

*The Exchange does not warrant and holds no responsibility for the veracity of the facts and representations contained in all corporate disclosures, including financial reports. All data contained herein are prepared and submitted by the disclosing party to the Exchange, and are disseminated solely for purposes of information. Any questions on the data contained herein should be addressed directly to the Corporate Information Officer of the disclosing party.*

## Marcventures Holdings, Inc. MARC

### PSE Disclosure Form CP TR-1 - Technical Report

***Reference: Implementing Rules and Regulations of the Philippine Mineral Reporting Code***

TR Form No	1
------------	---

#### Description of the Disclosure

We submit attached Competent Person's Report in compliance with the Philippine Mineral Reporting Code as follows:

1. Marcventures Mining & Development Corporation CP report for the year 2017
2. Brightgreen Resources Corporation CP report for the year 2015
3. Alumina Mining Philippines, Inc. (AMPI) & Bauxite Resources, Inc. (BARI) CP report as of June 2017

#### Filed on behalf by:

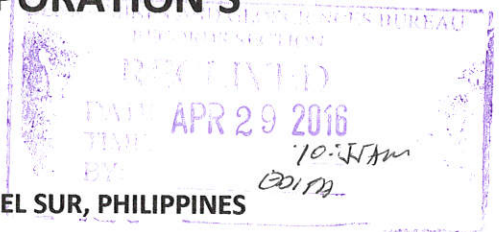
Name	Raquel Frondoso
Designation	Compliance Officer

**2015 MINERAL RESOURCE REPORT  
OF BRIGHTGREEN RESOURCES CORPORATION'S**

**MPSA 015-93-XI**

**NICKEL LATERITE PROJECT**

**LOCATED IN THE MUNICIPALITY OF CANTILAN, SURIGAO DEL SUR, PHILIPPINES**



**FOR**

**BRIGHTGREEN RESOURCES CORPORATION**

**Unit E, One Luna Place, E. Luna Street**

**Butuan City, Philippines**

**March 2016**

**Radegundo S. de Luna**

**Competent Person for Nickel (PMRC No. 071205)**

**Licensed Geologist (No. 0000218)**

## CERTIFICATE OF CONSENT

I, Radegundo S. de Luna, of legal age, with postal address at [REDACTED]  
City, do hereby certify that:

- a. I am a graduate of the University of the Philippines with a Bachelor of Science degree in Geology in 1962.
- b. I am an accredited Competent Person under the definition of the Philippine Mineral Reporting Code (PMRC).
- c. I have worked as Geologist for a total of 53 years since my graduation.
- d. I am not an employee of BrightGreen Resources Corporation or any of its subsidiaries nor am I a holder of any share of stocks of the said company.
- e. I rendered the Mineral Resources evaluation of the BrightGreen Resources Corporation Nickel Laterite Project located in the Municipality of Cantilan, Province of Surigao del Sur.
- f. I consent to the use of this Technical Report in full by BrightGreen Resources Corporation in compliance with the rules and regulations of the Philippine Stock Exchange and for any legal purpose it may serve.
- g. I take full responsibility for all information contained in this report.

*Radegundo S. de Luna*

**RADEGUNDO S. DE LUNA**

Geologist License No. 0000218

Competent Person for Nickel, PMRC No. 07-12-05

PTR No. 4856591

Issued: Jan. 7, 2016 at Antipolo City

**2015 MINERAL RESOURCE REPORT  
OF BRIGHTGREEN RESOURCES CORPORATION'S**

**MPSA 015-93-XI**

**LOCATED IN THE MUNICIPALITY OF CANTILAN,  
SURIGAO DEL SUR, PHILIPPINES**

**FOR BRIGHTGREEN RESOURCES CORPORATION**

**Unit E, One Luna Place, E. Luna Street  
Butuan City, Philippines**

**March 2016**

**Radegundo S. de Luna  
Competent Person for Nickel (PMRC No. 071205)  
Licensed Geologist (No. 0000218)**



## **EXECUTIVE SUMMARY**

1. BrightGreen Resources Corporation has an existing Mineral Production Sharing Agreement denominated as MPSA No. 015-93-XIII located in Barangays Panikian, Adlay and Pantukan, Municipality of Carrascal, Barangay Lubo and Cabangahan, Municipality of Cantilan, Barangay Bayogo, Municipality of Madrid, and Barangay Hinapuyan, Municipality of Carmen, all in the Province of Surigao del Sur. BGRC's MPSA was approved by the President of the Philippines on July 1, 1993.
2. The MPSA was cancelled by the DENR on February 1, 2005 thru the Department Memorandum Order (DMO) No. 2005-03. The cancellation was appealed on May 31, 2005 and it was reinstated in 2007. From then on, the MPSA was explored by various companies initially for copper-gold then for nickel-iron laterite.
3. In 2012, the company contracted the group of Dr. Carlo Arcilla, former Director of the National Institute of Geological Sciences of the University of the Philippines, Diliman, to conduct geological mapping of the MPSA as well as geochemical and geophysical studies and sub-surface sampling in areas where epithermal gold veins and nickel laterite has been observed.
4. Dr. Arcilla's group initially drilled twenty three (23) holes at random locations to check the possibility of nickel laterite in the MPSA. Out of the 23 holes, eight (8) yielded greater than three (3) meters of saprolite, concentrated in the central and northeastern portion of Sitio Mabhas and Sitio Anas, in Barangay Cabangahan.
5. To further verify, a 200-meter drilling program was implemented in the same year within the area of concentration, covering approximately 80 hectares in central Mabhas, and 15 hectares in northeast Mabhas. A total of 62 holes with an aggregate depth of 919.50 meters were drilled in 2012.
6. BGRC Management decided to conduct in-fill drilling at 50-meter interval in 2015 to come up with an estimation of the areas' mineral resources. Drilling was contracted out to JCP Geo-Ex Services, Inc. (JGSI). A total of 324 holes were drilled with an aggregate depth of 4,735.41 meters using four (4) fabricated Koken drill machines with NQ size core tubes.

7. Sampling was conducted at a nominal interval of 1 meter down the hole regardless of laterite horizon boundaries. After logging, samples are placed into plastic bags and delivered to the Sample Preparation Facility of MMDC. Prepared pulp samples are then sent to MMDC laboratory for analysis by way of X-ray Fluorescence Spectrometry (XRF).
8. Data was arranged into excel files containing the collar and assay data of each hole. A total of 4,683 samples from 2012 to 2015 were considered in the estimation of BGRC's Nickel Laterite Project Mineral Resources. This is after filtering out samples without assay results.
9. MMDC implements internal QA/QC and inter-laboratory checking to ensure the precision and accuracy of its assay results. Internal QA/QC includes insertion of in-house reference samples, and coarse and pulp duplicates in samples batches. For inter-laboratory checking, standards and samples are sent to laboratories of other mining companies such as Taganito, CNC, CTP and Biominerals.
10. Polygon method was used in estimating the mineral resources of BGRC as of December 31, 2015. The resources are classified purely as a function of drilling density, to wit:
  - Measured Resources - for limonite, where drilling is at a grid of 50x50m or less
  - Indicated Resources - for limonite, where drilling is at a grid of more than 100m  
-for saprolite, where drilling is at a grid of 50x50m or less
  - Inferred Resources - for saprolite, where drilling is at a grid of more than 100m
11. This report discloses the estimated Measured, Indicated and Inferred Resources of BGRC's Nickel Laterite Project as of end of December 2015. The total Measured and Indicated Resources of BGRC is estimated at **16.03 million WMT** with an average grade of **1.17% Ni and 34.98% Fe**. This is further broken down to **3.06 million WMT saprolite** with an average grade of **1.59% Ni and 14.85% Fe**, and **12.97 million WMT limonite** with an average grade of **1.07% Ni and 39.73% Fe**. Additional Inferred Limonite and Saprolite Resource was estimated 5.03 million WMT with 0.95% Ni and 37.95% Fe.
12. A potential epithermal gold and/or porphyry copper prospect might be underlying the area within the vicinity of Barangay Lubo based on initial geological, geochemical and geophysical studies. Additional exploration activities is recommended to test if the area has economic potential.

## Table of Contents

1.0 INTRODUCTION	1
1.1 Purpose and Compliance with PMRC	1
1.2 Scope of Work	1
1.3 Data Verification and Field Visits	1
1.4 Technical Report Team	1
2.0 TENEMENT AND MINERAL RIGHTS	2
2.1 Description of Mineral Rights	2
2.2 History of Mineral Rights	2
3.0 GEOGRAPHY	4
3.1 Location and Accessibility	4
3.2 Topography, Physiography and Drainage	4
3.3 Climate	5
3.4 Vegetation	6
4.0 GEOLOGIC SETTING AND MINERALIZATION	7
4.1 Regional Geology, Tectonic Setting and Stratigraphy	7
4.2 Local Geology	9
4.2.1 Quaternary Alluvium	9
4.2.2 Asiga Diorite	9
4.2.3 Sohoton Greenschist	10
4.2.4 Dinagat Ophiolite Complex	10
4.3 Mineralization	10
4.3.1 Laterite Mineralization	10
4.3.2 Gold and Copper Mineralization	13
5.0 EXPLORATION	14
5.1 Drilling and Sampling	14
5.1.1 2012 Exploration Drilling	14
5.1.2 2015 Exploration Drilling	14
5.2 Sample Preparation, Analyses and Security	17
6.0 DATA VERIFICATION	18
6.1 Drilling database	18
6.2 QA/QC	18
6.2.1 Internal QA/QC	18
6.2.2 Inter-laboratory checking	18
7.0 RESOURCE ESTIMATION	19
8.0 CONCLUSION AND RECOMMENDATION	22
REFERENCES	23

Drill Hole Database

### **LIST OF FIGURES**

Figure 2-1:	MMDC tenement location map	3
Figure 3-1:	Map of geographic features and road network	4
Figure 3-2:	Climate map	6
Figure 4-1:	General tectonic map	7
Figure 4-2:	Map of ophiolite belts	8
Figure 4-3:	Stratigraphic column	9
Figure 4-4:	Geologic map of MMDC tenement	11
Figure 4-5:	Plot of Ni and Fe values vs depth in meters	12
Figure 4-6:	Frequency distribution graphs of Ni and Fe values of samples	12
Figure 5-1:	Exploration drilling procedure	15
Figure 5-2:	Pictures of drilling equipment and core samples	16
Figure 5-3:	Map showing 2012 and 2015 drill hole location	16
Figure 5-4:	Pictures of sample preparation and analysis equipment	17
Figure 7-1:	Scatter plot of Ni and Fe values with cut-off grades	19
Figure 7-2:	Grade-tonnage curve of Mabhas-Anas assay results	21
Figure 7-3:	Location map showing Indicated and Inferred Resources	21

### **LIST OF TABLES**

Table 2-1:	Technical description of MMDC MPSA	2
Table 5-1:	Summary of 2012 exploration drilling accomplishments	14
Table 5-2:	Summary of 2015 survey activity	15
Table 5-3:	Summary of 2015 drilling accomplishments	15
Table 6-1:	Summary of BGRC database record	18
Table 7-1:	Summary of BGRC mineral resource estimates as of December 31, 2015	20

## **1.0 INTRODUCTION**

### **1.1 Purpose and Compliance with PMRC**

The author was commissioned by BrightGreen Resources Corporation (BGRC) to prepare an independent Competent Person's report on the exploration results and mineral resource estimation of its Nickel Laterite Project located within the Municipality of Cantilan, Province of Surigao del Sur.

This report was prepared in compliance to the Philippine Mineral Reporting Code (PMRC) and follows the most recent template for reporting of exploration results and mineral resources of nickel laterite to support the public disclosure of BrightGreen Resources Corporation. This report also complies with the requirements of the Mines and Geosciences Bureau in the development of a mining project.

### **1.2 Scope of Work**

The report provides a summary of the results of the exploration program carried over the nickel project within the tenement area from 2012 to 2015. The resource report prepared by the author considers 4,683 samples from 386 drill holes from that period.

### **1.3 Data Verification and Field Visits**

The author conducted site visits on several occasions (July 2014 and May 2015) in BGRC's project area prior to the preparation of this report.

The database used in this estimation was checked by the author and has been determined to be sufficiently reliable to support mineral resource estimation. Data was arranged into excel files containing the collar and assay data of each hole and transmitted to the author thru USB and hard copies.

### **1.4 Technical Report Team**

The author was provided technical assistance by the BGRC Exploration Team based in Carrascal, Surigao del Sur. Technical assistance given included provision of relevant documents, reports, maps and database. The technical personnel who assisted in the preparation of this report include:

- |       |                         |   |
|-------|-------------------------|---|
| i.    | Jegie T. Pereda         | - former BGRC and MMDC Vice President   |
| ii.   | Gil B. Mozar            | - MMDC Geology and Exploration Head     |
| iii.  | Jayvhel T. Guzman       | - MMDC Chief Geologist                  |
| iv.   | Herbert T. Villano      | - MMDC Senior Geologist for Exploration |
| v.    | Ralph Rey L. Tan        | - MMDC Junior Geologist                 |
| vi.   | Roi Eric V. Saludes     | - MMDC Junior Geologist                 |
| vii.  | Beda Louie G. Cagampang | - MMDC Junior Geologist                 |
| viii. | Ronito T. Martinez      | - BGRC Mapping Specialist               |

## 2.0 TENEMENT AND MINERAL RIGHTS

### 2.1 Description of mineral rights

BGRC's MPSA No. 015-93-XI is described by the following geographic coordinates (Table 2-1).

**Table 2-1.** Technical description of MPSA 016-93-XIII in Luzon-Mindanao Datum.

Corner	Longitude	Latitude
1	125° 45' 30"	9° 19' 00"
2	125° 47' 00"	9° 19' 00"
3	125° 47' 00"	9° 15' 30"
4	125° 49' 30"	9° 15' 30"
5	125° 49' 30"	9° 16' 00"
6	125° 51' 30"	9° 16' 00"
7	125° 51' 30"	9° 15' 00"
8	125° 51' 00"	9° 15' 00"
9	125° 51' 00"	9° 13' 30"
10	125° 50' 30"	9° 13' 30"
11	125° 50' 30"	9° 14' 00"
12	125° 45' 30"	9° 14' 00"

### 2.2 History of mineral rights

On June 19, 1992, the Philippine Government, represented by the Secretary of the Department of Environment and Natural Resources (DENR), and Carac-an Development Corporation (CDC) made and entered into a Mineral Production Sharing Agreement (MPSA) No. 015-93-XI covering an area of 4,860 hectares situated in the Municipalities of Carrascal and Cantilan, Province of Surigao del Sur (Figure 2-1). The MPSA was approved by the President of the Philippines on July 1, 1993, granting CDC an initial mineral exploration permit of the contract area for two (2) years to undertake the required exploration activities pursuant to an approved Two (2)-Year Exploration Work Program.

However, the MPSA was cancelled by the DENR on February 1, 2005 thru the Department Memorandum Order (DMO) NO. 2005-03 entitled "Cancellation of Non-Performing Tenements". The cancellation of the MPSA was appealed by CDC on May 31, 2005, justifying among others that Mr. Eduardo A. Dagondon, President of CDC, filed the company's Motion for Reconsideration stating, among others, that during 1992 up to 1996 CDC has conducted mineral exploration activities in the contract area and spent considerable amount of money for the said activities, in compliance with the approved Exploration Work Program under the MPSA. The MPSA was reinstated by the DENR in 2007.

The first renewal of CDC Exploration Period under the said MPSA was granted on January 5, 2011 and the second renewal on January 7, 2014.

On February 2015, Carac-an Development Corporation changed its corporate name to BrightGreen Resource Corporation due to change in control and management.



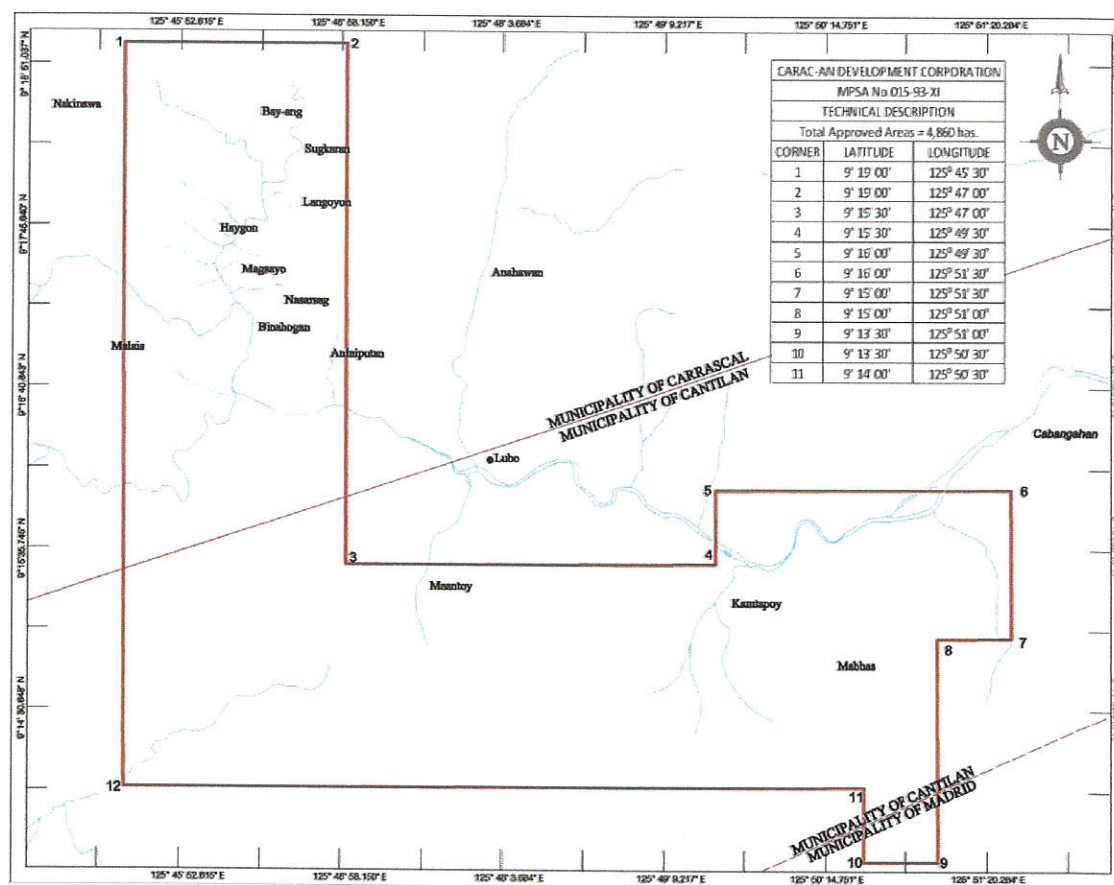


Figure 2-1. Location map showing BGRC tenement with municipal boundaries.

### 3.0 GEOGRAPHY

#### 3.1 Location and Accessibility

BGRC's 4,860-hectare tenement area is located within Barangays Lubo and Cabangahan in the Municipality of Cantilan, Surigao del Sur. It is generally bounded by the geographic coordinates 125°45'30" to 125°51'30" and 9°13'30" to 9°19' (Luzon-Mindanao datum), which is covered the Madrid Quadrangle map of the National Mapping Resource Information Authority (NAMRIA).

Barangay Lubo is about thirty-two (32) kilometres and Barangay Cabangahan is fourteen (14) kilometres west of Cantilan town proper. It can be reached either by traversing the Caracan River, or by newly improve logging road from Sipangpang to Lubo.

Cantilan is 100 kilometers southeast of Surigao, accessible by two to three (2-3) hours' drive from Surigao along the Surigao City – Tandag National Highway. Cantilan can also be reached from Butuan passing through another national highway that fork at the Municipality of Sison and thereafter merges with the Surigao City – Tandag National Highway. Surigao and Butuan are both accessible from Manila by commercial flights.



Figure 3-1. Map showing BGRC tenement with road network from Surigao City and Butuan City.

#### 3.2 Topography, Physiography and Drainage

The tenement area faces the Philippine Sea to the east. As seen in Figure 3-1, it is located at the northeastern fringe of a north-south trending mountain range that transects Surigao Peninsula. This mountain range is the Diwata Mountain Range (also called the Pacific Cordillera), a 300-kilometer-stretch of rugged mountains that extends all the way to Davao. The Diwata Mountain Range runs parallel to the east coast of Surigao, and effectively separates Surigao del Sur from the rest of Mindanao. The highest elevation in this mountain range is at 6,028 meters at the north end

and 8,207 meters at the south end. In between are two relatively topographic lows, one west of Lianga and Bislig bays, and the other between Lupo and Mati in Davao.

To the west of the Diwata Mountain Range is Tubay Valley and Lake Mainit slightly north. These topographically low areas are bordered to the west by a 70-kilometer-long elevated terrain that runs parallel to the west coast of Surigao del Norte, the Malimono Ridge.

Within the tenement area, the terrain is characterized by gently to moderately sloping and undulating terrain in Mabhas to the west, and by steep slopes and rugged terrain in Lubo to the northwest (Figure 4). In Mabhas, the gently to moderately sloping portion has elevations from 300 to 700 meters. The sides closest to Caracan River are the steepest, with slope angles of up to 80 degrees. Three dominant peaks occur at 470 meters elevation to the northernmost, and 760 and 890 meters elevation further south. From the second peak with 760 meters elevation, several ridges grow outward and downward in a radial manner. No karst topography can be inferred from topography, but along man-trails, limestone occurrences had been noted; likewise along Caracan River, limestone floats were observed. A major north-south trending tributary of Caracan River can be considered to separate Mabhas from the rest of the MPSA area.

West of Mabhas area, the terrain is more rugged and less undulating. Most ridges are thin, and seem to be aligned along a northeast direction. Elevations range from 300 to 800 meters elevation. Three peaks standing at 856 and 650 meters elevation to the west, and at 550 meters elevation further south.

In Lubo, the terrain is very rugged, especially to the north and west. Two dominant peaks stand at 360 and 400 meters elevation to the west of a north-south tributary, and another two at 650 and 750 meters elevation east of the tributary. Northwest of the tenement, the mountains steeply rise to as high as 1,300 meters elevation.

### **3.3 Climate**

Surigao del Sur exhibits TYPE II Climate which has no dry season and with a very pronounced maximum rain period from December to February (Figure 3-2). The mean annual rainfall of the Philippines varies from 965 to 4,064 mm annually. Baguio City, eastern Samar and eastern Surigao receive the greatest amount of rainfall while the southern portion of Cotabato receives the least amount of rain. Maximum rainfall is experienced from November to February and minimum rainfall from May to April with annual rainfall not exceeding 4,500 millimeters (Kintanar, 1984).



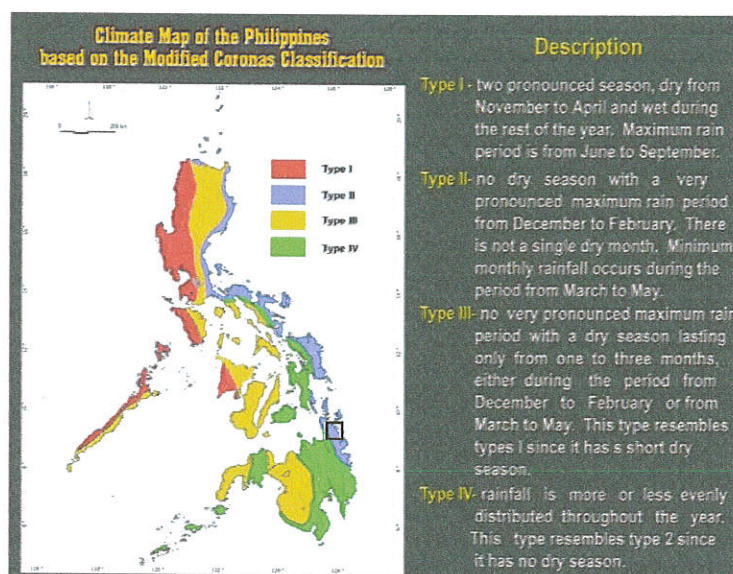


Figure 3-2. Climate map of the Philippines based on the Modified Coronas Classification with relative location of MMDC Tenement area ([www.pagasa.dost.gov.ph](http://www.pagasa.dost.gov.ph)).

### 3.4 Vegetation

The eastern to western mountainous section of MPSA are primarily covered by a dense growth of forest trees such as, lawaan, apitong, yakal, tangile and narra. Logged out portions are covered by secondary growth plants, such as vines, shrubs, under bushes, cogon grass and thick crawling ferns (agsam). Picher plants and rattan vines are common in open areas.

## 4.0 GEOLOGIC SETTING AND MINERALIZATION

### 4.1 Regional Geology, Tectonic Setting and Stratigraphy

The principal tectonic element of the Philippine archipelago is the elongate Philippine Mobile Belt (Rangin, 1991) which is bound to the east and west by two major subduction zone systems, and bisected along its north-south axis by the Philippine Fault (Figure 4-1).

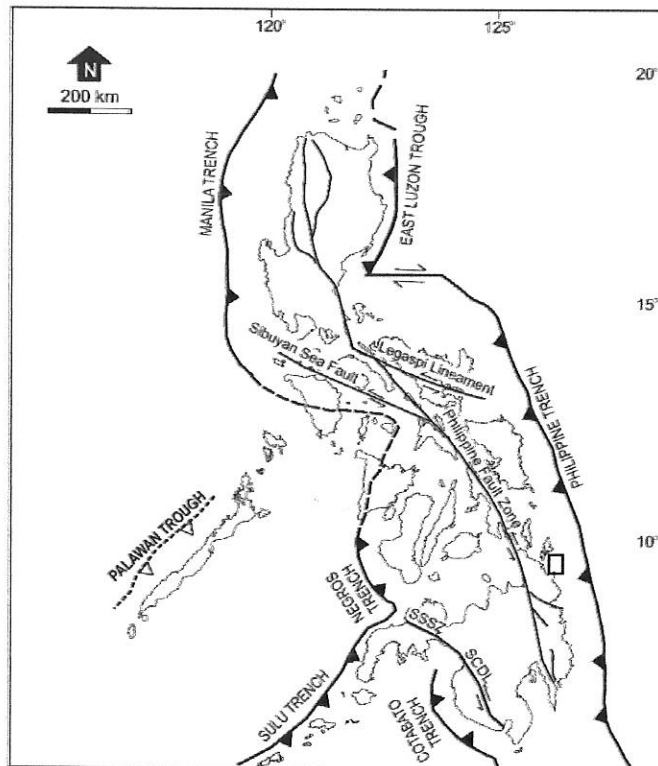


Figure 4-1. General tectonic map of the Philippines with relative location of the tenement area.

The Philippine Fault and its associated faults play an important role in the mineralization of the Surigao District. The trace of the Philippine Fault in Surigao is marked by highly rectilinear NNW-SSE trending Tubay Valley, Lake Mainit and Maniayao Volcano. These structures were formed by pull-apart mechanism associated with left-stepping left-lateral strike slip fault.

Intense physical and chemical weathering of ultramafic rocks believed to form part of ophiolite belts which became exposed to the tropical climatic conditions due to orogenic processes produces nickel-bearing laterite. The distribution of ophiolite belts in the Philippines is shown in Figure 4-2.

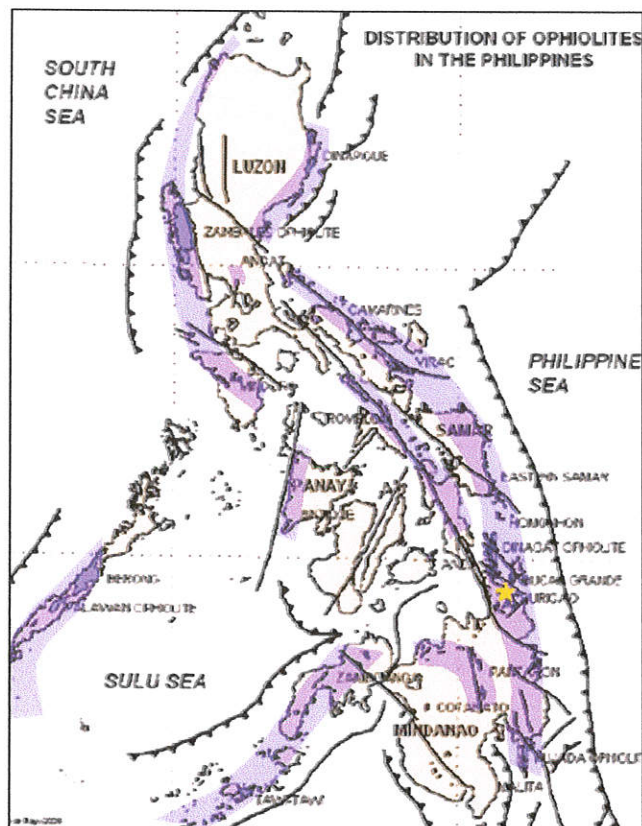


Figure 4-2. Map showing the distribution of ophiolite belts in the Philippines with relative location of MMDC tenement area.

