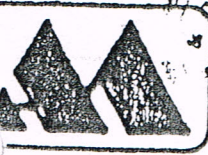


**ANNEX – "A"**

**SECRETARY'S  
CERTIFICATE**



DEO-SCIENCES BUREAU  
M R M

SEP 10 AM 10 43

RECEIVED  
9/10/97

**ATLAS CONSOLIDATED MINING AND DEVELOPMENT CORPORATION**  
2nd Floor, Phelps Dodge Annex Building, No. 2 Pioneer St., Mandaluyong City, Metro Manila, Philippines  
Fax (632) 633-3759 MCPO Box 247, Makati, Metro Manila, Philippines

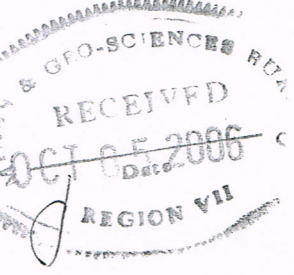
A. SORIANO CORP.  
GENERAL MANAGERS  
CABLE ADDRESS  
COPPER  
TELEPHONE  
635-0063 to 65

C E R T I F I C A T I O N

I. BENJAMIN V. ABELA, Corporate Secretary of ATLAS CONSOLIDATED MINING AND DEVELOPMENT CORPORATION, a corporation duly organized and existing under and by virtue of the laws of the Philippines, do hereby certify that at the regular meeting of the Board of Directors held on July 30, 1997, the following resolution was approved:

**ANNEX-A**

RESOLVED. That the President and Chief Executive Officer, any one of the Senior Vice President, Vice President, Senior Assistant Vice President and Assistant Vice President, is hereby authorized to sign and execute in behalf of the Corporation, applications for Mineral Production Sharing Agreement (MPSA) or any mode of agreement with the government, application for Special Mines Permit, application for Small Scale Mining Quarry Permit, application for Sand and Gravel Permit, Water Permit, Prospecting Permit, Exploration Permit, Foreshore Lease, Miscellaneous Lease and other corresponding Agreements, Leases, Permits applied, abandonment of MPSA application areas, mining claims/rights, and all other papers, or documents as may be required by Department of Environment and Natural Resources, Mines and Geo-sciences Bureau, Forest Management Services, Land Management Services, Environmental Management Services and/or other concerned government agency charged with the issuance of the above-mentioned mining agreements/leases and/or permits.



IN WITNESS WHEREOF, I have hereunto set my hand this 25th day of August, 1997, at Makati City.

*Benjamin V. Abela*  
BENJAMIN V. ABELA  
Corporate Secretary

REPUBLIC OF THE PHILIPPINES)  
MAKATI, METRO MANILA ) S.S.

SUBSCRIBED AND SWORN to before me this 25th day of August, 1997, affiant exhibited to me his Com. Tax. Cert. No. 1894798 issued at Makati City on January 30, 1997.

*Reginaldo L. Hernandez*  
REGINALDO L. HERNANDEZ  
Notary Public  
Until December 31, 1998  
PTR No. 8003091  
Issued at Makati  
on January 13, 1997

Doc. No. 446;  
Page No. 91;  
Book No. 1;  
Series of 1997







**ATLAS CONSOLIDATED MINING AND DEVELOPMENT CORPORATION**  
7<sup>th</sup> Floor, Quad Alpha Centrum, 125 Pioneer Street, Mandaluyong City, Metro Manila, Philippines 1554  
Telephone Nos.: (632) 635-2387/(632) 632-7847 Telefax: (632) 635-4495 Email Address: atlasmining@hotmail.com

**CERTIFICATION**

**ANNEX-A**

I, NOEL T. DEL CASTILLO, the duly elected Corporate Secretary of Atlas Consolidated Mining & Development Corporation (the "Corporation") do hereby *certify* that:

1. The present Executive Officers of the Company and their respective designations are as appear in the List of Executive Officers copy of which is hereto attached as Annex "A";
2. The List of Top 100 Stockholders of the Corporation as of February 15, 2005 attached as Annex "B";

GIVEN this 18<sup>th</sup> day of February 2005, at Mandaluyong City, Metro Manila.

*Noel T. Del Castillo*  
NOEL T. DEL CASTILLO  
Corporate Secretary

SUBSCRIBED AND SWORN to before me this 18<sup>th</sup> day of February 2005, affiant exhibiting to me his Community Tax Certificate No. 15962296 issued at Mandaluyong City on January 7, 2005.

*[Signature]*  
DENIGNO F. NOBALES  
Notary Public  
- Notary Public  
- Elected, 2005.  
PTR NO. 0535231  
ISSUED ON 1-3-05  
MANDALUYONG CITY

Doc. No. 375;  
Page No. 76;  
Book No. 87;  
Series of 2005.



**LIST OF EXECUTIVE OFFICERS**  
**ATLAS CONSOLIDATED MINING & DEVELOPMENT CORPORATION**  
(As at February 15, 2005)

<u>Executive Officers</u>	<u>Designations</u>
Alfredo C. Ramos	Chairman of the Board & President
Martin C. Buckingham	Executive Vice-President/Chief Financial Officer
Noel T. del Castillo	Corporate Secretary/Treasurer
Constante P. Bumanglag	Vice-President for Operation
Rodrigo C. Cal	Assistant Vice-President & Resident Manager
Sycip, Gorres, Velayo & Co.	External Auditors





**ANNEX – "B"**

**LOCATION MAP  
OR  
SKETCH PLAN**



TIE POINT: MBM No. 9, Tailsay-Minglanilla Estate (Flr-133)  
 N. 1139483.073 Lat. 10° 18' 15.66"  
 E. 580728.747 Long. 123° 44' 13.26"

TIE LINE: N. 68° 02' E. 2,235.10 M.  
 From MBM No. 9, Tailsay-Minglanilla Estate (Flr-133)  
 To Corner No. \*1\*

