[illegible] VALIDVALE

DIRECTORS' CERTIFICATE OF AMENDMENT

We, representing the majority of the member of the Board of Directors and the Secretary of the CLARENCE T. PIMENTEL CONSTRUCTION, INC., hereby certify that the attached documents is a true and correct copy of the Amended Articles of Incorporation specifically the name of the corporation and Section I of the Secondary purposes as follows:

1. CLARENCE T. PIMENTEL CONSTRUCTION AND MINING CORPORATION

2. To undertake, engage, conduct and/or carry out Mining Ventures and exploration anywhere in the country of gold, copper, chromite or manganese, diamonds, and all other kinds of precious or semi-precious stones and minerals and to enter into any agreement by contract, sub-contract or by joint venture with any person, juridical or natural and to perform other works incidental to or in connection with this purpose which was unanimously adapted at a meeting of the stockholders of said corporation held on January 5, 1987 at its principal office at 338 National Highway, Muntinlupa, Metro-Manila at exactly 5:00 P.M. which represents more than two thirds (2/3) of the outstanding capital stock and was likewise approved by the majority vote of the Board of Directors.

IN WITNESS WHEREOF, the undersigned have hereunto affixed their signatures on this 5 day of Jan., 1987.

CLARENCE T. PIMENTEL

VICENTE T. PIMENTEL JR.

FELICIDAD T. PIMENTEL

ALEXANDER T. PIMENTEL

HERNANDO A. MASANGKAY
Secretary

NESTOR U. TULDANES

SUBSCRIBED AND SWORN to before me this 22 day of Jan., 1987, affiants exhibited to me their Residence Certificate Numbers to wit:

NAME	NUMBER	DATE & PLACE OF ISSUE
CLARENCE T. PIMENTEL	17668103	3/2/86 - Muntinlupa, M.M.
VICENTE T. PIMENTEL JR.	17668104	3/2/86 - Muntinlupa, M.M.
FELICIDAD T. PIMENTEL	3027177	1/2/87 - Tandag, Surigao del Sur
ALEXANDER T. PIMENTEL	3027178	1/2/87 - Tandag, Surigao del Sur
HERNANDO A. MASANGKAY	199341	4/14/86- Quezon City
NESTOR U. TULDANES	1934064	1/21/87-Makati, Metro-Manila

CTP CONSTRUCTION & MINING CORPORATION

LOCATION : BRGY. DAHICAN, CARRASCAL, SURIGAO DEL SUR

POINT	LATITUDE	LONGITUDE	POINT	LATITUDE	LONGITUDE
1	9° 27' 57"	125° 55' 30"	34	9° 28' 23"	125° 57' 28"
2	9° 27' 57"	125° 55' 43"	35	9° 28' 06"	125° 57' 28"
3	9° 27' 13"	125° 55' 43"	36	9° 28' 06"	125° 57' 12"
4	9° 27' 13"	125° 56' 00"	37	9° 27' 57"	125° 57' 12"
5	9° 26' 57"	125° 56' 00"	38	9° 27' 57"	125° 57' 05"
6	9° 26' 57"	125° 56' 12"	39	9° 27' 50"	125° 57' 05"
7	9° 26' 52"	125° 56' 12"	40	9° 27' 50"	125° 57' 00"
8	9° 26' 52"	125° 56' 25"	41	9° 27' 40"	125° 57' 00"
9	9° 26' 49"	125° 56' 25"	42	9° 27' 40"	125° 56' 52"
10	9° 26' 49"	125° 56' 29"	43	9° 27' 10"	125° 56' 52"
11	9° 26' 47"	125° 56' 29"	44	9° 27' 10"	125° 57' 22"
12	9° 26' 47"	125° 56' 46"	45	9° 26' 58"	125° 57' 22"
13	9° 26' 57"	125° 56' 46"	46	9° 26' 58"	125° 57' 14"
14	9° 26' 57"	125° 56' 40"	47	9° 26' 38"	125° 57' 14"
15	9° 27' 04"	125° 56' 40"	48	9° 26' 38"	125° 56' 52"
16	9° 27' 04"	125° 56' 38"	49	9° 26' 28"	125° 56' 52"
17	9° 27' 23"	125° 56' 38"	50	9° 26' 28"	125° 56' 38"
18	9° 27' 23"	125° 56' 27"	51	9° 26' 36"	125° 56' 38"
19	9° 27' 34"	125° 56' 27"	52	9° 26' 36"	125° 56' 33"
20	9° 27' 34"	125° 56' 19"	53	9° 26' 44"	125° 56' 33"
21	9° 28' 04"	125° 56' 19"	54	9° 26' 44"	125° 56' 25"
22	9° 28' 04"	125° 56' 16"	55	9° 26' 48"	125° 56' 25"
23	9° 28' 10"	125° 56' 16"	56	9° 26' 48"	125° 56' 12"
24	9° 28' 10"	125° 56' 27"	57	9° 26' 38"	125° 56' 12"
25	9° 27' 57"	125° 56' 27"	58	9° 26' 38"	125° 55' 55"
26	9° 27' 57"	125° 56' 52"	59	9° 26' 28"	125° 55' 55"
27	9° 28' 06"	125° 56' 52"	60	9° 26' 28"	125° 55' 40"
28	9° 28' 06"	125° 57' 00"	61	9° 26' 32"	125° 55' 40"
29	9° 28' 24"	125° 57' 00"	62	9° 26' 32"	125° 55' 30"
30	9° 28' 24"	125° 56' 52"	63	9° 26' 39"	125° 55' 30"
31	9° 28' 40"	125° 56' 52"	64	9° 26' 39"	125° 55' 36"
32	9° 28' 40"	125° 57' 34"	65	9° 26' 49"	125° 55' 36"
33	9° 28' 23"	125° 57' 34"	66	9° 26' 49"	125° 55' 30"