The basement rocks in the district are basalts and slabs of the Dinagat Ophiolite and metamorphic rocks of the Cretaceous Sohuton Greenschist. The ophiolite consists of amphibolite, peridotite, pyroxenite, gabbro and dunite. They are regionally serpentinized and can be found along Malimono Ridge and Northern Pacific Cordillera. These rocks were dated to be Cretaceous to Paleocene (MGB, 2010; Rohrlach, 2005).

Overlying the basement rocks are calcareous conglomerates of the Upper Eocene Madanlog Formation in Surigao, and its equivalent terrigenous and calcareous sediments of the Nabanog Formation in Agusan. These formations are in turn overlain by the Late Oligocene to Early Miocene Bacuag Formation. The Bacuag Formation consists of basaltic flow and breccia, limestone, limestone conglomerate, wackes, siltstone, and muddy limestone.

Intruding the Bacuag Formation and other older formations is the Asiga Diorite named after the river where most outcrops were to be found. The Early to Late Miocene Alipao Andesite also intrudes the Bacuag Formation in the vicinities of Alipao and Siana Mine Pits. The Bacuag Formation is overlain by the Lower to Middle Miocene Mabuhay Formation (Motherlode Turbidite by UNDP, 1987). The Middle Miocene Timamana Limestone unconformably overlies the Bacuag and Mabuhay Formations. This consists of massive coralline limestone (MGB, 2010).

Andesitic pyroclastic eruption and lava flows formed the Tugunan Formation (Mabuhay Clastics by UNDP, 1987) during the Pliocene. Associated magmatism brought about the epithermal mineralization of the Surigao District (Rohrlach, 2005), and produced the andesites reported as the Andesite Group by Santos et.al. (1962) and as the Andesite Series by Santos-Ynigo (1944). These were separated by MGB (2010) into the Early to Late Pleistocene Ipil Andesite, Late Pliocene Bad-as Dacite and the Pleistocene Maniayao Andesite. Pleistocene deposits in the region are the



Mainit Formation, Hinatigan Formation and Placer Conglomerate (MGB, 2010), all of which are dominated by conglomerates and sandstones. Figure 4-3 shows the updated stratigraphic column of the Northern Pacific Cordillera by MGB, 2010.

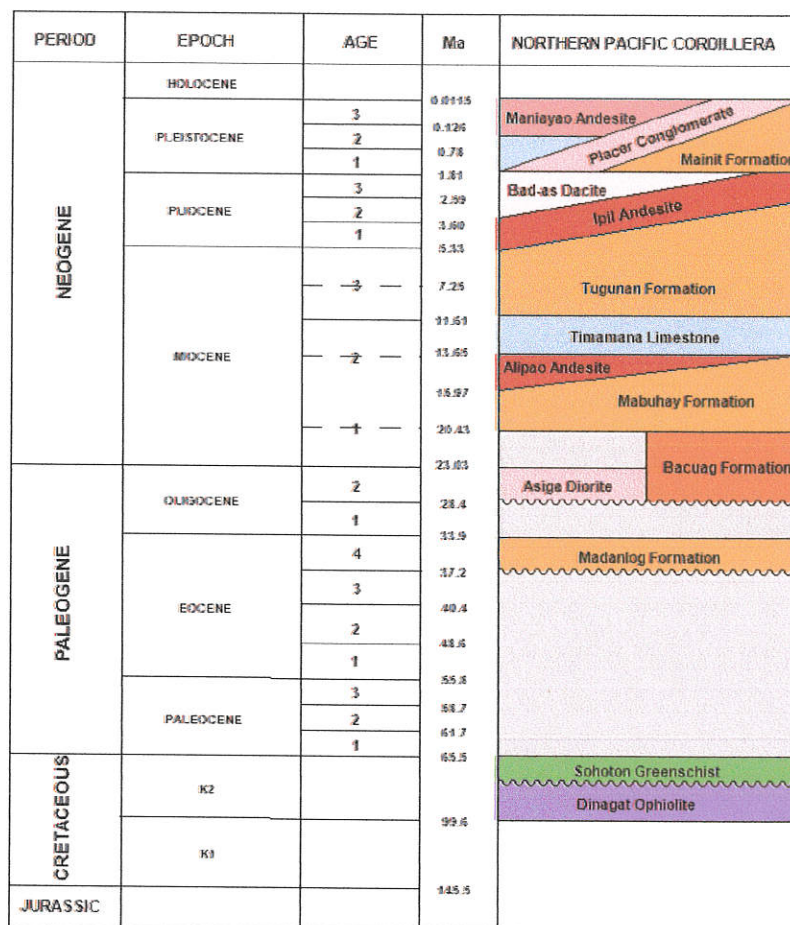


Figure 4-3. Updated stratigraphic column of the Northern Pacific Cordillera (MGB, 2010).

## 4.2 Local Geology

BGRC tenement is covered by lateritic deposit derived from the physical and chemical weathering in place of the underlying ultramafic rocks. The geology of the project area is characterized by four (4) rock units, namely: Quaternary Alluvium, Late Oligocene Asiga Diorite, Sohoton Greenschist and Dinagat Ophiolite Complex (Figure 4-4).

### 4.2.1 Quaternary Alluvium

The alluvium is mostly confined in the valleys and associated confluent alluvial fans and plains of the principal rivers. Continued uplift of the western coast of the island resulted in a regressive overlap of the flood-plain debris, so that thin, younger alluvium caps marine sediments. Repeated uplift is evidence by both river and beach terraces.

### 4.2.2 Asiga Diorite

Alipao andesite was named by UNDP (1987) after the hornblende andesite plugs in Alipao and Siana Mine pit, Surigao del Norte. Intruding all older units, it is assigned to a Middle Miocene age by UNDP (1987).

Outcrops are light to dark colored, moderately weathered, and highly jointed. Quartz veins and stringers and accompanying sulphides were observed in the outcrops. Hand specimens of diorite contain amphibole and plagioclase crystals with sizes ranging from 2mm to 1cm with disseminated crystals of pyrite and other sulphides which sometimes also occur as veinlets. Some xenoliths contain amphibole and plagioclase crystals that are larger than those in the diorite samples, as well as pyroxene.

#### **4.2.3 Sohoton Greenschist**

The Sohoton Greenschist is composed of greenschist, phyllite, and low-grade metamorphic sedimentary and volcanic rocks with marble interbeds. It was previously named as Sohoton Formation by Santos-Ynigo (1944) in reference to a metasedimentary and metavolcanic sequence near Sitio Sohoton, Malimono, Surigao del Norte.

#### **4.2.4 Dinagat Ophiolite Complex**

The Dinagat Ophiolite, the oldest stratigraphic unit in the area, is equivalent to the Basement Rocks of UNDP (1987) which is composed of serpentinized harzburgite, ophiolite suites, but including low-grade metamorphic rocks, metavolcanics and metasediments. It is previously named as Ultramafic Rocks by Santos-Ynigo (1944) and Santos et. al (1966) and renamed by MGB (2004). Exposures of this formation are located in the Mabhas area in the southeast part of the tenement with some sporadic occurrences of limestone, possibly part of Hinatigan Limestone Formation. Lateritic deposits from the weathering of this formation are present in this area.

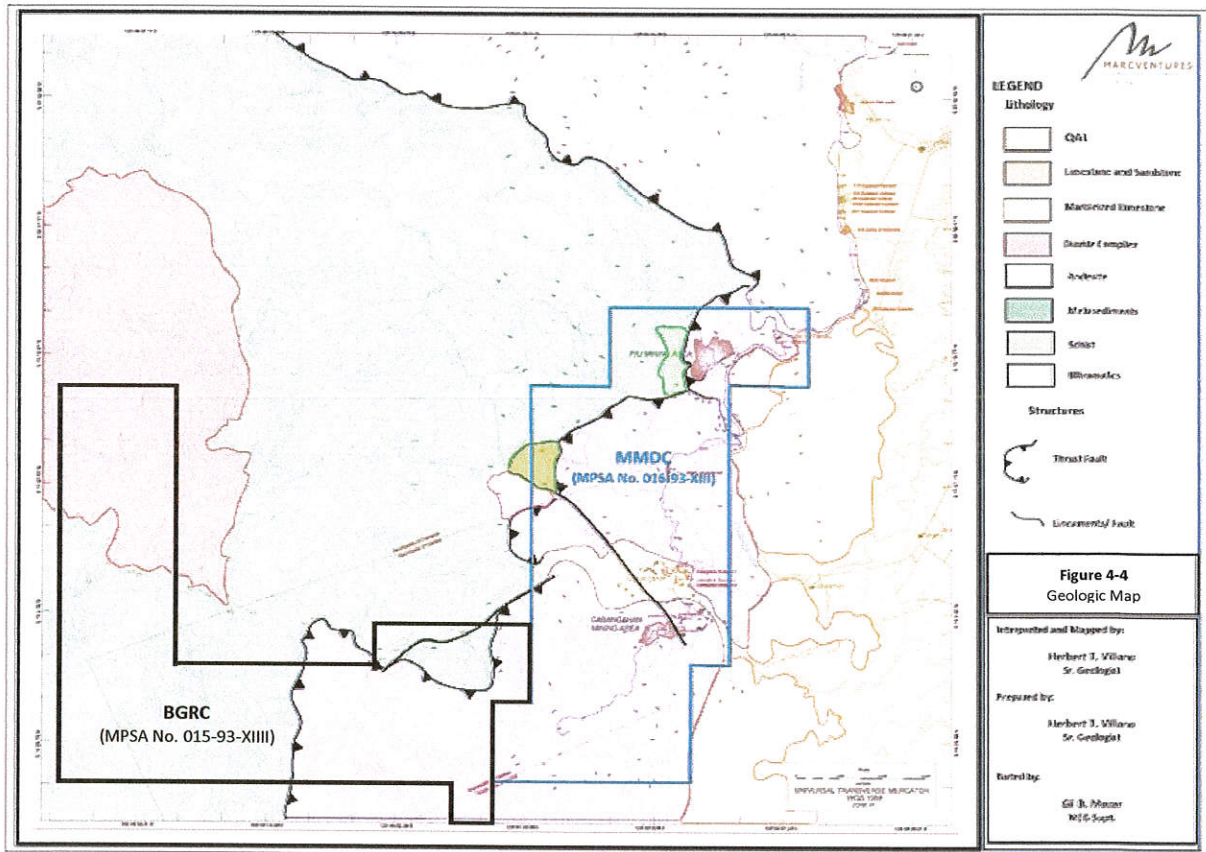
Serpentinized peridotite, pyroxenite and dunite are exposed along road cuts in Barangay Panikian and Barangay Cabangahan. Fresh rock samples are greenish black to black. Dunite is predominantly composed of olive green grains of olivine. Pyroxene occurs as fine to coarse black crystals in peridotite and pyroxenite.

### **4.3 Mineralization**

#### **4.3.1 Laterite Mineralization**

The Laterite mineralization on the eastern part of MPSA is a typical wet tropical laterite similar to other deposit in the region that occurred in the weathered ultramafic basement rock. The lateritisation process of the parent rocks at BGRC Laterite Deposit involves the dissolution of the original rock mineralogy, the leaching of certain elements, and the eventual deposition of those elements elsewhere. The most soluble of the compounds, such as magnesium oxides, are thus removed, increasing the relative concentration of the remaining minerals, which include iron oxides and any contained nickel and cobalt. The nominal weathering depth is approximately 12 meters.

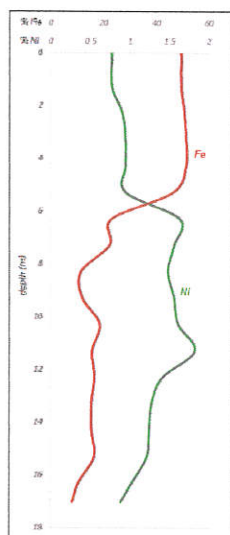
The weathering profile at the MPSA area is best described from the base upwards. At the base of the weathering profile, the parent bedrock consists of massive to highly jointed ultramafic rocks consisting of harzburgite whose surface can be highly irregular with numerous peaks and troughs. Conversely, preferential weathering within the bedrock along joints and fractures produces narrow weathered zones that extend deep into the bedrock. The narrow weathered zones are generally composed of saprolite and are known to commonly contain high nickel grades. The saprolite of Mabhas and Anas has average thickness of 5 m.





Also, near surface accumulations of limonitic laterite ore containing little or no residual rocky material exist. The limonite zone is generally less than 6.0m thick and often thins on steeper slopes.

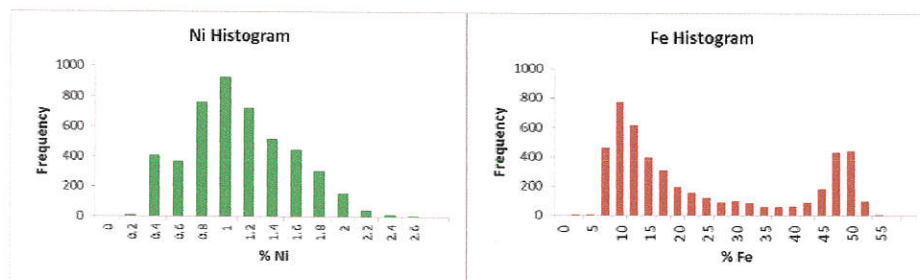
Nickel is relatively mobile over a wide range of environment. Its fixation in the limonite zone is in oxide form. Nickel is absorbed and included in the goethite and other oxide form. Its values generally increase in depth and attain maximum values at the saprolite layer. Its concentration in the limonite zone is not high compared to that in the saprolite zone. Iron content is highest in the limonite zone but decreases rapidly from the bottom of the limonite zone to the saprolite zone (Figure 4-5).



**Figure 4-5.** Plot of Ni and Fe values of a BGRC drill hole (E6 N250 E350) versus depth in meters. Note the sudden decrease in Fe and sudden increase in Ni marks the transition from the top limonite portion to saprolite below.

Nickel and iron grade histogram shown in Figure 4-6 demonstrates presence of limonite and saprolite within the project area. This is manifested by high count of nickel values with more than 1.2%. The iron grade distribution shows that the typical trend observed for most laterite deposits in the country wherein there is observable clustering of iron values from 7.5 to 12.5% and from 47.5 to 52.5%.

Trend of nickel grade distribution observed so far in other laterite deposits in the country show normal or bell-shaped distribution with the peak at medium grades or around 1%.



**Figure 4-6.** Frequency distribution graphs (histogram) of nickel and iron values of samples from Mabhas-Anas Area.

#### **4.3.2 Gold and Copper Mineralization**

Indication of gold and copper mineralization is found on the western portion of the MPSA. According to an unpublished report of Mendoza and Ausa (2007), concentrations of alluvial gold are believed to be coming from the Langoyon area and to be deposited along the Binaogan creek and Carac-an River at Lubo. Traces of small scale mining for gold were observed along the Langoyon Creek, northern Sugkaran area, and the southern Nasarsag area. Hydrothermal alterations in Pinohagan Creek were also noted. Assay results from the collected samples yielded generally low values for gold and copper and regional stream sediment samples shows no potential gold and copper drainage anomaly except from those along the Binaogan and Aniniputan Rivers which are both draining from the Langoyon gold workings.

A possible epithermal gold deposit based from structures and features observed, such as irregular or branching fissures, vesicle fillings, stockworks, breccia pipes and sulfide disseminations, along the creeks of Lubo. A 10-meter wide highly silicified zone of parallel or criss-crossing quartz veins or veinlets containing medium to strong pyrite disseminations with copper sulphides, was traced on the surface (extending 1-3 km.) along the Aniniputan River. This km-long quartz vein system is probably the most substantial delineation of economic potential done in the Lobo area. (Adarle, 2010).

Four intrusive phases of diorites (hornblende quartz diorite, quartz diorite, diorite and microdiorite) consisting of plagioclase, hornblende and minor biotite. Quartz diorite is the main host of copper and gold mineralization while the hornblende quartz diorite is the least mineralized. Argillic alteration is common while propylitic alteration, characterized by chlorite, calcite, pyrite and epidote, is rarely observed, though no thorough alteration mapping was done. They speculated that during overprinting in phyllic-argillic alteration, copper must have been introduced. Portions of the potential porphyry copper system are possibly exposed in the surface with a probable significant mineralization at deeper levels, due to the occurrence of a widespread argillic alteration. (Adarle and Barata Jr., 2010).

## 5.0 EXPLORATION

Semi-detailed geologic mapping of BGRC's MPSA in 2010 and 2012 revealed important economic geological targets within the property. These are the 1) nickel laterite deposit in Barangay Cabangahan and 2) epithermal gold-porphyry copper prospect in Barangay Lubo. This report focuses on the exploration of the nickel laterite deposit. The following sub-sections describes the details of the drilling activities that was done over the nickel laterite deposit to estimate its resources.

### 5.1 Drilling and Sampling

#### 5.1.1 2012 Exploration Drilling

In 2012, BGRC contracted Dr. Carlo Arcilla, Director of the University of the Philippines National Institute of Geological Sciences to explore the company's tenement area to determine its potential for nickel and gold-copper deposits. By the 3rd quarter of that year, twenty three (23) holes were drilled at 500 to 1,000 meter spacing within approximately 300 hectares area with delineated laterite deposit. Out of the 23 holes, eight (8) yielded greater than 3 meters of saprolite, concentrated in the central and northeastern portion of Mabhas.

To further verify, a 200m x 200m drilling program was implemented in the same year within the area of concentration, covering approximately 80 hectares in central Mabhas, and 15 hectares in northeast Mabhas. Results of the 200m x 200m drill program prompted an infill (100m x 100m) drilling program in areas surrounding the high-nickel, thick saprolite areas. A total of 62 holes were drilled with an aggregate depth of 919.50 meters (Table 5-1). This includes the previous 23 holes that were drilled at 300-meter interval.

Table 5-1. Summary of 2012 exploration drilling accomplishments.

Location	No. of DHs	Meterage	Ave. Depth/Hole
Mabhas-Anas	62	919.50	14.3

#### 5.1.2 2015 Exploration Drilling

After the 2012 drilling campaign, it has been confirmed that Mabhas and Anas Areas have potential for nickel laterite. In 2015, BGRC Management decided to conduct 50m x 50m in-fill drilling within these areas to come up with an estimation of the areas' measured and indicated resources. The in-fill drilling program commenced on April 2015 and was completed by the month of October of the same year.

BGRC Exploration Team implemented the following procedure in conducting the Phase 2 exploration drilling program (Figure 5-1).



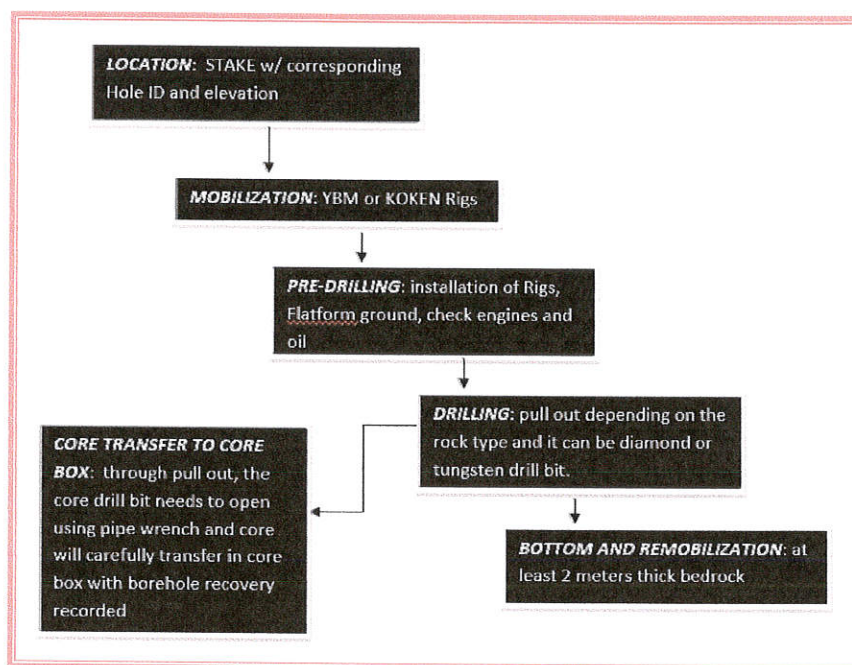


Figure 5-1. Exploration drilling procedure.

The baseline used in laying out the location of the proposed in-fill drill holes was established by traversing from a reference point within MMDC MPSA Area to Mabhas-Anas Area using a TOPCON Total Station. After establishing the baseline, the proposed drill holes were laid out at 50-meter interval and marked with stakes with corresponding northing, easting and elevation. A total of 349 drill holes were laid out, 189 of which are in Anas and 160 are in Mabhas (Table 5-2).

Table 5-2. Summary of 2015 survey activity.

LOCATION (50m x 50m grid)	Actual holes	No. of surveyed	Cycle time	No. of days
ANAS (47.25has)	178	189	8 holes/day	23.62
MABHAS A (40 has)	153	160	8 holes/day	20

Drilling was contracted out to JCP Geo-Ex Services, Inc. (JGSI) owned by Mr. Jesus C. Palma. JGSI used four (4) fabricated Koken drill machines with NQ size core tubes. The activity was supervised by Geologists Ralph Rey L. Tan, Roi Eric V. Saludes and Beda Louie O. Cagampang with Mapping Specialist Ronito T. Martinez. Summary of drilling accomplishment is presented in Table 5-3.

Table 5-3. Summary of 2015 drilling accomplishments.

Location	No. of DHs	Meterage	Ave. Depth/Hole
Anas	171	2,012.25	11.77
Mabhas A	153	1,803.66	11.79
<b>TOTAL</b>	<b>324</b>	<b>3,815.91</b>	<b>11.78</b>

Figure 5-2 shows photograph of actual drilling activity and core samples collected during the 2015 drilling campaign. Location of drill holes from 2012 to 2015 is shown in Figure 5-3.



Figure 5-2. a) JGSI fabricated Koken drill machine, b) core samples placed in core boxes by the core checker, c) sample of core photograph taken once samples of a drill hole is delivered to the field sample house, d) sample of saprolite ore intercepted in one of the drill holes.

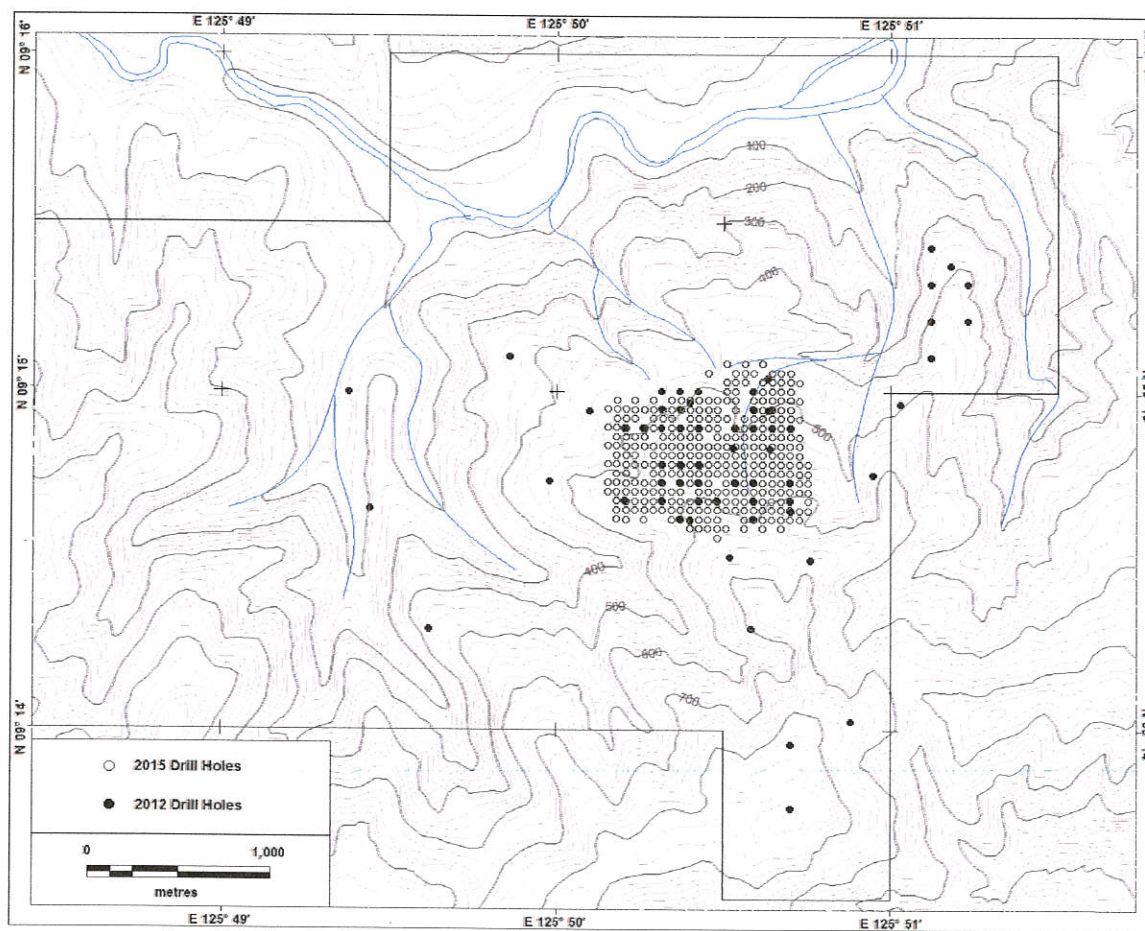


Figure 5-3. Map showing location of drill holes completed on 2012 (black circles) and on 2015 (circle).



## 5.2 Sample Preparation, Analyses and Security

A Core Checker trained by BGRC Geologist or Mapping Specialist is present during coring operation to record drilling activities such as core recovery, drill run, type of material recovered including problems encountered during drilling. Once a hole is bottomed, the core boxes containing the samples are delivered to the Field Sample House where the Geologist or Mapping Specialist takes photograph of the samples and conducts core logging.

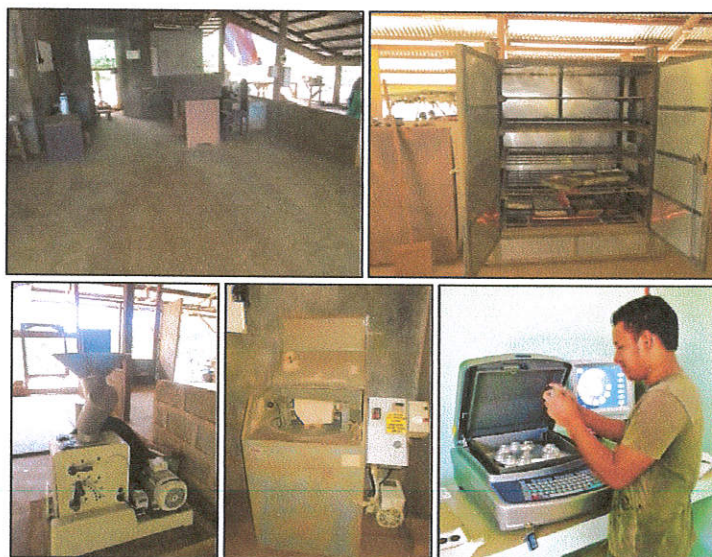
Once core logging is done, sampling is done at a nominal interval of one (1) meter down the hole regardless of laterite horizon boundaries. Samples are placed into pre-labelled plastic samples bags and delivered to MMDC Assay Laboratory for sample preparation and analyses.