**GEOGRAPHIC COORDINATES**

CORNERS	LATITUDE	LONGITUDE	CORNERS	LATITUDE	LONGITUDE
1	10° 18' 43.018"	123° 43' 05.196"	37	10° 19' 28.898"	123° 43' 22.053"
2	10° 18' 53.035"	123° 42' 37.399"	38	10° 19' 25.558"	123° 43' 31.319"
3	10° 18' 43.859"	123° 42' 34.028"	39	10° 19' 29.029"	123° 43' 32.595"
4	10° 18' 53.874"	123° 42' 06.231"	40	10° 19' 29.029"	123° 43' 35.238"
5	10° 19' 21.402"	123° 42' 16.344"	41	10° 19' 48.558"	123° 43' 35.237"
6	10° 19' 24.741"	123° 42' 07.078"	42	10° 19' 48.558"	123° 43' 45.097"
7	10° 20' 05.819"	123° 42' 22.170"	43	10° 20' 08.087"	123° 43' 45.096"
8	10° 20' 06.317"	123° 42' 17.371"	44	10° 20' 09.292"	123° 43' 44.555"
9	10° 20' 45.161"	123° 42' 21.489"	45	10° 20' 09.403"	123° 43' 47.840"
10	10° 20' 44.142"	123° 42' 31.296"	46	10° 20' 12.820"	123° 43' 47.722"
11	10° 20' 09.300"	123° 42' 27.602"	47	10° 20' 12.953"	123° 43' 51.664"
12	10° 20' 03.943"	123° 42' 42.467"	48	10° 20' 15.880"	123° 43' 51.564"
13	10° 19' 54.767"	123° 42' 39.095"	49	10° 20' 19.494"	123° 43' 57.359"
14	10° 19' 51.429"	123° 42' 48.361"	50	10° 20' 48.770"	123° 43' 56.351"
15	10° 20' 09.781"	123° 42' 55.105"	51	10° 20' 48.664"	123° 43' 56.222"
16	10° 20' 03.103"	123° 43' 13.637"	52	10° 20' 50.640"	123° 43' 53.227"
17	10° 20' 17.883"	123° 43' 15.480"	53	10° 20' 50.641"	123° 44' 03.082"
18	10° 20' 21.386"	123° 43' 15.480"	54	10° 20' 40.877"	123° 44' 03.083"
19	10° 20' 21.386"	123° 43' 23.608"	55	10° 20' 40.877"	123° 44' 12.943"
20	10° 20' 30.001"	123° 43' 23.608"	56	10° 20' 35.736"	123° 44' 12.944"
21	10° 20' 30.000"	123° 43' 27.366"	57	10° 20' 35.059"	123° 44' 11.297"
22	10° 20' 17.882"	123° 43' 27.783"	58	10° 20' 26.040"	123° 44' 15.076"
23	10° 20' 17.883"	123° 43' 15.480"	59	10° 20' 22.298"	123° 44' 05.969"
24	10° 20' 03.103"	123° 43' 13.637"	60	10° 20' 17.801"	123° 44' 07.853"
25	10° 19' 35.576"	123° 43' 03.522"	61	10° 20' 14.572"	123° 44' 02.207"
26	10° 19' 38.914"	123° 42' 54.256"	62	10° 20' 06.116"	123° 44' 07.137"
27	10° 19' 29.738"	123° 42' 50.884"	63	10° 20' 01.234"	123° 43' 58.598"
28	10° 19' 26.400"	123° 43' 00.150"	64	10° 19' 52.777"	123° 44' 03.528"
29	10° 19' 35.576"	123° 43' 03.522"	65	10° 19' 47.895"	123° 43' 54.989"
30	10° 19' 32.236"	123° 43' 12.788"	66	10° 19' 39.439"	123° 43' 59.919"
31	10° 19' 41.412"	123° 43' 16.159"	67	10° 19' 29.706"	123° 43' 42.821"
32	10° 19' 38.074"	123° 43' 25.425"	68	10° 19' 22.200"	123° 43' 40.585"
33	10° 19' 28.898"	123° 43' 22.053"	69	10° 18' 54.691"	123° 43' 30.470"
34	10° 19' 32.236"	123° 43' 12.788"	70	10° 18' 58.031"	123° 43' 21.204"
35	10° 19' 23.060"	123° 43' 09.416"	71	10° 18' 39.679"	123° 43' 14.461"
36	10° 19' 19.722"	123° 43' 18.682"			