TOTAL AREA : 607.88 Hectares

EDITION 1 BTSM (FIRST PRINTING 1961) PUBLISHED BY AUTHORITY OF THE BOARD OF TECHNICAL SURVEYS AND MAPS IN COOPERATION WITH THE DEPARTMENT OF NATIONAL DEFENSE.
SOURCES: U. S. ARMY MAP SERIES 752 COMPILED IN 1956 BY PHOTOGRAMMETRIC METHODS 1947 - 1953 PHOTOGRAPHS AND OTHERS

ENG'R. REGINO L. SOBREVIÑAS
GEODETIC ENG'R. NO. 996
PTR NO. 205-285

Scale 1:50,000

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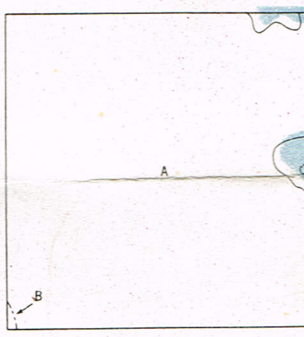
INDEX TO BOUNDA



BOUNDARIES APPROXIM

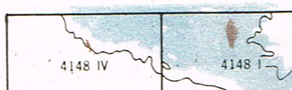
Province; Chartered City
Municipality

A. Province of Surigao
B. Province of Agusan

3 Statute Miles
4000 Meters
4000 Yards
2 3 Nautical Miles

REPRINTED BY AFP MAPPING CENTER, 1978

INDEX TO ADJOINING



ENTARY

Republic of the Philippines
Department of Environment and Natural Resources
MINES AND NATURAL RESOURCES
North Avenue, Diliman, Quezon City

ENVIRONMENTAL WORK PROGRAM

1.0 NAME AND ADDRESS OF COMPANY / APPLICANT

CTP CONSTRUCTION AND MINING CORPORATION
C/o QNI Philippines, Inc.
4th Floor, Unit 401 Cedar Executive Building II
26 Timog Ave., Cor. Sct. Tobias St.
Quezon City, 1103
Philippines

2.0 TYPE AND NATURE OF PROJECT

2.1 PROJECT DESCRIPTION

The proposed project involves the comprehensive and systematic exploration for Ni-laterite deposits within the approved MPSA of CTP Construction and Mining Corporation (MPSA NO. 018-93XIII).

The primary purpose of the exploration program is to assess/evaluate the Ni-laterite potential of the area with the primary objective of locating/delineating Ni-laterite deposits/reserves amenable to future mining.

The proposed exploration project will take two (2) years to complete at an estimated cost of P 22,664,571.50.

The intended exploration project will have no adverse impacts on the environment by nature of its scope and through the proper implementation of mitigating measures.

2.2 THE MINERAL DEPOSIT

The primary deposit to be explored is the Ni-laterite resource found in the ultramafics that could be sufficiently mineralized with Ni and Co.

Based on regional geological mapping and test pitting conducted by MGB and BHP Minerals, the property contains very extensive deposits of laterite, but with parts that are thin or erratically mineralized. However, select deposits within the property compare favorably in terms of grades and tonnage with other Philippine ore bodies.

3.0 LOCATION AND SIZE OF CONTRACT PROJECT

3.1 LOCATION AND ACCESSIBILITY

The project area is located in north-easternmost Surigao del Sur, and is accessible by road from Surigao City passing the Maharlika highway to Bad-as then a coastal road linking Surigao del Sur or by sea passing thru Hinatuan passage. Travel time to the area is approximately 2 ½ hours by land or 3 hours by pumpboat.

Surigao City can be reached from Cebu City through a daily scheduled fast ferry or boats. Other alternative route is from Butuan City, which is about 2 ½ hours from the project area.

3.2 SIZE OF CONTRACT AREA

The contract area has Three Thousand Five Hundred Sixty Four (3,564) hectares more or less. Coverage area is shown in Figure 2.

4.0 DESCRIPTION OF THE EXISTING ENVIRONMENT

4.1 THE LAND

4.1.1 Topography/Physiography

The total laterite area within the district is about 60 km2. The predominant structural orientation expressed in the regional topography is north-south but there is an important secondary alignment of structure to the northwest-southeast.

The granted MPSA itself has moderate to rolling topography that spreads over a range of elevations, from sea level to 677m asl, but most of the flatter(thicker) areas are at 100-300m asl. The topographic map of the area is shown in Figure 1.

4.1.2 Land Use/Capability

The project area, which is generally covered by lateritic soil and in some places overlain by ultramafics could be classified as grass land or shrubland. The higher altitude areas were once forested areas but now are almost deforested due to logging. However, due to the poor top soil conditions re-growth of substantial timber has not occurred with only light to medium secondary scrub that is constantly harvested by small scale timber cutters for firewood.

Only the coastal area is utilized for residential purposes and few and small agricultural areas are planted with root crops, fruit and coconut trees.

Considering the above prevailing factors, the proposed exploration project and possible development / mining in the future would help develop the industrial and commercial utilization of the area.

4.1.3 Pedology

Soils within the area consists of Annam clay loam and undifferentiated mountain soils. The soils are brown to yellow-orange to reddish clay loam that they may be stony in character.

Although there are no chemical analyses of forest soil, ricefield soils and sediments from surface water system, levels are

baseline quality (Table 1-3). This is mainly due to the fact that there are no known industrial and major agricultural activities in the area that may alter natural soil conditions.

Generally, the proposed exploration project will not have any adverse effects on the soil characteristics as it is small in scope and does not include earthmoving activities.

4.2 THE WATER

4.1 Water Quality

The water quality of the drainage system, estuarine, coastal areas and groundwater are interpreted to be within national ambient standards (Table 4-7).

4.2 Hydrology

Short consequent streams that are intermittent or seasonal characterize the drainage system in the area. Due to their low volume and low flow rate, these streams have limited use.

Unconfined groundwater is stored in secondary porosities in the igneous rocks and in unconsolidated alluvial deposits occurring in the area. In areas where the rocks are heavily fractured and/or faulted, the fracture permeabilities of the rocks are increased thereby storing groundwater.

