineable resources of the Project Area which resulted to a mine life of four (4) to seven (7) years. Hence, there is a need to determine the remaining gold and silver resources, as well as the potential of copper other associated minerals.

5.1. Survey of previous work/s on the area

5.1.1. Nature or type of study or undertaking

"*Mine Evaluation and Examination Report of the Mineral Property of Apex Mining Co., Inc. at Masara, Maco, Compostela Valley.*"

As entitled, the nature of undertaking is the inventory and mine evaluation of the Project Area. Its objective is to determine the current status of the company in terms of asset value, the total ore reserves available under the present economic conditions and its compliance to the annual work program.

5.1.2. Duration

The evaluation was conducted on February 10-13, 2004.

5.1.3. Coverage

The coverage of the study is the whole Project Area.

5.1.4. Proponent

The evaluation was conducted by the Mines and Geosciences Bureau Regional Office No. XI as commissioned by Apex.

5.1.5. Results

5.1.5.1. Regional Geology

Ore mineralization in Masara consists mainly of gold-silver veins, porphyry copper and purometasomatic deposits related to left-lateral movements along the spectacular Philippine Fault system and a later stage of magmatism.

The mineralization is hosted by Pre-Tertiary volcanic flows and comprises a temporal pattern of earlier peripheral copper zone, an intermediate mixed copper-

gold area and a later central gold vein system within the Masara sector of the postulated volcanic field.

Gold occurred in at least two stages and shows gradation from a lower mesothermal-epithermal phase passing into a typical epithermal zone and finally truncated, or poorly, upper level epithermal spring deposits.

Orebodies are closely associated with hot spring, solfatara and several magma related masses, emphasizing their inherent linkage with a geothermal system in the area.

5.1.5.2. Structures

The major structures in the area consist of dominant steep-dipping conjugate fractures running NW-NE, representing strike-slip components of the Philippine Fault, large Valleys-type caldera, a N-S system of gravity faults, and a less dominant set of second-order NW and NE striking faults. The stress field is responsible for this structural pattern and has a maximum strain directed to the North, giving rise to the dominant second-order NW and NE striking faults. Slightly re-oriented pressures formed the less dominant set of second order shears and minor N-trending folds, while N-striking central Masara fractures that were subsequently converted to high-angle gravity faults resulting from the relaxation of stresses.

5.1.5.3. Gold and Copper Ore Deposits

5.1.5.3.1. Masara Ore Deposits

This consists of a central group of NW-striking veins and a peripheral set of veins that follow the western rim of the postulated Masara-Amacan caldera. Except for their trends, both exhibit the same characteristics and are treated as a single system.

A. Host Rocks and Alteration

Ore mineralization is best developed in volcanics and volcanoclastic members of the Masara formation and, to a lesser degree, in diorite, andesite porphyry and hornfelses. Major alteration types involve broad propylitization and silicification, minor silicic-sericitic-argillic alteration and carbonization. With the exception of propylitization accompanied

by some overprinted silicification, all others are noticeable only at immediate vein walls and are too thin to be of any use as guide in exploration.

B. Mineralization

Ore shoots are interspersed with patches of waste along strike lengths of 100 to 1000m, and reach a vertical span of 400m. Veins normally exhibit strike changes and dip reversals; sigmoidal sections with frequent braiding are common. Strong structures at depth also develop horsetails or stockworks toward the surface. Many, likewise show moderate to intense intramineral shearing and cataclastic deformation.

Fissure-filling characteristics are manifested at shallow depths by cockade and comb structures, alternating bands of quartz-carbonate are the principal gangue minerals. Two generations of quartz, and rarely calcite are seen. The early-stage quartz is fine-to-medium-grained and is intimately mixed with clay, as dusty or streaky inclusions. Late quartz is coarse-grained, clear or rarely milky white and occurs with equally coarse carbonate and sulfides. Ubiquitous pyrite is the dominant sulfide, accompanied by galena, chalcopyrite and sphalerite. Gold in fine to coarse native form usually occurs with electrum in both early and late quartz-calcite, as filling of granoblastic grains and as octahedral crystals or in cellular-dendritic habit with vuggy quartz.

C. Gauge Ore Mineralogy

Quartz and carbonate are the principal gauge minerals. Two generations of quartz, and rarely calcite, are seen. The early stage quartz is fine- to medium-grained and is intimately mixed with clay, as dusty or streaky inclusions. Late quartz is coarse-grained, clear or rately milky white and occurs with equally coarse carbonate and sulfides. Ubiquitous pyrite is the dominant sulfide,

as accompanied by galena, chalcopyrite and sphalerite.

Gold in fine to coarse native form usually occurs with electrum in both early and late quartz-calcite, as filling of granoblastic grains and as octahedral crystals or in cellular-dendritic habit with vuggy quartz.

D. Zonal Patterns

Gold values in general increase in direct proportion to the base metal content toward the middle levels, but become poorer aobe and below them. Au/Ag ratios in the top sections are high, reaching up to 8:1, but decrease to not more than 2 in the lowest observed level. Great fluctuations, however do occur in such a multipulse ore setting. High temperature mineral suites dominate from the intermediate to deeper levels.

Quartz and calcite are usually finely crystalline at depth, but calcite becomes less dominant, through more sparry and pinkish as quartz get clearer-upwards from the intermediate zone. Laterally, there is also a gradual predominance of shorter, lower-grade ore strips outward from the core where oreshoots are longer and richer. In such cases, propylitic alteration dominates over silicification, with sericite development nil or absent.

E. Ore Controls

The southeastern fault zone east of Masara proper, the N-S fault through Pag-asa to the west and the N-W left-lateral Masara fault confine gold ore emplacement in Central Masara. Litholigic control is evident where the veins transect hornfelsic rocks or abut copper orebodies.

5.1.5.3.2. Mapula and Other Copper Ore Bodies

These occur with small diorite masses and are parallel or close to the western portion of the peripheral gold veins. The larger deposit are near the caldera rim, while the smaller ones of

the network type are close to, or cut by, the central gold vein set.

Host rocks are the same as those of the gold vein system, but alteration, though similar, is relatively far more intensive. Propylitization is also widest and furthest from ore, while sericite-clay-chlorite alteration is the type closest to ore. Leached cappings 30 to 150m thick are well developed in the peripheral bodies, but supergene enrichment does not constitute important oxide ore.

Typical porphyry copper mineralization in the peripheral areas grades through a quartz-sulfide veinlet-network type. To the dominantly sulfide replacement bodies toward the central gold vein system.

5.1.5.2. Calculated Ore Reserve

The report proven a gold reserve of 180,502 DMT @ 8.57 gm Au/Mt of ore and 196,435 DMT @ 9.29 gm Au/MT and 0.50% Cu for the St. Benedict and Masara veins only. The complete report is attached as Annex B for reference. The ore extracted is directly delivered/feed on to the mill yard for processing.

5.1.6. Results or conclusions arrived at

The above results need further reevaluation of the mineral resources in the Project Area especially the copper deposits.

5.2. Geological Survey

5.2.1. Geological Mapping

The purpose of the survey is to reassess the geology of the Project Area. This will involve the confirmation and plotting of rock types, mineralization, hydrothermal alteration, geologic structures, weathering, zoning-silicification & seritization.

5.2.1.1. Coverage

The entire Project Area covering 679.0200 hectares will be subjected to geological survey. Base topographic maps will be at 1:5,000 scale.

5.2.1.2. Duration

This activity/work will be completed in five (5) months, to commence upon issuance of the MPSA.

5.2.1.3. Manpower Compliment

One (1) Mining Engineer/Geologist and two (2) laborers will composed the geologic team that will conduct the survey.

5.2.1.4. Estimated Cost

Details	Cost (₱)
Salary and Wages Technical @ ₱20,000.00/mo. Aides @ 7,000.00/man/month	 100,000.00 70,000.00
Implements and supplies*	5,000.00
Transportation and Communication Expenses	5,000.00
Preparation of Report(s)	5,000.00
Other expenses	5,000.00
Total	***190,000.00***

* Implements such as Global Positioning System (GPS) Unit, brunton compass, sample picks, tape measures, etc. are already available.

5.2.1.5. Output

The expected output of the activity includes geologic mapping report including pertinent geologic maps of the Project Area.

5.2.2. Geochemical Survey

5.2.3.1. Nature or Type of Survey

The geochemically anomalous catchment areas will be the main target for detailed survey. Soil grid geochemical sampling method will be applied over the Project Area.

Drainage anomalies will be traced to their source areas by stream sediment sampling, float identification/sampling or ridge-and-spur soil geochemical survey. Base maps to be used will be 1:5,000 topographic maps.

5.2.3.2. Coverage

The entire Project Area covering 679.0200 hectares will be subjected to geochemical survey. Base topographic maps will be at 1:5,000 scale.

5.2.3.3. Duration

The geochemical survey will be carried out within five (5) months.

5.2.3.4. Sampling Media/Sample Type

Stream sediments will be collected by sieving in the size of minus 80-mesh. Heavy mineral concentrate will be collected by panning. Rock floats by identification and selective sampling.

5.2.3.5. Sampling Density/Estimated Number of Samples

One (1) sample will be collected for every 300-meter grid interval. Hence, at least seventy-five (75) samples of at least one (1) kilogram per sample, will be collected for each sampling media or a total of two hundred twenty-five (225) samples.

5.2.3.6. Mode of Analysis/Target Elements

All samples will analyze thru fire assaying by Apex in its laboratory located in the mine complex (Masara, Maco, Compostela Valley).

All samples will be analyzed for its gold, silver and copper contents.

5.2.3.7. Manpower Complement

The same geologic team who conducted the geological mapping will undertake this activity.

5.2.3.8. Estimated Cost

Details	Cost (₱)
Salary and Wages Technical @ ₱20,000.00/mo. Aides @ 7,000.00/man/month	 100,000.00 70,000.00
Implements and supplies*	5,000.00
Analysis Cost Gold and Silver = 225 @ ₱300.00 Copper = 225 @ ₱300.00	135,000.00
Transportation and Communication Expenses	5,000.00

Preparation of Report(s)	5,000.00
Other expenses	5,000.00
Total	***325,000.00***

5.2.3.9. Output

The output of this activity is a geochemical report with maps, assay results of rock/sediments samples.

5.3. Subsurface Investigation

5.3.1. Type

The subsurface program to be used is drilling method. The first phase of drilling program is called "developmental drilling" which is intended to determine the three-dimensional features/sides of the extension of the mineable reserves, the indicated, inferred or potential ore reserves of the Project Area.

The second phase of the drilling program is called the "copper exploration drilling." This activity will determine the copper zone of the Project Area. However, this will be undertaken during the third and fourth year of the Exploration Period under the MPSA that may be issued.

5.3.2. Number and overall length or depth

Existing gold ore bodies will be drilled at twenty-five (25) meter grid interval. It is estimated that five (5) drill holes with a depth of fifty (50) meters will be dug every month. For the fourteen (14) months remaining in the Exploration Period, a total of seventy (70) drill holes with total meterage of three thousand five hundred (3,500), will be dug.