The Sample Preparation Lead Man checks the delivered samples against the Sample Despatch and signs the despatch form.

Samples are manually crushed on a steel plate using a sledge hammer then placed on labelled metal trays. To dry the samples, the metal trays containing the samples are placed into the electric oven at 105°C for 8 hours or more if needed. The sample is then passed through a crusher to crush "lumps" that formed while drying the sample. A riffle splitter is used to divide the sample into two (2) parts. One (1) part is retained and stored as coarse reject that can be used for check analysis in the future. The other part is pulverized to 150 mesh where about 1 gram sample is taken to be analysed.

Analyses of core samples by the MMDC Assay Laboratory using Atomic Absorption Spectrometry (AAS) and using X-ray Fluorescence (XRF) Spectrometry.

Coarse duplicates are temporarily stored at the MMDC core house located adjacent to the laboratory and sample preparation facility. The pulp duplicates are kept in the sample preparation facility. Maximum holding period of coarse duplicates is one (1) year. Afterwards it will be properly disposed or used as filling material, if applicable.



**Figure 5-4.** a) Steel plate used to manually crush saprolite and bedrock samples, b) Metal trays containing crushed samples are placed into the electric oven to be heated at 105°C for 8 hours, c) crusher used to reduce the size of the sample after drying, d) pulverizer used to further reduce the size of the sample after splitting, e) XRF machine used to analyse the pelletized samples.

## 6.0 DATA VERIFICATION

### 6.1 Drilling database

Data was arranged into excel files containing the collar and assay data of each hole. A total of 4,683 samples of 386 drill holes from the 2012 and 2015 exploration drilling activities were considered in the determination of BGRC's mineral resource (Table 6-1).

**Table 6-1.** Summary of BGRC database record.

	Ni	Fe
N of cases	4,683	4,683
Sum	4,787.11	108,343.52
Minimum	0.03	0.62
Maximum	2.51	54.47
Range	2.48	53.85
Median	0.97	15.75
Mean	1.02	23.14
Standard deviation	0.44	15.80
Mode	0.92	9.71
Variance	0.19	249.51
Coefficient of variation	0.43	0.68

### 6.2 QA/QC

MMDC in-house laboratory was chosen to analyse the samples due to its proximity to the project area. The laboratory ensures precise and accurate results through internal Quality Assurance/Quality Control (QA/QC) procedure and inter-laboratory checking. The accuracy and precision of MMDC's laboratory is also demonstrated by its capability to conduct its own determination of grade of materials transported in MMDC's shipments which agrees with the values determined by the buyer's laboratory in China.

#### 6.2.1 Internal QA/QC

Internal QA/QC includes the incorporation of in-house reference samples, and coarse and pulp duplicate samples in sample batches. In-house reference samples are prepared from core samples that have good or ore-grade values.

#### 6.2.2 Inter-laboratory checking

Inter-laboratory checking is conducted by sending some of MMDC's standards and samples to laboratories of other mining companies such as Taganito, CNC, CTP and Biominerals.

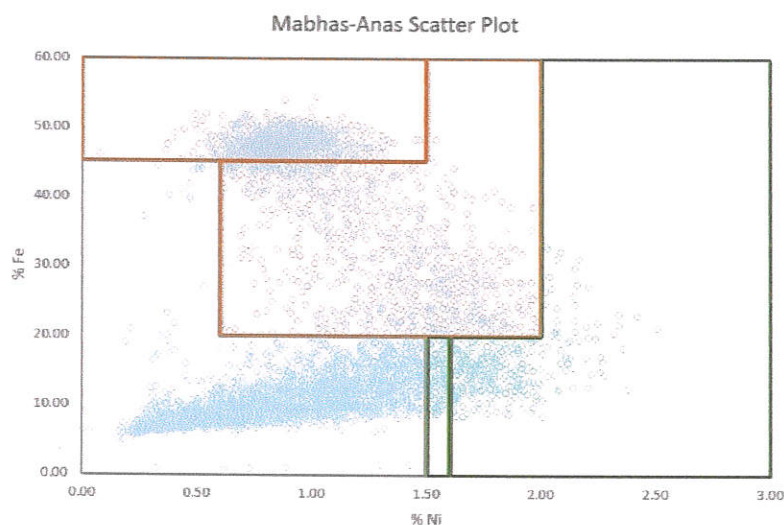
The accuracy and precision of MMDC's laboratory is also demonstrated by its capability to conduct its own determination of grade of materials transported in each of MMDC's shipment which agrees with the values determined by buyer's laboratory in China.

## 7.0 RESOURCE ESTIMATION

Polygon method was used to determine BGRC's mineral resource. In this method, each drill hole is assigned a polygon that represents the extent of the area of influence of the drill hole. The assumption is that everywhere within the polygon, the thickness and grade of the resource material is uniform and more or less the same to the resource material of the drill hole enclosed by the polygon.

The area of influence of each drill hole is based on the halfway rule, which states that the influence of a drill hole sample extends halfway to other samples laterally adjacent to it. The resource is classified only as resource potential due to the limited data available for the area.

The volume of each block is the product of the area of influence and the combined thickness of samples that fall within the set cut-off grades of each ore type (Figure 7-1). To determine the equivalent Wet Metric Tonnage (WMT), the total in-situ volume is multiplied to a swell factor of 1.35 and 1.37, and to the bulk density of 1.16 and 1.46 for soft and hard materials, respectively. The soft materials contain about 38% moisture while hard materials contain about 15% moisture.



**Figure 7-1.** Scatter plot of nickel and iron values of core samples collected within Mabhas-Anas Area. Note the clustering of points within 0.6-1.1% Ni and 45-52% Fe which corresponds to the grade of high iron limonite. Saprolite samples are lesser and are more scattered compared to limonite samples.

BGRC's mineral resource estimates is summarized in Table 7-1. The property's total measured and indicated mineral resources was estimated to be about 16.03 million WMT with 1.17% Ni and 34.98% Fe. This is equivalent to about 3.06 million WMT of saprolite with 1.59% Ni and 14.85% Fe, and 12.97 million WMT limonite with 1.07% Ni and 39.73% Fe.

Figure 7-2 shows the grade-tonnage curve of the laterite deposit which demonstrates that as nickel grade increase, tonnage decreases. This denotes that there is more low nickel limonite than high nickel saprolite in the area. The extent of the Indicated and Inferred Resources in the area is presented in Figure 7-3.



**Table 7-1.** Summary of BGRC mineral resource estimates as of December 31, 2015.

Category	Ore Class	WMT	DMT	%Ni	%Fe	Ni Tonnes
<b>Measured</b>	Sap III	-	-	-	-	-
	Sap IV	-	-	-	-	-
	<b>Sub-total</b>	-	-	-	-	-
	Lim low iron	2,466,000	1,529,000	1.34	32.47	21,000
	Lim high iron	2,088,000	1,294,000	0.89	47.80	12,000
	<b>Sub-total</b>	<b>4,554,000</b>	<b>2,823,000</b>	<b>1.13</b>	<b>39.49</b>	<b>33,000</b>
	<b>TOTAL</b>	<b>4,554,000</b>	<b>2,823,000</b>	<b>1.13</b>	<b>39.49</b>	<b>33,000</b>
<b>Indicated</b>	Sap III	1,295,000	803,000	1.82	15.84	15,000
	Sap IV	1,760,000	1,093,000	1.42	14.11	16,000
	<b>Sub-total</b>	<b>3,055,000</b>	<b>1,896,000</b>	<b>1.59</b>	<b>14.85</b>	<b>31,000</b>
	Lim low iron	4,328,000	2,683,000	1.23	31.66	33,000
	Lim high iron	4,090,000	2,536,000	0.84	48.53	21,000
	<b>Sub-total</b>	<b>8,418,000</b>	<b>5,219,000</b>	<b>1.04</b>	<b>39.86</b>	<b>54,000</b>
	<b>TOTAL</b>	<b>11,473,000</b>	<b>7,115,000</b>	<b>1.19</b>	<b>33.19</b>	<b>85,000</b>
<b>Measured and Indicated Total</b>		<b>16,027,000</b>	<b>9,938,000</b>	<b>1.17</b>	<b>34.98</b>	<b>118,000</b>
<b>Inferred</b>	Sap III	219,000	136,000	1.72	16.86	2,000
	Sap IV	110,000	68,000	1.39	9.05	1,000
	<b>Sub-total</b>	<b>329,000</b>	<b>204,000</b>	<b>1.61</b>	<b>14.25</b>	<b>3,000</b>
	Lim low iron	2,255,000	1,398,000	1.10	29.68	15,000
	Lim high iron	2,443,000	1,515,000	0.73	48.78	11,000
	<b>Sub-total</b>	<b>4,698,000</b>	<b>2,913,000</b>	<b>0.90</b>	<b>39.61</b>	<b>26,000</b>
	<b>TOTAL</b>	<b>5,027,000</b>	<b>3,117,000</b>	<b>0.95</b>	<b>37.95</b>	<b>29,000</b>
<b>MEASURED and INDICATED</b>	Sap III	1,295,000	803,000	1.82	15.84	14,617
	Sap IV	1,760,000	1,093,000	1.42	14.11	15,520
	<b>Sub-total</b>	<b>3,055,000</b>	<b>1,896,000</b>	<b>1.59</b>	<b>14.85</b>	<b>30,137</b>
	Lim low iron	6,794,000	4,212,000	1.27	31.95	53,380
	Lim high iron	6,178,000	3,830,000	0.86	48.29	32,837
	<b>Sub-total</b>	<b>12,972,000</b>	<b>8,042,000</b>	<b>1.07</b>	<b>39.73</b>	<b>86,218</b>
	<b>TOTAL</b>	<b>16,027,000</b>	<b>9,938,000</b>	<b>1.17</b>	<b>34.98</b>	<b>116,354</b>



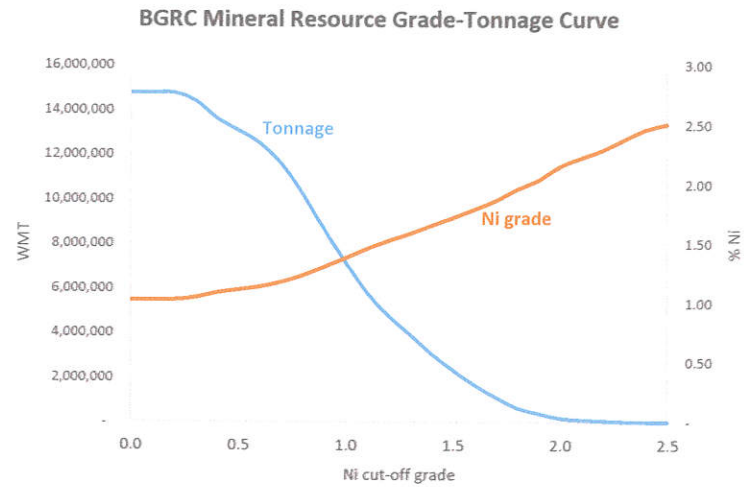


Figure 7-2. Grade-tonnage curve of Mabhas-Anas assay results.

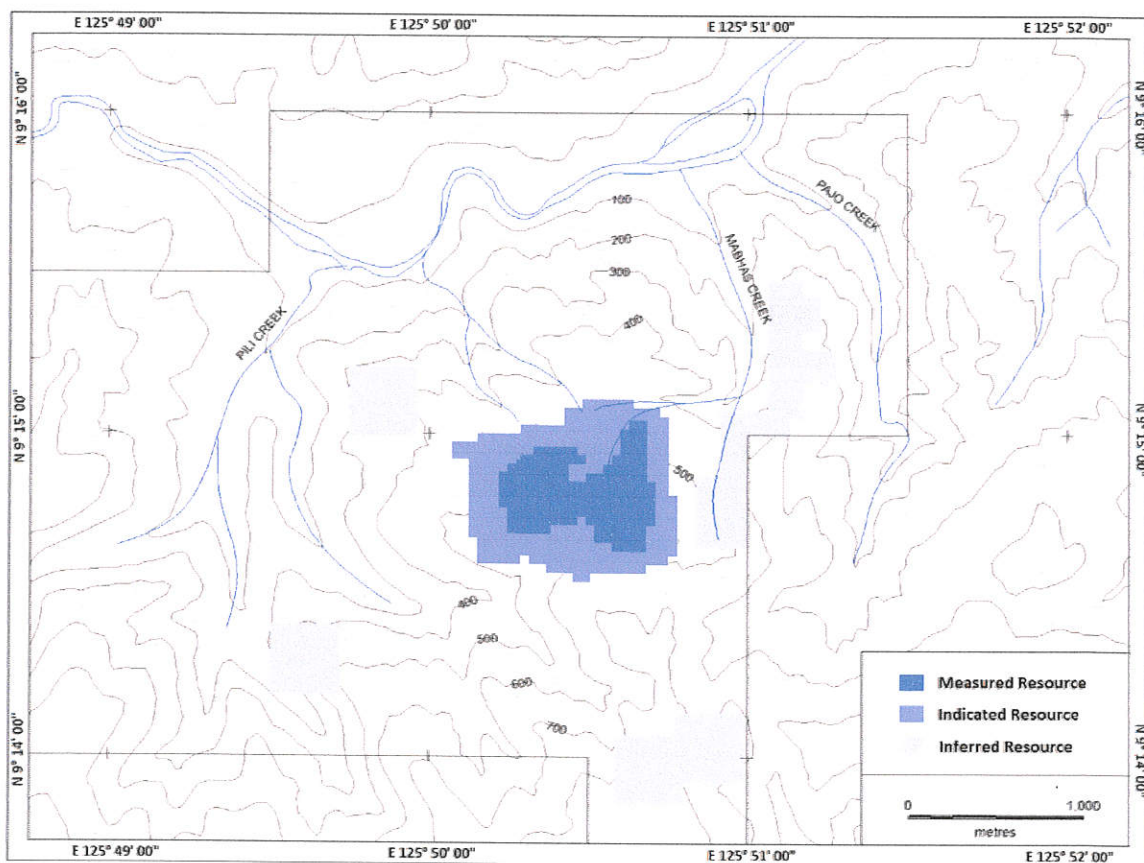


Figure 7-3. Location map showing location of Indicated and Inferred Resources estimated using manual polygon method.

## 8.0 CONCLUSION AND RECOMMENDATION

The occurrence of high-nickel saprolite and high-iron limonite in MMDC tenement area prompted the exploration for possible nickel laterite within BGRC tenement area, specifically the Mabhas-Anas Area. Results of 62 holes drilled on 2012 revealed areas with high-nickel saprolite and high-iron limonite located at about 400 to 600 masl. These areas are located west of MMDC's Languag Area which has also been explored and proven to have potential for saprolite and limonite.

An estimation of the area's resource potential was reported on 2014 by the company's in-house geologist using manual polygon method and based on the results of the 62 drill holes. The project's total nickel laterite resource potential is about 6.39 million WMT with 1.13% Ni and 37.60% Fe. This is equivalent to 1.32 million WMT of saprolite with 1.80% Ni and 16.01% Fe, and 5.07 million WMT limonite with 0.98% Ni and 42.63% Fe.

A more detailed drilling program was conducted within the delineated area in 2015 to come up with an estimates of its mineral resources. A total of 324 holes was drilled at 50 meters interval with a total of 3,815.91 meters depth. Samples were analysed using XRF machine and results were prepared in excel files which were used in the manual polygon method of estimation.

From a resource potential of about 6.39 million WMT, the Measured and Indicated Resource of the project was estimated to be about **16.03 million WMT with average grade of 1.17% Ni and 34.98% Fe**. This is equivalent to about 3.06 million WMT of saprolite with 1.59% Ni and 14.85% Fe, and 12.97 million WMT limonite with 1.07% Ni and 39.73% Fe. Additional Inferred limonite and saprolite resource was estimated at **5.03 million WMT with 0.95% Ni and 37.95% Fe**.

Another potential economic geological target in the vicinity of Barangay Lubo should be explored by the company, which based on geological, geochemical and induced polarization studies suggest that a substantial porphyry copper prospect might underlie the area. Exploratory shallow drilling and a few deep diamond drill holes were recommended by Dr. Arcilla to test if the geochemical and geophysical anomalies delineated constitute significant ore resources.

## REFERENCES

- Arcilla, C.A. 2010. Geology of Carac-an Development Corporation's MPSA 015-93-XIII, Cantilan and Carrascal, Surigao del Sur.
- BMG. 1981. Geology and Mineral Resources of the Philippines, 1<sup>st</sup> ed. 1. Manila: Ministry of Natural Resources.
- Guzman, J.T. 2014. Resource on CDC Resource Potential as of December 31, 2014.
- MGB. 2010. Geology of the Philippines, 2<sup>nd</sup> ed. Quezon City.
- NAMRIA (1956). Topographic Map of Madrid. The National Mapping Resource Information Authority (NAMRIA). 1:50,000. 4147-I.
- Peña, R.E. 2008. Lexicon of the Philippine Stratigraphy. Geological Society of the Philippines, Mandaluyong City.
- Quebral, R.D., Pubellier, M., Rangin, C. 1996. The onset movement of the Philippine Fault in eastern Mindanao: A transition from a collision to a strike-slip environment. *Tectonics*, 15 (4), 713-726.
- Santos-Ynigo, L. 1961. Geology and Geochemistry of the Nickeliferous Laterites of Nonoc and Adjacent Islands, Surigao Province, Philippines.
- Santos-Ynigo, L. 1944. Geology of Surigao Gold District, Mindanao. Quezon City.
- Sta. Cruz, J. 1994. Geology and Mineral Potentials. Ventura Timber Corporation's Contract Area MPSA No. 016-93-XI.

Hole	From	To	Ni	Fe					
5 N400 E45	0.00	1.40	0.67	12.19	5 N300 E45	10.26	11.26	0.69	6.77
5 N400 E45	1.40	2.40	0.67	20.90	5 N300 E45	11.26	12.00	0.87	7.31
5 N400 E45	2.40	3.40	1.04	11.81	5 N450 E30	0.00	1.49	0.71	49.59
5 N400 E45	3.40	4.40	0.73	12.43	5 N450 E30	1.49	2.49	0.84	50.98
5 N400 E45	4.40	5.40	0.62	12.31	5 N450 E30	2.49	3.49	0.90	50.32
5 N400 E45	5.40	6.40	0.73	11.96	5 N450 E30	3.49	4.49	1.00	49.09
5 N400 E45	6.40	7.00	0.97	12.32	5 N450 E30	4.49	5.49	1.50	13.66
5 N450 E35	0.00	0.69	0.49	50.33	5 N450 E30	5.49	6.49	1.13	9.71
5 N450 E35	0.69	1.69	0.65	50.61	5 N450 E30	6.49	7.49	0.93	9.36
5 N450 E35	1.69	2.69	0.76	50.54	5 N450 E30	7.49	8.00	0.64	7.42
5 N450 E35	2.69	3.69	0.86	49.35	5 N500 E35	0.00	1.20	0.69	49.07
5 N450 E35	3.69	4.69	1.18	34.75	5 N500 E35	1.20	2.20	0.80	49.81
5 N450 E35	4.69	5.69	1.55	28.10	5 N500 E35	2.20	3.20	0.86	49.56
5 N450 E35	5.69	6.69	1.58	18.42	5 N500 E35	3.20	4.20	0.98	49.65
5 N450 E35	6.69	7.69	1.32	16.28	5 N500 E35	4.20	5.20	0.93	49.13
5 N450 E35	7.69	8.69	1.29	15.14	5 N500 E35	5.20	6.20	0.85	48.64
5 N450 E35	8.69	9.69	1.32	16.15	5 N500 E35	6.20	7.20	0.94	50.34
5 N450 E35	9.69	10.69	1.04	12.09	5 N500 E35	7.20	8.20	1.00	49.08
5 N450 E35	10.69	11.69	1.03	13.99	5 N500 E35	8.20	9.20	1.42	38.49
5 N450 E35	11.69	12.69	0.62	8.24	5 N500 E35	9.20	10.20	1.83	21.81
5 N450 E35	12.69	13.69	0.55	8.46	5 N500 E35	10.20	11.20	1.70	35.76
5 N450 E35	13.69	15.00	0.55	7.39	5 N500 E35	11.20	12.20	1.09	14.72
5 N400 E35	0.00	1.30	0.67	49.69	5 N500 E35	12.20	13.20	0.85	12.32
5 N400 E35	1.30	2.30	0.90	49.77	5 N500 E35	13.20	14.20	0.49	7.64
5 N400 E35	2.30	3.30	0.68	50.58	5 N500 E35	14.20	15.00	0.39	6.47
5 N400 E35	3.30	4.30	0.74	49.80	5 N250 E15	0.00	0.71	0.83	48.53
5 N400 E35	4.30	5.30	0.83	50.16	5 N250 E15	0.71	1.71	0.93	47.32
5 N400 E35	5.30	6.30	1.39	37.11	5 N250 E15	1.71	2.71	0.97	49.22
5 N400 E35	6.30	7.30	1.64	27.15	5 N250 E15	2.71	3.71	0.94	19.80
5 N400 E35	7.30	8.30	1.64	23.72	5 N250 E15	3.71	4.71	0.81	17.59
5 N400 E35	8.30	9.30	1.28	19.08	5 N250 E15	4.71	5.71	0.90	14.87
5 N400 E35	9.30	10.30	0.88	13.58	5 N250 E15	5.71	6.71	1.19	15.67
5 N400 E35	10.30	11.30	1.07	20.42	5 N250 E15	6.71	7.71	1.06	13.90
5 N400 E35	11.30	12.30	1.02	17.38	5 N250 E15	7.71	8.71	1.05	15.40
5 N400 E35	12.30	13.00	0.57	10.56	5 N250 E15	8.71	9.71	0.75	11.04
5 N350 E45	0.00	1.70	1.14	29.22	5 N250 E15	9.71	10.71	0.50	10.15
5 N350 E45	1.70	2.70	1.65	29.93	5 N250 E15	10.71	11.80	0.48	9.03
5 N350 E45	2.70	3.70	0.62	46.00	5 N400 E30	0.00	1.07	0.70	45.26
5 N350 E45	3.70	4.70	1.50	22.95	5 N400 E30	1.07	2.07	0.95	49.76
5 N350 E45	4.70	5.70	1.13	13.15	5 N400 E30	2.07	3.07	0.88	49.90
5 N350 E45	5.70	6.70	0.87	11.81	5 N400 E30	3.07	4.07	0.97	49.79
5 N350 E45	6.70	7.70	1.15	11.25	5 N400 E30	4.07	5.07	0.96	50.83
5 N350 E45	7.70	8.70	1.07	13.19	5 N400 E30	5.07	6.07	0.91	49.46
5 N350 E45	8.70	9.70	1.05	12.41	5 N400 E30	6.07	7.07	1.02	45.32
5 N350 E45	9.70	10.70	1.24	14.90	5 N400 E30	7.07	8.07	1.67	32.07
5 N350 E45	10.70	11.70	1.04	10.42	5 N400 E30	8.07	9.07	1.28	24.87
5 N350 E45	11.70	12.70	0.58	7.87	5 N400 E30	9.07	10.07	0.85	8.87
5 N350 E45	12.70	13.00	0.96	11.31	5 N400 E30	10.07	11.07	0.51	8.96
5 N350 E40	0.00	1.27	0.66	49.05	5 N400 E30	11.07	12.07	0.62	9.71
5 N350 E40	1.27	2.27	0.82	50.86	5 N250 E25	0.00	1.25	0.71	46.15
5 N350 E40	2.27	3.27	0.86	50.68	5 N250 E25	1.25	2.25	1.01	46.29
5 N350 E40	3.27	4.27	1.15	36.97	5 N250 E25	2.25	3.25	1.04	46.42
5 N350 E40	4.27	5.27	0.78	7.37	5 N250 E25	3.25	4.25	1.21	48.07
5 N350 E40	5.27	6.27	0.77	13.21	5 N250 E25	4.25	5.25	1.29	42.10
5 N350 E40	6.27	7.27	0.77	12.42	5 N250 E25	5.25	6.25	1.37	38.81
5 N350 E40	7.27	8.27	0.51	8.40	5 N250 E25	6.25	7.25	1.55	16.65
5 N350 E40	8.27	9.00	0.50	8.20	5 N250 E25	7.25	8.25	1.10	11.21
5 N50 E30	0.00	0.82	0.59	47.63	5 N250 E25	8.25	9.00	0.70	7.13
5 N50 E30	0.82	1.82	0.74	51.11	6 N200 E40	0.00	0.95	0.78	48.44
5 N50 E30	1.82	2.82	0.72	50.03	6 N200 E40	0.95	1.95	1.04	23.79
5 N50 E30	2.82	3.82	0.91	50.58	6 N200 E40	1.95	2.95	1.00	27.59
5 N50 E30	3.82	4.82	1.55	35.77	6 N200 E40	2.95	3.95	0.86	18.14
5 N50 E30	4.82	5.82	1.86	23.32	6 N200 E40	3.95	4.95	0.38	7.47
5 N50 E30	5.82	6.82	2.17	19.48	6 N200 E40	4.95	5.95	0.29	7.56
5 N50 E30	6.82	7.82	2.05	20.22	6 N200 E40	5.95	6.95	0.27	7.62
5 N50 E30	7.82	8.82	2.09	16.24	6 N200 E40	6.95	7.95	0.27	7.24
5 N50 E30	8.82	9.82	0.87	9.21	6 N200 E40	7.95	9.00	0.26	6.82
5 N50 E30	9.82	10.82	0.57	7.77	5 N350 E15	0.00	0.77	0.81	44.95
5 N50 E30	10.82	11.82	0.59	7.08	5 N350 E15	0.77	1.77	1.07	51.17
5 N300 E45	0.00	1.26	0.82	48.05	5 N350 E15	1.77	2.77	0.68	48.41
5 N300 E45	1.26	2.26	1.12	46.61	5 N350 E15	2.77	3.77	0.67	50.53
5 N300 E45	2.26	3.26	1.51	32.20	5 N350 E15	3.77	4.77	0.76	49.94
5 N300 E45	3.26	4.26	1.54	29.24	5 N350 E15	4.77	5.77	0.90	50.12
5 N300 E45	4.26	5.26	1.49	16.49	5 N350 E15	5.77	6.77	0.88	47.36
5 N300 E45	5.26	6.26	1.31	10.86	5 N350 E15	6.77	7.77	1.18	47.93
5 N300 E45	6.26	7.26	1.28	10.66	5 N350 E15	7.77	8.77	1.76	15.01
5 N300 E45	7.26	8.26	1.08	10.49	5 N350 E15	8.77	9.77	1.72	20.42
5 N300 E45	8.26	9.26	1.32	17.43	5 N350 E15	9.77	10.77	1.96	20.81
5 N300 E45	9.26	10.26	1.06	10.62	5 N350 E15	10.77	11.77	1.25	24.44
					5 N350 E15	11.77	12.77	1.19	11.83