TABLE 1

BASELINE QUALITY OF FOREST SOIL

PARAMETER*	PHILIPPINE RANGES**	GLOBAL RANGES
pH	3.0-8.0	-
Arsenic	<0.10-6.0	-
Boron	<0.10-3.0	5-150
Chromium	1.6-128	200
Copper	6.5-81	20
Iron	5,400-85,000	500-50,000
Lead	3-15	10
Mercury	0.03-0.29	0.03
Zinc	0.3-190	10-250

* Concentrations in ppm

** Values presented are baseline soil quality of forest soils in Luzon, Visayas and Mindanao.

*** Brandy, Nyle C., " The nature and Property of Soils"

TABLE 2

BASELINE QUALITY FOR RICEFIELD SOILS

PARAMETER*	PHILIPPINE RICEFIELD SOILS
Arsenic	<0.02-70
Boron	0.20-6.7
Chloride	2.3-62
Chromium	3.8-36
Copper	10-53
Iron	18,000-40,000
Lead	4-14
Manganese	288-1195
Mercury	0.03-0.80
Sulfate	32-372
Zinc	0.30-50

*Concentrations in ppm

TABLE 3

BASELINE SEDIMENT QUALITY OF SURFACE WATER SYSTEMS

PARAMETER*	PHILIPPINE SEDIMENT QUALITY
pH	4.3-8.16
Arsenic	0.02-11.7
Boron	0.06-9.6
Cadmium	-
Chromium	<0.05-31
Copper	10.83
Iron	12,000-62,000
Lead	3.2-15
Manganese	60-1418
Mercury	0.01-2.13
Zinc	0.40-160

* Concentrations in ppm

TABLE 4

BASELINE WATER QUALITY OF RIVERS SYSTEMS

PARAMETER*	CLASS A (DRINKING)	CLASS B (DOMESTIC)	CLASS C (FISHERY)
Ph	6.5-8.5	6.5-8.5	6.5-8.5
Arsenic	0.05	0.05	0.05
Boron	-	-	-
Chloride	200	-	350
Chromium	0.05	0.05	0.05
Copper	1.0	-	0.02
Iron	1.0	-	-
Lead	0.05	0.05	0.05
Manganese	0.50	-	-
Mercury	0.002	0.002	<0.02
Sulfate	200	-	-
Zinc	5.0	-	2.0

* Concentrations in ppm

TABLE 5

BASELINE WATER QUALITY OF ESTUARINE WATER

PARAMETER*	NATIONAL STANDARDS
Ph	6.5-8.5
Arsenic	0.05
Boron	-
Chloride	-
Chromium	0.02
Copper	0.02
Iron	-
Lead	0.05
Manganese	-
Mercury	0.002
Sulfate	-
Zinc	-

* Concentrations in ppm

TABLE 6

BASELINE WATER QUALITY FOR COASTAL WATER

PARAMETER*	NATIONAL STANDARDS
Ph	6.5-8.5
Arsenic	0.05
Boron	-
Chloride	-
Chromium	0.05
Copper	0.02
Iron	-
Lead	0.05
Manganese	-
Mercury	0.002
Sulfate	-
Zinc	-

* Concentrations in ppm

TABLE 7

BASELINE CHEMICAL CHARACTERIZATION OF DRINKING WATER SOURCES

PARAMETER*	NATIONAL STANDARDS
Ph	6.5-8.5
Arsenic	0.05
Chloride	200
Chromium	0.05
Copper	1.0
Iron	1.0
Lead	0.05
Manganese	0.50
Mercury	0.002
Sulfate	200
Zinc	5.0

Note: Concentrations in ppm

4.3 CLIMATOLOGY/ METEOROLOGY

Tropical climate with alternating wet and dry seasons characterize the area. The highest precipitation occurs from October to March while the dry season is from April to September.

Temperature ranges from 24.1 – 29.6°C with an average of 27.1°C.

Baseline noise level of about 30 decibels is perceived at the proposed project site which is unpopulated. This is within the national ambient standard of 55 decibels for residential areas during the day time. Dust exposure during field activities is also within national standards.

4.4 GEOLOGICAL/GEOMORPHOLOGICAL ENVIRONMENT

The Ni-Co laterites deposits in the CTP MPSA area are typical of Philippine deposits, being :

- generally immature (eq. low incidence of escarpment, little ferricrete, free silica or magnesite); and
- well drained (eq. little smectite at the transition).

Generally, the Surigao region has formed from the Samar-Surigao segment of the Bicol-Eastern Mindanao Ophiolite belt. This belt is believed to have been emplaced in the mid to late Oligocene. Evidence from the Surigao region includes post ophiolites units (limestone, clastics and basalt andesite volcanics) of late Tertiary to recent age. Pre-ophiolite units in the Surigao region include limestone and metavolcanics.

Within the region, the ophiolite units are predominantly peridotite; itself being mainly harzburgite with less common dunite and rare pyroxenite veins. The degree of serpentinisation varies widely from area to area.

4.5 BIOLOGICAL ENVIRONMENT

The area is not host to any form of exotic, rare, or endangered animal or plant species that requires protection. Its proximity to already habituated or developed areas have rendered it susceptible to human activities and as such its former wildlife has either moved more remote areas or has been decimated.

Similarly, endemic plants are already absent in the area probably due to previous logging activities that has denuded the forest cover.

4.6 SOCIO-ECONOMIC ENVIRONMENT

Barangay Adlay is in an underdeveloped coastal area. Most of the housing facilities are of light materials and have an average area of 36 square meters. Only a few multi-bedroom semi-concrete houses are present.

The average annual income of the household is about P 20,000 – P 50,000.

Primary means of livelihood is fishing with only minor farming. Other occupations are small business, livestock raising and government employment.

Health needs are provided in the Municipality of Carrascal. Primary and secondary education may be availed at the barangay level while College education and vocational courses can be attained only at Surigao City or Tandag.

Carrascal has its own post office located at the municipal building. The communication system is underdeveloped and no telephone system exists.

Electricity is available within the area through National power Corporation. Water supply usually comes from springs that have been tapped, with some using deepwells.

The major religion is Roman Catholic though minor Christian sects exist.