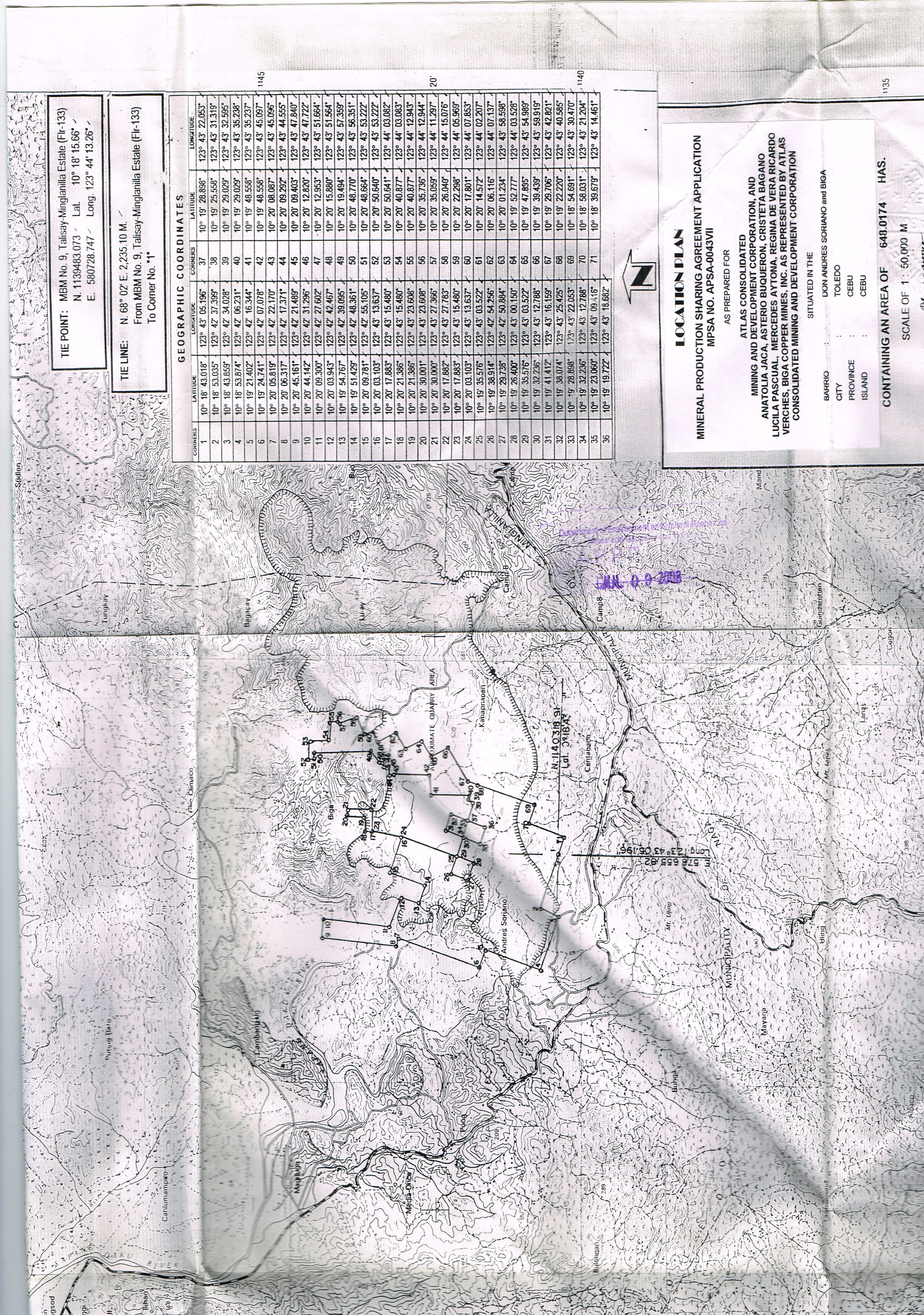


**LOCATION PLAN**  
 MINERAL PRODUCTION SHARING AGREEMENT APPLICATION  
 MPSA NO. APSA-0043VII

AS PREPARED FOR  
 ATLAS CONSOLIDATED  
 MINING AND DEVELOPMENT CORPORATION, AND  
 ANATOLIA JACA, ASTERIO BUQUERON, CRISTETA BAGANO  
 LUCILA PASCUAL, MERCEDES AYTONA, REGINA DE VERA RICARDO  
 VERCHES, BIGA COPPER MINES, INC. AS REPRESENTED BY ATLAS  
 CONSOLIDATED MINING AND DEVELOPMENT CORPORATION

SITUATED IN THE  
 BARRIO : DON ANDRES SORIANO and BIGA  
 CITY : TOLEDO  
 PROVINCE : CEBU  
 ISLAND : CEBU

CONTAINING AN AREA OF 648.0174 HAS.  
 SCALE OF 1 : 50,000 M









**ANNEX – "C"**

**TWO (2) – YEAR  
EXPLORATION  
WORK PROGRAM**



Republic of the Philippines  
Department of Environment and Natural Resources  
**MINES AND GEOSCIENCES BUREAU**  
North Avenue, Diliman, Quezon City

**EXPLORATION WORK PROGRAM**

(Two-Year Exploration Work Program and Financial Plan of the Area Applied for Mineral Production Sharing Agreement under APSA-000043VII)

These exploration work program and financial plan are prepared in accordance with the existing Implementing Rules and Regulations (IRR) of Republic Act No. 7942, otherwise known as the "Philippine Mining Act of 1995" in support of the Proposed Mineral Production Sharing Agreement under application No. APSA-000043VII for the exploration, development and utilization of copper, gold and other deposits covering an area of 648.0174 Has. more or less situated in Brgy. Don Andres Soriano and Biga, Toledo City, Cebu.

**1.0 Name and Address of Company / Proponent**

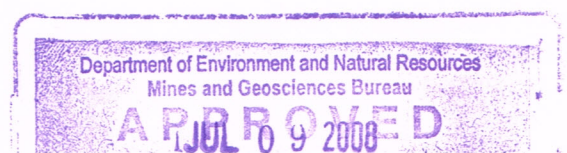
Atlas Consolidated Mining and Development Corporation

**Head Office:** 7<sup>th</sup> Floor, Quad Alpha Centrum  
125 Pioneer St., Mandaluyong City, Metro Manila  
Tel. Nos. (02) 635-2387 & 635-4495  
Fax No. (02) 635-4495

**Project Site:** Brgy. Don Andres Soriano and Biga, Toledo City; Cebu

**2.0 Location of Project**

The proposed project area is located in Brgy. Don Andres Soriano and Biga, Toledo City; Cebu. It is bounded by geographic coordinates 10° 18'39.679" to 10° 20' 50.611" N. Latitude and from 123° 42' 06.231" to 123° 44' 15.076" E. Longitude.





CORNERS	LATITUDE	LONGITUDE	CORNERS	LATITUDE	LONGITUDE
1	10° 18' 43.018"	123° 43' 05.196"	37	10° 19' 28.898"	123° 43' 22.053"
2	10° 18' 53.035"	123° 42' 37.399"	38	10° 19' 25.558"	123° 43' 31.319"
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12	10° 20' 03.943"	123° 42' 42.467"	48	10° 20' 15.880"	123° 43' 51.564"
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16	10° 20' 03.103"	123° 43' 13.637"	52	10° 20' 50.640"	123° 43' 53.222"
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22	10° 20' 17.882"	123° 43' 27.783"	58	10° 20' 26.040"	123° 44' 15.076"
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24	10° 20' 03.103"	123° 43' 13.637"	60	10° 20' 17.801"	123° 44' 07.853"
25	10° 19' 35.576"	123° 43' 03.522"	61	10° 20' 14.572"	123° 44' 02.207"
26	10° 19' 38.914"	123° 42' 54.256"	62	10° 20' 06.116"	123° 44' 07.137"
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34	10° 19' 32.236"	123° 43' 12.788"	70	10° 18' 58.031"	123° 43' 21.204"
35	10° 19' 23.060"	123° 43' 09.416"	71	10° 18' 39.679"	123° 43' 14.461"
36	10° 19' 19.722"	123° 43' 18.682"			

### 3.0 Area or Size of Coverage

The total area covered by the proposed Mineral Production Sharing Agreement (MPSA) is **648.0174 Has.**

### 4.0 Project Area Description

#### 4.1 Terrain/Physiography

The proposed project area is characterized by rugged topography consisting of sharp and broad crested ridges with steep slopes. These are portions of moderately rough to rolling terrain where prominent ridges are characterized by hay cock-like peaks.

#### 4.2 Accessibility

The proposed project area is approximately 42 kilometers west of Cebu and 22 kilometers east of Toledo City and can be reached from both cities via Cebu-Toledo provincial road. Along this road is Barangay DAS where a company-built road can be used to reach the proposed project area.



#### 4.3 Drainage Systems

The Lantoy Creek is the most important drainage artery in the area. It flows west-north westerly across the mid-section of the area and then swings southwest-ward to Sigpit River.