5.3.3. Estimated Number of Samples

One sample will be collected for every three (3)-meter section of drill holes. Hence, a total of at least one thousand one hundred fifty (1,150) samples of at least one (1) kilogram per sample will be collected.

5.3.4. Mode of Analysis/Target Elements

All samples will analyze thru fire assaying by Apex in its laboratory located in the mine complex (Masara, Maco, Compostela Valley).

All samples will be analyzed for its gold, silver and copper contents.

5.3.5. Manpower Complement

One (1) Mining Engineer/Geologist and four (4) drillers will compose the geologic team.

5.3.6. Estimated Cost

Details	Cost (₱)
Salary and Wages Technical @ ₱20,000.00/month Aides/laborers @ ₱7,000.00/man/mo.	 280,000.00 392,000.00
Drilling Cost* 3,500 @ ₱1,400.00/meter	4,900,000.00
Analysis Cost Gold and silver (1,150 @ ₱300.00) Copper (1,150 samples @ ₱300.00)	 345,000.00 345,000.00
Tools and supplies	20,000.00
Transportation and Communication Expenses	15,000.00
Preparation of Report(s)	10,000.00
Other expenses	20,000.00
Total	***6,327,000.00***

* Apex has diamond drilling machine. The estimated cost are just utilization cost of the equipment.

5.3.3.8. Output

The output of this activity is a Geologic Report showing mineable reserves of the gold deposits.

6.0. TOTAL ESTIMATED COST AND SCHEDULE OF ACTIVITIES

ACTIVITY	YEAR 1					YEAR 2				
	Quarter				COST (₱)	Quarter				COST (₱)
	1st	2nd	3rd	4th		1st	2nd	3rd	4th	
1. Geological Mapping/Survey	→	→			190,000					
2. Geochemical Survey		→	→	→	325,000					
3. Subsurface Investigation (drilling)				→	904,000	→	→	→	→	5,423,000
SUBTOTAL					***1,419,000***					***5,423,000***
TOTAL										***6,842,000***

7.0. PREPARED BY:

CLEMENTE R. AGUANTA
Mining Engineer
License No. 1525
PTR No. 2527753
Date: April 26, 2005

8.0. APPROVED BY:

FELICIANO L. DELA CRUZ
EVP-Finance and Administration
Apex Mining Co., Inc.

Department of Environment and Natural Resources
Mines and Geosciences Bureau
APPROVED
DEC 15 2005

ANNEX– D

ENVIRONMENTAL WORK PROGRAM

ENVIRONMENTAL WORK PROGRAM

1.0. NAME AND ADDRESS OF THE APPLICANT

Name : **APEX MINING CO., INC.**

Address : 6th Floor, Manila Bank Building
Ayala Avenue, Makati City

Contact Person : **Mr. Raymund B. Puyat**
President

Mr. Feliciano L. De La Cruz
Executive Vice President for Finance and Administration

Tel. No. : (02) 810-08-82

Fax No. : (02) 810-0887

2.0. TYPE AND NATURE OF THE PROJECT

2.1. Project Description

The proposed Project is Exploration. The Project Area is also covered by Three-Year Work Program, Certificate of Non-Coverage and Environmental Protection and Enhancement Program intended for the continuous operation of mining operations in the Area.

However, due to limited remaining mineable resources of the Project Area which resulted to a mine life of four (4) to seven (7) years. Hence, there is a need to determine the remaining gold and silver resources, as well as the potential of copper other associated minerals.

2.2. Type and Nature of Mineral Deposit(s)

The types of mineral deposits are gold and copper deposits and the natures of occurrence are of vein type for gold and porphyry type for copper.

3.0. GENERAL LOCATION AND COVERAGE AREA OF THE PROJECT

3.1. Location and Accessibility

3.1.1. Location

The area applied for Mineral Production Sharing Agreement is located in the Barangays of Teresa and Masara, Municipality of Maco, Province of Compostela Valley and specifically bounded by the following technical description (see Annex A):

Corner	Latitude	Longitude
1	7° 23' 00.81"	126° 01' 14.76"
2	7° 23' 10.58"	126° 01' 14.76"
3	7° 23' 10.58"	126° 02' 13.46"
4	7° 23' 00.81"	126° 02' 13.46"
5	7° 23' 00.81"	126° 02' 18.35"
6	7° 23' 11.16"	126° 02' 28.72"
7	7° 22' 22.82"	126° 03' 17.13"
8	7° 22' 21.48"	126° 03' 15.80"
9	7° 22' 21.48"	126° 03' 21.67"
10	7° 21' 42.41"	126° 03' 21.67"
11	7° 21' 42.41"	126° 02' 42.55"
12	7° 21' 48.31"	126° 02' 42.55"
13	7° 22' 17.36"	126° 02' 13.45"
14	7° 21' 32.92"	126° 02' 13.45"
15	7° 21' 32.92"	126° 01' 53.89"
16	7° 21' 42.69"	126° 01' 53.89"
17	7° 21' 42.69"	126° 02' 03.67"
18	7° 22' 02.22"	126° 02' 03.67"
19	7° 22' 02.22"	126° 01' 44.11"
20	7° 22' 31.52"	126° 01' 44.11"
21	7° 22' 31.52"	126° 01' 44.54"
22	7° 23' 00.81"	126° 01' 24.54"

3.1.2. Accessibility

The Project Area is approximately 104 kilometers from Davao City. It takes about two (2) hours travel by motor vehicle thru the well-paved Maharlika Highway reaching the Municipality of Mawab, Compostela Valley. From Mawab, Masara district can be reached thru the 30-kilometer municipal road.

Davao City is located approximately one thousand three hundred (1,300) aerial kilometers southeast of Manila. It is very much accessible by air transportation. The New Davao International Airport has daily flights from Manila and other cities like Zamboanga City and Cebu City. It can be reached by plane on a one and a half (1½) flight serviced by Philippine Airlines, Cebu Pacific Air and Air Philippines.

Davao City is one of the country's busiest seaports that can accommodate both local and international shipping lines.

3.2. Area Coverage

The Project Area covers **six hundred seventy nine and 200/10000 (679.0200)** hectares.

4.0. DESCRIPTION OF THE EXISTING ENVIRONMENT WHERE WORK IS PROPOSED TO BE UNDERTAKEN

4.1. Land Environment

4.1.1. Topography/Physiography

Rugged topography characterized the Project Area with lowest elevation at 740 meters and abruptly rising to 1,240 meters above sea level. It is abounded with steep precipitous slopes and V-shaped valleys.

4.1.2. Land Use/Capability

Most part of the Project Area is within the timberland classification while other portions area classified as alienable and disposable land. The present land use of the Project Area is generally agricultural.

It is noted however that the Project Area is previously covered by Mining/Lode Lease Contract Nos. V-83; V-95; V-96 , V-97, V-124 and V-125 which were issued in 1994. By virtue of the said Contracts, Apex Mining Corporation (Apex) was then known to be one of the leading producers of gold in the entire Philippines.

4.1.3. Pedology

The soil cover is relatively thin especially at the higher portion of the Project Area. The soil is light to reddish brown due to in-situ weathering of the volcanics. Soil thickness and composition will be determined during the conduct of the exploration works.

4.2. Water Environment

4.2.1. Water Quality

The branching of water passages (creeks and falls) from upstream to downstream of Masara River caused the water to be slightly turbid. Water velocity from different passages including the Wagas creek is not extremely turbulent. There was no identified silts along the waterway that might cause extreme discoloration and stickiness of water flowing along Masara River.

The Proponent commits to undertake water quality sampling for bacteriological study during the first three months of the MPSA that may be issued.

4.2.2. Hydrology

The Project Area is drained mainly by Masara River. This is a dendritic natural receiving body of water with contributing tributaries in the upstream. It is a tributary of Hijo River in the downstream which empties its load into the Davao Gulf.

4.3. Climatology/Meteorology

The Philippines has a tropical climate, with a mean annual lowland temperature of about 27°C (80°F). The climate over any particular locality in the Philippines is due to the so-called climate controls acting with various intensities and in different combinations. These climate controls are topography and geography of the place, the prevailing wind regimes (the Northeast monsoon, the Southwest monsoon and the North Pacific trades), the semi-permanent cyclones and anti cyclones which produce the wind regimes over the country, ocean current, various linear systems and tropical cyclones affecting the country.

Its climate has been describe in terms of classification is the Modified Coronas. With the use of the average monthly distribution of rainfall of different stations, four types of rainfall distribution in the Philippines are defined.

The Province of Compostela Valley falls in the second type of climate in the tradition classification, which is characterized with no pronounced dry season but with a very pronounced wet season with heavy precipitation from the month of December to early part of March.

Throughout the year, a northerly wind prevails over the Province with varying average wind speed. The recorded annual average rainfall of the Province is 150.35 mm.

4.4. Geological/Geomorphological Environment[1]

4.4.1. Regional Geology

Ore mineralization in Masara consists mainly of gold-silver veins, porphyry copper and purometasomatic deposits related to left-lateral movements along the spectacular Philippine Fault system and a later stage of magmatism.

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1 Excerpt from "*Mine Evaluation and Examination Report of the Mineral Property of Apex Mining Co., Inc. at Masara, Maco, Compostela Valley.*"

The mineralization is hosted by Pre-Tertiary volcanic flows and comprises a temporal pattern of earlier peripheral copper zone, an intermediate mixed copper-gold area and a later central gold vein system within the Masara sector of the postulated volcanic field.

Gold occurred in at least two stages and shows gradation from a lower mesothermal-epithermal phase passing into a typical epithermal zone and finally truncated, or poorly, upper level epithermal spring deposits.

Orebodies are closely associated with hot spring, solfatara and several magma related masses, emphasizing their inherent linkage with a geothermal system in the area.

4.4.2. Structures

The major structures in the area consist of dominant steep-dipping conjugate fractures running NW-NE, representing strike-slip components of the Philippine Fault, large Valleys-type caldera, a N-S system of gravity faults, and a less dominant set of second-order NW and NE striking faults. The stress field is responsible for this structural pattern and has a maximum strain directed to the North, giving rise to the dominant second-order NW and NE striking faults. Slightly re-oriented pressures formed the less dominant set of second order shears and minor N-trending folds, while N-striking central Masara fractures that were subsequently converted to high-angle gravity faults resulting from the relaxation of stresses.

4.5. Biological Environment

4.5.1. Plants

Secondary growths of the soft wood varieties cover the Project Area as the tropical forests has been exploited by logging concessionaires and in some areas by slash and bum farmers. Thick vegetation covers most of the area except in some isolated logged-over portions.

The Proponent has conducted reforestation in the Project Area. Reforested stands of specie *Acacia manguim, Gmelina arborea, Leucaena leucocephala* (common name Ipil-ipil), and *Swietenia senegalensis* (common name Mahogany) dominated the Project Area. Conversely, vegetation is bare along some slopes and gullies that are frequently affected and moved by the action of water. Cogonal grasses are abundant in rolling and flat lying topographies.