5 N350 E15	12.77	13.77	1.01	13.47
5 N350 E15	13.77	14.77	0.88	13.04
5 N350 E15	14.77	15.77	0.83	13.28
5 N350 E15	15.77	16.77	0.75	11.67
5 N350 E15	16.77	17.77	0.65	9.84
5 N350 E15	17.77	19.00	0.41	8.30
5 N350 E35	0.00	1.08	0.92	46.11
5 N350 E35	1.08	2.08	0.96	46.01
5 N350 E35	2.08	3.08	1.11	46.42
5 N350 E35	3.08	4.08	1.27	45.95
5 N350 E35	4.08	5.08	1.36	35.52
5 N350 E35	5.08	6.08	1.38	29.59
5 N350 E35	6.08	7.08	1.60	28.63
5 N350 E35	7.08	8.08	1.36	21.77
5 N350 E35	8.08	9.08	1.23	17.03
5 N350 E35	9.08	10.08	1.09	15.28
5 N350 E35	10.08	11.08	1.00	15.95
5 N350 E35	11.08	12.08	0.92	16.02
5 N350 E35	12.08	13.08	0.83	12.80
5 N350 E35	13.08	14.08	0.87	17.91
5 N350 E35	14.08	15.08	0.51	10.68
5 N350 E35	15.08	16.08	0.39	7.49
5 N350 E35	16.08	17.08	0.44	8.21
6 N300 E30	0.00	0.50	0.69	43.25
6 N300 E30	0.50	1.50	0.87	47.35
6 N300 E30	1.50	2.50	0.88	48.30
6 N300 E30	2.50	3.50	1.12	35.04
6 N300 E30	3.50	4.50	1.39	11.11
6 N300 E30	4.50	5.50	1.34	18.54
6 N300 E30	5.50	6.50	1.37	28.16
6 N300 E30	6.50	7.50	1.03	10.46
6 N300 E30	7.50	8.50	1.25	28.74
6 N300 E30	8.50	9.50	0.73	9.23
6 N300 E30	9.50	11.00	0.40	7.37
5 N250 E4C	0.00	1.29	0.73	44.80
5 N250 E4C	1.29	2.29	0.60	12.05
5 N250 E4C	2.29	3.29	0.70	12.30
5 N250 E4C	3.29	4.29	0.56	8.01
5 N250 E4C	4.29	5.29	0.68	8.76
5 N250 E4C	5.29	6.29	0.40	7.18
5 N250 E4C	6.29	7.29	0.42	8.91
5 N250 E4C	7.29	8.00	0.38	6.98
5 N200 E25	0.00	0.73	0.55	44.62
5 N200 E25	0.73	1.73	0.82	49.14
5 N200 E25	1.73	2.73	1.06	47.39
5 N200 E25	2.73	3.73	1.14	47.52
5 N200 E25	3.73	4.73	1.29	47.13
5 N200 E25	4.73	5.73	1.43	44.10
5 N200 E25	5.73	6.73	1.71	27.85
5 N200 E25	6.73	7.73	1.74	21.84
5 N200 E25	7.73	8.73	1.70	12.31
5 N200 E25	8.73	9.73	1.78	16.44
5 N200 E25	9.73	11.00	1.15	12.78
6 N350 E20	0.00	1.49	0.73	44.83
6 N350 E20	1.49	2.49	1.06	31.06
6 N350 E20	2.49	3.49	0.90	14.78
6 N350 E20	3.49	4.49	0.94	16.54
6 N350 E20	4.49	5.49	1.35	22.85
6 N350 E20	5.49	6.49	1.26	26.05
6 N350 E20	6.49	7.49	1.24	21.64
6 N350 E20	7.49	8.49	1.12	16.61
6 N350 E20	8.49	9.49	1.09	15.17
6 N350 E20	9.49	10.49	0.70	11.23
6 N350 E20	10.49	11.49	0.79	9.36
6 N350 E20	11.49	12.00	0.87	8.22
6 N350 E35	0.00	1.22	0.83	46.17
6 N350 E35	1.22	2.22	0.87	42.89
6 N350 E35	2.22	3.22	1.43	33.73
6 N350 E35	3.22	4.22	1.74	21.83
6 N350 E35	4.22	5.22	1.04	40.75
6 N350 E35	5.22	6.22	1.09	40.13
6 N350 E35	6.22	7.22	1.12	41.29
6 N350 E35	7.22	8.22	1.19	38.57
6 N350 E35	8.22	9.22	1.05	36.54
6 N350 E35	9.22	10.22	1.25	37.38
6 N350 E35	10.22	11.22	1.46	27.71
6 N350 E35	11.22	12.22	1.22	17.56
6 N350 E35	12.22	13.22	1.13	12.66
6 N350 E35	13.22	14.22	1.06	22.52
6 N350 E35	14.22	15.22	0.92	14.07

6 N350 E35	15.22	16.22	0.86	14.93
6 N350 E35	16.22	17.22	1.00	19.76
6 N350 E35	17.22	18.22	1.02	22.95
6 N350 E35	18.22	19.00	0.46	8.09
5 N250 E20	0.00	1.06	0.81	45.47
5 N250 E20	1.06	2.06	1.02	47.21
5 N250 E20	2.06	3.06	1.00	49.13
5 N250 E20	3.06	4.06	1.56	40.26
5 N250 E20	4.06	5.06	1.42	23.19
5 N250 E20	5.06	6.06	1.64	22.37
5 N250 E20	6.06	7.06	1.14	14.27
5 N250 E20	7.06	8.06	0.95	12.22
5 N250 E20	8.06	9.06	1.12	11.94
5 N250 E20	9.06	10.06	1.15	12.68
5 N250 E20	10.06	11.06	0.90	10.88
5 N250 E20	11.06	12.06	0.78	10.48
5 N250 E20	12.06	12.80	0.82	12.59
6 N50 E45C	0.00	1.35	0.91	36.79
6 N50 E45C	1.35	2.35	1.77	27.48
6 N50 E45C	2.35	3.35	1.49	15.31
6 N50 E45C	3.35	4.35	1.56	15.36
6 N50 E45C	4.35	5.35	1.59	20.26
6 N50 E45C	5.35	6.35	1.36	13.98
6 N50 E45C	6.35	7.35	1.05	9.79
6 N50 E45C	7.35	8.35	0.95	16.61
6 N50 E45C	8.35	9.35	0.61	9.93
6 N50 E45C	9.35	10.20	0.50	8.14
6 N300 E35	0.00	1.27	0.90	49.31
6 N300 E35	1.27	2.27	0.93	50.00
6 N300 E35	2.27	3.27	0.98	50.13
6 N300 E35	3.27	4.27	1.06	49.37
6 N300 E35	4.27	5.27	1.30	46.51
6 N300 E35	5.27	6.27	1.44	44.34
6 N300 E35	6.27	7.27	1.41	18.41
6 N300 E35	7.27	8.27	0.73	9.17
6 N300 E35	8.27	9.27	1.54	11.87
6 N300 E35	9.27	10.27	1.32	13.97
6 N300 E35	10.27	11.27	1.40	15.32
6 N300 E35	11.27	12.27	1.27	16.38
6 N300 E35	12.27	13.27	0.78	8.51
6 N300 E35	13.27	14.00	0.64	8.80
5 N200 E4C	0.00	0.60	0.84	45.77
5 N200 E4C	0.60	1.60	1.07	46.16
5 N200 E4C	1.60	2.60	0.69	9.35
5 N200 E4C	2.60	3.60	0.45	7.70
5 N200 E4C	3.60	4.60	0.37	7.53
5 N200 E4C	4.60	5.60	0.34	7.25
5 N200 E4C	5.60	6.60	0.34	7.67
5 N200 E4C	6.60	8.00	0.32	7.07
5 N250 E10	0.00	0.97	0.82	46.34
5 N250 E10	0.97	1.97	1.06	18.69
5 N250 E10	1.97	2.97	0.86	11.45
5 N250 E10	2.97	3.97	0.83	10.77
5 N250 E10	3.97	4.97	0.49	8.56
5 N250 E10	4.97	5.97	0.37	7.55
5 N250 E10	5.97	6.97	0.35	7.25
5 N250 E10	6.97	8.00	0.34	6.81
D5 N0 E40C	0.00	0.86	0.73	48.17
D5 N0 E40C	0.86	1.86	0.83	48.69
D5 N0 E40C	1.86	2.86	0.77	40.75
D5 N0 E40C	2.86	3.86	1.42	13.54
D5 N0 E40C	3.86	4.86	1.36	12.46
D5 N0 E40C	4.86	5.86	1.30	11.30
D5 N0 E40C	5.86	6.86	0.92	8.66
D5 N0 E40C	6.86	7.86	0.81	10.43
D5 N0 E40C	7.86	8.86	0.51	9.44
D5 N0 E40C	8.86	9.86	0.61	8.23
D5 N0 E40C	9.86	10.86	0.51	7.97
D5 N0 E40C	10.86	12.86	0.28	6.28
6 N150 E15	0.00	0.78	0.74	45.38
6 N150 E15	0.78	1.78	0.97	49.94
6 N150 E15	1.78	2.78	1.12	47.87
6 N150 E15	2.78	3.78	1.14	47.63
6 N150 E15	3.78	4.78	1.70	33.27
6 N150 E15	4.78	5.78	1.47	38.40
6 N150 E15	5.78	6.78	1.32	45.50
6 N150 E15	6.78	7.78	1.77	28.84
6 N150 E15	7.78	8.78	1.73	19.34
6 N150 E15	8.78	9.78	1.46	9.34
6 N150 E15	9.78	10.78	1.70	17.09



6 N150 E15	10.78	11.78	1.58	14.92
6 N150 E15	11.78	12.78	1.73	15.31
6 N150 E15	12.78	13.78	1.69	13.25
6 N150 E15	13.78	14.78	1.56	16.03
6 N150 E15	14.78	15.78	1.17	11.40
6 N150 E15	15.78	17.00	0.61	6.91
6 N200 E45	0.00	1.46	0.96	41.48
6 N200 E45	1.46	2.46	1.00	13.72
6 N200 E45	2.46	3.46	1.09	14.94
6 N200 E45	3.46	4.46	0.37	6.76
6 N200 E45	4.46	5.46	0.34	6.99
6 N200 E45	5.46	6.46	0.46	8.31
6 N200 E45	6.46	7.46	0.56	10.41
6 N200 E45	7.46	8.00	0.34	6.74
6 N300 E40	0.00	1.48	1.16	45.48
6 N300 E40	1.48	2.48	0.86	10.51
6 N300 E40	2.48	3.48	1.37	14.11
6 N300 E40	3.48	4.48	0.91	11.63
6 N300 E40	4.48	5.48	1.28	13.83
6 N300 E40	5.48	6.48	0.53	7.60
6 N300 E40	6.48	8.00	0.55	7.58
6 N100 E35	0.00	1.19	0.73	46.09
6 N100 E35	1.19	2.19	0.92	45.24
6 N100 E35	2.19	3.19	1.26	31.18
6 N100 E35	3.19	4.19	1.45	14.18
6 N100 E35	4.19	5.19	1.03	8.19
6 N100 E35	5.19	6.19	1.12	11.71
6 N100 E35	6.19	7.19	1.38	15.76
6 N100 E35	7.19	8.19	1.19	12.02
6 N100 E35	8.19	9.19	1.07	9.59
6 N100 E35	9.19	10.19	0.94	11.80
6 N100 E35	10.19	11.19	0.40	17.81
6 N100 E35	11.19	12.19	0.37	19.07
6 N100 E35	12.19	13.19	0.31	16.47
5 N400 E15	0.00	0.63	0.98	42.99
5 N400 E15	0.63	1.63	0.96	44.84
5 N400 E15	1.63	2.63	0.84	43.76
5 N400 E15	2.63	3.63	1.05	45.50
5 N400 E15	3.63	4.63	1.76	21.27
5 N400 E15	4.63	5.63	1.77	14.51
5 N400 E15	5.63	6.63	1.61	19.53
5 N400 E15	6.63	7.63	1.66	15.45
5 N400 E15	7.63	8.63	1.98	21.36
5 N400 E15	8.63	9.63	1.92	18.69
5 N400 E15	9.63	10.63	1.75	22.75
5 N400 E15	10.63	11.63	1.26	41.83
5 N400 E15	11.63	12.63	1.93	20.21
5 N400 E15	12.63	13.63	1.35	42.96
5 N400 E15	13.63	14.63	1.79	22.78
5 N400 E15	14.63	16.00	0.47	7.28
5 N200 E40	0.00	0.73	1.16	35.94
5 N200 E40	0.73	1.73	1.27	22.40
5 N200 E40	1.73	2.73	1.07	15.86
5 N200 E40	2.73	3.73	0.62	8.36
5 N200 E40	3.73	4.73	0.33	6.75
5 N200 E40	4.73	5.73	0.27	6.05
5 N200 E40	5.73	6.73	0.25	5.84
5 N200 E40	6.73	7.73	0.29	6.41
5 N200 E40	7.73	8.73	0.26	5.94
5 N200 E40	8.73	10.00	0.29	6.17
6 N300 E10	0.00	1.06	0.52	45.19
6 N300 E10	1.06	2.06	0.69	34.43
6 N300 E10	2.06	3.06	0.34	7.98
6 N300 E10	3.06	4.06	0.46	8.19
6 N300 E10	4.06	5.06	0.29	6.47
6 N300 E10	5.06	6.06	0.32	6.92
6 N300 E10	6.06	7.06	0.35	7.35
6 N300 E10	7.06	8.00	0.27	6.11
6 N250 E25	0.00	0.72	0.77	48.76
6 N250 E25	0.72	1.72	0.88	49.57
6 N250 E25	1.72	2.72	0.92	50.88
6 N250 E25	2.72	3.72	0.84	51.07
6 N250 E25	3.72	4.72	0.87	51.36
6 N250 E25	4.72	5.72	0.96	50.85
6 N250 E25	5.72	6.72	0.93	50.48
6 N250 E25	6.72	7.72	1.08	50.12
6 N250 E25	7.72	8.72	1.05	44.40
6 N250 E25	8.72	9.72	1.16	42.55
6 N250 E25	9.72	10.72	1.06	35.18
6 N250 E25	10.72	11.72	1.10	44.75

6 N250 E25	11.72	12.72	1.07	47.96
6 N250 E25	12.72	13.72	1.42	34.87
6 N250 E25	13.72	14.72	1.59	32.90
6 N250 E25	14.72	15.72	1.60	26.30
6 N250 E25	15.72	17.00	0.54	9.24
TH4	0.00	0.69	0.60	45.98
TH4	0.69	1.69	0.89	47.32
TH4	1.69	2.69	1.07	48.00
TH4	2.69	3.69	1.01	46.41
TH4	3.69	4.69	1.04	47.96
TH4	4.69	5.69	1.18	46.08
TH4	5.69	6.69	1.36	34.28
TH4	6.69	7.69	1.89	21.14
TH4	7.69	8.69	1.80	23.35
TH4	8.69	9.69	1.34	12.78
TH4	9.69	10.69	1.59	23.91
TH4	10.69	11.69	1.63	23.62
TH4	11.69	12.69	1.11	11.37
TH4	12.69	13.69	1.10	12.67
TH4	13.69	14.69	1.41	16.26
TH4	14.69	15.69	1.24	20.66
TH4	15.69	16.69	1.27	24.51
TH4	16.69	17.69	0.97	13.29
TH4	17.69	19.00	0.39	6.39
5 N350 E5C	0.00	0.96	1.21	34.98
5 N350 E5C	0.96	1.96	0.91	42.95
5 N350 E5C	1.96	2.96	1.39	16.57
5 N350 E5C	2.96	3.96	1.27	16.38
5 N350 E5C	3.96	4.96	0.85	8.33
5 N350 E5C	4.96	5.96	0.70	7.14
5 N350 E5C	5.96	6.96	0.59	9.43
5 N350 E5C	6.96	8.00	0.36	6.62
5 N300 E5C	0.00	1.18	0.74	45.76
5 N300 E5C	1.18	2.18	0.83	46.23
5 N300 E5C	2.18	3.18	1.18	34.37
5 N300 E5C	3.18	4.18	1.27	26.60
5 N300 E5C	4.18	5.18	1.41	18.41
5 N300 E5C	5.18	6.18	1.40	20.32
5 N300 E5C	6.18	7.18	1.35	12.71
5 N300 E5C	7.18	8.18	1.34	11.23
5 N300 E5C	8.18	9.18	1.52	11.68
5 N300 E5C	9.18	10.18	1.54	13.47
5 N300 E5C	10.18	11.18	1.31	15.43
5 N300 E5C	11.18	12.18	1.27	14.56
5 N300 E5C	12.18	13.18	0.95	8.47
5 N300 E5C	13.18	14.18	0.95	9.49
5 N300 E5C	14.18	15.18	0.99	12.45
5 N300 E5C	15.18	16.18	0.92	13.39
5 N300 E5C	16.18	17.18	0.92	11.64
5 N300 E5C	17.18	18.18	0.84	9.98
5 N300 E5C	18.18	19.00	0.40	6.32
5 N300 E20	0.00	1.32	0.82	45.76
5 N300 E20	1.32	2.32	1.05	47.93
5 N300 E20	2.32	3.32	0.73	17.71
5 N300 E20	3.32	4.32	1.28	42.00
5 N300 E20	4.32	5.32	1.46	42.28
5 N300 E20	5.32	6.32	1.26	12.83
5 N300 E20	6.32	7.32	1.53	23.78
5 N300 E20	7.32	8.32	1.57	18.90
5 N300 E20	8.32	9.32	1.16	12.40
5 N300 E20	9.32	10.32	1.26	14.15
5 N300 E20	10.32	11.32	0.60	7.60
5 N300 E20	11.32	12.00	0.45	6.57
5 N400 E40	0.00	0.63	0.63	45.19
5 N400 E40	0.63	1.63	0.63	48.03
5 N400 E40	1.63	2.63	0.76	49.52
5 N400 E40	2.63	3.63	0.87	48.09
5 N400 E40	3.63	4.63	1.23	31.35
5 N400 E40	4.63	5.63	1.43	24.75
5 N400 E40	5.63	6.63	1.53	23.92
5 N400 E40	6.63	7.63	1.37	28.49
5 N400 E40	7.63	8.63	1.25	21.57
5 N400 E40	8.63	9.63	1.07	15.80
5 N400 E40	9.63	10.63	1.21	17.45
5 N400 E40	10.63	11.63	1.17	15.31
5 N400 E40	11.63	12.63	1.09	12.28
5 N400 E40	12.63	13.63	0.87	8.31
5 N400 E40	13.63	14.63	0.92	10.72
5 N400 E40	14.63	15.63	0.70	8.85
5 N400 E40	15.63	16.63	0.55	8.43

5 N400 E40	16.63	17.63	0.55	9.00	6 N300 E4C	4.56	5.56	1.77	17.62
5 N400 E40	17.63	18.63	0.32	6.49	6 N300 E4C	5.56	6.56	1.36	15.73
5 N400 E40	18.63	20.00	0.31	6.62	6 N300 E4C	6.56	7.56	1.33	16.95
6 N100 E45	0.00	1.08	0.81	47.90	6 N300 E4C	7.56	8.56	1.03	11.97
6 N100 E45	1.08	2.08	0.92	47.23	6 N300 E4C	8.56	9.56	1.04	12.96
6 N100 E45	2.08	3.08	0.93	47.39	6 N300 E4C	9.56	10.56	0.65	8.51
6 N100 E45	3.08	4.08	1.51	27.82	5 N150 E40	0.00	0.66	0.84	48.14
6 N100 E45	4.08	5.08	1.52	24.47	5 N150 E40	0.66	1.66	1.01	28.79
6 N100 E45	5.08	6.08	1.57	23.94	5 N150 E40	1.66	2.66	1.35	28.60
6 N100 E45	6.08	7.08	1.63	18.40	5 N150 E40	2.66	3.66	1.20	11.86
6 N100 E45	7.08	8.08	1.62	12.17	5 N150 E40	3.66	5.00	0.44	7.29
6 N100 E45	8.08	9.08	1.42	15.59	6 N50 E45	0.00	0.54	0.79	44.47
6 N100 E45	9.08	10.08	1.35	18.20	6 N50 E45	0.54	1.54	0.94	22.05
6 N100 E45	10.08	11.00	0.92	8.48	6 N50 E45	1.54	2.54	1.03	42.56
5 N450 E40	0.00	1.43	0.96	43.46	6 N50 E45	2.54	3.54	0.88	47.44
5 N450 E40	1.43	2.43	1.35	43.14	6 N50 E45	3.54	4.54	0.66	9.83
5 N450 E40	2.43	3.43	1.74	25.16	6 N50 E45	4.54	5.54	0.76	11.39
5 N450 E40	3.43	4.43	1.80	14.68	6 N50 E45	5.54	6.54	0.82	11.86
5 N450 E40	4.43	5.43	1.70	13.42	6 N50 E45	6.54	7.54	0.91	13.13
5 N450 E40	5.43	6.43	1.74	16.94	6 N50 E45	7.54	8.54	0.42	7.57
5 N450 E40	6.43	7.43	1.95	23.80	6 N300 E5C	0.00	0.71	0.87	45.90
5 N450 E40	7.43	8.43	2.21	12.59	6 N300 E5C	0.71	1.71	1.03	21.00
5 N450 E40	8.43	9.43	1.80	14.95	6 N300 E5C	1.71	2.71	1.04	13.13
5 N450 E40	9.43	10.43	1.54	16.40	6 N300 E5C	2.71	3.71	0.33	6.76
5 N450 E40	10.43	11.43	1.29	12.97	6 N300 E5C	3.71	5.00	0.37	7.06
5 N450 E40	11.43	12.43	1.27	14.91	5 N450 E10	0.00	0.81	0.74	47.32
5 N450 E40	12.43	13.43	1.28	13.31	5 N450 E10	0.81	1.81	0.57	46.29
5 N450 E40	13.43	14.43	1.37	13.81	5 N450 E10	1.81	2.81	0.78	47.89
5 N450 E40	14.43	15.43	1.36	13.52	5 N450 E10	2.81	3.81	0.88	46.13
5 N450 E40	15.43	16.43	1.13	11.55	5 N450 E10	3.81	4.81	0.89	13.83
5 N450 E40	16.43	17.43	1.07	10.92	5 N450 E10	4.81	5.81	0.71	11.59
5 N450 E40	17.43	18.43	1.27	8.36	5 N450 E10	5.81	6.81	0.79	10.64
5 N450 E40	18.43	19.43	0.66	7.47	5 N450 E10	6.81	8.00	0.44	9.72
5 N450 E40	19.43	20.00	0.91	7.31	6 N250 E5C	0.00	0.92	1.17	36.69
5 N200 E20	0.00	0.58	0.82	43.42	6 N250 E5C	0.92	1.92	1.01	14.08
5 N200 E20	0.58	1.58	0.85	47.75	6 N250 E5C	1.92	2.92	1.19	15.58
5 N200 E20	1.58	2.58	0.86	47.15	6 N250 E5C	2.92	3.92	0.42	6.68
5 N200 E20	2.58	3.58	1.03	35.36	6 N250 E5C	3.92	5.00	0.29	6.45
5 N200 E20	3.58	4.58	1.00	18.99	6 N150 E4C	0.00	1.10	0.85	47.74
5 N200 E20	4.58	5.58	0.67	9.30	6 N150 E4C	1.10	2.10	0.98	44.93
5 N200 E20	5.58	6.58	0.49	7.58	6 N150 E4C	2.10	3.10	0.90	47.95
5 N200 E20	6.58	7.58	0.29	6.43	6 N150 E4C	3.10	4.10	0.91	49.39
5 N200 E20	7.58	8.58	0.36	7.77	6 N150 E4C	4.10	5.10	1.38	41.15
5 N200 E20	8.58	9.58	0.35	7.46	6 N150 E4C	5.10	6.10	1.46	32.78
5 N200 E20	9.58	10.58	0.38	7.83	6 N150 E4C	6.10	7.10	1.12	12.79
5 N200 E20	10.58	11.58	0.36	7.33	6 N150 E4C	7.10	8.10	1.55	9.43
5 N200 E20	11.58	12.58	0.39	8.69	6 N150 E4C	8.10	9.10	1.70	13.08
5 N200 E20	12.58	13.58	0.30	6.60	6 N150 E4C	9.10	10.10	1.34	11.43
5 N200 E20	13.58	15.00	0.32	6.78	6 N150 E4C	10.10	11.00	0.88	7.79
5 N250 E40	0.00	0.69	0.69	46.00	6 N150 E5C	0.00	0.99	0.75	46.08
5 N250 E40	0.69	1.69	0.99	48.89	6 N150 E5C	0.99	1.99	0.90	48.59
5 N250 E40	1.69	2.69	1.41	30.68	6 N150 E5C	1.99	2.99	1.01	50.07
5 N250 E40	2.69	3.69	1.55	24.59	6 N150 E5C	2.99	3.99	1.04	49.15
5 N250 E40	3.69	4.69	1.49	13.71	6 N150 E5C	3.99	4.99	1.11	47.84
5 N250 E40	4.69	5.69	1.43	22.96	6 N150 E5C	4.99	5.99	0.98	27.01
5 N250 E40	5.69	6.69	1.20	12.13	6 N150 E5C	5.99	6.99	0.95	14.11
5 N250 E40	6.69	7.69	0.79	8.34	6 N150 E5C	6.99	7.99	1.10	13.14
5 N250 E40	7.69	8.69	0.56	9.00	6 N150 E5C	7.99	8.99	1.05	10.70
5 N250 E40	8.69	9.69	0.36	7.42	6 N150 E5C	8.99	10.00	0.71	8.02
5 N250 E40	9.69	10.69	0.32	7.00	5 N300 E10	0.00	1.32	0.87	48.36
5 N250 E40	10.69	11.00	0.31	6.77	5 N300 E10	1.32	2.32	1.05	44.95
6 N200 E35	0.00	0.63	0.80	45.22	5 N300 E10	2.32	3.32	1.40	19.91
6 N200 E35	0.63	1.63	1.01	48.53	5 N300 E10	3.32	4.32	1.54	14.25
6 N200 E35	1.63	2.63	1.80	14.30	5 N300 E10	4.32	5.32	1.62	18.17
6 N200 E35	2.63	3.63	1.61	27.49	5 N300 E10	5.32	6.32	1.55	16.56
6 N200 E35	3.63	4.63	1.05	46.28	5 N300 E10	6.32	7.32	1.03	11.63
6 N200 E35	4.63	5.63	1.98	25.96	5 N300 E10	7.32	8.00	0.50	8.57
6 N200 E35	5.63	6.63	1.88	13.56	6 N250 E35	0.00	1.28	0.77	49.49
6 N200 E35	6.63	7.63	1.57	9.36	6 N250 E35	1.28	2.28	0.90	50.69
6 N200 E35	7.63	8.63	1.04	48.41	6 N250 E35	2.28	3.28	0.94	51.33
6 N200 E35	8.63	9.63	2.11	17.15	6 N250 E35	3.28	4.28	0.94	51.33
6 N200 E35	9.63	10.63	1.85	15.27	6 N250 E35	4.28	5.28	0.94	46.40
6 N200 E35	10.63	11.63	1.69	15.35	6 N250 E35	5.28	6.28	1.63	23.24
6 N200 E35	11.63	12.63	1.61	11.26	6 N250 E35	6.28	7.28	1.56	22.43
6 N200 E35	12.63	14.00	0.96	8.72	6 N250 E35	7.28	8.28	1.48	11.52
6 N300 E4C	0.00	0.56	0.65	46.11	6 N250 E35	8.28	9.28	1.56	12.03
6 N300 E4C	0.56	1.56	0.83	47.12	6 N250 E35	9.28	10.28	1.61	18.74
6 N300 E4C	1.56	2.56	0.95	46.12	6 N250 E35	10.28	11.28	1.82	15.76
6 N300 E4C	2.56	3.56	1.06	43.87	6 N250 E35	11.28	12.28	1.41	16.61
6 N300 E4C	3.56	4.56	1.47	37.02	6 N250 E35	12.28	13.28	1.27	15.45