Peña Creek drains to the east via Cumba River while portions of Cantabaco Creek drains to Panda River, then Sapangdaku River to the West.

#### 4.3 Vegetation

Generally the project area is covered with dense cogon grass vegetation. The rocky ridges are covered with second growth trees and shrubs and coconut trees. Patches of corn fields are also noted. Generally, there is an only minimal agricultural activity in the area.

#### 4.4 Land Use

Generally the project area is classified as mineral land suitable for mining purposes. Surface rights are possessed by the company, where a portion of which is allotted for reforestation project.

### 5.0 Description of Exploration Work Program

The project area will be explored by employing the following activities:

Review and reinterpretation of existing geological plans and sections of the already mined-out orebody at the open pit and underground to project orebody extensions. A drilling program shall be undertaken from the existing underground openings for deep orebody extensions.

#### 5.1 Research Work

The research work shall focused on the reinterpretation of existing underground geological/level and section plans/maps to be able to generate an accurate drilling program for deep underground minable ore reserve.

#### 5.2 Reconnaissance

Since the drilling target is already very deep (more than 500 meters from the surface) the drill hole must be collared at the old existing underground openings. The drill hole must be properly located for safety reasons. Thus the underground openings/workings must be checked and secured with proper supports.

##### 5.2.1 Sub-surface investigation

Diamond Drilling will be undertaken in selected areas delineated by previous exploration works. The objective of the diamond drilling activity will be to pinpoint/define the vertical extent, as well as the quality and persistence of copper, gold and other mineral deposits. All data gathered in the course of drilling will be properly logged and recorded. Samples for laboratory analysis will be taken every three (3) meters of the drill hole depth. An estimated 2,300 samples will be taken out of the drilling operation. The average depth of proposed diamond drilling hole is 300 meters using a Longyear (LY-38) drilling machine. The drill is powered by compressed air. A total of twenty three (23) diamond



## 6.0 Total Estimated Exploration Cost

A total of PhP33,185,800.00 is required for the proposed two-year exploration work program, broken down as follows: Year-1 = PhP716,000.00 and Year-2 = PhP32,469,800.00. This estimate includes labor, materials/supplies, samples analyses and miscellaneous costs. The amount proposed for the separate environmental work program activities during exploration phase will be more or less 10% of the exploration budget. Details of the exploration budget are shown in the tabulations below.

### YEAR -1:

<b>Particulars</b>	<b>Details</b>	<b>Cost (PhP)</b>
One (1) Project Geologist/Engineer	1 x P70,000 x 7 months	490,000.00
One (1) Geologic Aide	1 x P6,400.00 x 7 months	44,800.00
Two (2) Local Laborer	2 x P5,000.00 x 7 months	70,000.00
Transportation Cost	P5,000.00/month x 7 months	35,000.00
Food allowance	P6,000.00/month x 7 months	42,000.00
Field and Drafting Supplies/Materials	P4,886.00/mo. x 7 months	34,200.00
<b>Total Exploration Budget, Year-1</b>		<b>716,000.00</b>

### YEAR -2:

<b>Particulars</b>	<b>Details</b>	<b>Cost (PhP)</b>
One (1) Project Geologist/Engineer	1 x P75,000 x 7 months	525,000.00
One (1) Geologic Aide	1 x P6,400.00 x 7 months	44,800.00
Three (3) Local Laborers	3 x P6,000.00 x 7 months	126,000.00
Transportation Cost	P6,000.00/month x 7 months	42,000.00
Food allowance	P10,000.00/month x 7 months	70,000.00
Field and Drafting Supplies/Materials	P5,285.00/mo. x 7 months	37,000.00
Diamond Drilling	23 holes x 300 m. x P4,400.00	30,360,000.00
Samples Analysis / Assaying	2,300 Samples x P550.00/Sample	1,265,000.00
<b>Total Exploration Budget, Year-2</b>		<b>32,469,800.00</b>

<b>TOTAL YEAR 1 and YEAR 2</b>		
Exploration Budget – Year 1		716,000.00
Exploration Budget – Year 2		32,469,800.00
<b>Grand Total Exploration Budget, Year-1 and Year-2</b>		<b>33,185,800.00</b>

## 7.0 Schedule of Activities (Gantt Chart)

### YEAR -1:

<b>Activities / Program</b>	<b>Month</b>												
	1	2	3	4	5	6	7	8	9	10	11	12	
Review and Reinterpretation of Existing Geol. Plans/Sections													
Reconnaissance & Detailed Geology													

### YEAR -2:

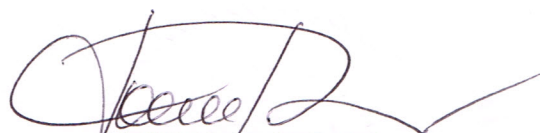
<b>Activities / Program</b>	<b>Month</b>												
	1	2	3	4	5	6	7	8	9	10	11	12	
Mobilization of Materials													
Diamond Drilling (Including drill pad preparation & rig mobilization/demobilization)													

**8.0 Map Attachments**

Topographic Map showing the area applied for MPSA under application No. APSA-000043VII in a scale of 1:50,000m.

**9.0 Name of Contact Person and Contract No.**

Rodrigo C. Cal  
Tel No. (032) 467-1408, (032) 325-2215



**JOSUE P. BORDON**

Mining Engineer

Reg. No. : 518

PTR No. : 0503246

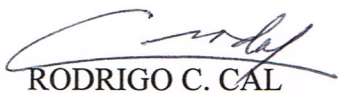
Issued on : February 01, 2006

Issued at : Toledo City, Cebu

**Proponent:**

Atlas Consolidated Mining and Development Corporation  
Bo. Don Andres Soriano, Toledo City

By:



**RODRIGO C. CAL**  
AVP-Resident Manager



**ANNEX – "D"**

**ENVIRONMENTAL  
WORK PROGRAM**



Republic of the Philippines  
Department of Environment and Natural Resources  
**MINES AND GEO-SCIENCES BUREAU**  
North Avenue, Diliman, Quezon City

**ENVIRONMENTAL WORK PROGRAM**

(FOR THE PROPOSED MINERAL PRODUCTION SHARING AGREEMENT NO. APSA-000043VII OF ATLAS CONSOLIDATED MINING AND DEVELOPMENT CORPORATION)

This Environmental Work Program (EWP) for Exploration is in support of the application for Mineral Production Sharing Agreement No. APSA-000043VII of ATLAS CONSOLIDATED MINING AND DEVELOPMENT CORPORATION ( ATLAS or ACMDC for brevity) for exploration, development and utilization of copper and other minerals in the area covering Brgy. Don Andres Soriano and Biga, Toledo City, Cebu. This EWP is prepared to conform with format prescribed by the Mines and Geosciences Bureau of the Department of Environment and Natural Resources (DENR-MGB Form No. 16-1) which is required under Memorandum Order No. 97-07 dated August 27, 1997 and DENR Administrative Order No. 96-40, the Revised Implementing Rules and Regulations of RA 7942, otherwise known as the Philippine Mining Act of 1995.