Gradual slopes are being planted with rice, fruit trees, coconut tress, bananas, tropical cogon grass, ipil-ipil and other trees of less significance.

4.5.2. Animals

Terrestial wildlife classified under reptilians such as rattlesnake, lizard will be observed in the Project Area. Other specimens were the common migratory birds that nest within the existing plants. Aside from the habitation of diverse micro fauna, there are also micro faunal inhabitants, which are directly classified as insects.

There are no available study secured on the kinds of animals, such as mammals, birds and other terrestial vertebrates in the Project Area and its immediate vicinity, hence the Proponent commits to undertake a baseline study to determine specific animals present in the Project Area during the first three (3) months of the Exploration Period under the MPSA that may be issued.

4.6. Socio-Economic Environment

There were fifteen (15) public schools offering purely primary courses. Fifteen (15) public elementary schools, three (3) public secondary schools and two (2) private schools offering secondary courses. There are no private nor public schools offering college but vocational/technical courses on computer have been offered by Maco Institute of Technology – a TESDA assisted program.

Maco has a main health center located at barangay Binuangan and 12 barangay health centers located at geographically clustered areas. The LGU at present has a part-time Physician deployed in Masaraline to serve the 15 upland barangays of Maco.

Probably because of its proximity to the City of Tagum, there are very few private health facilities found in Maco. There were in fact, only five (5) private clinics (one with 12 bed capacity) and one (1) private Dentist, nine (9) medical practitioners and nine (9) nurses, all situated in Barangay Poblacion.

Between 1990 and 2001, birth rate in Maco ranged from 15.48 persons per 1000 population in 2001 to 21.52 per 1000 in 1990. The year 1995 recorded the highest birth rate with 40.38 per 1000. Correspondingly, death rate varied from 2.09 per 1000 in 2001 to 2.32 in 1990. It has been commonly observed that birth and death incidence are reported to the adjoining Municipality of Mawab (where its Poblacion is presently more physically accessible than to Maco`s Main Health Center and/or Civil Registrar`s Office)

Due to limited information collated, the Proponent commits to undertake a baseline study on community including socio-economic studies during the first three (3) months of the Exploration Period under the MPSA that may be issued.

5.0. DESCRIPTION OF EXPLORATION PROGRAM

5.1. Description of Exploration Method(s) and Equipment to be used

5.1.1. Geological Survey

5.1.1.1. Geological Mapping

The purpose of the survey is to reassess the geology of the Project Area. This will involve the confirmation and plotting of rock types, mineralization, hydrothermal alteration, geologic structures, weathering, zoning-silicification & seritization.

The entire Project Area covering 679.0200 hectares will be subjected to geological survey which will be undertaken for a period of five (5) months, to commence upon issuance of the MPSA. Base topographic maps will be at 1:5,000 scale.

One (1) Mining Engineer/Geologist and two (2) laborers will composed the geologic team that will conduct the survey.

There is no equipment to be used other than the service vehicle and the implements are Global Positioning System (GPS) Unit, brunton compass, sample picks and tape measures.

5.1.1.2. Geochemical Survey

The geochemically anomalous catchment areas will be the main target for detailed survey. Soil grid geochemical sampling method will be applied over the Project Area.

Drainage anomalies will be traced to their source areas by stream sediment sampling, float identification/sampling or ridge-and-spur soil geochemical survey. Base maps to be used will be 1:5,000 topographic maps.

The entire Project Area covering 679.0200 hectares will be subjected to geochemical survey. This activity will be carried out within five (5) months.

Stream sediments will be collected by sieving in the size of minus 80-mesh. Heavy mineral concentrate will be collected by panning. Rock floats by identification and selective sampling. One (1) sample will be collected for every 300-meter grid interval. Hence, at least seventy-five (75) samples of at least one (1) kilogram per sample, will be collected for each sampling media or a total of two hundred twenty-five (225) samples.

There is no equipment to be used other than the service vehicle and the implements are Global Positioning System (GPS) Unit, brunton compass, sample picks and tape measures.

5.3. Subsurface Investigation

The subsurface program to be used is drilling method. The first phase of drilling program is called "developmental drilling" which is intended to determine the three-dimensional features of the extention of the mineable reserves, the probable and possible reserves of the Project Area.

The second phase of the drilling program is called the "copper exploration drilling." This activity will determine the copper zone of the Project Area. However, this will be undertaken during the third and fourth year of the Exploration Period under the MPSA that may be issued.

Existing gold ore bodies will be drilled at twenty-five (25) meter grid interval. It is estimated that five (5) drill holes with a depth of fifty (50) meters will be dug every month. For the fourteen (14) months remaining in the Exploration Period, a total of seventy (70) drill holes with total meterage of three thousand five hundred (3,500), will be dug.

One sample will be collected for every three (3)-meter section of drill holes. Hence, a total of at least one thousand one hundred fifty (1,150) samples of at least one (1) kilogram per sample will be collected.

The equipment to be used are diamond drilling machine and service vehicle(s).

5.2. Preliminary processing of samples

All samples will analyze thru fire assaying by Apex in its laboratory located in the mine complex (Masara, Maco, Compostela Valley).

5.2.1. Sample Preparation

Sample preparation is the first important step in the methods of assaying.

5.2.1.1. Drying of Samples

1. Sample pans are washed with water and stiff brush after use and left stacked upside down to dry.

2. All sample brought to the lab are completely dried.

3. Geology sampler are placed in sample pans along with corresponding tag and placed in drying oven. There they should stay for between 1-3 hours. Muck chips or sludge sampler will take more time drying as their moisture content it much higher.

4. Mill filter cakes are dried. In quick drying of these samples, the pulp is broken up and mashed in their respective pans and dry in the hot plate to speed drying.

5. Carbon samples are placed on hot plate to finish drying.

6. Temperature of drying oven is set at approximate 105°C-120°C, too high temperature will cause some roasting.

5.2.1.2. Crushing

After drying, samples are taken out and cooled. The samples are placed in sequence order to minimize sample mix-ups. The samples are crushed on primary crusher to the smallest size possible, approximately ¼" then passed through the secondary crusher, crusher entirely samples into 1½mm-2mm. Paper bags are marked with corresponding numbers and the appropriate tags are placed inside.

5.2.1.3. Riffling or Splitting

The crushed sample are placed back in original pan or riffled immediately after crushing. The purpose is to reduce the sample size to 300-500g. The diamond drill core samples are placed in the original plastic bag for storage.

Mill pulps are broken up with spatula, roll on a mat and 500-600g are cut with spatula. The bag containing tap is placed in pan.

5.2.1.4. Pulverizing

All samples are crushed in pulverizer to minus-200 mesh. Pulverized samples are mixed to ensure homogeny.

5.2.1.5. Rolling

Samples are rolled in cloth. Samples are then placed in bags with marks.

5.2.2. Fire Assay

Fire assaying is one of the methods to determine gold and silver on ores and metallurgical product.

5.2.2.1. Flux mixture composition

A flux consisting of litharge (PbO), sodium carbonate (Na_2CO_3), borax ($Na_2B_4O_7$) and silica (SiO_2) is used along with a weighed amount of prepare sample and fused at 2000°F to create a lead button containing the precious metals.

Litharge (PbO)	=	25 kg
Soda ash (Na_2CO_3)	=	10.7 kg
Borax ($Na_2B_4O_7$)	=	4.25 kg
Silica	=	10 kg
Flour	=	1.5 kg
Carbon Flux – Litharge (PbO)	=	143 kg
Soda ash (Na_2C_o3)	=	37.7 kg
Borax ($Na2B_4O_7$)	=	36.4 kg
Silica	=	10.5 kg

5.2.2.2. Sample weight and charge preparation

In a 30-gram crucible add approximately 110-120 grams of premixed flux and weight 30-gram pulp sample, mix well then $AgNO_3$ is added depending on the concentration of gold in the sample. Then add borax.

5.2.2.3. Carbon samples

Place 80-gram flux in a 20-gram or 30-gram crucible, add 2 grams of carbon. Place into crucibles and mix thoroughly with flux, add $AgNO_3$ solution for inquartation.

Calculation

Silver assay = weight of Dore – weight of Gold

5.2.2.4. Fusion

When all samples are properly prepared, they are placed in fire assay furnace preheated to 2000 °F. The samples are fused for 45 minutes to 1 hour.

When fusion is complete, the crucibles are taken out one at a time using tongs. The molten samples are poured into cast iron molds. It is allowed to cool for 5-10 minutes. After cooling, the slag is broken off with banner. The lead button is then hammered into the shape of cube. This will clean all slags in the button. The cubed lead is then placed on lead button tray.

5.2.2.5. Cupellation

A suitable amount of cupel is placed in the furnace and allowed to heat for 5-10 minutes. At the same time, the lead cubes are placed in respective cupels and allowed to melt. When the lead has melted, the temperature of the furnace is lowered to 1750 °F, the door is slightly opened and piece of rebar is placed under the door. This allowed the air into the furnace to oxidize the molten lead. This usually takes 45 minutes – 1 hour. When all the lead has been oxidized or absorbed into the cupel, the silver bead will flash marking the end of cupellation. The cupel are then removed from the furnace using cupel fork and placed on steel table under fume hood and allowed to cool.

5.2.2.6. Parting

When dore beads are cooled, they are placed on steel anvil and flattened. Each flattened bead is then placed into a porcelain crucible. To each of the crucible, a suitable amount of 30% Nitric Acid is added. Then placed on the hot plate on medium setting and allowed to part. The parting of silver from gold usually takes 5-10 minutes. Reaction is finished when bubbles are no longer present around gold sponge. They are removed from hot plate and cooled. Each parting cup is then rinsed with distilled water three times, returned to hot plate and dried for 5 minutes.

5.2.2.7. Annealing

When gold sponge has dried, the whole tray is then placed in the furnace until the parting cups turn red or approximately 1 minute at temperature 1700°F.

5.2.2.8. Weighing

When the crucibles have cooled, they are weighed on microbalance. Each gold prill is weighed individually.

Calculation $\frac{\text{Bead Weight (mg)} \times 1000}{\text{Sample weight g}}$

5.2.2.9. Fire Assay

When the dore beads are cooled, each flattened beads is then placed into the test tube and racks and approximately 0.4 mls 1=1 HNO_3 is added. The beads are then placed in hot water bath for 30 minutes. Add 0.6 ml. HCL, place again in hot water bath for one hour. Add 4.0 ml. distilled water, then place in centrifugal equipment. Read on AA using 1.0, 2.0, 5.0, 10.0, 20.0, 30.0 standards to 16% aquaregia.

Calculation:

$\frac{\text{Solution volume (5.0)}}{\text{Pulp wt (30.0)}}$ x A.A. Reading PPM = mg/L Au

5.2.2.10. Weighing of Bullion

Samples are received on metallic shaving or pin tubes. The sample weighing 200-220 mg are placed on a sheet of lead foil of 6-7 grams with one edge turned up.

Four portions in each bar are weighed, one for dore and the other 3 for gold, add approximately 550 mg silver foil. Sometimes it is necessary to add 5 mg of copper, depending on copper content in the BAR. Carefully wrap all in the lead foil, ready for cupellation.