5.0 DESCRIPTION OF EXPLORATION WORK

The proposed exploration work program is planned to be undertaken systematically and conducted in stages with the progression to the next stage dependent on results of previous stages.

Ideally, the geological exploration will have the following major activities, to be conducted at different stages:

- Reconnaissance Geological Mapping/Sampling
- Aerial Photographic survey
- Semi detailed Geological Mapping/Sampling
- Auger Drilling
- Topographic Survey
- Core Drilling
- Geological Evaluation

5.1 GEOLOGICAL MAPPING/SAMPLING

This activity will be undertaken in three (3) stages, namely:

Reconnaissance

Semi-detailed

Detailed

During the reconnaissance stage, work will be conducted on a scale of 1:50,000 and 1:25,000 and limonite and grab samples will be taken at a density of 1 to 5 samples per square kilometer. Work will basically include traverses along creeks, ridges and grid lines.

For the semi-detailed stage, work will be conducted on a scale of 1:10,000 and will involve compass and tape traverses. Limonite and grab

samples will be taken at a density of 5 to 10 samples per square kilometer

Detailed compass and the tape geological surveys will be on the scale of 1: 1,000 and 1:5,000. Closely-spaced grab sampling will be done whenever possible.

During the three (3) stages, auger drilling will be carried out. This will guarantee that no adverse impact will be made on the environment.

5.2 AERIAL PHOTOGRAPHIC SURVEY

Aerial photographic survey will compliment regional geological mapping and interpretation. This will cover the whole area granted and adjoining claims or approximately 20,000 hectares. Lines to be surveyed are estimated at 86 line-kilometers.

5.3 AUGER DRILLING

This activity will be conducted to delineate potential Ni-laterite areas within the project area using a small Man-portable Dormer Drillmite machine. This is an efficient way of testing upper limonitic portion of the laterite profile, but is not able to penetrate the saprolite. In this way it provide a similar sample to test pits, but the auger holes are faster to drill and have significantly less environmental impact than test pits.

5.4 TOPOGRAPHIC SURVEY

A topographic survey of the most prospective area within the project will be made and will highlight the following:

- Establishment of horizontal and vertical control points
- Location of all drill holes
- Location of all geological data (outcrops, contracts, etc.)
- Preparation of topographic maps at 1:5,000 and 1:10,000 scale with contour intervals of 5 and 10 meters, respectively.

5.5 CORE DRILLING

The most prospective Ni-laterite areas will be drilled with Koken drilling machines.

This activity is designed to check the vertical consistency / persistency of physical and chemical characteristics of the potential Ni-laterite deposit.

NQ sized holes will be drilled initially at 100m spaced grids then on closely-spaced grids of 50m down to 25m if warranted. Samples will be taken at 1m intervals.

5.6 PROCESSING SAMPLES

Only the drying and crushing/pulverizing of samples will be done in the field and will be conducted at an appropriate place within the field camp.

Prepared samples placed in plastic sample bags will be sent to Manila regularly for analyses.

5.7 PROPOSED WORK AREA

The proposed area is shown in **Figure 3**. It contains a land area of some 3,564 hectares. As reconnaissance work progresses and as Ni-laterite areas are delineated, the coverage area for further exploration decreases. Detailed exploration work will then be concentrated on most prospective areas.

5.8 ESTIMATED EXPLORATION COSTS

The proposed exploration program will entail an estimated costs of P 22,664,571.50.

Details of exploration costs per activity are shown below:

Activity	**Cost**
Legal Access	P 11,077,620.00
Research Work	P 100,000.00
Camp Cost	P 654,300.00
Aerial Photo Survey	P 712,080.00
Orthophoto Mosaic	P 450,000.00
Regional Geological Survey	P 817,411.00
Semi-detailed Mapping	P 583,865.00
Auger Drilling	P 737,581.50
Sample Prep and Analyses	P 1,419,686.00
Topographic Survey	P 189,044.00
Detailed Geological Mapping	P 934,184.00
Core Drilling	P 4,468,800.00
Geological Evaluation	P 300,000.00
Environmental Management	P 220,000.00
TOTAL	**~P 22,664,571.50**

*In-fill core drilling will be conducted depending on success of delineating a potential Ni-laterite deposits with at least 5MDT reserves.

6.0 IMPACT ASSESSMENT

6.1 THE LAND

There are no scenic land features, structures, wildlife and park reservations in the area that would be affected during and after the exploration program. The major portion of the proposed project area is within a land that can be classified as grassland or shrubland. Areas at higher elevations were once forested areas but now are almost de-forested. Only minor secondary growth trees of no commercial quality occur in this areas.

Since the exploration program is limited in scale, no cutting of trees will be made. The use of portable drilling rigs does not need preparation of drill pads.

6.2 THE WATER

No adverse impact on the environment is expected.

6.3 THE AIR

No adverse impact on the environment is foreseen.

6.4 THE PEOPLE

The project is perceived to have positive socio-economic effects to the local populace.

Employment and added income will be the direct benefits that the project will bring to the community.

7.0 ENVIRONMENTAL MANAGEMENT STRATEGIES/MITIGATING MEASURES

As the preservation of the environment is of outmost importance, the environmental upkeep will be a main consideration during the actual implementation of the exploration program.

7.1 STARTEGIES/MEASURES TO BE ADOPTED

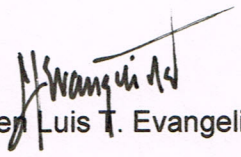
Potential negative impacts will be addressed through the following measures:

- Land rental/payment of improvements in recognition of occupants' rights and interests on land to be used as based camp, etc.