6 N250 E35	13.28	14.28	1.24	15.51	6 N300 E20	5.52	6.52	1.73	19.98
6 N250 E35	14.28	15.28	1.21	16.47	6 N300 E20	6.52	7.52	1.28	12.53
6 N250 E35	15.28	16.28	1.02	10.56	6 N300 E20	7.52	8.52	1.47	13.46
6 N250 E35	16.28	17.00	0.88	8.21	6 N300 E20	8.52	9.52	1.13	13.77
6 N50 E20	0.00	0.64	0.91	44.94	6 N300 E20	9.52	11.00	0.44	7.84
6 N50 E20	0.64	1.64	1.05	43.78	5 N150 E30	0.00	1.36	0.70	48.80
6 N50 E20	1.64	2.64	1.02	46.56	5 N150 E30	1.36	2.36	0.87	49.20
6 N50 E20	2.64	3.64	0.98	42.82	5 N150 E30	2.36	3.36	0.72	47.13
6 N50 E20	3.64	4.64	1.19	29.80	5 N150 E30	3.36	4.36	1.20	43.41
6 N50 E20	4.64	5.64	1.28	13.86	5 N150 E30	4.36	5.36	1.56	26.93
6 N50 E20	5.64	6.64	1.09	12.58	5 N150 E30	5.36	6.36	1.48	30.63
6 N50 E20	6.64	7.64	0.85	10.14	5 N150 E30	6.36	7.36	1.28	17.88
6 N50 E20	7.64	8.64	1.14	9.58	5 N150 E30	7.36	8.36	1.50	24.32
6 N50 E20	8.64	9.64	0.72	7.01	5 N150 E30	8.36	9.36	1.43	21.28
6 N50 E20	9.64	11.00	0.89	8.80	5 N150 E30	9.36	10.36	1.02	13.28
6 N300 E15	0.00	0.58	0.64	47.00	5 N150 E30	10.36	11.36	1.05	20.61
6 N300 E15	0.58	1.58	0.94	37.71	5 N150 E30	11.36	12.36	0.86	12.20
6 N300 E15	1.58	2.58	1.27	16.18	5 N150 E30	12.36	13.36	0.82	12.34
6 N300 E15	2.58	3.58	0.77	10.56	5 N150 E30	13.36	14.36	0.61	8.83
6 N300 E15	3.58	4.58	0.96	13.47	5 N150 E30	14.36	15.00	0.42	7.33
6 N300 E15	4.58	5.58	0.86	9.87	5 N250 E5	0.00	0.99	0.74	47.01
6 N300 E15	5.58	6.58	0.82	10.12	5 N250 E5	0.99	1.99	0.99	47.17
6 N300 E15	6.58	7.58	0.83	10.68	5 N250 E5	1.99	2.99	1.17	23.32
6 N300 E15	7.58	8.58	0.94	11.68	5 N250 E5	2.99	3.99	0.93	14.40
6 N300 E15	8.58	9.58	0.70	9.26	5 N250 E5	3.99	4.99	1.19	25.25
6 N300 E15	9.58	10.58	0.50	8.08	5 N250 E5	4.99	5.99	1.06	21.03
6 N300 E15	10.58	12.00	0.34	6.71	5 N250 E5	5.99	6.99	1.10	23.39
6 N100 E15	0.00	1.32	0.77	47.53	5 N250 E5	6.99	7.99	0.97	16.19
6 N100 E15	1.32	2.32	0.80	47.60	5 N250 E5	7.99	8.99	0.95	17.11
6 N100 E15	2.32	3.32	0.89	42.64	5 N250 E5	8.99	9.99	0.83	14.54
6 N100 E15	3.32	4.32	1.51	23.99	5 N250 E5	9.99	10.99	0.59	11.41
6 N100 E15	4.32	5.32	1.59	23.91	6 N150 E45	0.00	0.90	0.99	44.88
6 N100 E15	5.32	6.32	1.19	11.75	6 N150 E45	0.90	1.90	0.96	46.75
6 N100 E15	6.32	7.32	1.38	14.96	6 N150 E45	1.90	2.90	1.12	46.44
6 N100 E15	7.32	8.32	1.40	15.75	6 N150 E45	2.90	3.90	0.97	47.22
6 N100 E15	8.32	9.32	1.29	11.96	6 N150 E45	3.90	4.90	0.90	46.46
6 N100 E15	9.32	10.32	1.08	10.44	6 N150 E45	4.90	5.90	0.85	45.53
6 N100 E15	10.32	11.32	0.62	8.10	6 N150 E45	5.90	6.90	0.94	47.09
6 N100 E15	11.32	12.32	0.57	7.06	6 N150 E45	6.90	7.90	0.98	13.74
6 N350 E10	0.00	1.20	0.68	48.36	6 N150 E45	7.90	8.90	0.40	21.72
6 N350 E10	1.20	2.20	0.74	49.00	6 N150 E45	8.90	9.90	0.34	19.80
6 N350 E10	2.20	3.20	0.74	48.55	6 N150 E45	9.90	10.90	0.33	17.27
6 N350 E10	3.20	4.20	0.88	46.95	6 N150 E45	10.90	11.90	0.37	19.97
6 N350 E10	4.20	5.20	1.10	34.03	6 N150 E45	11.90	13.00	0.32	16.71
6 N350 E10	5.20	6.20	1.44	12.37	6 N200 E35	0.00	1.30	0.85	49.04
6 N350 E10	6.20	7.20	1.54	17.37	6 N200 E35	1.30	2.30	0.90	50.50
6 N350 E10	7.20	8.20	1.43	16.35	6 N200 E35	2.30	3.30	1.00	51.58
6 N350 E10	8.20	9.20	1.45	27.72	6 N200 E35	3.30	4.30	1.10	50.54
6 N350 E10	9.20	10.20	1.41	18.70	6 N200 E35	4.30	5.30	0.99	49.29
6 N350 E10	10.20	11.20	1.37	13.76	6 N200 E35	5.30	6.30	1.02	50.07
6 N350 E10	11.20	12.20	0.81	8.38	6 N200 E35	6.30	7.30	1.00	49.00
6 N350 E10	12.20	13.20	0.56	7.97	6 N200 E35	7.30	8.30	1.79	28.61
6 N250 E15	0.00	1.27	0.81	47.20	6 N200 E35	8.30	9.30	1.52	11.48
6 N250 E15	1.27	2.27	0.76	46.08	6 N200 E35	9.30	10.30	1.38	17.79
6 N250 E15	2.27	3.27	0.94	45.69	6 N200 E35	10.30	11.30	0.78	13.07
6 N250 E15	3.27	4.27	0.96	26.26	6 N200 E35	11.30	12.00	0.41	7.22
6 N250 E15	4.27	5.27	0.82	26.49	5 N500 E30	0.00	0.86	0.74	46.50
6 N250 E15	5.27	6.27	1.37	21.48	5 N500 E30	0.86	1.86	0.86	50.16
6 N250 E15	6.27	7.27	0.85	11.44	5 N500 E30	1.86	2.86	0.90	49.96
6 N250 E15	7.27	8.27	1.09	12.07	5 N500 E30	2.86	3.86	0.86	48.90
6 N250 E15	8.27	9.27	0.64	8.60	5 N500 E30	3.86	4.86	1.10	47.04
6 N250 E15	9.27	10.00	0.40	7.51	5 N500 E30	4.86	5.86	1.11	40.69
6 N50 E35	0.00	1.48	0.74	46.78	5 N500 E30	5.86	6.86	0.80	17.25
6 N50 E35	1.48	2.48	0.89	49.47	5 N500 E30	6.86	7.86	0.63	9.46
6 N50 E35	2.48	3.48	0.91	48.62	5 N500 E30	7.86	8.86	0.92	11.44
6 N50 E35	3.48	4.48	1.21	47.81	5 N500 E30	8.86	9.86	1.32	16.37
6 N50 E35	4.48	5.48	0.99	48.53	5 N500 E30	9.86	10.86	1.01	11.48
6 N50 E35	5.48	6.48	1.77	26.68	5 N500 E30	10.86	11.86	1.18	12.47
6 N50 E35	6.48	7.48	2.15	29.80	5 N500 E30	11.86	12.86	0.76	8.30
6 N50 E35	7.48	8.48	2.17	31.17	5 N500 E30	12.86	13.86	0.60	7.86
6 N50 E35	8.48	9.48	1.81	23.01	5 N500 E30	13.86	14.86	0.54	7.04
6 N50 E35	9.48	10.48	1.77	18.51	5 N500 E30	14.86	15.30	0.45	6.84
6 N50 E35	10.48	11.48	1.79	22.83	6 N50 E40	0.00	1.11	0.88	48.09
6 N50 E35	11.48	13.00	0.71	7.26	6 N50 E40	1.11	2.11	1.15	48.13
6 N300 E20	0.00	0.52	0.76	47.45	6 N50 E40	2.11	3.11	1.09	45.69
6 N300 E20	0.52	1.52	0.73	47.76	6 N50 E40	3.11	4.11	0.97	43.96
6 N300 E20	1.52	2.52	0.75	45.68	6 N50 E40	4.11	5.11	2.32	20.40
6 N300 E20	2.52	3.52	1.11	46.43	6 N50 E40	5.11	6.11	2.36	18.26
6 N300 E20	3.52	4.52	1.42	34.11	6 N50 E40	6.11	7.11	1.97	15.08
6 N300 E20	4.52	5.52	1.62	28.28	6 N50 E40	7.11	8.00	0.77	8.08

6 N50 E40	8.00	9.11	1.44	21.50
6 N50 E40	9.11	10.11	1.72	22.62
6 N50 E40	10.11	11.11	1.71	14.65
6 N50 E40	11.11	12.11	1.52	13.96
6 N50 E40	12.11	13.11	1.39	12.74
6 N50 E40	13.11	14.11	1.57	14.45
6 N50 E40	14.11	15.11	1.82	29.57
6 N50 E40	15.11	16.11	1.53	13.27
6 N50 E40	16.11	17.00	0.52	6.75
6 N350 E25	0.00	1.80	0.71	46.00
6 N350 E25	1.80	2.80	0.85	46.72
6 N350 E25	2.80	3.80	1.19	25.39
6 N350 E25	3.80	4.80	1.13	16.77
6 N350 E25	4.80	5.80	1.16	16.80
6 N350 E25	5.80	6.80	0.94	9.63
6 N350 E25	6.80	7.80	0.65	9.56
6 N350 E25	7.80	8.80	0.36	7.43
6 N350 E45	0.00	1.13	0.76	45.48
6 N350 E45	1.13	2.13	0.93	49.86
6 N350 E45	2.13	3.13	1.04	49.90
6 N350 E45	3.13	4.13	1.51	22.22
6 N350 E45	4.13	5.13	1.46	11.78
6 N350 E45	5.13	6.13	1.66	21.37
6 N350 E45	6.13	7.13	1.15	11.96
6 N350 E45	7.13	8.00	0.78	8.60
6 N250 E40	0.00	1.11	0.46	7.38
6 N250 E40	1.11	2.11	0.82	44.42
6 N250 E40	2.11	3.11	1.36	43.60
6 N250 E40	3.11	4.11	1.68	37.81
6 N250 E40	4.11	5.11	1.46	11.23
6 N250 E40	5.11	6.11	1.50	10.66
6 N250 E40	6.11	7.11	1.53	15.80
6 N250 E40	7.11	8.11	1.74	16.64
6 N250 E40	8.11	9.11	1.15	9.57
6 N250 E40	9.11	10.11	1.19	15.26
6 N250 E40	10.11	11.00	0.83	11.32
5 N250 E30	0.00	1.33	0.58	45.55
5 N250 E30	1.33	2.33	0.87	49.05
5 N250 E30	2.33	3.33	0.91	48.37
5 N250 E30	3.33	4.33	1.00	48.33
5 N250 E30	4.33	5.33	1.04	49.80
5 N250 E30	5.33	6.33	1.07	49.39
5 N250 E30	6.33	7.33	1.04	50.50
5 N250 E30	7.33	8.33	1.02	49.49
5 N250 E30	8.33	9.33	0.90	47.69
5 N250 E30	9.33	10.33	0.94	47.21
5 N250 E30	10.33	11.33	0.99	44.79
5 N250 E30	11.33	12.33	1.09	48.24
5 N250 E30	12.33	13.33	1.25	45.85
5 N250 E30	13.33	14.33	1.07	33.30
5 N250 E30	14.33	15.33	1.39	43.01
5 N250 E30	15.33	16.33	1.49	20.83
5 N250 E30	16.33	17.33	1.56	28.28
5 N250 E30	17.33	18.33	1.24	17.50
5 N250 E30	18.33	19.33	1.08	15.17
5 N250 E30	19.33	20.00	0.70	7.69
6 N350 E5C	0.00	0.61	0.77	47.23
6 N350 E5C	0.61	1.61	1.08	17.98
6 N350 E5C	1.61	2.61	0.92	9.14
6 N350 E5C	2.61	3.61	0.76	7.48
6 N350 E5C	3.61	4.61	0.71	7.31
6 N350 E5C	4.61	5.61	0.36	6.31
6 N350 E5C	5.61	6.61	0.40	6.83
6 N350 E5C	6.61	7.61	0.32	6.17
6 N350 E5C	7.61	9.00	0.29	6.36
5 N400 E25	0.00	0.66	0.60	45.65
5 N400 E25	0.66	1.66	0.74	48.83
5 N400 E25	1.66	2.66	0.78	47.48
5 N400 E25	2.66	3.66	0.95	48.73
5 N400 E25	3.66	4.66	0.93	47.00
5 N400 E25	4.66	5.66	0.98	48.35
5 N400 E25	5.66	6.66	1.04	46.64
5 N400 E25	6.66	7.66	2.13	19.48
5 N400 E25	7.66	8.66	1.96	35.39
5 N400 E25	8.66	9.66	1.70	39.83
5 N400 E25	9.66	10.66	1.87	27.94
5 N400 E25	10.66	11.66	2.34	21.67
5 N400 E25	11.66	12.66	2.20	16.89
5 N400 E25	12.66	13.66	2.21	19.91
5 N400 E25	13.66	14.66	1.75	13.13

5 N400 E25	14.66	15.66	1.63	12.86
5 N400 E25	15.66	17.00	1.03	7.56
D5 N300 EC	0.00	0.66	0.88	45.57
D5 N300 EC	0.66	1.66	1.11	42.14
D5 N300 EC	1.66	2.66	0.88	13.42
D5 N300 EC	2.66	3.66	0.58	8.11
D5 N300 EC	3.66	4.66	1.30	23.96
D5 N300 EC	4.66	5.66	0.69	7.48
D5 N300 EC	5.66	6.66	1.41	16.60
D5 N300 EC	6.66	7.66	1.27	14.81
D5 N300 EC	7.66	8.66	0.62	10.55
D5 N300 EC	8.66	9.66	0.92	14.47
D5 N300 EC	9.66	10.66	0.66	11.27
D5 N300 EC	10.66	11.66	0.96	10.94
D5 N300 EC	11.66	12.66	0.81	11.97
D5 N300 EC	12.66	14.00	0.59	7.48
6 N100 E40	0.00	0.78	0.65	46.28
6 N100 E40	0.78	1.78	0.82	49.37
6 N100 E40	1.78	2.78	0.95	47.96
6 N100 E40	2.78	3.78	1.00	43.91
6 N100 E40	3.78	4.78	1.24	12.33
6 N100 E40	4.78	5.78	1.64	14.37
6 N100 E40	5.78	6.78	1.29	13.96
6 N100 E40	6.78	7.78	1.55	21.22
6 N100 E40	7.78	8.78	1.69	22.87
6 N100 E40	8.78	9.78	1.68	22.50
6 N100 E40	9.78	10.78	1.32	16.63
6 N100 E40	10.78	11.78	1.24	16.77
6 N100 E40	11.78	12.78	0.90	9.78
6 N100 E40	12.78	14.00	0.48	7.03
6 N100 E30	0.00	1.20	0.84	44.69
6 N100 E30	1.20	2.20	0.92	46.99
6 N100 E30	2.20	3.20	0.97	48.84
6 N100 E30	3.20	4.20	1.01	48.62
6 N100 E30	4.20	5.20	1.16	44.58
6 N100 E30	5.20	6.20	1.72	27.40
6 N100 E30	6.20	7.20	1.84	22.07
6 N100 E30	7.20	8.20	1.63	24.48
6 N100 E30	8.20	9.20	1.54	17.51
6 N100 E30	9.20	10.20	1.42	15.17
6 N100 E30	10.20	11.20	0.83	8.84
6 N100 E30	11.20	12.00	0.68	8.24
5 N500 E40	0.00	1.01	0.61	45.67
5 N500 E40	1.01	2.01	0.95	46.89
5 N500 E40	2.01	3.01	1.23	45.82
5 N500 E40	3.01	4.01	1.33	41.08
5 N500 E40	4.01	5.01	1.39	22.23
5 N500 E40	5.01	6.01	1.76	29.64
5 N500 E40	6.01	7.01	1.69	21.65
5 N500 E40	7.01	8.01	1.72	15.09
5 N500 E40	8.01	9.01	1.92	20.04
5 N500 E40	9.01	10.01	1.84	21.83
5 N500 E40	10.01	11.01	1.59	13.12
5 N500 E40	11.01	12.01	0.92	9.51
5 N500 E40	12.01	13.01	0.71	9.16
5 N500 E40	13.01	14.01	0.92	10.35
5 N500 E40	14.01	15.00	0.43	7.11
6 N200 E30	0.00	0.51	0.55	47.54
6 N200 E30	0.51	1.51	0.56	48.94
6 N200 E30	1.51	2.51	0.70	48.05
6 N200 E30	2.51	3.51	0.82	48.72
6 N200 E30	3.51	4.51	0.83	50.53
6 N200 E30	4.51	5.51	1.15	31.40
6 N200 E30	5.51	6.51	1.30	16.28
6 N200 E30	6.51	7.51	1.06	12.95
6 N200 E30	7.51	8.51	1.22	13.89
6 N200 E30	8.51	9.51	0.71	9.11
6 N200 E30	9.51	10.40	0.42	7.14
6 N150 E30	0.00	1.06	0.79	44.57
6 N150 E30	1.06	2.06	0.90	48.32
6 N150 E30	2.06	3.06	1.00	48.96
6 N150 E30	3.06	4.06	1.05	48.76
6 N150 E30	4.06	5.06	0.99	48.50
6 N150 E30	5.06	6.06	1.22	49.87
6 N150 E30	6.06	7.06	1.20	50.24
6 N150 E30	7.06	8.06	1.51	45.70
6 N150 E30	8.06	9.06	1.75	22.03
6 N150 E30	9.06	10.06	1.32	11.85
6 N150 E30	10.06	11.06	1.11	7.75
6 N150 E30	11.06	12.00	0.76	7.08

6 N100 E35	0.00	0.57	0.71	46.02
6 N100 E35	0.57	1.57	0.90	49.88
6 N100 E35	1.57	2.57	1.05	49.76
6 N100 E35	2.57	3.57	1.12	48.87
6 N100 E35	3.57	4.57	1.25	47.22
6 N100 E35	4.57	5.57	1.26	49.02
6 N100 E35	5.57	6.57	1.48	41.54
6 N100 E35	6.57	7.57	1.83	32.50
6 N100 E35	7.57	8.57	1.85	30.81
6 N100 E35	8.57	9.57	1.79	27.53
6 N100 E35	9.57	10.57	1.97	22.60
6 N100 E35	10.57	11.57	1.82	31.41
6 N100 E35	11.57	12.57	1.85	21.15
6 N100 E35	12.57	13.57	1.85	27.77
6 N100 E35	13.57	14.57	1.68	35.90
6 N100 E35	14.57	15.57	1.55	32.26
6 N100 E35	15.57	16.57	1.38	15.12
6 N100 E35	16.57	17.57	1.10	11.93
6 N100 E35	17.57	18.57	0.86	9.87
6 N100 E35	18.57	19.57	0.95	9.61
6 N100 E35	19.57	20.57	1.02	10.86
6 N100 E35	20.57	21.57	0.74	10.15
6 N100 E35	21.57	23.00	0.49	8.74
6 N200 E45	0.00	0.78	0.74	47.90
6 N200 E45	0.78	1.78	0.86	47.38
6 N200 E45	1.78	2.78	0.94	46.71
6 N200 E45	2.78	3.78	1.48	35.13
6 N200 E45	3.78	4.78	1.60	19.98
6 N200 E45	4.78	5.78	1.43	18.65
6 N200 E45	5.78	6.78	0.80	11.72
6 N200 E45	6.78	7.78	0.91	12.02
6 N200 E45	7.78	8.78	0.76	11.11
6 N200 E45	8.78	9.78	0.80	10.18
6 N200 E45	9.78	10.78	0.75	9.71
6 N200 E45	10.78	11.78	0.72	9.41
6 N200 E45	11.78	12.78	0.69	9.73
6 N200 E45	12.78	13.78	0.63	9.45
6 N200 E45	13.78	14.78	0.60	8.42
6 N200 E45	14.78	16.00	0.42	7.26
6 N250 E30	0.00	1.10	0.79	45.58
6 N250 E30	1.10	2.10	0.80	46.71
6 N250 E30	2.10	3.10	0.84	47.80
6 N250 E30	3.10	4.10	0.92	48.76
6 N250 E30	4.10	5.10	0.92	48.05
6 N250 E30	5.10	6.10	1.01	49.65
6 N250 E30	6.10	7.10	0.91	43.41
6 N250 E30	7.10	8.10	1.31	48.95
6 N250 E30	8.10	9.10	1.17	49.00
6 N250 E30	9.10	10.10	1.61	41.56
6 N250 E30	10.10	11.10	1.76	40.06
6 N250 E30	11.10	12.10	1.83	39.51
6 N250 E30	12.10	13.10	1.87	32.97
6 N250 E30	13.10	14.10	2.26	17.03
6 N250 E30	14.10	15.10	1.20	10.69
6 N350 E30	0.00	1.03	0.72	40.63
6 N350 E30	1.03	2.03	0.86	45.47
6 N350 E30	2.03	3.03	1.00	37.39
6 N350 E30	3.03	4.03	0.97	13.47
6 N350 E30	4.03	5.03	1.00	11.39
6 N350 E30	5.03	6.03	0.96	13.20
6 N350 E30	6.03	7.03	0.86	14.61
6 N350 E30	7.03	8.00	0.37	7.85
6 N300 E45	0.00	0.84	0.94	48.63
6 N300 E45	0.84	1.84	1.19	45.87
6 N300 E45	1.84	2.84	1.66	25.02
6 N300 E45	2.84	3.84	1.76	27.53
6 N300 E45	3.84	4.84	1.48	19.53
6 N300 E45	4.84	5.84	1.03	11.98
6 N300 E45	5.84	6.84	1.05	11.83
6 N300 E45	6.84	8.00	0.45	7.25
D5 NO E45C	0.00	1.32	0.64	44.93
D5 NO E45C	1.32	2.32	0.81	45.37
D5 NO E45C	2.32	3.32	0.81	13.75
D5 NO E45C	3.32	4.32	0.53	8.81
D5 NO E45C	4.32	5.32	0.76	8.97
D5 NO E45C	5.32	6.32	1.01	17.50
D5 NO E45C	6.32	7.32	0.79	8.90
D5 NO E45C	7.32	8.32	0.81	11.16
D5 NO E45C	8.32	9.32	0.78	11.20
D5 NO E45C	9.32	10.32	0.73	11.51

D5 NO E45C	10.32	11.32	0.73	12.98
D5 NO E45C	11.32	12.32	0.65	10.20
D5 NO E45C	12.32	13.32	0.40	7.47
D5 NO E45C	13.32	14.00	0.33	6.92
6 N250 E45	0.00	1.15	0.88	46.31
6 N250 E45	1.15	2.15	1.26	41.10
6 N250 E45	2.15	3.15	1.29	15.37
6 N250 E45	3.15	4.15	0.46	7.64
6 N250 E45	4.15	5.15	1.21	18.57
6 N250 E45	5.15	6.15	0.91	9.67
6 N250 E45	6.15	7.15	0.73	9.91
6 N250 E45	7.15	8.15	0.69	10.94
6 N250 E45	8.15	9.15	0.35	7.07
5 N200 E45	0.00	0.80	0.79	46.19
5 N200 E45	0.80	1.80	0.82	46.55
5 N200 E45	1.80	2.80	1.07	44.96
5 N200 E45	2.80	3.80	1.04	23.10
5 N200 E45	3.80	4.80	0.62	10.13
5 N200 E45	4.80	5.80	0.34	7.34
5 N200 E45	5.80	6.80	0.33	7.06
5 N200 E45	6.80	7.80	0.42	10.42
5 N200 E45	7.80	8.80	0.35	7.39
5 N200 E45	8.80	10.00	0.33	6.50
6 N300 E35	0.00	1.50	0.31	7.59
6 N300 E35	1.50	2.50	0.24	5.76
6 N300 E35	2.50	3.50	0.28	6.39
6 N300 E35	3.50	4.50	0.26	5.88
6 N300 E35	4.50	5.50	0.30	6.20
6 N300 E35	5.50	6.50	0.71	20.04
6 N300 E35	6.50	8.00	0.79	46.02
6 N200 E50	0.00	0.73	0.59	44.80
6 N200 E50	0.73	1.73	0.74	48.82
6 N200 E50	1.73	2.73	0.86	49.82
6 N200 E50	2.73	3.73	0.88	48.21
6 N200 E50	3.73	4.73	0.90	48.90
6 N200 E50	4.73	5.73	1.00	48.71
6 N200 E50	5.73	6.73	0.98	48.98
6 N200 E50	6.73	8.00	0.66	18.31
5 N150 E35	0.00	0.81	1.14	43.61
5 N150 E35	0.81	1.81	1.43	28.40
5 N150 E35	1.81	2.81	1.25	15.37
5 N150 E35	2.81	3.81	0.80	10.59
5 N150 E35	3.81	4.81	0.57	9.60
5 N150 E35	4.81	6.00	0.28	6.24
6 N200 E40	0.00	0.92	0.79	44.22
6 N200 E40	0.92	1.92	0.67	45.76
6 N200 E40	1.92	2.92	0.81	46.79
6 N200 E40	2.92	3.92	0.94	45.93
6 N200 E40	3.92	4.92	1.22	36.09
6 N200 E40	4.92	5.92	1.37	15.83
6 N200 E40	5.92	6.92	1.41	19.15
6 N200 E40	6.92	8.00	0.69	7.80
5 N300 E45	0.00	1.19	0.84	45.95
5 N300 E45	1.19	2.19	1.01	45.46
5 N300 E45	2.19	3.19	1.21	43.51
5 N300 E45	3.19	4.19	1.44	17.25
5 N300 E45	4.19	5.19	0.78	7.48
5 N300 E45	5.19	6.19	1.24	20.35
5 N300 E45	6.19	7.19	0.44	6.77
5 N300 E45	7.19	8.00	0.39	7.04
6 N100 E25	0.00	1.22	0.72	48.49
6 N100 E25	1.22	2.22	0.75	47.98
6 N100 E25	2.22	3.22	1.03	21.82
6 N100 E25	3.22	4.22	1.39	38.20
6 N100 E25	4.22	5.22	1.47	41.39
6 N100 E25	5.22	6.22	1.58	36.52
6 N100 E25	6.22	7.22	1.35	15.63
6 N100 E25	7.22	8.22	0.85	11.76
6 N100 E25	8.22	9.00	0.46	7.44
5 N500 E25	0.00	0.88	0.95	47.37
5 N500 E25	0.88	1.88	1.06	48.39
5 N500 E25	1.88	2.88	1.03	49.63
5 N500 E25	2.88	3.88	1.17	50.32
5 N500 E25	3.88	4.88	1.09	49.48
5 N500 E25	4.88	5.88	1.10	49.54
5 N500 E25	5.88	6.88	1.10	48.02
5 N500 E25	6.88	7.88	1.27	47.32
5 N500 E25	7.88	8.88	1.47	48.29
5 N500 E25	8.88	9.88	1.87	38.62
5 N500 E25	9.88	10.88	1.50	43.70