5.2.2.11. Gold Proofs

Prepare 2 gold proofs weighing 160 mg each. The exact weight is recorded then 550 mg silver foil and 5 mg of copper are added to each end wrap in 6-7 g lead foil.

5.2.2.12. Silver Proofs

For a dore proof weighing 160 mg of gold and 36 mg of silver. Record each weight, then 5 mg of copper is added and wrapped in 6-7 mg of lead foil. These proofs are inserted into the middle of the batch of bullion

samples for cupellation. Normally, the 2 gold proofs show slight increase in weight while the dore proof show a slight decrease.

5.3. Total Estimated Exploration Cost Including Schedule of Activities

ACTIVITY	YEAR 1					YEAR 2				
	Quarter				COST (₱)	Quarter				COST (₱)
	1st	2nd	3rd	4th		1st	2nd	3rd	4th	
1. Geological Mapping/Survey	→	→			190,000					
2. Geochemical Survey		→	→		325,000					
3. Subsurface Investigation (drilling)			→	→	904,000	→	→	→	→	5,423,000
SUBTOTAL					***1,419,000***					***5,423,000***
TOTAL										***6,842,000***

6.0. IDENTIFICATION OF POTENTIAL EFFECTS

6.1. On Land

6.1.1. Surface Disturbance Off the Mineral Property Subject of Exploration.

Existing trails and traverse leading to the Project Area has been constructed. Minor road upgrading will be undertaken regularly. The identified environmental effect is siltation due to possible creation of soil piles.

6.1.2. Surface Disturbance On the Mineral Property Subject of Exploration

6.1.2.1. Traverse and Trails

Existing roads will be will be utilized. Road upgrading will be regularly undertaken. The identified environmental effect is siltation due to possible creation of soil piles.

6.1.2.2. Field/fly Camp, Staff house and Facilities

The mine facilities are already in place. Hence, the identified environmental effect is pollution and

contamination of existing environment due to man-generated waste.

6.1.2.3. During Surface Investigation

Ground disturbance during surface investigation is negligible. Although minimal in effect, the activity will cause the following:

- minimal clearing of vegetation
- minor erosion due to the collection of samples
- siltation
- disturbance of natural habitat of animals

6.1.2.4. Drilling Activities

The drilling activities will cause the following:

- minimal clearing of vegetation
- siltation
- disturbance of natural habitat of animals

6.2. On hydrology and water quality

6.2.1. Potential generation of Acid Mine Drainage

The rocks present in the Project Area contain iron sulphides and pyritic ores which may cause acid mine drainage. As such, restoration of the drilling areas will be immediately conducted so that these areas will not be exposed for a long period of time (duration is one of the parameters for generation of acid mine).

6.2.2. Siltation and Pollution of Surface Waters

Some of the potential environmental effects identified are as follows:

- Soil and water contamination due to human waste
- siltation due to induced erosion brought about by human intrusion

6.2.3. Changes in hydrology

There will be no changes in hydrology since there will be no diversion of existing drainage pattern.

6. 3. On the Ecology and Socioeconomic Effects

The Project Area has been operated since 1941. Hence, the effect due to exploration activities on the ecology and socioeconomic is no longer an issue.

7.0. ENVIRONMENTAL MANAGEMENT MEASURES INCLUDING TOTAL COST

7.1. Environmental Management Measures Including Total Cost

SPECIFIC AREA	SOURCE	POTENTIAL EFFECT	MITIGATING MEASURES (COMMITMENT)	COST (₱)
Outside of the Project Area	• Construction Restoration or upgrading of the access routes	• loss of vegetation	• Use existing and established access routes to prevent clearing.	
		• siltation/ turbidity	• Putting up of settling ponds and/or sediment traps where it is deemed necessary.	15,000.00
		• erosion	• Minimize height of muck stockpile/s along slopes. • Provision of proper drain channels and directing the flow to siltation/sediment traps. • Minimize stockpiling and accumulation of unwanted debris or waste • Promotion of the growth of grasses/shrubs along roadsides and over the stockpiles to prevent it from erosion. • Conduct regular road maintenance	15,000.00
		• disturbance of natural habitat of animals	• Conduct of study to identify a more suitable habitat available in the project area • Proper and cautious approach will be observed prior to entry of any area	5,000.00

Within the Project Area	• Construction restoration or upgrading of access routes	• loss of vegetation	• Use of existing and established access routes to prevent clearing.	
		• Siltation/ turbidity	• Putting up of settling ponds and/or sediment traps where it is deemed necessary.	15,000.00
		• erosion	• Minimize height of muck stockpile/s along slopes. • Provision of proper drain channels and directing the flow to siltation/sediment traps. • Minimize stockpiling and accumulation of unwanted debris or waste • Promotion of the growth of grasses/shrubs along roadsides and over the stockpiles to prevent it from erosion. • Conduct regular road maintenance	15,000.00
		• Disturbance of natural habitat of animals	• Conduct of study to identify a more suitable habitat available in the project area • Proper and cautious approach will be observed prior to entry of any area	5,000.00
	• Ground Disturbance during Surface Investigation	• minor erosion using hand pick	• Minor disturbed ground will be immediately rehabilitated and revegetated	20,000.00
		• siltation	• This effect is possible only if ground breaking takes place near a body of water. Necessary enclosure to provide enough time for stabilization, such as ripraps will be installed.	

		• Disturbance of natural habitat of animals	• A continuing study will be undertaken to identify a more suitable habitat available in the project area • Proper and cautious approach will be observed prior to entry of any area	
	• Drilling and sample collection and preparation	• Depressions may occur on selected area	• Immediate rehabilitation and revegetation after abandonment. • Ripping shall be conducted at compacted areas. • Revegetation or reforestation after project completion but before abandonment to give ample time for rehabilitation measures maintenance.	80,000.00
		• Disturbance of natural habitat of animals	• Continuing study to identify more suitable habitat in the project area. • Proper approach will be observed prior to entry of any area	
		• Siltation/ Erosion	• Peripheral canals and silt traps will be constructed in stockpiles or erosion prone areas. • As much as possible the stockpile shall be put at the low-prone erosion areas. • Enclosure of stockpile.	20,000.00

		• Loss of vegetation	• Encourage the growth of natural vegetation by spreading the stockpiled topsoil. • As much as possible, the natural specie of the area will be maintained. • Cleared area will be temporarily planted with fast-growing specie of grass. Then after stabilization of ground, a more suitable and significant plant specie will be planted. • Maintain and/or establish a nursery during the exploration program for progressive rehabilitation.	50,000.00
On Hydrology and Water Quality	• Excavations	• Siltation	• Immediate plugging of drill holes immediately after the desired samples are taken or after the study are completed.	20,000.00
	• Clearing of vegetation	• Siltation/ turbidity	• Sediment traps and settling ponds will be constructed to prevent infiltration of washed-out materials • Encourage the growth of natural vegetation by spreading the stockpiled topsoil. • As much as possible, the natural specie of the area will be maintained. • Cleared area will be temporarily planted with fast-growing specie of grass. Then after stabilization of ground, a more suitable and significant plant specie will be planted. • Maintain and/or establish a nursery during the exploration program for progressive rehabilitation.	50,000.00

	• Introduction of human activities	• Water and soil contamination	• Camps will be constructed at least 100 meters from known water bodies/natural drainage and will be provided with proper latrine facilities. • Human related waste will be segregated and collected for proper disposition • Encounters with aquifers will be recorded and documented for future study and beneficial use	10,000.00
	• Use of drilling chemicals	• Water and soil contamination	• Biodegradable drilling fluids shall be used as much as possible. • Refueling areas shall be provided with bunds and lined with impervious materials to prevent soil contamination. • Contaminants will be contained and disposed of properly to prevent infiltration to environment • Water recycling shall be implemented through provision of water tanks/ponds in each drill site.	40,000.00
On Ecology	• Clearing of vegetation and noise generation	• Displace-ment/loss of flora and fauna	• Clearing will be avoided as much as possible and noise generation will be kept to the barest • Proper planning of approach will be observed to avoid disturbance	
		• loss of rare species of flora and fauna	• Areas identified as special habitat to rare and endangered species will be preserved and reported to proper government agency	

	• Waste generation	• Foul odor, health problem, water pollution, visual nuisance, may displace sensitive flora and fauna	• A specific site away from any source of water will be designated for waste dumping, organic waste will be buried in pits while the inorganic waste will be collected and taken out of the site for possible recycling or disposal to Municipal dumpsite.	10,000.00
On Socio-Economic Condition	• Project Implementation	• Displacement of socio economic activities	• Promote employment opportunities by giving local residents priority on job available in relation to this project. • Provide a just compensation to private property owners that may be disturbed by the project.	20,000.00
	• Misinformation on Project Implementation	• Disharmonious relationship between the residents and the Contractor	• IEC campaign will be regularly conducted among the local residents prior and during the implementation. • Keep an open communication with the community through a conduct of regular meetings to give an update on the status of the Project. • Meet the community after the project has been accomplished to give them the information with regard to the findings and future company plans involving the area, if there is any.	30,000.00
	• Increase of migration	• Disharmonious relations with residents and loss of traditions/culture	• Limit the hiring of non-resident workers to technical personnel. • Residents of the concerned Municipalities/ Province shall be given preference.	

	• Unsafe working condition	• Compromised safety of workers	• All employees shall be provided with protective equipment and proper medical attention will be accorded to them regularly. • Training on safety and proper equipment handling shall be provided to all personnel.	30,000.00
TOTAL COST				**450,000.00**

7.2. Schedule of Environmental Activities

ACTIVITY	YEAR 1 Quarter				YEAR 2 Quarter				COST (₱)
	1st	2nd	3rd	4th	1st	2nd	3rd	4th	
A. ENVIRONMENTAL ACTIVITIES									
1. IEC Campaign	▶			▶			▶		30,000.00
2. Training of Staffs/laborers incl. safety paraphernalia	▶		▶		▶		▶		30,000.00
3. Road Upgrading/ Maintenance	→	→	→	→	→	→	→	→	30,000.00
3. Setting up of Nursery incl. propagation of seedlings	→	→	→	→	→	→	→	→	100,000.00
4. Construction and Maintenance of Settling Ponds/Sediment traps	→	→	→	→	→	→	→	→	30,000.00
5. Slope Stabilization (rip-rap, slope reduction...)	→	→	→	→	→	→	→	→	20,000.00
6. Plugging of drillholes				→	→	→	→	→	20,000.00
7. Rehabilitation/ revegetation/ reforestation	→	→	→	→	→	→	→	→	100,000.00
8 Other Mitigating measures	→	→	→	→	→	→	→	→	90,000.00
9. Monitoring and Maintenance of Environmental Activities	→	→	→	→	→	→	→	→	20,000.00
B. BASELINE INFORMATION GATHERING									
1. Water Quality	▶		▶		▶		▶		100,000.00
2. Hydrology Study	→			→			→		20,000.00
3. Flora and Fauna	→						→		30,000.00
4. Community Study	→						→		50,000.00
5. Air Quality	→			→	→	→	→	→	30,000.00
TOTAL									***700,000.00***

8.0. PREPARED BY:

CLEMENTE R. AGUANTA
Mining Engineer
License No. 1525
PTR No. 2527753
Date: April 26, 2005

9.0. APPROVED BY:

FELICIANO L. DELA CRUZ
EVP-Finance and Administration
Apex Mining Co., Inc.