1.0 NAME AND ADDRESS OF THE APPLICANT/PERMITTEE/CONTRACTOR

Name: ATLAS CONSOLIDATED MINING AND DEVELOPMENT CORPORATION (ACMDC)

Address: 7<sup>th</sup> Floor, Quad Alpha Centrum, 125 Pioneer St.,  
Mandaluyong City, Metro Manila  
Tel. Nos. (02) 635-2387 & 635-4495  
Fax No. (02) 635-4495

Mine Site: Bo. Don Andres Soriano, Toledo City  
6038 Cebu

2.0 TYPE AND NATURE OF PROJECT

The proposed project involves exploration, development and utilization of copper and associated mineral deposits in the area covered by application for MPSA No. APSA-000043VII filed sometime in July 1991 at DENR Regional Office No. VII, Mandaue City, Cebu. This project starts with research work, then reconnaissance for the proper location of underground diamond drilling sites from where the exploration holes will be collared.

3.0 GENERAL LOCATION AND AREA TO BE COVERED BY THE PROPOSED PERMIT / CONTRACT AREA

3.1 Location and Accessibility

The area applied for MPSA No. 000043VII is situated in Brgy



10° 18'39.679" to 10° 20' 50.611" N. Latitude and from 123° 42' 06.231" to 123° 44' 15.076" E. Longitude.

The proposed project area is approximately 42 kilometers west of Cebu and 22 kilometers east of Toledo City and can be reached from both cities via Cebu-Toledo provincial road. Along this road is Barangay DAS where a company-built road can be used to reach the proposed project area.

### 3.2 Total area covered by the Application

The total area covered by the proposed Mineral Production Sharing Agreement (MPSA) is **648.0174 Has.**

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

### 4.1. Land Environment

#### 4.1.1 Topography/Physiography

Topography of the area is generally characterized by rugged to rolling terrain as evidenced by some limestone cliffs abounding the area with elevations ranging from 180 to 600 meters above sea level. The highest elevation is located at the eastern side of the project.

Main drainage of the area is served by the Ilag River along the numerous tributaries which flows westerly and converges with Sapangdaku River and then empties at Tañon Strait. Sigpit-Biga Drain Tunnel also serves as the alternate drainage system of the area through the Biga Pit intake raise then flows to Sigpit River and finally converges with Sapang Daku River.

#### 4.1.2 Land Use

The project area is generally classified as mineral land suitable for mining purposes. The site is within the mining complex of ACMDC, complete with mining facilities and infrastructure.

There is no agricultural activities like the production of palay within ACMDC mining operations area. However, in the adjoining barangays, some community residents till the soil for family subsistence basis.

The company has segregated the areas not directly needed for mining operations as reforestation/afforestation, slope stabilization and rehabilitation areas.

Company camp houses and the DAS Community residential houses are concentrated away from the mining site. Very few makeshift houses are noted within the mining operations area.



### 4.1.3 Pedology

Top soil is generally rocky, sandy and clayey silty which is the result of the company's mining operation and also produced by the natural decomposition process.

## 4.2 Water Environment

### 4.2.1 Water quality

The quality of water in the mining operation area is hard and generally low in pH value partly as a result of the mining activities of the company. Practically, very insignificant aquatic animals thrive in Ilag River and Sigpit River. Upstream portion of Ilag River, i.e. outside of the mining operations area, water from the river is used for laundry and bathing. Carabaos, cows and goats were observed to drink in the river. There are also water from springs and artesian wells outside of the project site which are potable and being used by local residents for drinking without treatment.

The company utilizes the Malubog Dam for its domestic and industrial water supply to the mining community.

### 4.2.2 Hydrology

There is no significant change in hydrologic process of the area for the past 40 years of mining operation in the area. With a monthly average rainfall ranging from 12 to 20 centimeters, flash flood is a remote possibility to occur due to an excellent natural drainage pattern and maintenance activities done by the company.

Due to the company's continuing reforestation programs in the adjoining areas, the hydrologic cycle has not altered or changed significantly.

Rainy season occurs usually from June to January. The waters in Sigpit and Ilag Rivers sometime develop into minor floods during heavy downpour. The vast reforestation areas, the Malubog Lake and the Tañon Strait are the factors which contribute to stale hydrologic condition resulting to an excellent climate and abundant and continuous water supply of surrounding barangays and the neighboring communities.

## 4.3 Climatology/Meteorology

The climate of the area is relatively humid. Usually, rainy seasons occur from June to January with occasional storms and thunderstorms. Dry season occurs during the rest of the months. The area has an excellent climate and very good air circulation due to the absence of high rise buildings and vehicular traffic. Generally, the climate is warm during the months of February to May and generally cool from June to January, with the coolest periods during December and January.

The fairly good air quality in the project site indicates that



## 4.4 Geological/Geomorphological Environment

### 4.4.1 Geomorphology

The mineral property containing 648.0174 Has. of land is suitable for mining purposes. The abandoned Old Lutopan Pit was previously utilized as waste dumps for overburden from the nearby open pit. Portion of the project area is the Lutopan subsidence where the Lutopan underground mine is located. Since the underground mine workings are underneath, waste dumping partially restores the surface contour disturbed by underground block caving operations. Limestone cliffs abound in the area.

#### General Geology

The project area is underlain by basement rocks belonging to Cretaceous Mananga Group. Intruding the Mananga Group is the early Cretaceous Lutopan Quartz Diorite. The mineralized basement rocks are unconformably overlain by the tertiary Naga Group of Sediments.

The different geologic formation comprising the area are as follows:

#### a. Cretaceous Mananga Group (Basement Complex)

The oldest basement rock in the area is the Cretaceous Mananga Group composed of metasediments (Pandán Formation) and the metavolcanics (Cansi Volcanics).