5 N500 E25	10.88	11.88	1.32	46.58	5 N350 E20	5.55	6.55	1.21	21.86
5 N500 E25	11.88	12.88	1.26	26.88	5 N350 E20	6.55	7.55	1.15	11.59
5 N500 E25	12.88	14.00	0.88	11.64	5 N350 E20	7.55	8.55	0.99	9.18
5 N500 E20	0.00	1.01	0.62	47.67	5 N350 E20	8.55	9.55	1.14	23.25
5 N500 E20	1.01	2.01	0.87	48.12	5 N350 E20	9.55	10.55	1.02	14.64
5 N500 E20	2.01	3.01	0.92	49.25	5 N350 E20	10.55	11.55	1.07	12.29
5 N500 E20	3.01	4.01	0.92	50.18	5 N350 E20	11.55	12.55	0.94	12.03
5 N500 E20	4.01	5.01	1.07	37.30	5 N350 E20	12.55	13.55	0.90	14.51
5 N500 E20	5.01	6.01	1.12	9.57	5 N350 E20	13.55	14.00	0.46	8.20
5 N500 E20	6.01	7.01	1.52	18.52	6 N150 E35	0.00	1.20	0.84	47.41
5 N500 E20	7.01	8.01	1.33	13.16	6 N150 E35	1.20	2.20	0.97	49.07
5 N500 E20	8.01	9.01	1.16	16.21	6 N150 E35	2.20	3.20	0.90	47.44
5 N500 E20	9.01	10.01	1.13	15.18	6 N150 E35	3.20	4.20	1.02	47.06
5 N500 E20	10.01	11.01	1.51	26.86	6 N150 E35	4.20	5.20	1.05	48.59
5 N500 E20	11.01	12.01	0.74	8.93	6 N150 E35	5.20	6.20	1.75	31.07
5 N500 E20	12.01	13.01	1.50	19.51	6 N150 E35	6.20	7.20	1.68	32.04
5 N500 E20	13.01	14.01	1.09	11.51	6 N150 E35	7.20	8.20	1.63	31.63
5 N500 E20	14.01	15.01	0.53	7.77	6 N150 E35	8.20	9.20	1.46	16.26
6 N100 E10	0.00	1.12	0.72	48.21	6 N150 E35	9.20	10.20	0.90	10.01
6 N100 E10	1.12	2.12	0.74	42.83	6 N150 E35	10.20	11.20	1.16	10.87
6 N100 E10	2.12	3.12	0.72	17.24	6 N150 E35	11.20	12.20	1.09	10.92
6 N100 E10	3.12	4.12	0.41	7.82	6 N150 E35	12.20	13.20	0.98	11.56
6 N100 E10	4.12	5.12	0.28	6.42	6 N150 E35	13.20	14.20	1.10	13.85
6 N100 E10	5.12	6.12	0.27	6.22	6 N150 E35	14.20	16.00	0.65	9.37
6 N100 E10	6.12	7.12	0.43	9.00	5 N200 E30	0.00	1.34	0.51	45.55
6 N100 E10	7.12	8.12	0.38	8.16	5 N200 E30	1.34	2.34	0.85	48.05
6 N100 E10	8.12	9.12	0.51	10.48	5 N200 E30	2.34	3.34	0.89	46.91
6 N100 E10	9.12	10.12	0.47	9.79	5 N200 E30	3.34	4.34	1.11	44.95
6 N100 E10	10.12	11.12	0.47	9.24	5 N200 E30	4.34	5.34	1.01	47.32
6 N100 E10	11.12	12.12	0.63	13.85	5 N200 E30	5.34	6.34	1.96	19.15
6 N100 E10	12.12	13.12	0.73	16.95	5 N200 E30	6.34	7.34	2.38	12.30
6 N100 E10	13.12	14.12	0.60	12.69	5 N200 E30	7.34	8.34	1.90	13.78
6 N100 E10	14.12	15.12	0.32	6.90	5 N200 E30	8.34	9.34	1.64	11.08
5 N500 E45	0.00	0.79	0.75	45.36	5 N200 E30	9.34	10.34	1.11	6.99
5 N500 E45	0.79	1.79	1.03	47.12	5 N200 E30	10.34	11.34	1.47	9.47
5 N500 E45	1.79	2.79	1.16	40.57	5 N200 E30	11.34	12.34	0.61	7.81
5 N500 E45	2.79	3.79	1.31	33.26	5 N200 E30	12.34	13.34	0.48	7.95
5 N500 E45	3.79	4.79	1.49	38.56	5 N200 E30	13.34	14.34	0.46	7.21
5 N500 E45	4.79	5.79	1.79	30.96	5 N200 E30	14.34	15.00	0.33	6.24
5 N500 E45	5.79	6.79	1.92	19.52	5 N450 E45	0.00	0.56	0.68	44.68
5 N500 E45	6.79	7.79	1.77	15.41	5 N450 E45	0.56	1.56	0.82	43.76
5 N500 E45	7.79	8.79	2.00	19.13	5 N450 E45	1.56	2.56	1.15	31.98
5 N500 E45	8.79	9.79	1.78	13.60	5 N450 E45	2.56	3.56	1.32	13.43
5 N500 E45	9.79	10.79	1.40	11.33	5 N450 E45	3.56	4.56	0.48	6.79
5 N500 E45	10.79	11.79	1.10	10.25	5 N450 E45	4.56	5.56	0.53	6.72
5 N500 E45	11.79	12.79	0.74	8.04	5 N450 E45	5.56	6.56	1.15	15.25
5 N500 E45	12.79	13.79	1.13	10.46	5 N450 E45	6.56	7.56	0.98	16.90
5 N500 E45	13.79	14.79	0.77	8.61	5 N450 E45	7.56	8.56	0.89	11.11
5 N500 E45	14.79	16.00	0.56	8.32	5 N450 E45	8.56	10.00	0.55	7.08
6 N100 E20	0.00	1.00	0.72	44.31	TH3	0.00	0.85	0.76	47.52
6 N100 E20	1.00	2.00	0.95	45.89	TH3	0.85	1.85	0.90	49.38
6 N100 E20	2.00	3.00	0.84	48.07	TH3	1.85	2.85	1.08	48.01
6 N100 E20	3.00	4.00	0.87	46.45	TH3	2.85	3.85	1.01	47.19
6 N100 E20	4.00	5.00	1.13	46.13	TH3	3.85	4.85	1.15	49.26
6 N100 E20	5.00	6.00	1.21	24.85	TH3	4.85	5.85	1.21	47.15
6 N100 E20	6.00	7.00	0.35	7.18	TH3	5.85	6.85	2.14	25.89
6 N100 E20	7.00	8.00	0.29	6.41	TH3	6.85	7.85	1.70	15.12
6 N50 E40	0.00	1.30	0.84	45.29	TH3	7.85	8.85	1.20	8.54
6 N50 E40	1.30	2.30	0.84	45.42	TH3	8.85	9.85	1.88	18.19
6 N50 E40	2.30	3.30	1.03	22.88	TH3	9.85	10.85	0.98	9.92
6 N50 E40	3.30	4.30	0.92	11.80	TH3	10.85	11.85	1.08	11.27
6 N50 E40	4.30	5.30	0.29	6.42	TH3	11.85	12.85	1.00	10.41
6 N50 E40	5.30	6.30	0.29	6.72	TH3	12.85	13.85	0.94	12.11
6 N50 E40	6.30	7.30	0.25	5.90	TH3	13.85	14.85	1.05	13.04
6 N50 E40	7.30	8.30	0.24	5.77	TH3	14.85	15.85	0.78	10.83
D5 NO E35C	0.00	0.89	0.72	47.11	TH3	15.85	16.85	1.05	10.03
D5 NO E35C	0.89	1.89	0.81	48.31	TH3	16.85	17.85	1.07	10.63
D5 NO E35C	1.89	2.89	0.90	46.77	TH3	17.85	18.85	0.73	8.33
D5 NO E35C	2.89	3.89	1.19	40.25	TH3	18.85	19.85	0.36	7.18
D5 NO E35C	3.89	4.89	1.24	35.80	TH3	19.85	20.85	0.34	7.22
D5 NO E35C	4.89	5.89	1.32	21.21	TH3	20.85	22.00	0.34	6.31
D5 NO E35C	5.89	6.89	0.65	10.97	5 N400 E35	0.00	1.39	0.76	44.39
D5 NO E35C	6.89	7.89	0.45	7.72	5 N400 E35	1.39	2.39	0.90	46.38
D5 NO E35C	7.89	8.00	0.38	8.93	5 N400 E35	2.39	3.39	1.04	48.14
5 N350 E20	0.00	0.55	0.50	44.14	5 N400 E35	3.39	4.39	1.09	39.19
5 N350 E20	0.55	1.55	0.47	41.83	5 N400 E35	4.39	5.39	1.11	27.64
5 N350 E20	1.55	2.55	0.38	40.22	5 N400 E35	5.39	6.39	1.13	6.41
5 N350 E20	2.55	3.55	0.60	45.59	5 N400 E35	6.39	7.39	0.52	8.32
5 N350 E20	3.55	4.55	0.60	48.60	5 N400 E35	7.39	8.39	0.78	10.80
5 N350 E20	4.55	5.55	0.74	39.95	5 N400 E35	8.39	9.39	1.17	12.90

5 N400 E35	9.39	10.39	1.20	15.46
5 N400 E35	10.39	11.39	1.04	13.38
5 N400 E35	11.39	12.39	1.21	15.39
5 N400 E35	12.39	13.39	1.21	15.04
5 N400 E35	13.39	14.39	1.30	15.82
5 N400 E35	14.39	15.39	1.17	13.47
5 N400 E35	15.39	16.39	0.93	9.70
5 N400 E35	16.39	17.00	0.57	8.05
6 N200 E20	0.00	0.51	0.48	43.78
6 N200 E20	0.51	1.51	0.60	46.54
6 N200 E20	1.51	2.51	0.79	48.13
6 N200 E20	2.51	3.51	1.07	34.10
6 N200 E20	3.51	4.51	1.21	17.74
6 N200 E20	4.51	5.51	0.58	7.05
6 N200 E20	5.51	6.51	0.78	7.56
6 N200 E20	6.51	7.51	0.96	8.45
6 N200 E20	7.51	8.51	1.09	15.86
6 N200 E20	8.51	9.51	1.24	16.08
6 N200 E20	9.51	10.51	1.12	10.65
6 N200 E20	10.51	11.51	1.13	12.43
6 N200 E20	11.51	12.51	0.63	11.45
6 N200 E20	12.51	14.00	0.34	7.06
5 N300 E4C	0.00	0.80	0.80	45.15
5 N300 E4C	0.80	1.80	0.88	48.21
5 N300 E4C	1.80	2.80	1.30	23.85
5 N300 E4C	2.80	3.80	1.38	27.55
5 N300 E4C	3.80	4.80	1.37	25.21
5 N300 E4C	4.80	5.80	0.90	8.76
5 N300 E4C	5.80	6.80	0.70	8.60
5 N300 E4C	6.80	7.80	0.60	8.37
5 N300 E4C	7.80	8.80	0.54	8.63
5 N300 E4C	8.80	10.00	0.43	8.07
5 N200 E45	0.00	1.22	0.74	47.13
5 N200 E45	1.22	2.22	0.82	44.94
5 N200 E45	2.22	3.22	1.07	20.09
5 N200 E45	3.22	4.22	0.58	10.27
5 N200 E45	4.22	5.22	0.55	8.98
5 N200 E45	5.22	6.22	0.41	7.72
5 N200 E45	6.22	7.22	0.35	6.97
5 N200 E45	7.22	8.00	0.31	6.61
5 N200 E35	0.00	0.80	0.89	45.82
5 N200 E35	0.80	1.80	0.99	40.68
5 N200 E35	1.80	2.80	0.49	9.02
5 N200 E35	2.80	3.80	0.32	6.84
5 N200 E35	3.80	4.80	0.34	6.87
5 N200 E35	4.80	5.80	0.33	6.75
5 N200 E35	5.80	6.80	0.28	6.30
5 N200 E35	6.80	7.80	0.39	9.24
5 N200 E35	7.80	9.00	0.29	6.45
5 N400 E10	0.00	1.34	0.67	42.62
5 N400 E10	1.34	2.34	0.63	44.14
5 N400 E10	2.34	3.34	0.72	42.49
5 N400 E10	3.34	4.34	0.76	44.62
5 N400 E10	4.34	5.34	0.85	44.06
5 N400 E10	5.34	6.34	0.84	45.66
5 N400 E10	6.34	7.34	0.86	40.33
5 N400 E10	7.34	8.34	1.37	17.07
5 N400 E10	8.34	9.34	1.33	15.79
5 N400 E10	9.34	10.34	1.02	12.09
5 N400 E10	10.34	11.34	1.09	20.58
5 N400 E10	11.34	12.34	0.92	15.12
5 N400 E10	12.34	13.34	0.59	9.88
5 N400 E10	13.34	14.34	0.66	10.66
5 N400 E10	14.34	15.34	0.68	13.45
5 N400 E10	15.34	16.34	0.30	9.71
5 N400 E10	16.34	17.34	0.34	8.66
6 N100 E5C	0.00	0.96	0.75	46.87
6 N100 E5C	0.96	1.96	0.93	49.48
6 N100 E5C	1.96	2.96	0.82	50.40
6 N100 E5C	2.96	3.96	0.95	49.76
6 N100 E5C	3.96	4.96	1.01	47.97
6 N100 E5C	4.96	5.96	1.52	30.23
6 N100 E5C	5.96	6.96	1.77	18.58
6 N100 E5C	6.96	7.96	1.88	21.81
6 N100 E5C	7.96	8.96	1.62	23.89
6 N100 E5C	8.96	9.96	1.60	19.89
6 N100 E5C	9.96	10.96	1.73	24.73
6 N100 E5C	10.96	11.96	1.56	21.03
6 N100 E5C	11.96	12.96	1.70	15.02
6 N100 E5C	12.96	13.96	1.69	14.30

6 N100 E5C	13.96	14.96	1.66	11.71
6 N100 E5C	14.96	15.96	1.30	11.00
6 N100 E5C	15.96	17.00	0.66	7.03
5 N400 E45	0.00	0.90	0.77	45.50
5 N400 E45	0.90	1.90	0.92	31.81
5 N400 E45	1.90	2.90	1.13	32.42
5 N400 E45	2.90	3.90	1.49	18.13
5 N400 E45	3.90	4.90	1.11	16.31
5 N400 E45	4.90	5.90	1.38	15.79
5 N400 E45	5.90	6.90	1.30	18.68
5 N400 E45	6.90	7.90	1.28	20.54
5 N400 E45	7.90	8.90	1.02	14.72
5 N400 E45	8.90	9.90	0.74	8.94
5 N400 E45	9.90	10.90	1.10	18.09
5 N400 E45	10.90	11.90	0.94	11.08
5 N400 E45	11.90	12.90	0.46	7.40
5 N400 E45	12.90	14.00	0.35	6.22
5 N300 E40	0.00	1.13	0.66	44.48
5 N300 E40	1.13	2.13	0.70	46.92
5 N300 E40	2.13	3.13	0.66	44.60
5 N300 E40	3.13	4.13	1.05	38.28
5 N300 E40	4.13	5.13	1.19	15.09
5 N300 E40	5.13	6.13	1.58	15.24
5 N300 E40	6.13	7.13	1.32	13.97
5 N300 E40	7.13	8.13	1.13	10.71
5 N300 E40	8.13	9.13	0.99	14.39
5 N300 E40	9.13	10.13	0.86	9.44
5 N300 E40	10.13	11.13	1.24	10.45
5 N300 E40	11.13	12.13	1.66	12.63
5 N300 E40	12.13	13.13	1.68	13.78
5 N300 E40	13.13	14.13	1.30	8.83
5 N300 E40	14.13	15.13	1.30	11.45
5 N300 E40	15.13	16.13	1.09	11.53
5 N300 E40	16.13	17.13	0.93	8.69
5 N300 E40	17.13	18.13	0.49	7.02
5 N300 E40	18.13	19.00	0.75	8.06
6 N350 E4C	0.00	0.67	0.71	41.14
6 N350 E4C	0.67	1.67	0.81	41.13
6 N350 E4C	1.67	2.67	0.85	18.86
6 N350 E4C	2.67	3.67	0.28	6.26
6 N350 E4C	3.67	4.67	0.37	9.00
6 N350 E4C	4.67	5.67	0.25	6.00
6 N350 E4C	5.67	6.67	0.24	5.76
6 N350 E4C	6.67	8.00	0.24	5.70
6 N50 E25C	0.00	1.05	0.78	48.02
6 N50 E25C	1.05	2.05	0.89	45.84
6 N50 E25C	2.05	3.05	0.91	47.11
6 N50 E25C	3.05	4.05	0.93	48.89
6 N50 E25C	4.05	5.05	0.97	46.39
6 N50 E25C	5.05	6.05	0.43	7.04
6 N50 E25C	6.05	7.05	0.97	14.44
6 N50 E25C	7.05	8.05	0.60	6.47
6 N50 E25C	8.05	9.00	0.31	6.29
5 N350 E10	0.00	0.56	0.70	44.63
5 N350 E10	0.56	1.56	0.62	41.28
5 N350 E10	1.56	2.56	0.53	27.00
5 N350 E10	2.56	3.56	0.69	31.19
5 N350 E10	3.56	4.56	0.70	32.43
5 N350 E10	4.56	5.56	0.45	15.92
5 N350 E10	5.56	6.56	0.83	20.47
5 N350 E10	6.56	7.56	0.74	19.81
5 N350 E10	7.56	8.56	0.61	11.49
5 N350 E10	8.56	9.56	0.59	12.32
5 N350 E10	9.56	10.56	1.07	18.39
5 N350 E10	10.56	12.00	0.39	7.46
5 N450 E20	0.00	1.40	0.80	44.92
5 N450 E20	1.40	2.40	0.95	35.44
5 N450 E20	2.40	3.40	1.69	30.74
5 N450 E20	3.40	4.40	1.80	20.97
5 N450 E20	4.40	5.40	1.69	30.20
5 N450 E20	5.40	6.40	1.72	26.61
5 N450 E20	6.40	7.40	1.61	12.47
5 N450 E20	7.40	8.40	1.42	16.33
5 N450 E20	8.40	9.40	1.52	21.20
5 N450 E20	9.40	10.40	0.90	8.45
5 N450 E20	10.40	11.40	1.16	11.91
5 N450 E20	11.40	12.00	0.50	6.72
6 N50 E15C	0.00	1.27	0.84	45.55
6 N50 E15C	1.27	2.27	0.89	46.01
6 N50 E15C	2.27	3.27	1.06	21.57

:6 N50 E15C	3.27	4.27	0.68	10.18
:6 N50 E15C	4.27	5.27	0.72	9.22
:6 N50 E15C	5.27	6.27	0.65	9.48
:6 N50 E15C	6.27	7.27	0.27	5.84
:6 N50 E15C	7.27	8.27	0.51	7.95
:6 N50 E15C	8.27	9.00	0.31	6.59
5 N300 E25	0.00	1.31	0.80	47.16
5 N300 E25	1.31	2.31	0.89	45.14
5 N300 E25	2.31	3.31	1.08	46.37
5 N300 E25	3.31	4.31	1.33	37.24
5 N300 E25	4.31	5.31	1.47	27.24
5 N300 E25	5.31	6.31	1.57	30.05
5 N300 E25	6.31	7.31	1.46	21.67
5 N300 E25	7.31	8.31	1.53	29.81
5 N300 E25	8.31	9.31	1.70	27.90
5 N300 E25	9.31	10.31	1.64	20.05
5 N300 E25	10.31	11.31	1.30	9.72
5 N300 E25	11.31	12.00	0.64	6.88
5 N250 E35	0.00	1.29	0.63	47.41
5 N250 E35	1.29	2.29	0.64	47.62
5 N250 E35	2.29	3.29	0.87	47.73
5 N250 E35	3.29	4.29	1.15	21.85
5 N250 E35	4.29	5.29	1.10	21.49
5 N250 E35	5.29	6.29	1.07	15.09
5 N250 E35	6.29	7.29	1.09	13.17
5 N250 E35	7.29	8.29	0.82	9.82
5 N250 E35	8.29	9.29	0.85	10.49
5 N250 E35	9.29	10.29	0.82	9.71
5 N250 E35	10.29	11.29	0.60	7.91
5 N250 E35	11.29	12.00	0.45	6.25
:6 N300 E5C	0.00	1.44	0.75	43.51
:6 N300 E5C	1.44	2.44	0.70	47.36
:6 N300 E5C	2.44	3.44	0.77	47.63
:6 N300 E5C	3.44	4.44	0.96	46.62
:6 N300 E5C	4.44	5.44	1.31	16.65
:6 N300 E5C	5.44	6.44	0.90	11.74
:6 N300 E5C	6.44	7.00	0.40	8.33
6 N100 E4C	0.00	1.27	0.80	47.10
6 N100 E4C	1.27	2.27	0.95	46.04
6 N100 E4C	2.27	3.27	1.10	45.22
6 N100 E4C	3.27	4.27	1.46	30.31
6 N100 E4C	4.27	5.27	1.26	12.99
6 N100 E4C	5.27	6.27	1.29	10.25
6 N100 E4C	6.27	7.27	0.72	8.06
6 N100 E4C	7.27	8.00	0.67	7.74
5 N250 E45	0.00	0.58	0.67	46.69
5 N250 E45	0.58	1.58	0.85	32.45
5 N250 E45	1.58	2.58	0.44	6.99
5 N250 E45	2.58	3.58	0.68	8.66
5 N250 E45	3.58	4.58	0.86	9.07
5 N250 E45	4.58	5.58	0.67	8.64
5 N250 E45	5.58	6.58	0.71	8.27
5 N250 E45	6.58	7.58	0.61	7.64
5 N250 E45	7.58	9.00	0.47	6.74
:5 N200 E5C	0.00	0.96	0.80	23.55
:5 N200 E5C	0.96	1.96	0.32	7.07
:5 N200 E5C	1.96	2.96	0.27	6.10
:5 N200 E5C	2.96	3.96	0.36	8.04
:5 N200 E5C	3.96	4.96	0.26	6.07
:5 N200 E5C	4.96	5.96	0.26	5.97
:5 N200 E5C	5.96	6.96	0.27	5.98
:5 N200 E5C	6.96	8.00	0.25	5.73
6 N250 E4C	0.00	1.46	0.70	45.85
6 N250 E4C	1.46	2.46	0.85	45.45
6 N250 E4C	2.46	3.46	1.30	24.08
6 N250 E4C	3.46	4.46	0.40	6.76
6 N250 E4C	4.46	5.46	0.30	6.62
6 N250 E4C	5.46	6.46	0.37	7.73
6 N250 E4C	6.46	7.46	0.33	7.11
6 N250 E4C	7.46	8.00	0.30	6.78
6 N300 E25	0.00	0.80	0.64	44.98
6 N300 E25	0.80	1.80	0.78	48.89
6 N300 E25	1.80	2.80	0.77	49.08
6 N300 E25	2.80	3.80	0.87	48.31
6 N300 E25	3.80	4.80	0.97	46.39
6 N300 E25	4.80	5.80	1.28	38.00
6 N300 E25	5.80	6.80	1.03	17.18
6 N300 E25	6.80	7.80	1.49	13.61
6 N300 E25	7.80	9.00	0.94	7.80
5 N500 E5C	0.00	1.45	0.73	44.31

5 N500 E5C	1.45	2.45	0.84	47.51
5 N500 E5C	2.45	3.45	1.07	47.79
5 N500 E5C	3.45	4.45	0.83	48.97
5 N500 E5C	4.45	5.45	1.00	48.03
5 N500 E5C	5.45	6.45	1.24	46.17
5 N500 E5C	6.45	7.45	1.28	39.96
5 N500 E5C	7.45	8.45	1.53	19.17
5 N500 E5C	8.45	9.00	0.56	8.39
:6 N100 E5C	0.00	1.34	0.57	45.83
:6 N100 E5C	1.34	2.34	0.63	46.85
:6 N100 E5C	2.34	3.34	1.25	22.56
:6 N100 E5C	3.34	4.34	0.70	45.89
:6 N100 E5C	4.34	5.34	0.52	9.99
:6 N100 E5C	5.34	6.34	0.31	6.53
:6 N100 E5C	6.34	7.34	0.33	6.71
:6 N100 E5C	7.34	8.34	0.28	6.31
:6 N100 E5C	8.34	9.00	0.27	6.16
6 N100 E45	0.00	1.48	0.98	29.37
6 N100 E45	1.48	2.48	1.22	18.72
6 N100 E45	2.48	3.48	1.31	16.72
6 N100 E45	3.48	4.48	0.97	15.34
6 N100 E45	4.48	5.48	0.84	9.84
6 N100 E45	5.48	6.48	0.73	9.82
6 N100 E45	6.48	7.48	0.78	11.04
6 N100 E45	7.48	8.00	0.50	7.58
6 N100 E45	8.00	8.48	0.97	9.30
6 N100 E45	8.48	9.48	1.71	23.48
6 N100 E45	9.48	10.48	1.61	22.44
6 N100 E45	10.48	11.48	1.44	18.29
6 N100 E45	11.48	12.48	0.95	12.31
6 N100 E45	12.48	13.00	0.50	7.98
6 N300 E45	0.00	0.75	1.11	40.69
6 N300 E45	0.75	1.75	0.75	12.44
6 N300 E45	1.75	2.75	1.45	17.23
6 N300 E45	2.75	3.75	1.53	12.78
6 N300 E45	3.75	4.75	1.45	15.77
6 N300 E45	4.75	5.75	1.18	10.71
6 N300 E45	5.75	6.75	1.02	10.03
6 N300 E45	6.75	7.75	0.99	9.53
6 N300 E45	7.75	9.00	0.58	7.30
5 N450 E25	0.00	0.85	0.80	44.89
5 N450 E25	0.85	1.85	0.61	41.94
5 N450 E25	1.85	2.85	0.98	47.79
5 N450 E25	2.85	3.85	0.99	48.70
5 N450 E25	3.85	4.85	1.59	36.25
5 N450 E25	4.85	5.85	1.89	18.89
5 N450 E25	5.85	6.85	1.71	22.16
5 N450 E25	6.85	7.85	1.78	20.89
5 N450 E25	7.85	8.85	1.72	19.70
5 N450 E25	8.85	9.85	1.71	11.80
5 N450 E25	9.85	10.85	1.74	14.33
5 N450 E25	10.85	11.85	1.35	12.29
5 N450 E25	11.85	13.00	1.18	9.62
5 N250 E5C	0.00	0.71	0.87	46.19
5 N250 E5C	0.71	1.71	0.94	32.58
5 N250 E5C	1.71	2.71	0.54	7.94
5 N250 E5C	2.71	3.71	0.39	7.26
5 N250 E5C	3.71	4.71	0.38	7.65
5 N250 E5C	4.71	5.71	0.57	11.93
5 N250 E5C	5.71	6.71	0.66	13.19
5 N250 E5C	6.71	7.71	0.60	11.28
5 N250 E5C	7.71	8.71	0.58	11.76
5 N250 E5C	8.71	9.71	0.35	8.00
5 N250 E5C	9.71	10.90	0.39	8.69
6 N200 E15	0.00	1.37	0.65	46.11
6 N200 E15	1.37	2.37	0.83	47.12
6 N200 E15	2.37	3.37	0.95	46.12
6 N200 E15	3.37	4.37	1.06	43.87
6 N200 E15	4.37	5.37	1.47	37.02
6 N200 E15	5.37	6.37	1.77	17.62
6 N200 E15	6.37	7.37	1.36	15.73
6 N200 E15	7.37	8.37	1.33	16.95
6 N200 E15	8.37	9.37	1.03	11.97
6 N200 E15	9.37	10.37	1.04	12.96
6 N200 E15	10.37	12.00	0.65	8.51
6 N150 E45	0.00	0.88	0.69	45.75
6 N150 E45	0.88	1.88	1.06	48.27
6 N150 E45	1.88	2.88	1.09	48.06
6 N150 E45	2.88	3.88	1.02	44.43
6 N150 E45	3.88	4.88	0.97	47.14