Department of Environment and Natural Resources
Mines and Geosciences Bureau
APPROVED
DEC 15 2005

ANNEX– E

3-YEAR
WORK PROGRAM

Republic of the Philippines
Department of Environment and Natural Resources
MINES AND GEOSCIENCES BUREAU

THREE-YEAR WORK PROGRAM

1. Corporate Data

Maligaya Gold Mining Project Under Mineral Production Sharing Agreement Application Denominated as APSA No. 000244-XI

Mr. Raymund B. Puyat
President
Mr. Feliciano L. De La Cruz
Executive Vice President for Finance and Administration
Apex Mining Co., Inc. (MPSA Contractor)
6th Floor, Manila Bank Building
Ayala Avenue, Makati City
Tel. No. 810-08-82 Fax No. 810-0887

Engr. Lucio R. Castillo
President
Goldridge Mining Corporation (Operator)
No. 4 Lyrebird Street, Belisario Heights Subd.
Lanang, Davao City

2. Project Description

2.1 Project Details

Location:

The area applied for is located in Sitio Nuñez, Barangay Teresa, Municipality of Maco, Compostela Valley Province that lies within the geographical coordinates 7^0 21' 55.20" to 7^0 23' 4.26" North Latitude and 126^0 01' 24.54 " to 126^0 03' 10.21 " East Longitude.

Estimated Capital Cost: Continuing Operation
Commodity: Gold, Silver, Copper, etc.
Present Status of the Project:

In April 2003, Apex Mining Co., Inc. (Apex) entered into a Operating Agreement with Goldridge Mining Corporation (Goldridge) , allowing the latter to exclusively explore, develop and put into mining operations a specified portions of Apex' Masara veins, covered then by the still exiting Mining/Placer Lease Contracts No. V-83; V-95; V-96 and V-97.

Goldridge was able to put up their own mill and support facilities and developed and placed leased area (Maligaya Vein) into commercial operations.

The existing operation of Goldridge is concentrated in the Maligaya vein employing a mechanized shrinkage method. Prior to the

to drive a decline tunnel to intercept the Masara vein, using the mechanized trackless mining method complemented by a Load-Haul-Dump (LHD) unit and two (two) Low Profile Trucks.

Description of Mining Method

Mining method to be employed is basically a combination of mechanized shrinkage mining method and sub-level stoping , replacing the traditional timber intensive cut and fill method.

Upon intersecting the Maligaya vein, exit and access raises are first driven at an interval of about 45 meters with draw chutes or mill holes constructed at 5-7 meter spacing.

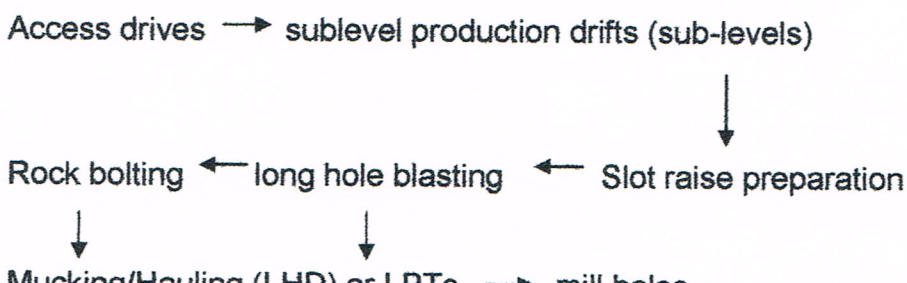
From the exit and access raises, these draw chutes or mill holes are subsequently interconnected at a sill floor or initial sub-level 5-meter from the back of the drift. The mill holes in this back pillar are funnel shaped to enhance flow of broken ore during the drawing of broken ore. Succeeding activity is the drilling of the whole length of the back stope utilizing two (2) rock drills. For safety and efficiency, the ore contact/vein limit shall be determined with extra precaution to prevent overbreaking or dilution. An estimated 40% of the broken ore is drawn after every blast to open a room and platform for the drilling activity. Rock bolts to support the hanging wall are installed when necessary.

The whole stock of broken ore is accumulated in the stope and drawn and trammed to the portal. The shrinking pattern of drawing ore by means of trackless mechanized method, up to the pillar limit then closes the entire block. Some weak walls of these mined-out blocks have a tendency to collapse over time filling-up the mined-out space underground.

During full underground operation, access and main haulage to the vein structure at 10 meters vertical lifts are driven in either by declines or inclines that intercepts the sublevel production drifts elevations.

Sublevel drifts are then driven up to the ore limits starting from the upper most level and then the succeeding levels. Long haul retreat caving drill/blast then commences with a slot raise at the end of upper most level working downward to succeeding levels at a pre-determined advance for proper caving management for safety and efficiency. These slot raises are located at the end of each production drifts as free space for the initiation of the longhole drilling and blasting activity.

This trackless method of underground mining is summarized in sequence, as follows:



Estimated Daily/Annual Production:

Average daily production from the underground mine is 33 Metric tons with an estimated mill feed of 30 Metric tons. Underground monthly production is 990 Metric tons, annually at 11,880 Metric tons.

Description of Mill/Plant Process:

The run of mine ore from the underground trackboard and trackless mining are delivered to the millyard at a distance of approximately 300 meters by LHDs/LPTs. Feeding to the coarse ore bin (COB) is done with a front-end loader which follows a predetermined blending rations from each millyar stockpile required to obtain optimum milling results. A chain of apron feed feeds a Jaw Crusher, for the primary crushing stage.

The crushed ore are then conveyed to a washing trommels and scrubber to clear out clayey materials from the ore. Undersized materials from this section is flumed to the classifier where the classifier sand is conveyed to the fine ore bin, while slime overflow is piped to the slime thickeners.

The oversize of the trommel is stored in a 50-ton surge bin where feed is regulated to the standard secondary cone crusher. Crushed ore is accumulated in an intermediate ore bin for feeding by conveyor to tertiary short-head cone crusher with pre-screening for the undersize to be separated and conveyed to the fine ore bin thus optimizing the tertiary crusher capacities.

The crushed ore from the oversize of the vibrating screen are also conveyed and accumulated at the Fine Ore Bin (FOB). From the FOB, the ore is fed to the ball mills by conveyors and in closed circuit with cyclones, the cyclones undeflow is piped back for regrinding and the overflow is piped to the thickeners.

The underflow of thickeners at the required density is pumped to a pre-leach tank where initial cyanide is added to leach or dissolve the gold.

In summary, the crushed, ground and thickened ore is pump to the CIL circuit as a slurry. In the CIL circuit, cyanide is added to the slurry to dissolve the gold, which is then adsorbed onto activated carbon. The slurry moves down the circuit while the carbon is treated in the elution circuit to strip the gold off the carbon into solution. The gold is then recovered in the electrowining cell on the cathodes. The cathodes are acid-treated prior to smelting for the production of gold bullion.

Cyanide is naturally consumed in the process and is typically at a concentration of 0.05-0.10 % in the tailings solution. Over time and with the action of sunlight, the cyanide naturally disintegrates from the mill and ten into the tailings dam. Acidity is maintained at a PH of 10-11 using lime to protect the cyanide which dissociates into HCN gas at acid PH. The tanks are open and therefore naturally ventilated. Lime is added to the milling circuit. The final solid and solutions tails from the adorption tanks is forwarded to a thickener wherein the solution tails passes to a carbon column for final recovery of remaining/remnant gold in the solution, thus, further improving gold recovery.

Typical cyanide consumption is 1-1.5 kg/ton treated. Caustic cyanide solution is also used in the elution process to strip the gold off the carbon at high temperature and pressure. Spent solution from the elution process passes to the CIL circuit. All spillages are contained in the plant's catch-all sump and pumped back to the circuit.

Nitric acid is used to acid-treat the cathodes prior to smelting. NOx gas released during this process is discharged direct to the atmosphere through a stack. A scrubber to treat NOx gas is installed where generated acid is pumped to tailings. This is described as the batch process.

Present Parameters on Metallurgical Process:

Daily ROM feed	:	30 Metric tons
Monthly ROM	:	900 Mts @ 30 days/mo.
Head Grade	:	17 gm Au/ton (Maligaya Vein)
Tailings	:	0.5 gm/ton
Recovery	:	85%
Daily Gold Prodution	:	433 gm
Monthly Au Production	:	13 ton Au
Annual Au Production	:	156 ton Au

2.2 Mineral Reserves

The mineral reserve of the Maligaya Veins of the Masara vein system is taken from the report on the "*Mine Evaluation and Examinatin Report of the Mineral Property of Apex Mining Co., Inc. at Masara, Maco, Compostela Valley*" conducted in 1994 by the Mines and Geosciences Bureau Regional Office No. XI. Said report is the result of the evaluation and examination on the reported mineral reserves by Apex.

The report indicated a gold reserve of 15,933 DMT @ 17.42 gm Au/Mt of ore. The complete report is attached for reference. The ore extracted is directly delivered/feed on to the mill yard for processing.

Life of Mine

The expected life of mine of the whole Apex property is still undetermined considering that the Maligaya Veins of the Masara system comprise only a portion of the entire mine property. For the purpose of determining the life of the Maligaya veins relative to the existing mine rated production, the life is computed as follows:

Life of Mine (Maligaya veins):

Proven reserve: **15,933 MT**
Estimated Annual Mine Production: **11,880 MT**
Life of Mine (Maligaya Veins): **~ 1.34 years**

Current Ore reserve estimate indicate that the Masara veins has a potential ore reserve of 648,776 MT of ore @ an average grade of 8.46 gm Au. By a safe estimation of 30% conversion to positive mineral reserve , the reserve will be at a safe estimate of 194,632.80 MT.

After the complete development, the mine underground production will be eventually increase to 175 MT/day, thus increasing the estimated mine life to another **3 years**.

2.3 Access/Transportation

Road Access

The project site is approximately 104 kilometers from Davao City. It takes about two(2) hours travel by motor vehicle thru the well-paved Maharlika Highway reaching the Municipality of Mawab, Compostela Valley. From Mawab, Masara district can be reached thru the 30-kilometer municipal road.

Air Access

Davao City International Airport thru commercial planes plying from Manila, Cebu and Zamboanga and other key airports of the country.

Shipping

Davao City seaport is the main entry ports of central Mindanao. It can accommodate both local and international shipping trade thru its international class container terminal located in Barangay Sasa and Ilang, Davao City.

2.4 Utililities

Power

Power is supplied by Davao del Norte Electric Cooperative (DANECO) thru the TRANCO (formerly NPC) systems. Current power requirement is estimated to be 1000 kw-hr per month.