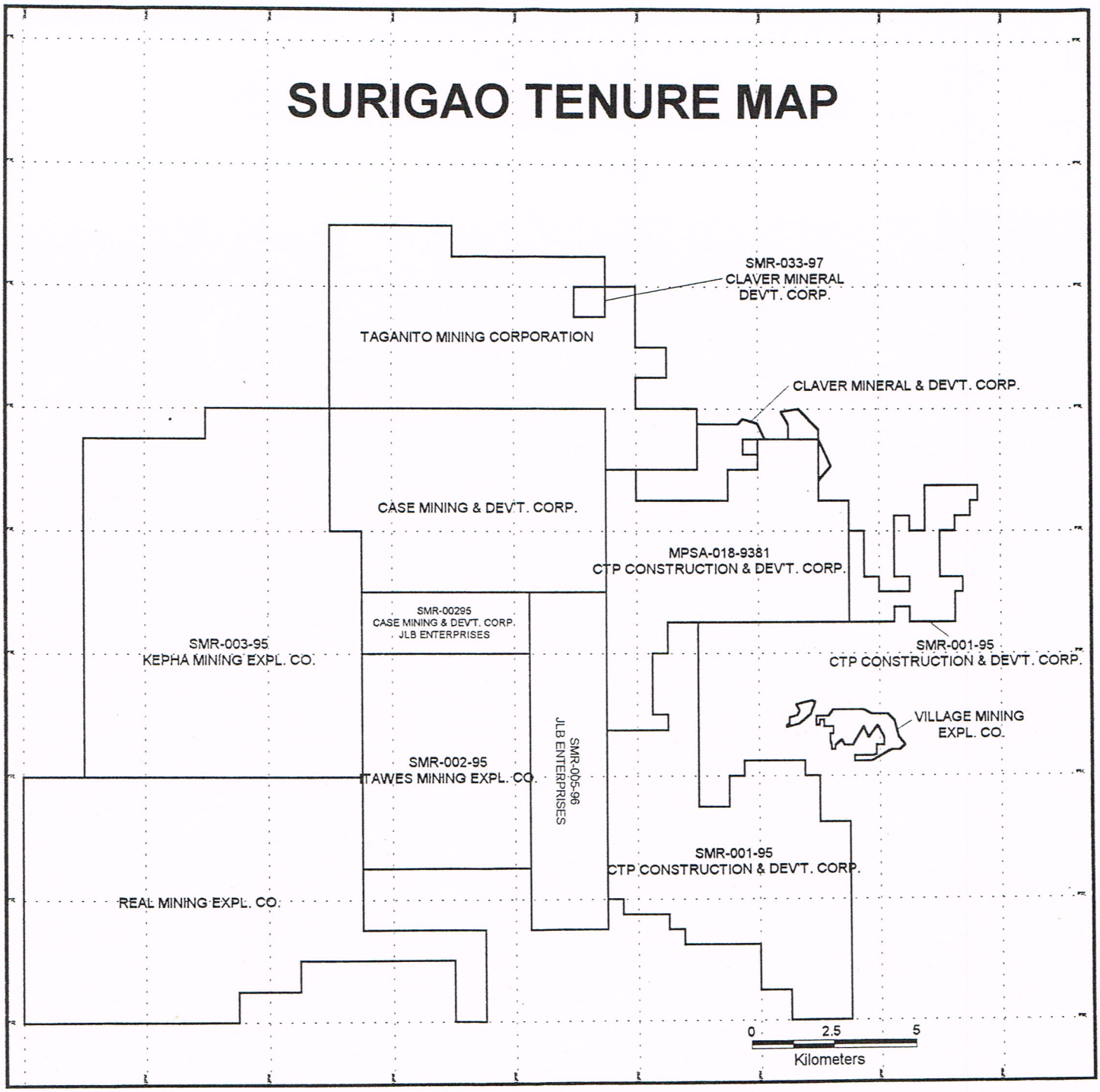
- Land rental/payment of improvements in recognition of occupants' rights and interests on land to be used as based camp, etc.
- Compensation for crop damages following prescribed rates of provincial assessors office.
- Establishment of community related projects (clinic, deepwells, recreational facilities, etc.)
- Continuation and improvement of information drive/dialogue with local population
- Established and monitoring of environmental stations.

An amount of P 220,000.00 will be allocated for the environmental concerns of the project.

Prepared by:



Leoben Luis T. Evangelista
Geologists
PRC License No.: 1223
TIN No. 142-998-240
PTR No. 439880
Dated: 02-27-99


SURIGAO TENURE MAP
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DEV'T. CORP.
TAGANITO MINING CORPORATION
CLAVER MINERAL & DEV'T. CORP.
CASE MINING & DEV'T. CORP.
MPSA-018-9381
CTP CONSTRUCTION & DEV'T. CORP.
SMR-00295
CASE MINING & DEV'T. CORP.
JLB ENTERPRISES
SMR-003-95
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EXPL. CO.
SMR-005-96
JLB ENTERPRISES
SMR-002-95
ITAWES MINING EXPL. CO.
SMR-001-95
CTP CONSTRUCTION & DEV'T. CORP.
REAL MINING EXPL. CO.
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Figure 2