6 N150 E45	4.88	5.88	0.86	47.78	5 N350 E50	2.50	3.50	0.93	9.42
6 N150 E45	5.88	6.88	1.00	49.58	5 N350 E50	3.50	4.50	1.16	9.24
6 N150 E45	6.88	7.88	1.07	47.76	5 N350 E50	4.50	5.50	0.81	8.98
6 N150 E45	7.88	8.88	1.07	47.86	5 N350 E50	5.50	6.50	0.52	9.14
6 N150 E45	8.88	9.88	1.17	47.71	5 N350 E50	6.50	7.50	0.42	8.57
6 N150 E45	9.88	11.00	0.60	13.14	5 N350 E50	7.50	8.50	0.33	7.30
5 N250 E45	0.00	0.68	0.75	47.89	5 N350 E50	8.50	9.00	0.33	7.12
5 N250 E45	0.68	1.68	0.80	48.05	5 N350 E45	0.00	0.56	0.82	46.46
5 N250 E45	1.68	2.68	0.89	45.27	5 N350 E45	0.56	1.56	0.86	47.94
5 N250 E45	2.68	3.68	1.31	39.81	5 N350 E45	1.56	2.56	0.89	47.07
5 N250 E45	3.68	4.68	1.53	20.50	5 N350 E45	2.56	3.56	1.17	29.82
5 N250 E45	4.68	5.68	1.46	14.12	5 N350 E45	3.56	4.56	1.01	10.87
5 N250 E45	5.68	6.68	1.05	7.82	5 N350 E45	4.56	5.56	0.66	8.05
5 N250 E45	6.68	7.68	1.02	9.78	5 N350 E45	5.56	6.56	0.59	8.05
5 N250 E45	7.68	8.68	1.08	10.75	5 N350 E45	6.56	7.56	0.32	12.57
5 N250 E45	8.68	9.68	0.74	8.30	5 N350 E45	7.56	8.56	0.30	12.36
5 N250 E45	9.68	11.00	0.31	6.45	5 N350 E45	8.56	9.56	0.31	11.14
5 N400 E40	0.00	1.08	0.77	46.26	5 N300 E15	0.00	1.04	0.83	47.69
5 N400 E40	1.08	2.08	0.81	47.73	5 N300 E15	1.04	2.04	0.98	47.98
5 N400 E40	2.08	3.08	0.83	46.74	5 N300 E15	2.04	3.04	1.18	47.12
5 N400 E40	3.08	4.08	1.10	45.88	5 N300 E15	3.04	4.04	1.71	25.95
5 N400 E40	4.08	5.08	1.31	38.82	5 N300 E15	4.04	5.04	1.33	17.66
5 N400 E40	5.08	6.08	1.53	21.97	5 N300 E15	5.04	6.04	0.84	9.19
5 N400 E40	6.08	7.08	1.47	37.34	5 N300 E15	6.04	7.04	0.45	7.46
5 N400 E40	7.08	8.08	0.84	9.46	5 N300 E15	7.04	8.04	0.79	9.90
5 N400 E40	8.08	9.00	0.26	5.95	5 N300 E15	8.04	9.00	0.31	6.29
5 N100 E45	0.00	1.41	0.78	48.12	6 N200 E10	0.00	1.40	0.71	46.74
5 N100 E45	1.41	2.41	1.14	38.31	6 N200 E10	1.40	2.40	0.74	47.71
5 N100 E45	2.41	3.41	1.03	19.85	6 N200 E10	2.40	3.40	0.81	49.25
5 N100 E45	3.41	4.41	0.37	7.12	6 N200 E10	3.40	4.40	0.92	44.09
5 N100 E45	4.41	5.41	0.39	6.93	6 N200 E10	4.40	5.40	1.38	35.60
6 N250 E10	0.00	0.99	0.64	46.96	6 N200 E10	5.40	6.40	1.48	14.36
6 N250 E10	0.99	1.99	0.57	48.84	6 N200 E10	6.40	7.40	1.22	10.07
6 N250 E10	1.99	2.99	0.97	24.43	6 N200 E10	7.40	8.00	0.70	8.31
6 N250 E10	2.99	3.99	0.50	8.98	6 N200 E10	8.00	8.00	0.70	8.31
6 N250 E10	3.99	4.99	0.45	8.48	6 N200 E10	9.00	9.00	0.70	8.31
6 N250 E10	4.99	5.99	0.39	7.36	6 N200 E10	10.00	10.00	0.70	8.31
6 N250 E10	5.99	6.99	0.35	7.26	6 N200 E10	11.00	11.00	0.70	8.31
6 N250 E10	6.99	7.99	0.31	6.81	6 N200 E10	12.00	12.00	0.70	8.31
6 N250 E10	7.99	8.99	0.34	6.80	6 N200 E10	13.00	13.00	0.70	8.31
6 N250 E10	8.99	10.00	0.32	6.45	6 N200 E10	14.00	14.00	0.70	8.31
5 N300 E35	0.00	0.86	0.75	45.29	6 N200 E10	15.00	15.00	0.70	8.31
5 N300 E35	0.86	1.86	0.89	47.46	6 N200 E10	16.00	16.00	0.70	8.31
5 N300 E35	1.86	2.86	1.07	32.26	6 N200 E10	17.00	17.00	0.70	8.31
5 N300 E35	2.86	3.86	1.35	31.65	6 N200 E10	18.00	18.00	0.70	8.31
5 N300 E35	3.86	4.86	1.37	21.20	6 N200 E10	19.00	19.00	0.70	8.31
5 N300 E35	4.86	5.86	1.67	16.52	6 N200 E10	20.00	20.00	0.70	8.31
5 N300 E35	5.86	6.86	1.78	20.80	6 N200 E10	21.00	21.00	0.70	8.31
5 N300 E35	6.86	7.86	1.73	16.02	6 N200 E10	22.00	22.00	0.70	8.31
5 N300 E35	7.86	8.86	1.20	10.20	6 N200 E10	23.00	23.00	0.70	8.31
5 N300 E35	8.86	9.86	1.01	10.97	6 N200 E10	24.00	24.00	0.70	8.31
5 N300 E35	9.86	10.86	0.71	8.47	6 N200 E10	25.00	25.00	0.70	8.31
5 N300 E35	10.86	11.86	0.40	7.21	6 N200 E10	26.00	26.00	0.70	8.31
5 N300 E35	11.86	13.00	0.43	6.71	6 N200 E10	27.00	27.00	0.70	8.31
5 N450 E15	0.00	0.55	0.94	44.44	6 N200 E10	28.00	28.00	0.70	8.31
5 N450 E15	0.55	1.55	1.09	15.87	6 N200 E10	29.00	29.00	0.70	8.31
5 N450 E15	1.55	2.55	1.10	13.60	6 N200 E10	30.00	30.00	0.70	8.31
5 N450 E15	2.55	3.55	1.06	12.68	6 N200 E10	31.00	31.00	0.70	8.31
5 N450 E15	3.55	4.55	1.08	10.65	6 N200 E10	32.00	32.00	0.70	8.31
5 N450 E15	4.55	5.55	0.56	7.62	6 N200 E10	33.00	33.00	0.70	8.31
5 N450 E15	5.55	6.55	0.48	8.47	6 N200 E10	34.00	34.00	0.70	8.31
5 N450 E15	6.55	7.55	0.40	8.32	6 N200 E10	35.00	35.00	0.70	8.31
5 N450 E15	7.55	9.00	0.33	6.79	6 N200 E10	36.00	36.00	0.70	8.31
5 N350 E25	0.00	0.05	1.00	43.83	6 N200 E10	37.00	37.00	0.70	8.31
5 N350 E25	0.05	1.05	0.75	41.86	6 N200 E10	38.00	38.00	0.70	8.31
5 N350 E25	1.05	2.05	0.84	46.95	6 N200 E10	39.00	39.00	0.70	8.31
5 N350 E25	2.05	3.05	1.06	39.68	6 N200 E10	40.00	40.00	0.70	8.31
5 N350 E25	3.05	4.05	0.97	49.11	6 N200 E10	41.00	41.00	0.70	8.31
5 N350 E25	4.05	5.05	0.95	46.16	6 N200 E10	42.00	42.00	0.70	8.31
5 N350 E25	5.05	6.05	0.98	48.52	6 N200 E10	43.00	43.00	0.70	8.31
5 N350 E25	6.05	7.05	0.83	46.36	6 N200 E10	44.00	44.00	0.70	8.31
5 N350 E25	7.05	8.05	0.91	44.11	6 N200 E10	45.00	45.00	0.70	8.31
5 N350 E25	8.05	9.05	0.96	48.93	6 N200 E10	46.00	46.00	0.70	8.31
5 N350 E25	9.05	10.05	1.42	30.29	6 N200 E10	47.00	47.00	0.70	8.31
5 N350 E25	10.05	11.05	0.86	12.12	6 N200 E10	48.00	48.00	0.70	8.31
5 N350 E25	11.05	12.05	0.59	7.70	6 N200 E10	49.00	49.00	0.70	8.31
5 N350 E25	12.05	14.00	0.61	7.79	6 N200 E10	50.00	50.00	0.70	8.31
5 N350 E50	0.00	0.50	0.88	46.60	6 N200 E10	51.00	51.00	0.70	8.31
5 N350 E50	0.50	1.50	1.08	43.34	6 N200 E10	52.00	52.00	0.70	8.31
5 N350 E50	1.50	2.50	1.33	19.04	6 N200 E10	53.00	53.00	0.70	8.31
					6 N200 E10	54.00	54.00	0.70	8.31
					6 N200 E10	55.00	55.00	0.70	8.31
					6 N200 E10	56.00	56.00	0.70	8.31
					6 N200 E10	57.00	57.00	0.70	8.31
					6 N200 E10	58.00	58.00	0.70	8.31
					6 N200 E10	59.00	59.00	0.70	8.31
					6 N200 E10	60.00	60.00	0.70	8.31
					6 N200 E10	61.00	61.00	0.70	8.31
					6 N200 E10	62.00	62.00	0.70	8.31
					6 N200 E10	63.00	63.00	0.70	8.31
					6 N200 E10	64.00	64.00	0.70	8.31
					6 N200 E10	65.00	65.00	0.70	8.31
					6 N200 E10	66.00	66.00	0.70	8.31
					6 N200 E10	67.00	67.00	0.70	8.31
					6 N200 E10	68.00	68.00	0.70	8.31
					6 N200 E10	69.00	69.00	0.70	8.31
					6 N200 E10	70.00	70.00	0.70	8.31
					6 N200 E10	71.00	71.00	0.70	8.31
					6 N200 E10	72.00	72.00	0.70	8.31
					6 N200 E10	73.00	73.00	0.70	8.31
					6 N200 E10	74.00	74.00	0.70	8.31
					6 N200 E10	75.00	75.00	0.70	8.31
					6 N200 E10	76.00	76.00	0.70	8.31
					6 N200 E10	77.00	77.00	0.70	8.31
					6 N200 E10	78.00	78.00	0.70	8.31
					6 N200 E10	79.00	79.00	0.70	8.31
					6 N200 E10	80.00	80.00	0.70	8.31
					6 N200 E10	81.00	81.00	0.70	8.31
					6 N200 E10	82.00	82.00	0.70	8.31
					6 N200 E10	83.00	83.00	0.70	8.31
					6 N200 E10	84.00	84.00	0.70	8.31
					6 N200 E10	85.00	85.00	0.70	8.31
					6 N200 E10	86.00	86.00	0.70	8.31
					6 N200 E10	87.00	87.00	0.70	8.31
					6 N200 E10	88.00	88.00	0.70	8.31
					6 N200 E10	89.00	89.00	0.70	8.31
					6 N200 E10	90.00	90.00	0.70	8.31
					6 N200 E10	91.00	91.00	0.70	8.31
					6 N200 E10	92.00	92.00	0.70	8.31
					6 N200 E10	93.00	93.00	0.70	8.31
					6 N200 E10	94.00	94.00	0.70	8.31
					6 N200 E10	95.00	95.00	0.70	8.31
					6 N200 E10	96.00	96.00	0.70	8.31
					6 N200 E10	97.00	97.00	0.70	8.31
					6 N200 E10	98.00	98.00	0.70	8.31
					6 N200 E10	99.00	99.00	0.70	8.31
					6 N200 E10	100.00	100.00	0.70	8.31



MBIF 78	0.00	0.55	0.86	43.87
MBIF 78	0.55	1.55	0.96	43.88
MBIF 78	1.55	2.55	1.53	34.59
MBIF 78	2.55	3.55	1.47	19.45
MBIF 78	3.55	4.55	1.69	22.79
MBIF 78	4.55	5.55	1.31	11.39
MBIF 78	5.55	6.55	1.75	12.25
MBIF 78	6.55	7.55	1.25	12.11
MBIF 78	7.55	8.55	1.36	13.22
MBIF 78	8.55	9.55	1.50	16.53
MBIF 78	9.55	10.55	1.29	13.22
MBIF 78	10.55	11.55	1.44	13.29
MBIF 78	11.55	12.55	1.48	18.37
MBIF 78	12.55	13.55	0.76	10.45
MBIF 78	13.55	14.55	0.65	11.14
MBIF 78	14.55	15.55	0.67	10.19
MBIF 78	15.55	17.00	0.56	8.04
MBIF 82	0.00	1.05	0.79	47.56
MBIF 82	1.05	2.05	0.76	48.22
MBIF 82	2.05	3.05	0.98	47.32
MBIF 82	3.05	4.05	0.99	43.89
MBIF 82	4.05	5.05	0.69	12.22
MBIF 82	5.05	6.05	1.08	27.26
MBIF 82	6.05	7.05	1.50	13.55
MBIF 82	7.05	8.05	1.60	11.55
MBIF 82	8.05	9.05	1.37	12.01
MBIF 82	9.05	10.05	1.25	11.48
MBIF 82	10.05	11.05	1.72	15.92
MBIF 82	11.05	12.05	1.34	12.62
MBIF 82	12.05	13.05	1.25	9.71
MBIF 82	13.05	14.05	1.32	14.97
MBIF 82	14.05	15.05	1.38	13.69
MBIF 82	15.05	16.05	1.04	9.21
MBIF 82	16.05	17.00	0.79	7.11
MBIF 107	0.00	0.95	1.04	40.26
MBIF 107	0.95	1.95	1.19	39.95
MBIF 107	1.95	2.95	1.68	13.80
MBIF 107	2.95	3.95	1.14	8.75
MBIF 107	3.95	4.95	1.34	10.44
MBIF 107	4.95	5.95	1.60	19.39
MBIF 107	5.95	6.95	1.11	8.35
MBIF 107	6.95	8.00	0.94	7.18
MBIF 76	0.00	1.19	0.80	49.43
MBIF 76	1.19	2.19	0.79	47.26
MBIF 76	2.19	3.19	1.24	41.86
MBIF 76	3.19	4.19	1.36	32.09
MBIF 76	4.19	5.19	1.27	13.70
MBIF 76	5.19	6.19	1.27	12.30
MBIF 76	6.19	7.19	1.05	9.22
MBIF 76	7.19	8.00	0.63	7.27
MBIF 17	0.00	0.66	0.77	47.40
MBIF 17	0.66	1.66	0.87	46.47
MBIF 17	1.66	2.66	0.84	49.85
MBIF 17	2.66	3.66	1.07	43.30
MBIF 17	3.66	4.66	1.71	18.34
MBIF 17	4.66	5.66	1.71	14.32
MBIF 17	5.66	6.66	1.53	10.20
MBIF 17	6.66	8.00	0.72	7.76
MBIF 65	0.00	0.92	1.01	30.44
MBIF 65	0.92	1.92	1.38	12.70
MBIF 65	1.92	2.92	1.40	15.54
MBIF 65	2.92	3.92	1.15	14.12
MBIF 65	3.92	4.92	1.33	11.70
MBIF 65	4.92	5.92	1.34	11.97
MBIF 65	5.92	6.92	0.95	9.46
MBIF 65	6.92	7.92	0.77	7.75
MBIF 65	7.92	8.50	0.44	6.88
MBIF 110	0.00	1.00	1.03	35.13
MBIF 110	1.00	2.00	1.38	38.14
MBIF 110	2.00	3.00	1.60	18.59
MBIF 110	3.00	4.00	1.98	11.53
MBIF 110	4.00	5.00	1.80	13.78
MBIF 110	5.00	6.00	1.44	9.92
MBIF 110	6.00	7.00	1.82	24.76
MBIF 110	7.00	8.00	1.91	25.09
MBIF 110	8.00	9.00	1.55	8.64
MBIF 110	9.00	10.00	1.27	9.40
MBIF 110	10.00	11.00	1.11	12.32
MBIF 110	11.00	12.00	0.86	7.26
MBIF 39	0.00	0.58	0.96	45.72

MBIF 39	0.58	1.58	1.06	48.34
MBIF 39	1.58	2.58	1.10	44.56
MBIF 39	2.58	3.58	1.42	25.67
MBIF 39	3.58	4.58	1.39	14.79
MBIF 39	4.58	5.58	1.66	17.35
MBIF 39	5.58	6.58	0.94	8.82
MBIF 39	6.58	8.00	0.65	7.53
MBIF 68	0.00	0.65	0.69	48.18
MBIF 68	0.65	1.65	0.86	50.13
MBIF 68	1.65	2.65	0.86	43.82
MBIF 68	2.65	3.65	0.92	50.47
MBIF 68	3.65	4.65	0.91	39.94
MBIF 68	4.65	5.65	1.67	27.60
MBIF 68	5.65	6.65	1.32	48.30
MBIF 68	6.65	7.65	1.60	42.08
MBIF 68	7.65	8.65	2.00	21.16
MBIF 68	8.65	9.65	1.83	17.79
MBIF 68	9.65	10.65	1.60	14.01
MBIF 68	10.65	11.65	1.15	10.08
MBIF 68	11.65	12.65	0.83	8.79
MBIF 68	12.65	13.65	1.24	10.66
MBIF 68	13.65	14.65	0.62	7.34
MBIF 68	14.65	15.30	0.41	6.82
MBIF 12	0.00	1.09	0.76	46.14
MBIF 12	1.09	2.09	0.92	48.46
MBIF 12	2.09	3.09	0.98	47.14
MBIF 12	3.09	4.09	0.99	49.45
MBIF 12	4.09	5.09	0.94	49.49
MBIF 12	5.09	6.09	1.02	49.79
MBIF 12	6.09	7.09	1.00	45.56
MBIF 12	7.09	8.09	1.21	45.61
MBIF 12	8.09	9.09	1.39	33.23
MBIF 12	9.09	10.09	1.58	22.99
MBIF 12	10.09	11.09	1.69	33.34
MBIF 12	11.09	12.09	1.62	40.85
MBIF 12	12.09	13.09	1.97	25.44
MBIF 12	13.09	14.09	1.76	11.75
MBIF 12	14.09	15.09	1.98	19.73
MBIF 12	15.09	16.09	1.54	10.75
MBIF 12	16.09	17.00	1.37	14.99
MBIF 75	0.00	1.04	0.84	45.76
MBIF 75	1.04	2.04	0.38	8.30
MBIF 75	2.04	3.00	0.35	8.70
MBIF 89	0.00	1.16	0.69	44.90
MBIF 89	1.16	2.16	0.73	46.55
MBIF 89	2.16	3.16	0.94	41.40
MBIF 89	3.16	4.16	1.18	45.51
MBIF 89	4.16	5.16	1.25	39.52
MBIF 89	5.16	6.16	0.63	9.64
MBIF 89	6.16	7.16	1.58	32.19
MBIF 89	7.16	8.16	1.62	25.10
MBIF 89	8.16	9.16	1.12	14.17
MBIF 89	9.16	10.16	1.01	10.77
MBIF 89	10.16	11.16	1.03	8.57
MBIF 89	11.16	12.00	0.69	7.42
MBIF 36	0.00	0.80	1.08	35.66
MBIF 36	0.80	1.80	1.37	21.26
MBIF 36	1.80	2.80	0.71	10.56
MBIF 36	2.80	3.80	0.54	9.16
MBIF 36	3.80	4.80	1.19	12.80
MBIF 36	4.80	5.80	1.02	12.36
MBIF 36	5.80	6.80	1.76	17.22
MBIF 36	6.80	7.80	1.64	14.63
MBIF 36	7.80	8.80	1.46	16.21
MBIF 36	8.80	9.80	1.63	14.27
MBIF 36	9.80	10.80	1.61	18.56
MBIF 36	10.80	11.80	1.50	12.59
MBIF 36	11.80	12.80	1.45	12.62
MBIF 36	12.80	13.80	1.79	11.54
MBIF 36	13.80	14.80	1.21	11.73
MBIF 36	14.80	15.80	1.24	9.67
MBIF 36	15.80	16.80	1.18	9.41
MBIF 36	16.80	18.00	0.62	7.44
MBIF 88	0.00	0.71	0.81	36.03
MBIF 88	0.71	1.71	0.93	17.13
MBIF 88	1.71	2.71	1.12	17.20
MBIF 88	2.71	3.71	1.36	9.05
MBIF 88	3.71	4.80	0.49	7.16
MBIF 16	0.00	1.26	0.95	40.98
MBIF 16	1.26	2.26	1.46	30.31

MBIF 16	2.26	3.26	1.52	18.85	MB 63	5.47	6.47	1.19	11.81
MBIF 16	3.26	4.26	1.60	26.11	MB 63	6.47	7.47	0.44	7.47
MBIF 16	4.26	5.26	1.50	17.08	MB 63	7.47	8.40	0.46	8.41
MBIF 16	5.26	6.26	1.15	11.43	MBIF 28	0.00	0.76	0.73	41.89
MBIF 16	6.26	7.26	0.66	8.95	MBIF 28	0.76	1.76	0.84	44.85
MBIF 16	7.26	8.26	0.70	8.97	MBIF 28	1.76	2.76	1.01	28.18
MBIF 16	8.26	9.26	0.66	10.14	MBIF 28	2.76	3.76	0.39	8.55
MBIF 16	9.26	10.26	0.43	9.10	MBIF 28	3.76	4.76	0.41	8.76
MBIF 16	10.26	11.26	0.42	8.78	MBIF 28	4.76	5.40	0.36	8.22
MBIF 16	11.26	12.26	0.34	7.91	MB 44	0.00	1.19	0.97	45.45
MBIF 16	12.26	13.26	0.35	7.91	MB 44	1.19	2.19	1.40	10.65
MBIF 16	13.26	14.26	0.31	7.32	MB 44	2.19	3.19	1.16	13.75
MBIF 16	14.26	15.26	0.43	8.46	MB 44	3.19	5.00	0.75	9.29
MBIF 16	15.26	16.26	0.35	8.08	MB 61	0.00	1.15	1.34	11.37
MBIF 16	16.26	17.30	0.38	7.20	MB 61	1.15	2.15	1.56	9.85
MBIF 85	0.00	1.05	0.75	45.75	MB 61	2.15	3.15	1.17	9.57
MBIF 85	1.05	2.05	0.83	44.84	MB 61	3.15	4.15	0.97	8.87
MBIF 85	2.05	3.05	1.25	40.76	MB 61	4.15	5.15	0.77	7.44
MBIF 85	3.05	4.05	1.76	24.22	MB 61	5.15	6.15	0.71	8.12
MBIF 85	4.05	5.05	1.65	12.76	MB 61	6.15	7.15	0.73	10.12
MBIF 85	5.05	6.05	1.45	19.21	MB 61	7.15	8.15	0.86	14.82
MBIF 85	6.05	7.05	1.17	7.57	MB 61	8.15	9.15	0.65	10.61
MBIF 85	7.05	8.00	0.33	6.62	MB 61	9.15	10.15	0.56	9.95
MBIF 90	0.00	1.42	0.71	43.42	MB 61	10.15	11.15	0.40	8.44
MBIF 90	1.42	2.42	0.93	46.98	MB 61	11.15	12.00	0.33	7.41
MBIF 90	2.42	3.42	1.02	48.24	MBIF 31	0.00	1.76	0.78	40.95
MBIF 90	3.42	4.42	1.19	45.59	MBIF 31	1.76	2.76	1.40	12.92
MBIF 90	4.42	5.42	1.58	33.22	MBIF 31	2.76	3.76	1.52	11.04
MBIF 90	5.42	6.42	1.95	25.47	MBIF 31	3.76	4.76	1.54	9.06
MBIF 90	6.42	7.42	1.90	13.94	MBIF 31	4.76	5.76	1.82	12.68
MBIF 90	7.42	8.42	1.79	13.12	MBIF 31	5.76	6.76	1.74	12.19
MBIF 90	8.42	9.42	1.96	17.88	MBIF 31	6.76	7.76	1.98	10.93
MBIF 90	9.42	10.42	1.87	14.61	MBIF 31	7.76	8.76	1.81	11.89
MBIF 90	10.42	11.42	1.89	14.26	MBIF 31	8.76	9.76	1.63	11.27
MBIF 90	11.42	12.42	1.64	11.20	MBIF 31	9.76	10.76	1.04	9.75
MBIF 90	12.42	13.42	1.58	10.92	MBIF 31	10.76	11.00	0.71	10.63
MBIF 90	13.42	14.42	1.57	13.11	MBIF 15	0.00	0.80	0.92	43.67
MBIF 90	14.42	15.42	1.47	14.71	MBIF 15	0.80	1.80	1.08	40.75
MBIF 90	15.42	16.42	1.23	11.28	MBIF 15	1.80	2.80	1.20	38.21
MBIF 90	16.42	17.42	0.86	8.36	MBIF 15	2.80	3.80	1.70	20.06
MBIF 90	17.42	18.00	0.50	7.43	MBIF 15	3.80	4.80	1.47	18.41
MBIF 84	0.00	1.30	0.89	48.38	MBIF 15	4.80	5.80	1.52	24.16
MBIF 84	1.30	2.30	0.88	48.52	MBIF 15	5.80	6.80	1.63	19.99
MBIF 84	2.30	3.30	0.84	47.96	MBIF 15	6.80	7.80	1.03	8.87
MBIF 84	3.30	4.30	0.87	48.70	MBIF 15	7.80	8.80	0.86	12.51
MBIF 84	4.30	5.30	0.89	47.71	MBIF 15	8.80	9.80	0.80	10.65
MBIF 84	5.30	6.30	0.91	45.05	MBIF 15	9.80	10.80	0.46	7.62
MBIF 84	6.30	7.30	0.87	46.12	MBIF 15	10.80	11.80	0.41	7.65
MBIF 84	7.30	8.30	0.92	45.67	MBIF 15	11.80	12.80	0.36	7.47
MBIF 84	8.30	9.30	1.17	33.96	MBIF 15	12.80	13.80	0.56	10.04
MBIF 84	9.30	10.30	1.45	33.98	MBIF 15	13.80	14.50	0.63	8.57
MBIF 84	10.30	11.30	1.75	14.45	MBIF 14	0.00	0.74	0.68	46.44
MBIF 84	11.30	12.00	1.46	14.09	MBIF 14	0.74	1.74	0.85	43.26
MBIF 70	0.00	0.84	0.83	47.50	MBIF 14	1.74	2.74	0.86	27.69
MBIF 70	0.84	1.84	1.47	31.08	MBIF 14	2.74	3.74	0.86	11.96
MBIF 70	1.84	2.84	1.25	17.11	MBIF 14	3.74	4.74	0.81	15.64
MBIF 70	2.84	3.84	1.58	26.80	MBIF 14	4.74	5.74	1.31	23.93
MBIF 70	3.84	4.84	1.72	20.55	MBIF 14	5.74	6.74	1.38	21.87
MBIF 70	4.84	5.84	1.23	9.74	MBIF 14	6.74	7.74	0.60	8.80
MBIF 70	5.84	6.84	1.43	12.04	MBIF 14	7.74	8.74	0.83	11.71
MBIF 70	6.84	7.84	1.29	12.02	MBIF 14	8.74	9.74	0.76	10.36
MBIF 70	7.84	8.84	0.88	10.74	MBIF 14	9.74	10.74	0.71	9.37
MBIF 70	8.84	9.84	1.42	20.38	MBIF 14	10.74	12.00	0.44	7.66
MBIF 70	9.84	10.84	0.92	11.76	MBIF 98	0.00	1.39	0.75	46.79
MBIF 70	10.84	11.90	0.35	6.92	MBIF 98	1.39	2.39	0.70	44.64
MB 62	0.00	1.16	0.73	47.01	MBIF 98	2.39	3.39	0.85	50.00
MB 62	1.16	2.16	1.02	35.92	MBIF 98	3.39	4.39	0.93	49.18
MB 62	2.16	3.16	1.27	31.35	MBIF 98	4.39	5.39	1.01	47.06
MB 62	3.16	4.16	1.44	22.43	MBIF 98	5.39	6.39	0.88	47.27
MB 62	4.16	5.16	1.25	19.27	MBIF 98	6.39	7.39	1.07	45.13
MB 62	5.16	6.16	1.38	20.28	MBIF 98	7.39	8.39	1.18	13.11
MB 62	6.16	7.16	1.50	17.56	MBIF 98	8.39	9.39	1.47	15.92
MB 62	7.16	8.16	1.47	16.18	MBIF 98	9.39	10.39	1.01	10.85
MB 62	8.16	9.16	0.54	8.30	MBIF 98	10.39	11.39	0.66	9.16
MB 62	9.16	10.00	0.34	7.02	MBIF 98	11.39	12.39	1.21	12.38
MB 63	0.00	1.47	0.83	44.53	MBIF 98	12.39	13.39	1.10	15.55
MB 63	1.47	2.47	1.15	35.23	MBIF 98	13.39	14.39	1.03	19.21
MB 63	2.47	3.47	0.51	7.47	MBIF 98	14.39	15.39	0.79	12.01
MB 63	3.47	4.47	1.42	13.20	MBIF 98	15.39	16.39	1.00	11.14
MB 63	4.47	5.47	1.36	17.57	MBIF 98	16.39	17.00	0.54	7.88