Water

Masara has a vast subterranean water deposit that could be readily tapped to service the industrial and domestic needs of the project.

2.5 Mining and Milling Equipment

Mining

Type	No. of Units	Status
Air Compressor 1500CFM	1	Existing and operational
Hand-held Pusher Leg	15	-do-
Mine Lamp	200	-do-
Low Profile Trucks (LPT)	2	-do-
Load-Haul-Dump (LHD)	1	-do-
Mine Fans	15	-do-
Mine Pumps flatform/ submersible	20	-do-
Power Generator	1	-do-
Surveying equipment	2 lots	-do-
Shot Crete Machine	1	-do-
Service Vehicles	2	-do-

Milling

Type	No. of Units	Status
Jaw Crusher	1	Existing and operational
Trommel	1	-do-
Compressor	1	-do-
Gravity tables	2	-do-
Slurry Pumps	15	-do-
Falcon Concertrator	2	-do-
Stripping and electrowinning	1 lot	-do-
CIP Tank with drive	6	-do-
Service Vehicles	2	-do-

Existing Infrastructure/Ancillary facilities

Explosive Magazine
Tailings pond/dam
Administration Building
Refinery
Water Systems
Bunk Houses
Power House

2.6 Workforce Information

Seventy percent of the total operational workforce is from the nearby communities. Below is the list and details of the workforce of Goldridge in Masara Area of the Apex mine property:

Employee	No.	Basic Salary/Month	Annual Salary plus 13th Month	SSS, MEDICARE & HDMF*	Total
Resident Manager	1	50,000.00	650,000.00	26,000.00	726,000.00
Mine Superintendent	1	45,000.00	585,000.00	22,815.00	607,815.00
Supervising Geologist	1	45,000.00	585,000.00	22,815.00	607,815.00
Administrative Officer	1	35,000.00	455,000.00	17,745.00	472,745.00
Mill Superintendent	1	45,000.00	585,000.00	22,815.00	607,815.00
Mine Foreman	4	35,000.00	1,820,000.00	72,800.00	1,892,800.00
Mechanical/Electrical Supervisor	1	45,000.00	585,000.00	22,815.00	607,815.00
Underground Production Personnel	24	15,000.00	4680000	187200	4867200
Underground Development Personnel	36	15,000.00	7020000	280800	7300800
Engineering and Geology Personnel	15	15,000.00	2925000	117000	3042000
Laboratory Personnel	10	15,000.00	1950000	78000	2028000
Mill Tenders	15	12,000.00	2340000	93600	2433600
Mechanics	19	25,000.00	6175000	247000	6422000
Electricians	20	20,000.00	5200000	208000	5408000
Finance and Accounting Personnel	4	15,000.00	780000	31200	811200
Administration Staff	12	20,000.00	3120000	124800	3244800
Community Development Officer	1	20,000.00	260,000.00	10,140.00	270,140.00
Environmental and	1				

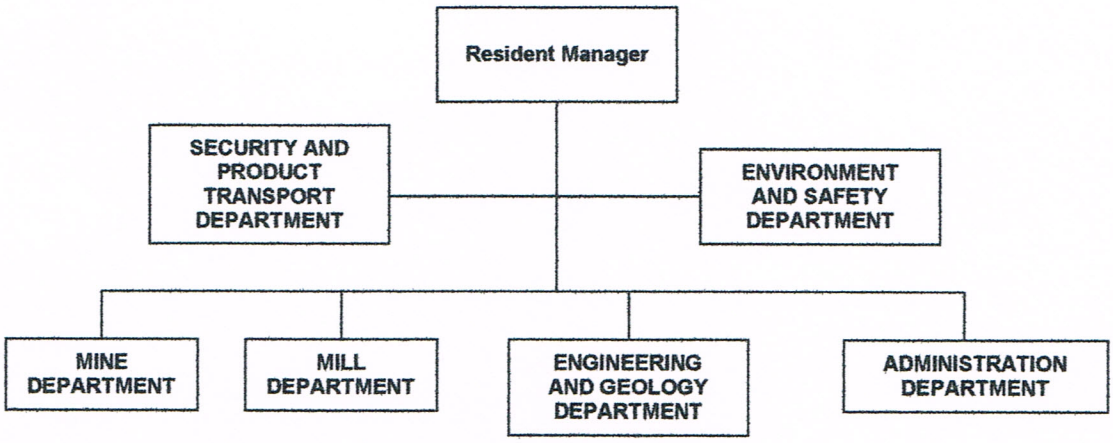
Environment and Safety Crew	4	15,000.00	780000	31200	811200
HE Operator	4	13,000.00	676000	27040	703040
Driller/Blaster	2	13,000.00	338000	13520	393520
Chief Security	1	30,000.00	585,000.00	22,815.00	607,815.00
Security Personnel	60	13,000.00	338,000.00	13,182.00	351,182.00
Total	**229**	**591,000.00**	**42,887,013.00**	**1,711,047.00**	**44,690,047.00**

* @ 4% of Gross Salary

Unit Cost (Salaries and Wages):

Monthly Production : 990 MT
Annual Production : 11,880 MT
Annual S and W : PHP 44, 690,047.00
Unit Cost/MT : PHP376.00/MT

Organizational Set-up:



Housing Option:

The existing housing and accommodation facilities of the then Apex mining operation are provided for Goldridge. Most of the rank and file employees, however, are local residents while, technical and managerial housing are provided using the existing Apex facilities.

2.7 Development Program

Mining operation on the Maligaya vein shall commence upon the approval of the MPSA application, while in production, confirmatory drilling on the vein extension will initiated while drawing plans for the eventual development of the veins. It is estimated that once, the blocked ore of the Maligaya veins are completely mined, development workings on its extension should have been complete to sustain mining operations.

Extension of the existing decline will be the primary activities to be undertaken by the Mine Development Group once the mining operations of the Maligaya veins started. From the decline, lateral expansion thru raises and sublevels will immediately be developed as ore blocking.

Initially, it is estimated that 60 meters of the decline will be extended to make way for the exploratory drilling of the extension of the Masara vein system, particularly the Maligaya Veins. This is targeted to be

completed within 6 months from commencement. Allotted cost for this development built-up is estimated to be PHP 250,000.00.

2.8 Production Schedule and Estimated Cost Per Annum

Year	Mine Production (MT)	Mill Feed (MT)	Au Production (Gram)	Value* at PHP830.00/gm Au	Estimated 2%Excise Tax (PHP)
1	11,880.00	10,800.00	156,915.60	130,239,948.00	2,604,798.96
2	63,000.00	55,800.00	401,257.80	333,043,974.00	6,660,879.48
3	63,000.00	55,800.00	401,257.80	333,043,974.00	6,660,879.48

Gold Price @ US$ 420.00/oz.
Exchange Rate: PHP 56.00/US$
PHP value in gm Au: PHP 830.00/gm

The following figures are taken from the actual operation expenditures of Goldridge, except for the labor cost, which will be adjusted once the operation commences under the MPSA:

Mining Cost

Cost Item	Unit Cost (PHP)
Explosives	83.00
Compressor Operation	110.00
Drill Steels	18.00
Materials and Supplies	38.00
Tools and Equipments	20.00
Support and Timber	110.00
Power and Ventilation	25.00
Geology and Survey	9.00
Total	413.00

Milling Cost

Cost Item	Unit Cost (PHP)
Power	84.00
Chemical and Reagents	33.00
Materials and Supplies	110.00
Laboratory and others	44.00
Total	271.00

Total Production (Mining and Milling), including Environmental, Community Development, Safety and other Costs:

Cost Item	Unit Cost (PHP)
Labor	376.00
Mining	413.00
Milling	271.00
Environment and Safety	40.00
Community Development	11.00
Security and Transport	53.00
Miscellaneous	20.00
Excise Tax	96.00
Other Taxes	10.00
Total	1,290.00

Annual Over-All Operational Cost:

Year	Annual Total Cost	Monthly Cost
1	15,575,200.00*	1,297,933.30
2	81,270,000.00	6,772,500.00
3	81,270,000.00	6,772,500.00

- including underground development cost

2.9 Gantt Chart (Attachment)

3. Community Development Programs and Estimated Cost

The Community Development Program will be at an annual cost of **PHP130,680.00** for the 1st year and **PHP693,000.00** for the succeeding years under this 3-Yr Work Program.

This program will be prepared in accordance with the existing requirement of the Government, which will focus on the following:

- Health and Sanitation
- Livelihood
- Sport Development
- Infrastructure assistance
- Education
- Medical Needs
- Emergency Response Preparedness
- Trade Skills Development
- Beautification and Cleanliness
- Observance of traditions

4. Environmental Management and Protection Program and Cost

The submitted Environmental Protection and Enhancement Program (EPEP) is currently under going evaluation by the Mines Rehabilitation Fund Committee of the Mines and Geosciences Bureau Regional Office, some of the important considerations in the preparation of the this EPEP. The amount allocated for the EPEP is estimated to be **PHP 356,400.00** during the 1st Year of operation and **PhP 2,520,000.00** in succeeding years.

5.0 Attachments

A. **Gantt Chart**
B. **Mine Evaluation and Examination Report of the Mineral Property of Apex Mining Co., Inc at Masara, Maco, Compostela Valley (2004)**
C. **Geology of Masara Mine**
D. **Longitudinal Section of Various Stages in Mining**
E. **Location Map**
F. **Basic Mill Process Flow (BMMRC Design)**

Prepared for Goldridge Mining Corporation By:

CLEMENTE R. AGUANTA
Mining Engineer
License No. 1525
PTR No. 2527753
Date: April 26, 2005

Conforme:

Apex Mining Co., Inc.
By:

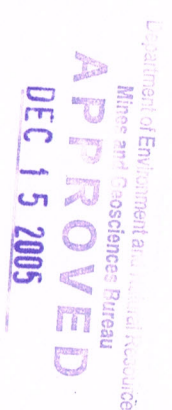
FELICIANO L. DELA CRUZ
EVP-Finance – Administration
and Treasurer

Department of Environment and Natural Resources
Mines and Geosciences Bureau
APPROVED
DEC 15 2005

Form No. 16-2

GANT CHART OF ACTIVITIES

ACTIVITIES	YEAR											
	1				2				3			
	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q
1. Final Preparation on Decline intersecting Maligaya Veins												
2. Raises/Sublevels/Ventilation/De-watering												
3. Mining by Shrinkage/Sub-level Stoping in Retreating Manner												
4. Decline Extension												
5. Raises/Sublevels/Ventilation/De-watering for next block												
6. Mining by Shrinkage/Sub-level Stoping in Retreating Manner (Maligaya Vein extension)												
7. Confirmatory Drilling/Exploration												



Republic of the Philippines
Department of Environment and Natural Resources
MINES AND GEOSCIENCES BUREAU

THREE-YEAR WORK PROGRAM

1. Corporate Data

St. Benidict/Maria Inez Vein Mining Project Under Mineral Production Sharing Agreement Application Denominated as APSA No. 000242-XI

Mr. Raymund B. Puyat
President
Mr. Feliciano L. De La Cruz
Executive Vice President for Finance and Administration
Apex Mining Co., Inc. (MPSA Contractor)
6th Floor, Manila Bank Building
Ayala Avenue, Makati City
Tel. No. 810-08-82 Fax No. 810-0887

Viclode Mining Corporation (Operator)
No. 4 Lyrebird Street, Belisario Heights Subd.
Lanang, Davao City

2. Project Description

2.1 Project Details

Location:

The area applied for is located in Barangay Masara, Municipality of Maco, Compostela Valley Province that lies within the geographical coordinates 7^0 21' 55.20" to 7^0 23' 4.26" North Latitude and 126^0 01' 24.54 " to 126^0 03' 10.21 " East Longitude.