Pandán Formation. Pandán formation consists of a heterogenous mixture of conglomerate, wacke, sandstone, and shale of basic composition with intercalated basaltic flows. The lithic fragments include the fine-grained porphyritic and amygdaloidal basalts and andesite. This formation is highly fractured.

The Cansi Volcanics. Unconformably overlying the Pandán formation is the metavolcanics which consists of porphyritic and amygdaloidal, andesitic to basaltic lava flows and pyroclastics grading from agglomeratic to fine tuffs in texture. The basaltic lava flows commonly exhibit pillow structures.

#### b. Cretaceous Lutopan Porphyries

Intruding the Mananga Group is the quartz Diorite which occur as stocks, dikes and occasional sills. Alognites contact with the basement rocks, it texturally grades into andesitic to dacitic porphyries.

The diorite is elongated to the northeast and assumes a hook-shaped configuration along section. The angle portion measures 150 meters in width and dips at an angle of 48° to the east. It is 900 meters long and 200 meters wide. The diorite is composed of medium-grained



phynocrysts and subhedral quartz and plagioclase laths, minor hornblende and biotite set in an interstitial matrix of microlites and quartz.

Two types of diorite have been observed in the area and these are the Hornblende Quartz Diorite. The Diorite has been observed in the area and these are the hornblende Quartz Diorite. The diorite has been dated to the early Cretaceous by Potassium-Argon method.

c. Tertiary Formation

The mineralized basement rocks are unconformably overlain by the post mineralization Naga Group of sediments which includes in part the Ilag Limestone and the Malubog Formation.

Ilag Limestone. The late Oligocene Ilag Limestone consists of an upper massive orbitoidal and lower clastic unit with coal measures. The limestone is light pink to beige color and highly fossiliferous. The limestone area manifests a karst topography.

Malubog Formation. The early Miocene Malubog Formation overlies the Ilag Limestone. It consists essentially of mudstone, shale with occasional beds of conglomerate limestone, carbonaceous sandstone and coal.

4.4.2 Structures

Two major shears that intersect at the central portion of the orebody apparently have acted to localize the intrusive and the accompanying copper mineralization.

The north-northwest trending Hanging wall Fault is transected by the north-northeast trending Cross Fault at the mid-portion of the Quartz-Diorite body. The faults are characterized by intense shattering of adjacent rock ranging from 10 to 50 meters. Recurrent movements along these zones do not have any apparent effect on the trend of mineralization.

Fracturing at the hanging wall is generally northeasterly while the central and footwall areas have prominent northwesterly trending fractures.

4.4.3 Mineralization

The quartz diorite intrusive hosts about 40% of the economic copper mineralization. Ore mineralization generally extends about a hundred meters from the diorite-volcanic contact.

The orebody trends north-northeast and assumes a 30-40 degrees dip to the southeast. The orebody is about 1,280 meters long and 320 meters at its widest section.

Chalcopyrite and bornite occur in quartz-anhydrite and



Molybdenite was noted to be present along fault structures as massive coatings as well as along chalcopyrite veins and stringers. Gold and silver associated with primary copper mineralization do not reveal any apparent relationship.

Magnetite is prevalent as disseminations along with pyrite and other copper sulfides. Pyrite is ubiquitous.

#### 4.4.4 Geologic Hazards

There is no known geological hazards posed by the project. The two (2) fault zones in the Lutopan orebody acted to localize the intrusives and mineralization. Geologic structures are carefully studied and evaluated by in-house engineers and geologists before building of any infrastructure is contemplated.

Appearance of crack lines is incidental to underground method of mining. Possibility of occurrence of big earthquakes is a very remote possibility considering that the project is very far from the Philippine Rift Zone. Occasional earthquakes with minimal magnitude do occur in Cebu Island but without any adverse effect to the environment of the project area.

Seismological studies regarding blasting vibrations showed that the Atlas mine blasting operation is within the tolerable 65 decibels based at 1.5 km. distance and this is way below standard for damage.

Due to the dynamic nature mining; occurrence of landslide and erosion is likely to happen within the operation area.

#### 4.5 Biological environment

##### 4.5.1 Terrestrial Plants and animals

The project area is generally barren with exposed rocks, cliffs, and waste materials found in the mine-affected areas. Minimal vegetation of cogon, shrubs, bushes and secondary growth trees are located in the adjoining areas. Fruit-bearing trees such as mangoes, jackfruit, santol, caimito and pomelo are grown in areas segregated by the company.

The area is devoid of rare wildlife except for a few common birds such as "tukmo", "maya", "tamsi", quail, kingfisher and other local birds. A number of domesticated animals like carabao, cows, pigs, goats, and dogs are found in the area. No rare plant and animal species are found as the land is not conducive o wildlife to wildlife habitation.

##### 4.5.2 Marine Plants and Animals

The nearest body of marine water to the area is the Tañon Strait. Marine plants that are found in the sea are nipa, bacauan, "pagatpat", "guso" and "lato" while marine animals



“anduhaw”, “kapal”, “hito”, and several shells like “lumbao”, “aninica”, “sa-ang”, and others.

#### 4.6 Socio-Economic Environment

Employment at ACMDC is generally the livelihood activity of the DAS residents. Since the establishment of its mining operations in DAS sometime in 1953, ACMDC has brought significant changes in the area. Its development has made Toledo a City in 1961. Today Barangay DAS has several small-scale and medium sized establishments business establishments still existing in the commercial zone.

The neighboring barangays which are identified as the Primary Impact Zone (PIZ) of the mining operation has also benefited what the company has introduced particularly on the socio-economic activities. Implementation of the company's socio-economic programs was done by a separate and distinct group called the Community Development Department. Several residents are involved in these programs.

Due to good linkages connecting the DAS mining communities to Cebu or Toledo City, several residents are engaged in commercial activities, trading, transportation and communication, and other small scale industries.

Mining facilities and infrastructures are found in the area. In DAS mining community, facilities that area abundant include government schools, health centers, social services, water supply and electrical infrastructures.

The company avails electrical power supplied by the Toledo Power Company, one of the ACMDC Departments spun-off in 1994. Outside of the company premises, electrical infrastructure is provided by the Cebu Electric Cooperate III (CEBECO III) and water supply for local residents from the Toledo City Water District (TCWD), Likewise, Daycare services and health center are provided by the government.

The mining camp's domestic water supply is from the Malubog Dam and water is treated by the company's water treatment plant before distribution to the camp houses.