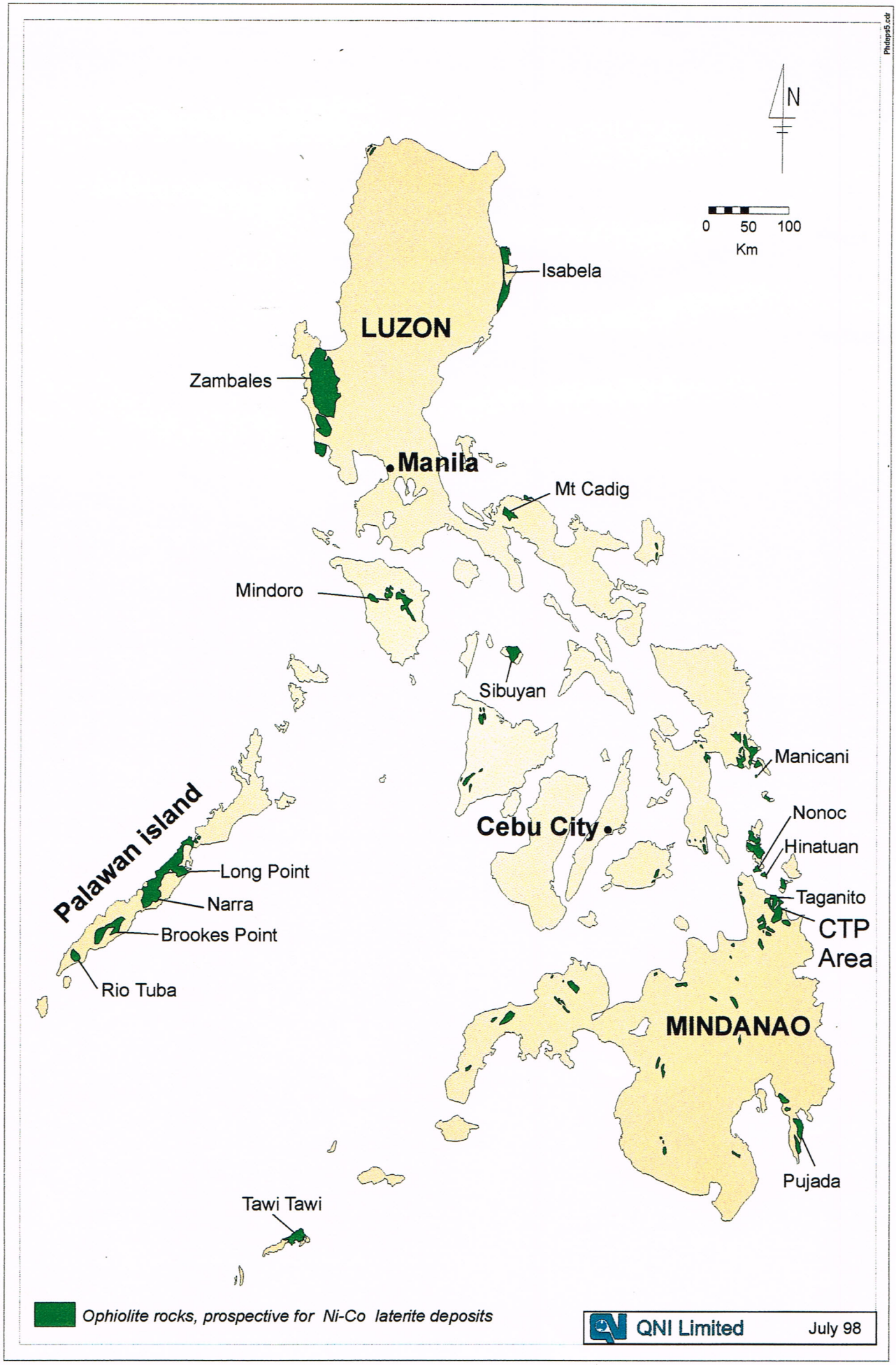

Figure 1: Location of the CTP Property, Philippines

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

EXPLORATION WORK PROGRAM

1.0 NAME AND ADDRESS OF COMPANY/PROPONENT

Proponent: **CTP CONSTRUCTION AND MINING CORPORATION**

Address: **c/o QNI PHILIPPINES INC.**
4th Floor Unit 401 Cedar Executive Bldg. II,
26 Timog Avenue corner Scout Tobias St.,
Quezon City 1103, Metro Manila, Philippines

2.0 LOCATION OF PROJECT (SPECIFY GEOGRAPHIC COORDINATES)

The project area is situated in:

Barangay of	: Adlay
Municipality of	: Carrascal
Province of	: Surigao del Sur
Island of	: Mindanao

Technical Description :
The area is within the following geographic coordinates:

Corner	Latitude	Longitude
1	9°24'45"	125°51'30"
2	9°29'00"	125°51'30"
3	9°29'00"	125°52'00"
4	9°28'30"	125°52'00"
5	9°28'30"	125°53'30"
6	9°29'00"	125°53'30"
7	9°29'00"	125°54'00"
8	9°29'30"	125°54'00"
9	9°29'30"	125°55'00"
10	9°28'30"	125°55'00"
11	9°28'30"	125°55'30"
12	9°26'30"	125°55"30"
13	9°26'30"	125°52'30"
14	9°26'00"	125°52'30"
15	9°26'00"	125°52'15"
16	9°25'00"	125°25'15"
17	9°25'00"	125°52'30"
18	9°24'45"	125°52'30"

Please refer to the attached NAMRIA map 1:50,000 scale complete with technical description.

3.0 AREA OR SIZE OF COVERAGE (HECTARES)

The project area is located in the north-easternmost Surigao del Sur, It has an area of Three Thousand Five Hundred Sixty Four (3,564) hectares more or less.

4.0 PROJECT AREA DESCRIPTION

4.1 Terrain/Physiography

The area is characterised by moderate to rolling topography with elevation ranges from 100-300m above sea level. Highest peak can be found on the western boundary of the claim or north of Ca-ayongen river which is about 677 meters asl.

4.2 Accessibility

The area is accessible by road from Surigao City passing the Maharlika highway to Bad-as then a coastal road linking Surigao del Sur or by the sea passing thru Hinatuan passage. Travel time to the area is approximately 2 ½ hours by land or 3 hours by pump boat.

Surigao City can be reached from Cebu City through a daily scheduled fast ferry or boats. Other alternative route is from Butuan City, which is about 2½ hours drive.

4.3 Drainage System/s

Drainage system is generally dendritic draining towards south-east of the project area. The major creeks/rivers are Ca-ayongen and Tandawa located south and north, respectively.

4.4 Vegetation

Large portion of the project area is already denuded but was once a thickly forested area. The logged-out portions on the ridges, have secondary growth forests while the areas at lower elevations are covered with shrubs, under brushes and cogon grasses.

4.5 Land Use

Much of the surface of the laterite deposits was subjected to logging in the past. However due to the poor topsoil conditions re-growth of substantial timber has not occurred with only light to medium secondary scrub that is constantly harvested by small scale timber cutters for firewood. Most of the villages and towns are located on the shoreline and cultivate the adjacent flood plains.