Estimated Capital Cost: Continuing Operation
Commodity: Gold, Silver, Copper, etc.
Present Status of the Project:

In April 2003, Apex Mining Co., Inc. (Apex) entered into a Operating Agreement with Viclode Mining Corporation (Viclode), allowing the latter to exclusively explore, develop and put into mining operations a specified portions of Apex' Masara veins, covered then by the still exiting Mining/Placer Lease Contracts No. V-124 and 125.

Viclode was able to put up their own mill and support facilities and developed and placed leased area, particularly the St. Benedict veins into commercial operations.

The existing operation of Viclode is concentrated in the St. Benedict vein employing a mechanized shrinkage method. Prior to the expiration of the leased contracts in 2005, Viclode has been maintaining the old drift at the St. Benedict employing trackless mining method complemented by a Load-Haul-Dump (LHD) unit and two (two)

Description of Mining Method

Mining method to be employed is basically a combination of mechanized shrinkage mining method and sub-level stoping , replacing the traditional timber intensive cut and fill method.

Presently the St. Benedict vein has been completely blocked awaiting for the resumption of operation once the MPSA application is approved, exit and access raises are driven at an interval of about 30 meters with draw chutes or mill holes constructed at 5-7 meter spacing.

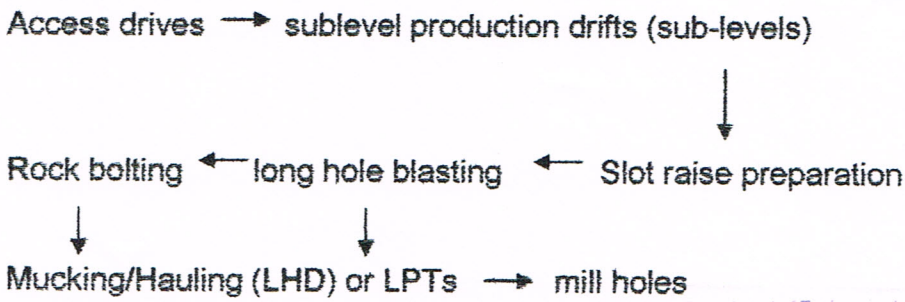
From the exit and access raises, these draw chutes or mill holes are subsequently interconnected at a sill floor or initial sub-level 5-meter from the back of the drift. The mill holes in this back pillar are funnel shaped to enhance flow of broken ore during the drawing of broken ore. Succeeding activity is the drilling of the whole length of the back stope utilizing two (2) rock drills. For safety and efficiency, the ore contact/vein limit shall be determined with extra precaution to prevent overbreaking or dilution. An estimated 40% of the broken ore is drawn after every blast to open a room and platform for the drilling activity. Rock bolts to support the hanging wall are installed when necessary.

The whole stock of broken ore is accumulated in the stope and drawn and trammed to the portal. The shrinking pattern of drawing ore by means of trackless mechanized method, up to the pillar limit then closes the entire block. Some weak walls of these mined-out blocks have a tendency to collapse over time filling-up the mined-out space underground.

During full underground operation, access and main haulage to the vein structure at 10 meters vertical lifts are driven in either by declines or inclines that intercepts the sublevel production drifts elevations.

Sublevel drifts are then driven up to the ore limits starting from the upper most level and then the succeeding levels. Long haul retreat caving drill/blast then commences with a slot raise at the end of upper most level working downward to succeeding levels at a pre-determined advance for proper caving management for safety and efficiency. These slot raises are located at the end of each production drifts as free space for the initiation of the longhole drilling and blasting activity.

This trackless method of underground mining is summarized in sequence, as follows:



Estimated Daily/Annual Production:

Average daily production from the underground mine is 110 Metric tons with an estimated mill feed of 100 Metric tons. Underground monthly production is 3,300 Metric tons, annually at 39,600 Metric tons.

Description of Mill/Plant Process:

The run of mine ore from the underground trackboard and trackless mining are delivered to the millyard at a distance of approximately 300 meters by LHDs/LPTs. Feeding to the coarse ore bin (COB) is done with a front-end loader which follows a predetermined blending rations from each millyar stockpile required to obtain optimum milling results. A chain of apron feed feeds a Jaw Crusher, for the primary crushing stage.

The crushed ore are then conveyed to a washing trommels and scrubber to clear out clayey materials from the ore. Undersized materials from this section is flumed to the classifier where the classifier sand is conveyed to the fine ore bin, while slime overflow is piped to the slime thickeners.

The oversize of the trommel is stored in a 50-ton surge bin where feed is regulated to the standard secondary cone crusher. Crushed ore is accumulated in an intermediate ore bin for feeding by conveyor to tertiary short-head cone crusher with pre-screening for the undersize to be separated and conveyed to the fine ore bin thus optimizing the tertiary crusher capacities.

The crushed ore from the oversize of the vibrating screen are also conveyed and accumulated at the Fine Ore Bin (FOB). From the FOB, the ore is fed to the ball mills by conveyors and in closed circuit with cyclones, the cyclones undeflow is piped back for regrinding and the overflow is piped to the thickeners.

The underflow of thickeners at the required density is pumped to a pre-leach tank where initial cyanide is added to leach or dissolve the gold.

In summary, the crushed, ground and thickened ore is pump to the CIL circuit as a slurry. In the CIL circuit, cyanide is added to the slurry to dissolve the gold, which is then adsorbed onto activated carbon. The slurry moves down the circuit while the carbon is treated in the elution circuit to strip the gold off the carbon into solution. The gold is then recovered in the electrowining cell on the cathodes. The cathodes are acid-treated prior to smelting for the production of gold bullion.

Cyanide is naturally consumed in the process and is typically at a concentration of 0.05-0.10 % in the tailings solution. Over time and with the action of sunlight, the cyanide naturally disintegrates from the mill and ten into the tailings dam. Acidity is maintained at a PH of 10-11 using lime to protect the cyanide which dissociates into HCN gas at acid PH. The tanks are open and therefore naturally ventilated. Lime is added to the milling circuit. The final solid and solutions tails from the adorption tanks is forwarded to a thickener wherein the solution tails

passes to a carbon column for final recovery of remaining/remnant gold in the solution, thus, further improving gold recovery.

Typical cyanide consumption is 1-1.5 kg/ton treated. Caustic cyanide solution is also used in the elution process to strip the gold off the carbon at high temperature and pressure. Spent solution from the elution process passes to the CIL circuit. All spillages are contained in the plant's catch-all sump and pumped back to the circuit.

Nitric acid is used to acid-treat the cathodes prior to smelting. NOx gas released during this process is discharged direct to the atmosphere through a stack. A scrubber to treat NOx gas is installed where generated acid is pumped to tailings. This is described as the batch process.

Present Parameters on Metallurgical Process:

Daily ROM feed	:	100 Metric tons
Monthly ROM	:	3,000 Mts @ 30 days/mo.
Head Grade	:	8.57 gm Au/ton (St. Benedict Vein)
Tailings	:	0.5 gm/ton
Recovery	:	85%
Daily Gold Prodution	:	728.45 gm
Monthly Au Production	:	21.8535 ton Au
Annual Au Production	:	262.242 ton Au

2.2 Mineral Reserves

The mineral reserve of the St. Benedict Veins of the Masara vein system is taken from the report on the "*Mine Evaluation and Examinatin Report of the Mineral Property of Apex Mining Co., Inc. at Masara, Maco, Compostela Valley*" conducted in 1994 by the Mines and Geosciences Bureau Regional Office No. XI. Said report is the result of the evaluation and examination on the reported mineral reserves by Apex.

The report proven a gold reserve of 180,502 DMT @ 8.57 gm Au/Mt of ore. The complete report is attached for reference. The ore extracted is directly delivered/feed on to the mill yard for processing.

Life of Mine

The expected life of mine of the whole Apex property is still undetermined considering that the St. Benedict Veins of the Masara system comprise only a portion of the entire mine property. For the purpose of determining the life of the St. Benedict veins relative to the existing mine rated production, the life is computed as follows:

Life of Mine (St. Benedict veins):

Proven reserve: **180, 502 MT**
Estimated Annual Mine Production: **39,600 MT**
Life of Mine (St. Benedict Veins): **~ 4.6 years**

Current Ore reserve estimate indicate that the St. Benedict veins has a potential ore reserve of 513,854 MT of ore @ an average grade of 8.55

reserve , the reserve will be at a safe estimate of 154,156.2 MT. Thus, increasing the estimated life of **3.89 years.**

2.3 Access/Transportation

Road Access

The project site is approximately 104 kilometers from Davao City. It takes about two(2) hours travel by motor vehicle thru the well-paved Maharlika Highway reaching the Municipality of Mawab, Compostela Valley. From Mawab, Masara district can be reached thru the 30-kilometer municipal road.

Air Access

Davao City International Airport thru commercial planes plying from Manila, Cebu and Zamboanga and other key airports of the country.

Shipping

Davao City seaport is the main entry ports of central Mindanao. It can accommodate both local and international shipping trade thru its international class container terminal located in Barangay Sasa and Ilang, Davao City.

2.4 Utilillities

Power

Power is supplied by Davao del Norte Electric Cooperative (DANECO) thru the TRANCO (formerly NPC) systems. Current power requirement is estimated to be 1000 kw-hr per month.

Water

Masara has a vast subterranean water deposit that could be readily tapped to service the industrial and domestic needs of the project.