#### 5.0 Description of Exploration Work

##### 5.1 Description of exploration method(s) and equipment to be used

The first year will involve the rehabilitation of open pit mining equipment, pre stripping of niches and peripheral drainage system, re-activation of open pit and underground working facilities. Geological works will involve structural mapping and delineation of ore and waste before actual mining operation. The total estimated



## 5.2 Preliminary processing of samples

Samples will be sent directly to the Quality Assurance Group of the Company for mineragraphic, petrographic and metallurgical analyses

## 6.0 Identification of Potential Environmental Effects

### 6.1 On land

#### *Construction of Trails*

There will be no construction of trails when the area will be put back to mining activity. There are sufficient access roads in the property for the exploration activities.

#### *Field Camp Facilities*

The proposed exploration project will not involve the construction of a base/field camp within the project site but will rent a small house in the area adjacent or within the community center; hence, the land will not be adversely affected.

#### *Trenches*

No trenching shall be done during the two-year exploration period.

#### *Test Pits*

No test pitting will be made in the area.

#### *Drilling Pads and Sumps*

Sumps and pads will be constructed in every diamond drill station to recycle the drill cooling water.

#### *Construction of Access Roads*

No new access road is contemplated during the 2-year exploration period. The existing company roads will be sufficient and availed of during exploration.

#### *Survey Traverse and Stations*

A survey team to locate the boundaries and monuments will be organized. Since the area is devoid of abundant vegetative cover or forest trees, no cutting down of vegetation will be involved.



## *Waste/Rock Dumps*

No new waste dumps will be designated since there are already existing areas that could be utilized for this purpose.

### 6.2 On hydrology and water quality

During the exploration period, the hydrologic cycle of the area will not significantly be changed as there will be no comprehensive diamond drilling or exploration equipment to be used. Occurrence of minor flash floods may happen but will not adversely affect the immediate surroundings due to good drill pit maintenance and drainage networks. No chemical substances shall be used during exploration, hence, there will be no generation of acid mine drainage in the project site.

Very minor siltation of waterways and pollution of surface water is predicted to occur during heavy rains.

### 6.3 On the Ecology

The ecology of the area will experience minimal disturbances that will occur especially in the collection of samples, site clearing and preparation of blast holes. Future mining operation will, as expected, adversely affect the topography and drainage pattern of the area.

### 6.4 On Socio-Economic Activities

As soon as mining operation is commenced, the company will continue to implement its socio-economic projects that were suspended. Employment will tend to increase because the company will require additional work force for every particular project. Once employment situation increases, the economic condition of DAS community in particular, and Toledo in general, will certainly improve.

During the suspension of operations in 1994, unemployment, particularly in Toledo has increased. Displaced company workers migrated to places outside of Toledo to look for jobs.

The existing infrastructure and support facilities will be reactivated as soon as the Company resumes operation. Educational, health, recreational, basic and social services that were suspended in 1994 will be re-implemented.

The socio-economic activities and lifestyle are expected to improve due to increased circulation of money. Volume of business will also increase that would lead to improvement in the quality of life in the community.



## 7.0 Environmental Management Measures including Total Cost

The following are the mitigating measures to minimize adverse effects during the conduct of exploration:

### 7.1 Restoration and rehabilitation of areas subject of exploration:

Mined-out areas will be replanted with fast growing tree species such as acacia auriculiformis which can survive best in these areas. Other tree species to be planted are mahogany, teak, agoho and giant ipil-ipil.

### 7.2 Management of Stockpiled rocks/wastes:

Mine wastes or overburden shall be directly delivered to pre-designated waste dumpsites. In this particular project, mine wastes will be backfilled to the Lutopan subsidence area.

### 7.3 Maintenance of roads and embankments:

Access roads and embankments will be properly maintained to avoid disruption of operation. Side cuts will be provided with good drainage canal and planted with fast growing tree species.

### 7.4 Handling of toxic and hazardous materials:

Toxic and hazardous materials will be handled by a separate department of the company. This is covered by a permit required by appropriate government agency. During exploration, no toxic or hazardous materials will be introduced into the area because then Exploration Team will only collect samples using sample picks and other geologist's tools such as altimeter, brunton compass and tapes without using hazardous chemicals.

### 7.5 Accommodation of other economic activities:

Socio-economic activities will tend to increase as soon as the area will be put back to normal operation since the company will also continue to re-implement its planned socio-economic programs, which include various income-generating projects. It is expected that there will be a significant increase and improvement in transportation, trade and commerce in the area.

### 7.6 Alternative plans for affected flora and fauna:

There are no endangered or rare species of flora and fauna in the area, hence no alternative plans for them are considered. However, the company has segregated some areas not directly needed for mining operations as tree planting sites that are designed to improve the flora and fauna of the area.



## 7.7 Socioeconomic mitigating measures

As soon as the area is put back to operation, the company will continue to implement the following:

- Cooperatives,
- Livestock and poultry raising,
- Swine raising,
- Rural improvement,
- Community organizing activities
- Other income-generating projects.
- 

It is expected that beneficial impacts resulting from these socio-economic activities will go hand in hand with the resumption of ACMDC mining operation.

## 7.8 Abandonment Measures:

- a) All exploration and/or mining equipment and accessories shall be pulled-out and the site will be cleared.
- b) Pit slopes and benches shall be reforested with indigenous fast growing trees.
- c) Peripheral drainage network shall be properly maintained to minimize surface run-offs and erosion, then planted with fast growing trees.
- d) Electrical posts, transmission lines, cables, and other electrical installations shall be recovered for future use or sold to prospective buyers.
- e) Mining facilities such as production, ventilation and service shafts shall be backfilled with rock-waste materials and collars shall be sealed with concrete.
- f) Service tunnels, portals, and adits shall be sealed with concrete and provided with peep holes or drain holes to allow free flow of water.
- g) Mine yards, service shops and waste dumpsites shall be planted with fast growing trees.
- h) Buildings, houses, machineries and equipment shall be dismantled and stored for future use.
- i) The existing road networks connecting Barangays Biga, Bagakay, Malubog, Udlom and Luay be turned-over to local governance.



8.0 COST OF ENVIRONMENTAL MANAGEMENT IN EXPLORATION

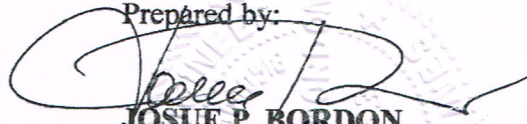
An amount of PhP3,422,733.50 shall be allocated for Environmental Management Program.