5.0 DESCRIPTION OF EXPLORATION PROGRAM

The purpose of Exploration Program is to assess/evaluate the Ni-laterite potential of the CTPCMC approved MPSA No. 018-93-XI. Based on regional mapping and test pitting conducted by both government and private companies, the property contains very extensive deposits of laterite, but with parts that are

5.1 Research Work

Research will be done at the Philippine Mines and Geo-sciences Bureau library for any article, literature or reports regarding previous works. Allegedly, the MGB through the support of Metal Mining Agency of Japan conducted regional geological mapping, sampling and excavation of more than 500 test pits at about 200 meter grid spacing between year 1953-1961. In 1996, BHP Minerals through a MOA with South Surigao Red Bay/Stellar Metals also evaluated the property by re-establishing the grid, re-sampling old test pits and excavation of new ones. During the later half of 1997, Stellar Metals with the financial support of Philmac/Longpoint drilled 31 holes using Koken drill machines. Drilled depth ranged from 5.00 to 34.00 meters per hole. The total amount of meters drilled is 609.41.

5.1.1 SURVEY OF PREVIOUS WORK/S ON THE AREA

5.1.1.1 Nature or type of study or undertaking

Tenure status, geological data and other related information relevant to the area will be completed. The most important information will include geological maps, test pit and drill location maps/sections, Analysis and drill logs.

5.1.1.2 Duration

One (1) month

5.1.1.3 Coverage

Entire area granted for MPSA and immediate vicinities.

5.1.1.4 Proponent

Technical staff

5.1.1.5 Results or conclusions arrived at

Initial interpretation on the thickness of the laterite, extent of mineralization and grade ranges.

5.1.2 DATA COMPILATION/COLLATION

5.1.2.1 Geophysical data

Geophysical data such as aerial photographs from MGB or NAMRIA could be used in the initial aerial photo interpretation.

5.1.2.2 Lithological data

Previous geological mapping data will be compiled and collated in a digital format using a program such as Corel Draw or AutoCAD. This data could assist in the development of an understanding on the regional geology and in the identification of major features such

5.1.2.3 Mineralization/alteration studies

The areas covered by previous exploration may have identified the area/s being mineralized and this will be a useful guide for an earlier stage of exploration.

5.1.2.4 Various thematic maps covering the target area

The social aspects of working in the area will not be overlooked. The claim boundaries of CADC/IP and Protected Areas if any will be included in the maps or database.

5.1.2.5 Estimated cost

P 100,000.00

5.2 RECONNAISSANCE / REGIONAL SURVEY OR STUDIES

5.2.1 REMOTE SENSING STUDIES

5.2.1.1 Nature or type of survey or study (e.g. airphoto interpretation, SAR, aeromagnetics, etc.)

Aerial photographic survey will compliment regional geological mapping and interpretation. This approach to exploration is very useful in covering large areas in a limited time.

5.2.1.2 Duration

The aerial survey and processing/printing of photographs is approximately 1 month or depending on the weather conditions of the area. However, the scanning and processing of Orthophoto mosaic is approximately 3 months.

5.2.1.3 Proponent (company or group which will undertake the survey or study)

The Certeza Surveying and Aerophoto Systems, Inc is the company we are considering to handle the survey.

5.2.1.4 Coverage (hectares)

The area that will be covered will include not only the area applied for MPSA but the immediate vicinities or approximately 20,000 hectares. Lines to be surveyed are estimated at 86 line-kms.

5.2.1.5 Total or estimated cost

P 1,162,080.00

5.2.1.6 Main output (maps, reports, etc.)

1. One (1) set of colour contact prints in Medium-Weight Semi-Matte Photo paper.

2. One (1) set of Photo Centers location map.

3. One (1) set orthophoto maps at scale 1:15,000 with contour overlay

4. Digital orthophotos in TIFF format.

5. The photo geological interpretation will be digitized and will constitute part of the comprehensive database. These layers, in conjunction with others will be the basis for subsequent generation of interpretative geological maps.

5.2.2 Regional Geological Survey

5.2.2.1 Coverage (hectares)

Reconnaissance work to be conducted will cover the entire area granted and immediate vicinities. Samples that will be taken consist of limonite and saprolite from outcrops, erosional windows, gullies etc. Samples that will be gathered will be sent to Ostrea laboratories in Manila. The elements that will be analysed are Ni, Co and Fe.

5.2.2.2 Duration

Regional geological mapping and sampling will be conducted over the entire area and for a period of approximately three (3) months.

5.2.2.3 Manpower complement (technical and support staff)

One (1) Geologist, One (1) Geo-technician and 6 geologic aides.

5.2.2.4 Estimated cost

P 817,411.00

5.2.2.5 Output (number, type, scale maps and technical reports)

The reconnaissance geological mapping will cover the old road cuts and trails to differentiate lithological types, degree of weathering, structures and extent of mineralization. Output will be a regional technical report and maps at scale of 1:50,000.

5.3 SEMI-DETAILED SURVEY OR FOLLOW-UP STUDIES

5.3.1 Geological mapping/alteration studies

Potential Ni-laterite areas identified after the reconnaissance stage will be mapped on a semi-detailed basis. The compass and tape survey will focus on delineating the most prospective areas that could initially be probed with Drillmite auger drills. Shallow auger drills will test the vertical consistency/persistency of physical and chemical characteristics of the Ni-laterite areas.

5.3.2.1 Coverage (hectares)

Semi-detailed work will cover at least 50 percent of the total project land area. Analyses will be similar to that during the reconnaissance stage.

5.3.2.2 Duration

Two (2) months

5.3.2.3 Manpower complement

This work will engage the same field geology team who carried out the previous reconnaissance survey. For facility and better coverage, these teams will establish semi-permanent base camps within the prospect area

5.3.2.4 Estimated cost

P 583,865.00

5.3.2.5 Output

Geologic output will be a project level geological report and maps with semi-detailed geology delineating the locations of thin and thick laterite (limonite). Maps will be plotted on 1:10,000 scale folios in the same manner as the 1:50,000 sheets.

5.3.2 Subsurface investigation

5.3.2.1 Type (auger drilling)

Auger drilling using drillmite machines is an efficient way of testing the upper limonitic portion of the laterite profile, but is not able to penetrate the saprolite. In this way it provide a similar sample to test pits, but the auger holes are faster to drill and have significantly less environmental impact than test pits.

previous test pit results conducted by MGB and other private companies. The number of holes to be drilled at 100 meter spacing is estimated to be 550 or a total of about 3,300 meters with an average depth of 6 meters/hole.