2.5 Mining and Milling Equipment

Mining

Type	No. of Units	Status
Air Compressor 1500CFM	2	Existing and operational
Hand-held Pusher Leg	15	-do-
Mine Lamp	250	-do-
Low Profile Trucks (LPT)	2	-do-
Load-Haul-Dump (LHD)	2	-do-
Mine Fans	15	-do-
Mine Pumps flatform/ submersible	20	-do-
Power Generator	1	-do-
Surveying equipment	2 lots	-do-
Shot Crete Machine	1	-do-

Milling

Type	No. of Units	Status
Jaw Crusher	1	Existing and operational
Trommel	1	-do-
Compressor	1	-do-
Gravity tables	2	-do-
Slurry Pumps	15	-do-
Falcon Concertrator	2	-do-
Stripping and electrowinning	1 lot	-do-
CIP Tank with drive	6	-do-
Service Vehicles	2	-do-

Existing Infrastructure/Ancillary facilities

Explosive Magazine
Tailings pond/dam
Administration Building
Refinery
Water Systems
Bunk Houses
Power House

2.6 Workforce Information

Seventy percent of the total operational workforce is from the nearby communities. Below is the list and details of the workforce of Viclode in Masara Area of the Apex mine property:

Employee	No.	Basic Salary/Month	Annual Salary plus 13th Month	SSS, MEDICARE & HDMF*	Total
Resident Manager	1	50,000.00	650,000.00	26,000.00	726,000.00
Mine Superintendent	1	45,000.00	585,000.00	22,815.00	607,815.00
Supervising Geologist	1	45,000.00	585,000.00	22,815.00	607,815.00
Administrative Officer	1	35,000.00	455,000.00	17,745.00	472,745.00
Mill Superintendent	1	45,000.00	585,000.00	22,815.00	607,815.00
Mine Foreman	4	35,000.00	1,820,000.00	72,800.00	1,892,800.00
Mechanical/Electrical Supervisor	1	45,000.00	585,000.00	22,815.00	607,815.00
Underground Production Personnel	36	15,000.00	7,020,000.00	280,800.00	7,300,800.00
Underground Development Personnel	48	15,000.00	9,360,000.00	374,400.00	9,734,400.00
Engineering and Geology Personnel	15	15,000.00	2,925,000.00	117,000.00	3,042,000.00
Laboratory Personnel	10	15,000.00	1,950,000.00	78,000.00	2,028,000.00
Mill Tenders	15	12,000.00	2,340,000.00	93,600.00	2,433,600.00
Mechanics	19	25,000.00	6,175,000.00	247,000.00	6,422,000.00
Electricians	20	20,000.00	5,200,000.00	208,000.00	5,408,000.00
Finance and Accounting Personnel	4	15,000.00	780,000.00	31,200.00	811,200.00
Administration Staff	12	20,000.00	3,120,000.00	124,800.00	3,244,800.00
Community Development Officer	1	20,000.00	260,000.00	10,140.00	270,140.00
Environmental and	1				

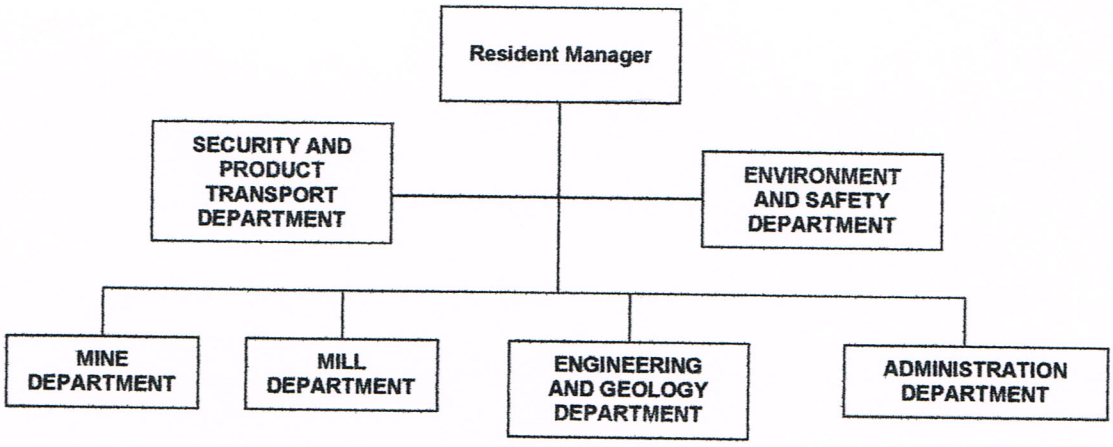
Environment and Safety Crew	4	15,000.00	780,000.00	31,200.00	811,200.00
HE Operator	4	13,000.00	676,000.00	27,040.00	703,040.00
Driller/Blaster	2	13,000.00	338,000.00	13,520.00	393,520.00
Chief Security	1	30,000.00	585,000.00	22,815.00	607,815.00
Security Personnel	60	13,000.00	338,000.00	13,182.00	351,182.00
Total	**262**	**591,000.00**	**47,567,013.00**	**1,898,247.00**	**49,557,247.00**

* @ 4% of Gross Salary

Unit Cost (Salaries and Wages):

Monthly Production : 3,300 MT
Annual Production : 39,600 MT
Annual S and W : PHP 49,557,247.00.00
Unit Cost/MT : PHP1,252.00/MT

Organizational Set-up:



Housing Option:

The existing housing and accommodation facilities of the then Apex mining operation are provided for Viclode. Most of the rank and file employees, however, are local residents while, technical and managerial housing are provided using the existing Apex facilities.

2.7 Development Program

Mining operation on the St. Benedict vein shall commence upon the approval of the MPSA application, while in production, confirmatory drilling on the vein extension will be initiated while drawing plans for the eventual development of the veins. It is estimated that once, the blocked ore of the St. Benedict veins are completely mined, development workings on its extension should have been complete to sustain mining operations.

Extension of the existing decline will be the primary activities to be undertaken by the Mine Development Group once the mining operations of the St. Benedict veins started. From the decline, lateral expansion thru raises and sublevels will immediately be developed as ore blocking.

Initially, it is estimated that 60 meters of the decline will be extended to make way for the exploratory drilling of the extension of the Masara

completed within 6 months from commencement. Allotted cost for this development built-up is estimated to be PHP 250,000.00.

2.8 Production Schedule and Estimated Cost Per Annum

Year	Mine Production (MT)	Mill Feed (MT)	Au Production (Gram)	Value* at PHP830.00/gm Au	Estimated 2%Excise Tax (PHP)
1	39,600	36,000	307,800	255,474,000.00	5,109,480.00
2	39,600	36,000	307,800	255,474,000.00	5,109,480.00
3	39,600	36,000	307,800	255,474,000.00	5,109,480.00

Gold Price @ US$ 420.00/oz.
Exchange Rate: PHP 56.00/US$
PHP value in gm Au: PHP 830.00/gm

The following figures are taken from the actual operation expenditures of Viclode, except for the labor cost, which will be adjusted once the operation commences under the MPSA:

Mining Cost

Cost Item	Unit Cost (PHP)
Explosives	83.00
Compressor Operation	110.00
Drill Steels	18.00
Materials and Supplies	38.00
Tools and Equipments	20.00
Support and Timber	110.00
Power and Ventilation	25.00
Geology and Survey	9.00
Total	413.00

Milling Cost

Cost Item	Unit Cost (PHP)
Power	84.00
Chemical and Reagents	33.00
Materials and Supplies	110.00
Laboratory and others	44.00
Total	271.00

Total Production (Mining and Milling), including Environmental, Community Development, Safety and other Costs:

Cost Item	Unit Cost (PHP)
Labor	1,252.00
Mining	413.00
Milling	271.00
Environment and Safety	40.00
Community Development	11.00
Security and Transport	53.00
Miscellaneous	20.00
Excise Tax	96.00
Other Taxes	10.00
Total	2,166.00

Annual Over-All Operational Cost:

Year	Annual Total Cost	Monthly Cost
1	85,773,600.00	7,147,800.00
2	85,773,600.00	7,147,800.00
3	85,773,600.00	7,147,800.00

- **including underground development cost**

2.9 Gantt Chart (Attachment)

3. Community Development Programs and Estimated Cost

The Community Development Program will be at an annual cost of **PHP435,600.00** for the under this 3-Yr Work Program.

This program will be prepared in accordance with the existing requirement of the Government, which will focus on the following:

- Health and Sanitation
- Livelihood
- Sport Development
- Infrastructure assistance
- Education
- Medical Needs
- Emergency Response Preparedness
- Trade Skills Development
- Beautification and Cleanliness
- Observance of traditions

4. Environmental Management and Protection Program and Cost

The submitted Environmental Protection and Enhancement Program (EPEP) is currently under going evaluation by the Mines Rehabilitation Fund Committee of the Mines and Geosciences Bureau Regional Office, some of the important considerations in the preparation of the this EPEP. The amount allocated for the EPEP is estimated to be **PHP 1,584,000.00**.

5.0 Attachments

A. **Gantt Chart**
B. **Mine Evaluation and Examination Report of the Mineral Property of Apex Mining Co., Inc at Masara, Maco, Compostela Valley (2004)**
C. **Geology of Masara Mine**
D. **Longitudinal Section of Various Stages in Mining**
E. **Location Map**
F. **Basic Mill Process Flow (BMMRC Design)**

Prepared for Viclode Mining Corporation By:

CLEMENTE R. AGUANTA
Mining Engineer
License No. 1525
PTR No. 2527753
Date: April 26, 2005

Conforme:

Apex Mining Co., Inc.
By:

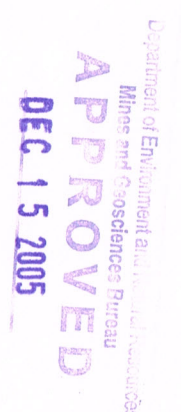
FELICIANO L. DELA CRUZ
EVP-Finance – Administration
and Treasurer

Department of Environment and Natural Resources
Mines and Geosciences Bureau
APPROVED
DEC 15 2005

Form No. 16-2

GANT CHART OF ACTIVITIES

ACTIVITIES	YEAR											
	1				2				3			
	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q
1. Final Preparation on Decline intersecting St. Benedict Veins												
2. Raises/Sublevels/Ventilation/De-watering												
3. Mining by Shrinkage/Sub-level Stoping in Retreating Manner												
4. Decline Extension												
5. Raises/Sublevels/Ventilation/De-watering for next block												
6. Mining by Shrinkage/Sub-level Stoping in Retreating Manner (St. Benedict Vein extension)												
7. Confirmatory Drilling/Exploration												



ANNEX– F

CERTIFICATE OF NON-COVERAGE

Republic of the Philippines
Department of Environment and Natural Resources
ENVIRONMENTAL MANAGEMENT BUREAU
DENR Compound, Visayas Avenue, Diliman, Quezon City 1116
Telephone Nos.: 925-47-93 to 97
Email : emb@emb.gov.ph
Visit us at http://www.emb.gov.ph

SEP 2 0 2005

BENEDICTO T. JALANDOON
Vice President for Operations
APEX MINING CO., INC.
6th Floor, Manilabank Building, Ayala Avenue
Makati City

Dear **Mr. Jalandoon**:

This refers to your letter dated February 15, 2005 requesting for the issuance of a Certificate of Non-Coverage for your mining operations in Barangays Masara and Teresa, Maco, Compostela Valley.

After careful evaluation of the documents on hand, this Office has decided to grant a Certificate of Non-Coverage for the above-said mining operations in Compostela Valley. Please be advised, however, that this Office will be monitoring the mining operations periodically to ensure your compliance with environmental laws. Further, any expansion or modification of currently approved operations will be subject to the Environmental Impact Assessment (EIA) requirements.

Very truly yours,

ATTY. LOLIBETH R. MEDRANO
OIC, Director

cc: **EMB Region XI**
MGB Region XI

ebv2k4-06: apex (request for cnc): v10