The foregoing environmental protection and enhancement activities on the area applied for MPSA No. APSA-000043VII of Atlas Consolidated Mining and Development Corporation situated in Barangay Don Andres Soriano, Toledo City, Cebu shall be handled by the Safety, Health and Environmental Department.

9.0 NAME OF CONTACT PERSON AND CONTRACT NO.

Rodrigo C. Cal  
Tel No. (032) 467-1408, (032) 325-2215

Prepared by:



**JOSUE P. BORDON**

Mining Engineer

Reg. No. : 518

PTR No. : 0803706

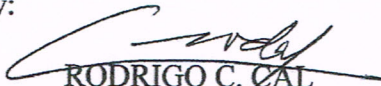
Issued on : January 22, 2008

Issued at : Toledo City, Cebu

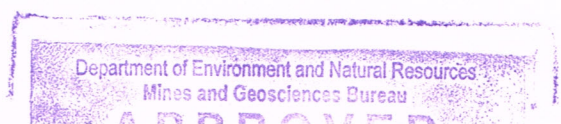
**Proponent:**

Atlas Consolidated Mining and Development Corporation  
Bo. Don Andres Soriano, Toledo City

By:



**RODRIGO C. CAL**  
AVP-Resident Manager





TIE LINE: N. 68° 02' E. 2,235.10 M.  
 From MBM No. 9, Talisay-Minglanilla Estate (Fr-133)  
 To Corner No. 1\*

**GEOGRAPHIC COORDINATES**

CORNERS	LATITUDE	LONGITUDE	CORNERS	LATITUDE	LONGITUDE
1	10° 18' 43.018"	123° 43' 05.196"	37	10° 19' 28.898"	123° 43' 22.053"
2	10° 18' 53.035"	123° 42' 37.399"	38	10° 19' 25.558"	123° 43' 31.319"
3	10° 18' 43.859"	123° 42' 34.028"	39	10° 19' 29.029"	123° 43' 32.595"
4	10° 18' 53.874"	123° 42' 06.231"	40	10° 19' 29.029"	123° 43' 35.238"
5	10° 19' 21.402"	123° 42' 16.344"	41	10° 19' 48.558"	123° 43' 35.237"
6	10° 19' 24.741"	123° 42' 07.078"	42	10° 19' 48.558"	123° 43' 45.097"
7	10° 20' 05.819"	123° 42' 22.170"	43	10° 20' 08.087"	123° 43' 45.086"
8	10° 20' 06.317"	123° 42' 17.371"	44	10° 20' 09.292"	123° 43' 44.555"
9	10° 20' 45.161"	123° 42' 21.489"	45	10° 20' 09.403"	123° 43' 47.840"
10	10° 20' 44.142"	123° 42' 31.295"	46	10° 20' 12.820"	123° 43' 47.722"
11	10° 20' 09.300"	123° 42' 27.602"	47	10° 20' 12.953"	123° 43' 51.664"
12	10° 20' 03.943"	123° 42' 42.467"	48	10° 20' 15.880"	123° 43' 51.564"
13	10° 19' 54.767"	123° 42' 39.055"	49	10° 20' 19.494"	123° 43' 57.359"
14	10° 19' 51.429"	123° 42' 48.361"	50	10° 20' 48.770"	123° 43' 56.351"
15	10° 20' 09.781"	123° 42' 55.105"	51	10° 20' 48.664"	123° 43' 53.227"
16	10° 20' 03.103"	123° 43' 13.637"	52	10° 20' 50.640"	123° 43' 53.227"
17	10° 20' 17.883"	123° 43' 15.480"	53	10° 20' 50.641"	123° 44' 03.082"
18	10° 20' 21.366"	123° 43' 15.480"	54	10° 20' 40.877"	123° 44' 03.083"
19	10° 20' 21.366"	123° 43' 23.608"	55	10° 20' 40.877"	123° 44' 12.943"
20	10° 20' 30.001"	123° 43' 23.608"	56	10° 20' 35.736"	123° 44' 12.944"
21	10° 20' 30.000"	123° 43' 27.366"	57	10° 20' 35.059"	123° 44' 11.297"
22	10° 20' 17.882"	123° 43' 27.783"	58	10° 20' 26.040"	123° 44' 15.076"
23	10° 20' 17.883"	123° 43' 15.480"	59	10° 20' 22.298"	123° 44' 05.969"
24	10° 20' 03.103"	123° 43' 13.637"	60	10° 20' 17.801"	123° 44' 07.853"
25	10° 19' 35.576"	123° 43' 03.522"	61	10° 20' 14.572"	123° 44' 02.207"
26	10° 19' 38.914"	123° 42' 54.256"	62	10° 20' 06.116"	123° 44' 07.137"
27	10° 19' 29.738"	123° 42' 50.884"	63	10° 20' 01.234"	123° 43' 58.598"
28	10° 19' 26.400"	123° 43' 00.150"	64	10° 19' 52.777"	123° 43' 03.528"
29	10° 19' 35.576"	123° 43' 03.522"	65	10° 19' 47.885"	123° 43' 54.989"
30	10° 19' 32.236"	123° 43' 12.788"	66	10° 19' 39.439"	123° 43' 59.919"
31	10° 19' 41.412"	123° 43' 16.159"	67	10° 19' 29.706"	123° 43' 42.821"
32	10° 19' 38.074"	123° 43' 25.425"	68	10° 19' 22.220"	123° 43' 40.585"
33	10° 19' 28.898"	123° 43' 22.053"	69	10° 18' 54.691"	123° 43' 30.470"
34	10° 19' 32.236"	123° 43' 12.788"	70	10° 18' 58.031"	123° 43' 21.204"
35	10° 19' 23.060"	123° 43' 09.416"	71	10° 18' 39.679"	123° 43' 14.461"
36	10° 19' 19.722"	123° 43' 18.682"			



**LOCATION PLAN**  
 OF  
**MINERAL PRODUCTION SHARING AGREEMENT (MPSA)**  
 APPLICATION NO. APSA 300043VII

AS PREPARED FOR  
**ATLAS CONSOLIDATED MINING & DEVELOPMENT CORPORATION**

SITUATED IN THE  
 BARRIOS OF DON ANDRES SORIANO and BIGA  
 CITY OF TOLEDO  
 PROVINCE OF CEBU  
 ISLAND OF CEBU

CONTAINING AN AREA OF 648,0174 HAS.  
 SCALE OF 1 : 50,000 M

*Attesting*  
**JOSE V. DUMAGUING**  
 Geologic Engineer



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TO TAUSAY