5.3.2.3 Estimated number of samples to be taken

Samples will be taken at every meter or if possible at every change in lithology. The expected number of samples will be about 3,300.

5.3.2.4 Mode of analysis/target elements

Samples to be analysed will be prepared on site before sending to Ostrea Laboratories in Manila. The target elements to be analysed by AAS method are the TYPE-1 (Ni, Co and Fe). Duplicate samples (every 10^{th}) will be send to the QNI laboratory in Australia for checking on the accuracy of grades.

5.3.2.5 Manpower complement

This activity is planned to be conducted by a contractor using two Drillmite auger machines. One machine should have at least 6 crew including the sampler.

5.3.2.6 Estimated cost

P 737,581.50

5.3.2.7 Output

Expected output would be a report and maps on 1:10,000 scale showing the delineation of thickness of the limonite. However, delineations might change depending on the results of the detailed core drilling.

5.4 Topographic Survey

5.4.1 Coverage

Survey controls will be necessary at the conclusion of the follow-up survey and prior to the initiation of detailed work and drilling. The survey would extend across the prospective areas of interest and the following are the highlights:

- Establish horizontal and vertical control stations within the area to be explored that will be derived from the cadastral and land survey control stations.
- Locate all drill hole collars, test pits, access route and existing trails or road traversing the project area.
- Locate several tie points for all geological data (outcrops,

5.4.2 Scale and contour intervals

Sufficient survey control will be necessary to facilitate geological information gathered down to scales of 1:5,000. This precision will allow meaningful contouring down to an interval of as low as 5 meters.

5.4.3 Manpower complement

Contract survey crews headed by a licensed surveyor, survey aide computer plotter with eight local hires will likely be required. Instrumentation for the survey will be rented.

5.4.4 Estimated cost

P 189,044.00

5.4.5 Output

Establish accurate engineering survey control points and layout tie points for detailed geological mapping.

Establish base and grid lines for proposed detailed drilling.

Prepare accurate topographic and engineering maps for reference to prepare the project feasibility studies.

5.5 Detailed Survey or Studies

5.5.1 Detailed Geological Mapping

Detailed geological mapping will concentrate on delineated mineralised areas from reconnaissance and semi-detailed exploration stage. All structures and workings within the area delineated should be plotted on a detailed map on 1:5,000 scale. Correlation and Interpretation done from previous works will be reflected on this detailed map that includes lithology, structures and thickness of limonite.

5.5.1.1 Nature or type of survey (compass and tape, grid, etc.)

Geological mapping will cover the most prospective area using tape and compass techniques along un-mapped portions, grid lines and new outcrops exposed by exploration activities.

5.5.1.2 Coverage (hectares)

The extent of the area to be assessed is approximately 600 hectares.

5.5.1.3 Duration

Detailed mapping will be continuous every time there are new outcrops exposed during exploration stage but more or less three (3) months was allocated.

5.5.1.4 Manpower complement

This work will engage the same field geology team who carried out the previous reconnaissance and semi-detailed survey.

5.5.1.5 Estimated cost

P 934,184.00

5.5.1.6 Output

Expected output will be a detailed report and a geologic map showing the delineated thickness of limonite based on auger drilling and geologic mapping. This phase of mapping will orient a subsequent core drilling programme.

5.5.2 Subsurface Investigation

5.5.2.1 Drilling

5.5.2.1.1 Type (diamond, percussion, auger, etc.)

When drilling is undertaken it will be contracted to a competent company with drill rigs with depth capacities comparable to Koken. NQ will be the principal core diameter as this yields the most suitable sample volume. The contractor shall exert all efforts to maximize core recovery. Core will be analysed for Type 1 (Ni, Co and Fe). Appropriate quality measures will be integrated in the sampling. This will consist of duplicate samples taken every 10th and will be send to QNI Yabulu laboratory.

5.5.2.1.2 Number and depth

First phase drilling will cover an area of about 63 hectares. Sixty-three (63) holes will be drilled at 100-meter space or a total of about 1300 meters. For the second phase drilling, the potential areas will be drilled down to 50 and 25 meters interval.

5.5.2.1.3 Estimated number of samples

The samples to be analysed will be taken every meter and the number of samples will depend on the total meterage drilled plus ten percent for the duplicates.

6.0 TOTAL ESTIMATED EXPLORATION COST (PESOS)

Year 1	P 9, 002,304.16
Year 2	P 13,662,267.34
Total	P 22,664,571.50

7.0 SCHEDULE OF ACTIVITIES (GANTT CHART)

8.0 MAP ATTACHMENTS

Figure 1 location of the CTP Property, Philippines
Figure 2 Surigao Tenure Map
Figure 3 Geological map of 1: 10,000 scale

9.0 SIGNATURE OF PROPONENT or person preparing the exploration work program, please specify PRC License and PTR numbers.

Prepared By : Leoben Luis T. Evangelista
Geologist
PRC License No.: 1223
TIN No. 142-998-240
PTR No. 439880
Dated: 02-27-99

CTP CONSTRUCTION AND MINING CORPORATION

MPSA NO. 018-93-X1

Two-Year Exploration Work Program

Activity	Months																								Budget
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
Legal Access																									11,077,620.00
Research Work																									100,000.00
Camp Costs																									654,300.00
Aerial Photo Survey																									712,080.00
Orthophoto Mosaic																									450,000.00
Regional Geological Survey																									817,411.00
Semi-Detailed Mapping																									583,865.00
Sub-surface Work (Auger Drilling)																									737,581.50
Sample Prep and Analysis																									1,419,686.00
Topographic survey																									189,044.00
Detailed Geological Mapping																									934,184.00
Core Drilling																									4,468,800.00
Geological Evaluation																									300,000.00
Environmental Management																									220,000.00
Total	**Year 1 P 9,002,304.16**												**Year 2 P 13,662,267.34**												**22,664,571.50**