MB 64	0.00	0.97	0.75	45.71
MB 64	0.97	1.97	0.47	13.46
MB 64	1.97	2.97	0.68	10.23
MB 64	2.97	3.97	0.89	15.73
MB 64	3.97	4.97	0.79	38.25
MB 64	4.97	6.20	0.77	48.84
MBIF 106	0.00	1.30	1.24	33.90
MBIF 106	1.30	2.30	1.39	16.74
MBIF 106	2.30	3.30	0.38	7.67
MBIF 106	3.30	4.30	0.57	8.63
MBIF 106	4.30	5.00	0.32	7.00
MBIF 34	0.00	1.35	0.94	43.57
MBIF 34	1.35	2.35	1.17	38.43
MBIF 34	2.35	3.35	1.45	31.93
MBIF 34	3.35	4.35	1.21	16.16
MBIF 34	4.35	5.35	1.18	16.40
MBIF 34	5.35	6.35	1.11	15.61
MBIF 34	6.35	7.35	0.96	10.90
MBIF 34	7.35	8.35	1.35	14.68
MBIF 34	8.35	9.35	1.52	23.72
MBIF 34	9.35	10.35	1.43	17.55
MBIF 34	10.35	11.35	1.38	16.08
MBIF 34	11.35	12.30	0.57	7.81
MBIF 102	0.00	0.58	0.95	48.83
MBIF 102	0.58	1.58	1.00	40.60
MBIF 102	1.58	2.58	0.99	41.10
MBIF 102	2.58	3.58	1.53	27.48
MBIF 102	3.58	4.58	1.92	11.38
MBIF 102	4.58	5.58	1.77	10.36
MBIF 102	5.58	6.58	1.61	12.76
MBIF 102	6.58	7.58	1.41	8.73
MBIF 102	7.58	8.58	1.52	8.51
MBIF 102	8.58	9.58	1.44	9.72
MBIF 102	9.58	10.50	0.54	6.61
MBIF 92	0.00	1.08	0.80	17.35
MBIF 92	1.08	2.08	0.77	11.57
MBIF 92	2.08	3.08	0.69	8.34
MBIF 92	3.08	4.08	0.28	6.29
MBIF 92	4.08	5.00	0.29	6.54
MBIF 20	0.00	1.15	0.63	46.86
MBIF 20	1.15	2.15	0.74	45.38
MBIF 20	2.15	3.15	0.84	45.32
MBIF 20	3.15	4.15	1.04	28.73
MBIF 20	4.15	5.15	0.64	8.48
MBIF 20	5.15	6.15	1.34	12.45
MBIF 20	6.15	7.15	1.17	10.06
MBIF 20	7.15	8.15	1.18	13.50
MBIF 20	8.15	9.15	1.12	11.47
MBIF 20	9.15	10.15	0.91	9.93
MBIF 20	10.15	11.15	0.58	7.81
MBIF 20	11.15	12.00	0.32	6.85
MBIF 30	0.00	0.50	1.68	17.98
MBIF 30	0.50	1.50	1.20	12.32
MBIF 30	1.50	2.50	1.30	12.46
MBIF 30	2.50	3.50	1.33	10.50
MBIF 30	3.50	4.50	0.97	9.69
MBIF 30	4.50	5.50	0.68	8.00
MBIF 30	5.50	7.00	0.67	7.44
MBIF 5	0.00	1.21	0.79	40.41
MBIF 5	1.21	2.21	1.25	13.23
MBIF 5	2.21	3.21	1.47	12.23
MBIF 5	3.21	4.21	1.33	17.90
MBIF 5	4.21	5.21	2.08	20.03
MBIF 5	5.21	6.21	0.89	0.89
MBIF 5	6.21	7.21	1.43	1.43
MBIF 5	7.21	8.21	1.30	1.30
MBIF 5	8.21	9.21	0.73	0.73
MBIF 5	9.21	10.40	0.62	0.62
MBIF 112	0.00	0.76	1.33	34.93
MBIF 112	0.76	1.76	1.60	12.00
MBIF 112	1.76	2.76	1.74	17.62
MBIF 112	2.76	3.76	1.60	12.62
MBIF 112	3.76	4.76	1.85	11.74
MBIF 112	4.76	5.76	1.80	16.14
MBIF 112	5.76	6.76	1.26	8.38
MBIF 112	6.76	7.76	0.96	7.74
MBIF 112	7.76	8.76	1.36	10.43
MBIF 112	8.76	9.76	1.01	7.60
MBIF 112	9.76	10.76	1.62	16.71
MBIF 112	10.76	11.76	1.43	14.31

MBIF 112	11.76	12.76	1.08	9.88
MBIF 112	12.76	13.76	0.73	9.30
MBIF 112	13.76	15.00	0.32	6.80
MB 66	0.00	1.20	0.69	46.92
MB 66	1.20	2.20	0.80	48.79
MB 66	2.20	3.20	0.79	29.52
MB 66	3.20	4.20	1.23	35.14
MB 66	4.20	5.20	0.70	13.79
MB 66	5.20	6.60	0.34	8.56
MB 1	0.00	1.14	1.17	29.97
MB 1	1.14	2.14	0.27	6.75
MB 1	2.14	3.14	0.31	7.23
MB 1	3.14	4.14	0.30	7.45
MB 1	4.14	5.00	0.25	6.62
MB 40	0.00	1.17	0.64	15.53
MB 40	1.17	2.17	0.99	16.77
MB 40	2.17	4.00	0.40	7.13
MB 43	0.00	1.37	0.93	34.06
MB 43	1.37	2.37	0.29	6.78
MB 43	2.37	3.27	0.50	7.76
MB 43	3.27	4.00	0.30	6.96
MBIF 18	0.00	1.04	0.78	44.05
MBIF 18	1.04	2.04	1.04	47.22
MBIF 18	2.04	3.04	1.10	46.05
MBIF 18	3.04	4.04	1.24	43.16
MBIF 18	4.04	5.04	1.57	20.96
MBIF 18	5.04	6.04	1.76	25.75
MBIF 18	6.04	7.04	0.85	9.95
MBIF 18	7.04	8.04	1.46	27.41
MBIF 18	8.04	9.04	1.20	13.72
MBIF 18	9.04	10.04	0.76	9.03
MBIF 18	10.04	11.04	0.49	7.61
MBIF 18	11.04	12.00	0.42	7.37
MBIF 50	0.00	0.77	1.17	33.48
MBIF 50	0.77	1.77	1.36	17.74
MBIF 50	1.77	2.77	1.41	10.82
MBIF 50	2.77	3.77	1.49	12.92
MBIF 50	3.77	4.77	1.62	10.30
MBIF 50	4.77	5.77	1.45	12.80
MBIF 50	5.77	6.77	1.05	13.98
MBIF 50	6.77	7.77	1.20	13.99
MBIF 50	7.77	8.77	0.36	7.37
MBIF 50	8.77	9.77	0.46	7.97
MBIF 50	9.77	10.77	0.89	7.80
MBIF 50	10.77	12.00	0.98	11.43
MBIF 64	0.00	0.72	0.90	41.41
MBIF 64	0.72	1.72	1.20	45.86
MBIF 64	1.72	2.72	0.56	8.22
MBIF 64	2.72	3.72	0.98	10.07
MBIF 64	3.72	4.72	1.29	14.87
MBIF 64	4.72	5.72	0.88	8.87
MBIF 64	5.72	6.72	0.56	8.37
MBIF 64	6.72	7.72	0.50	7.04
MBIF 64	7.72	8.72	0.51	8.17
MBIF 64	8.72	9.72	0.74	8.31
MBIF 64	9.72	10.72	0.75	7.57
MBIF 64	10.72	11.72	0.96	11.10
MBIF 64	11.72	12.80	0.90	8.88
MB 25	1.08	2.08	1.17	16.90
MB 25	2.08	3.08	1.58	33.01
MB 25	3.08	4.08	1.21	11.80
MB 25	4.08	5.08	1.27	11.41
MB 25	5.08	6.08	1.43	15.46
MB 25	7.08	8.00	0.37	7.14
MB 29	0.00	1.07	0.87	39.81
MB 29	1.07	2.07	1.25	23.49
MB 29	2.07	3.07	1.39	22.05
MB 29	3.07	4.07	0.88	11.22
MB 29	4.07	5.07	1.05	15.85
MB 29	5.07	6.07	0.84	10.86
MB 29	6.07	7.07	0.80	9.48
MB 29	7.07	8.00	0.38	6.93
MB 45	0.00	0.60	0.77	47.23
MB 45	0.60	1.60	0.92	47.13
MB 45	1.60	2.60	0.88	49.90
MB 45	2.60	3.60	1.03	43.16
MB 45	3.60	4.60	0.90	49.01
MB 45	4.60	5.60	0.87	46.73
MB 45	5.60	6.60	1.16	41.47
MB 45	6.60	7.60	1.66	25.82

MB 45	7.60	8.60	1.44	16.79
MB 45	8.60	10.00	0.77	13.28
MBIF 104	0.00	0.89	0.66	43.69
MBIF 104	0.89	1.89	0.62	45.29
MBIF 104	1.89	2.89	0.75	45.35
MBIF 104	2.89	3.89	0.89	44.73
MBIF 104	3.89	4.89	0.97	44.59
MBIF 104	4.89	5.89	0.86	45.51
MBIF 104	5.89	6.89	1.09	42.21
MBIF 104	6.89	7.89	0.98	42.33
MBIF 104	7.89	8.89	1.27	30.79
MBIF 104	8.89	9.89	1.08	44.51
MBIF 104	9.89	10.89	1.06	43.43
MBIF 104	10.89	11.89	1.09	44.72
MBIF 104	11.89	12.89	1.14	36.79
MBIF 104	12.89	13.89	0.97	38.36
MBIF 104	13.89	14.89	1.91	21.41
MBIF 104	14.89	15.89	2.01	17.52
MBIF 104	15.89	16.89	2.27	16.28
MBIF 104	16.89	17.89	2.13	16.89
MBIF 104	17.89	18.89	1.67	15.19
MBIF 104	18.89	20.00	0.75	8.16
MB 53	0.00	1.26	0.72	47.79
MB 53	1.26	2.26	0.79	47.25
MB 53	2.26	3.26	1.24	40.81
MB 53	3.26	4.26	1.40	22.41
MB 53	4.26	5.26	0.89	46.90
MB 53	5.26	6.26	0.95	47.61
MB 53	6.26	7.26	1.21	10.21
MB 53	7.26	8.26	1.56	13.79
MB 53	8.26	9.26	1.60	16.94
MB 53	9.26	10.26	1.77	17.06
MB 53	10.26	11.26	1.24	9.52
MB 53	11.26	12.26	1.51	9.51
MB 53	12.26	13.26	1.54	12.66
MB 53	13.26	14.26	1.48	10.52
MB 53	14.26	15.26	0.98	8.44
MB 53	15.26	16.26	1.51	19.41
MB 53	16.26	17.26	1.23	15.04
MB 53	17.26	18.26	1.09	10.53
MB 53	18.26	19.26	1.00	9.65
MB 53	19.26	20.00	0.40	7.25
MBIF 7	0.00	0.61	0.65	45.04
MBIF 7	0.61	1.61	0.66	46.87
MBIF 7	1.61	2.61	0.72	46.17
MBIF 7	2.61	3.61	0.81	45.34
MBIF 7	3.61	4.61	0.75	32.93
MBIF 7	4.61	5.61	0.61	21.51
MBIF 7	5.61	6.61	0.73	31.23
MBIF 7	6.61	7.61	0.94	38.92
MBIF 7	7.61	8.61	0.96	37.25
MBIF 7	8.61	9.61	1.19	15.87
MBIF 7	9.61	10.61	1.61	19.31
MBIF 7	10.61	11.61	1.10	9.08
MBIF 7	11.61	12.61	1.60	20.97
MBIF 7	12.61	13.61	1.30	14.84
MBIF 7	13.61	14.61	0.91	10.01
MBIF 7	14.61	15.61	0.67	8.62
MBIF 7	15.61	16.61	0.62	8.50
MBIF 7	16.61	17.20	0.33	6.88
MBIF 69	0.00	0.74	0.66	47.80
MBIF 69	0.74	1.74	0.81	48.90
MBIF 69	1.74	2.74	0.81	49.75
MBIF 69	2.74	3.74	1.01	50.51
MBIF 69	3.74	4.74	1.03	49.34
MBIF 69	4.74	5.74	1.08	45.78
MBIF 69	5.74	6.74	1.74	28.10
MBIF 69	6.74	7.74	1.92	15.98
MBIF 69	7.74	8.74	1.81	12.32
MBIF 69	8.74	9.74	1.94	15.16
MBIF 69	9.74	10.74	1.86	21.31
MBIF 69	10.74	11.74	1.00	8.21
MBIF 69	11.74	12.74	1.60	15.40
MBIF 69	12.74	13.74	1.31	11.59
MBIF 69	13.74	14.74	1.32	19.88
MBIF 69	14.74	15.74	1.14	14.02
MBIF 69	15.74	16.74	1.01	15.22
MBIF 69	16.74	17.74	0.59	9.71
MBIF 69	17.74	18.74	0.65	9.21
MBIF 69	18.74	20.00	0.59	7.28

MBIF 80	0.00	0.99	0.76	47.05
MBIF 80	0.99	1.99	0.74	49.07
MBIF 80	1.99	2.99	0.85	47.99
MBIF 80	2.99	3.99	0.77	46.70
MBIF 80	3.99	4.99	0.97	47.50
MBIF 80	4.99	5.99	1.11	46.04
MBIF 80	5.99	6.99	1.33	48.38
MBIF 80	6.99	7.99	1.54	20.45
MBIF 80	7.99	8.99	1.78	13.87
MBIF 80	8.99	9.99	1.59	13.88
MBIF 80	9.99	10.99	1.45	25.84
MBIF 80	10.99	11.99	1.34	9.87
MBIF 80	11.99	13.00	0.65	9.87
MBIF 59	0.00	1.06	0.89	45.83
MBIF 59	1.06	2.06	1.15	39.85
MBIF 59	2.06	3.06	1.81	26.17
MBIF 59	3.06	4.06	1.82	23.75
MBIF 59	4.06	5.06	2.00	27.43
MBIF 59	5.06	6.06	1.80	19.48
MBIF 59	6.06	7.06	1.96	19.85
MBIF 59	7.06	8.06	1.63	10.84
MBIF 59	8.06	9.06	1.92	12.91
MBIF 59	9.06	10.06	1.71	9.41
MBIF 59	10.06	11.06	1.91	12.30
MBIF 59	11.06	12.06	1.90	12.94
MBIF 59	12.06	13.06	1.79	19.71
MBIF 59	13.06	14.06	1.85	11.82
MBIF 59	14.06	15.06	1.56	10.57
MBIF 59	15.06	16.06	1.78	12.46
MBIF 59	16.06	17.06	1.66	12.48
MBIF 59	17.06	18.06	1.85	18.90
MBIF 59	18.06	19.06	1.82	15.60
MBIF 59	19.06	20.06	1.28	10.06
MBIF 59	20.06	21.30	0.94	7.07
MB 31	0.00	1.39	0.77	47.16
MB 31	1.39	2.39	1.02	45.06
MB 31	2.39	3.39	1.16	46.46
MB 31	3.39	4.39	1.21	45.21
MB 31	4.39	5.39	1.53	29.49
MB 31	5.39	6.39	1.74	20.69
MB 31	6.39	7.39	1.74	17.70
MB 31	7.39	8.39	1.72	23.64
MB 31	8.39	9.39	1.65	16.04
MB 31	9.39	10.39	1.43	13.85
MB 31	10.39	11.39	1.04	9.53
MB 31	11.39	12.39	1.03	10.09
MB 31	12.39	13.39	1.02	10.55
MB 31	13.39	14.39	1.23	11.54
MB 31	14.39	15.39	1.45	15.18
MB 31	15.39	16.39	1.32	10.19
MB 31	16.39	17.39	1.08	8.49
MB 31	17.39	18.39	1.33	12.69
MB 31	18.39	19.39	1.08	10.10
MB 31	19.39	20.39	1.15	11.56
MB 31	20.39	21.00	0.59	7.54
MB 3	0.00	1.03	0.80	42.76
MB 3	1.03	2.03	0.91	40.30
MB 3	2.03	3.03	1.22	36.61
MB 3	3.03	4.03	1.08	10.28
MB 3	4.03	5.03	0.38	7.71
MB 3	5.03	6.03	0.25	6.55
MBIF 9	0.00	1.34	0.74	44.07
MBIF 9	1.34	2.34	0.84	15.30
MBIF 9	2.34	3.34	0.39	6.93
MBIF 9	3.34	4.34	0.25	6.43
MBIF 9	4.34	5.34	0.37	8.36
MBIF 9	5.34	6.34	0.22	6.11
MBIF 9	6.34	8.00	0.23	6.22
MBIF 42	0.00	0.76	0.99	42.23
MBIF 42	0.76	1.76	1.27	19.59
MBIF 42	1.76	2.76	0.95	9.77
MBIF 42	2.76	3.76	0.74	8.34
MBIF 42	3.76	4.76	1.02	10.56
MBIF 42	4.76	5.76	1.34	12.37
MBIF 42	5.76	6.76	0.84	9.89
MBIF 42	6.76	7.76	1.15	10.66
MBIF 42	7.76	8.76	1.09	12.06
MBIF 42	8.76	10.60	0.32	6.87
MB 47	0.00	0.67	1.29	16.93
MB 47	0.67	1.67	0.86	7.75



MB 47	1.67	2.67	0.96	9.73	MBIF 54	15.58	16.58	1.39	13.81
MB 47	2.67	3.67	1.20	12.97	MBIF 54	16.58	17.58	0.98	9.23
MB 47	3.67	4.67	0.92	8.10	MBIF 54	17.58	18.58	0.60	7.96
MB 47	4.67	5.40	0.36	7.02	MBIF 54	18.58	20.00	0.61	6.95
MBIF 44	0.00	1.40	1.39	27.65	MBIF 35	0.00	0.51	0.95	37.57
MBIF 44	1.40	2.40	1.46	24.94	MBIF 35	0.51	1.51	0.93	10.58
MBIF 44	2.40	3.40	0.91	8.98	MBIF 35	1.51	2.51	1.37	11.95
MBIF 44	3.40	4.40	0.60	8.93	MBIF 35	2.51	3.51	1.15	9.09
MBIF 44	4.40	5.40	0.44	7.36	MBIF 35	3.51	4.51	1.23	12.38
MBIF 44	5.40	6.20	0.35	7.21	MBIF 35	4.51	5.51	1.35	12.05
MB 60	0.00	1.21	0.71	40.67	MBIF 35	5.51	6.51	1.30	11.80
MB 60	1.21	2.21	0.74	44.96	MBIF 35	6.51	7.51	1.03	8.05
MB 60	2.21	3.21	0.95	47.88	MBIF 35	7.51	8.40	0.54	7.08
MB 60	3.21	4.21	0.96	44.77	MBIF 96	0.00	0.60	0.65	46.20
MB 60	4.21	5.21	1.09	44.06	MBIF 96	0.60	1.60	0.62	48.66
MB 60	5.21	6.21	1.18	42.76	MBIF 96	1.60	2.60	0.85	48.18
MB 60	6.21	7.21	0.68	46.40	MBIF 96	2.60	3.60	1.08	37.49
MB 60	7.21	8.21	1.39	32.19	MBIF 96	3.60	4.60	1.02	11.43
MB 60	8.21	9.21	1.70	24.23	MBIF 96	4.60	5.60	1.13	15.68
MB 60	9.21	10.21	1.02	11.68	MBIF 96	5.60	6.60	1.00	15.66
MB 60	10.21	11.21	0.87	11.76	MBIF 96	6.60	7.60	0.56	9.42
MB 60	11.21	12.21	1.10	13.32	MBIF 96	7.60	8.60	0.63	8.62
MB 60	12.21	13.21	0.91	9.60	MB 58	0.00	0.67	0.83	38.21
MB 60	13.21	14.21	1.24	19.74	MB 58	0.67	1.67	1.16	39.05
MB 60	14.21	15.21	1.33	28.80	MB 58	1.67	2.67	1.16	8.11
MB 60	15.21	16.21	0.55	7.99	MB 58	2.67	3.67	1.68	17.57
MB 60	16.21	17.21	0.36	7.02	MB 58	3.67	4.67	1.36	10.65
MBIF 45	0.00	1.25	1.20	24.00	MB 58	4.67	5.67	1.36	10.04
MBIF 45	1.25	2.25	1.48	8.52	MB 58	5.67	6.67	0.84	8.19
MBIF 45	2.25	3.25	1.72	25.20	MB 58	6.67	7.67	1.45	11.24
MBIF 45	3.25	4.25	1.11	10.09	MB 58	7.67	8.67	1.47	12.34
MBIF 45	4.25	5.25	0.59	7.69	MB 58	8.67	9.67	1.21	10.54
MBIF 45	5.25	6.25	0.68	8.14	MB 58	9.67	10.67	0.79	8.22
MBIF 45	6.25	7.25	0.48	6.71	MB 58	10.67	11.67	0.65	9.80
MBIF 45	7.25	8.00	0.48	6.53	MB 58	11.67	12.67	0.65	10.71
MBIF 58	0.00	0.50	0.75	44.72	MB 58	12.67	13.67	0.48	8.36
MBIF 58	0.50	1.50	0.77	35.98	MB 58	13.67	14.67	0.76	9.44
MBIF 58	1.50	2.50	0.65	12.04	MB 58	14.67	15.67	0.90	10.85
MBIF 58	2.50	3.50	0.60	10.46	MB 58	15.67	16.67	0.86	10.27
MBIF 58	3.50	4.50	0.28	6.97	MB 58	16.67	17.67	0.49	8.16
MBIF 58	4.50	6.00	0.32	6.88	MB 58	17.67	19.00	0.39	6.44
MB 22	0.00	0.89	0.76	40.11	MBIF 105	0.00	1.13	0.84	45.64
MB 22	0.89	1.89	0.87	41.94	MBIF 105	1.13	2.13	1.25	22.79
MB 22	1.89	2.89	0.63	8.77	MBIF 105	2.13	3.13	1.57	19.64
MB 22	2.89	3.89	0.30	6.72	MBIF 105	3.13	4.13	1.00	10.40
MB 22	3.89	5.00	0.24	6.28	MBIF 105	4.13	5.13	0.66	8.12
MB 39	0.00	1.13	1.01	43.02	MBIF 105	5.13	6.13	0.32	0.73
MB 39	1.13	2.13	1.10	46.82	MBIF 105	6.13	7.00	0.27	6.53
MB 39	2.13	3.13	0.99	45.21	MBIF 114	0.00	0.53	0.64	44.96
MB 39	3.13	4.13	1.30	23.46	MBIF 114	0.53	1.53	0.83	48.03
MB 39	4.13	5.13	1.46	17.62	MBIF 114	1.53	2.53	0.93	47.51
MB 39	5.13	6.13	1.32	18.36	MBIF 114	2.53	3.53	0.98	45.58
MB 39	6.13	8.00	0.49	7.51	MBIF 114	3.53	4.53	1.19	30.97
MB 26	0.00	1.09	1.37	34.52	MBIF 114	4.53	5.53	1.71	14.42
MB 26	1.09	2.09	1.91	27.14	MBIF 114	5.53	6.53	1.70	29.89
MB 26	2.09	3.09	1.67	40.49	MBIF 114	6.53	7.53	1.52	15.84
MB 26	3.09	4.09	1.55	41.43	MBIF 114	7.53	9.60	0.49	7.55
MB 26	4.09	5.09	1.91	27.77	MB 17	0.00	0.58	0.85	45.58
MB 26	5.09	6.09	1.90	18.39	MB 17	0.58	1.58	1.24	38.14
MB 26	6.09	7.09	1.32	8.35	MB 17	1.58	2.58	1.61	21.11
MB 26	7.09	8.09	1.30	10.09	MB 17	2.58	3.58	1.92	15.32
MB 26	8.09	9.09	0.80	7.68	MB 17	3.58	4.58	1.70	16.15
MB 26	9.09	10.09	0.93	8.61	MB 17	4.58	5.58	1.60	12.95
MB 26	10.09	11.09	0.46	7.44	MB 17	5.58	6.58	1.22	11.94
MBIF 54	0.00	0.58	0.84	46.82	MB 17	6.58	7.58	0.88	9.12
MBIF 54	0.58	1.58	0.82	47.64	MB 17	7.58	9.00	0.63	7.03
MBIF 54	1.58	2.58	0.89	50.19	MBIF 91	0.00	0.86	0.74	45.12
MBIF 54	2.58	3.58	0.93	48.36	MBIF 91	0.86	1.86	0.77	44.39
MBIF 54	3.58	4.58	0.80	49.55	MBIF 91	1.86	2.86	0.82	45.64
MBIF 54	4.58	5.58	0.80	49.62	MBIF 91	2.86	3.86	0.89	43.05
MBIF 54	5.58	6.58	0.97	48.24	MBIF 91	3.86	4.86	1.00	36.17
MBIF 54	6.58	7.58	1.00	47.83	MBIF 91	4.86	5.86	0.81	10.01
MBIF 54	7.58	8.58	1.53	27.02	MBIF 91	5.86	6.86	1.51	21.41
MBIF 54	8.58	9.58	1.51	17.10	MBIF 91	6.86	7.50	0.36	7.11
MBIF 54	9.58	10.58	1.65	28.91	MB 50	0.00	1.16	1.09	33.16
MBIF 54	10.58	11.58	1.43	14.37	MB 50	1.16	2.16	1.58	13.08
MBIF 54	11.58	12.58	1.50	15.15	MB 50	2.16	3.16	0.87	8.27
MBIF 54	12.58	13.58	1.18	10.32	MB 50	3.16	4.16	1.35	14.87
MBIF 54	13.58	14.58	0.71	8.11	MB 50	4.16	5.16	0.92	8.80
MBIF 54	14.58	15.58	0.91	9.20	MB 50	5.16	6.16	0.63	7.74

MB 50	6.16	7.00	0.39	6.62	MBIF 62	2.73	3.73	0.98	49.31
MBIF 86	0.00	0.75	0.75	43.17	MBIF 62	3.73	4.73	1.16	48.54
MBIF 86	0.75	1.75	0.87	45.47	MBIF 62	4.73	5.73	1.31	34.36
MBIF 86	1.75	2.75	0.83	24.79	MBIF 62	5.73	6.73	1.66	16.42
MBIF 86	2.75	3.75	0.69	11.73	MBIF 62	6.73	7.73	2.07	24.15
MBIF 86	3.75	4.75	1.29	27.39	MBIF 62	7.73	8.73	1.76	22.62
MBIF 86	4.75	5.75	1.22	17.99	MBIF 62	8.73	9.73	2.26	14.84
MBIF 86	5.75	6.75	1.10	14.24	MBIF 62	9.73	10.73	2.01	8.39
MBIF 86	6.75	7.75	0.76	12.40	MBIF 62	10.73	11.73	1.73	13.01
MBIF 86	7.75	8.75	0.51	8.75	MBIF 62	11.73	12.73	0.71	7.16
MBIF 86	8.75	9.75	0.46	8.70	MBIF 62	12.73	13.50	0.46	6.57
MBIF 86	9.75	10.75	0.91	23.23	MBIF 93	0.00	0.91	0.77	46.36
MBIF 86	10.75	11.75	0.75	16.84	MBIF 93	0.91	1.91	0.98	47.28
MBIF 86	11.75	12.60	0.29	6.55	MBIF 93	1.91	2.91	1.37	43.31
MBIF 113	0.00	0.68	1.46	23.69	MBIF 93	2.91	3.91	1.42	20.67
MBIF 113	0.68	1.68	1.22	8.69	MBIF 93	3.91	4.91	1.53	33.26
MBIF 113	1.68	2.68	1.55	9.07	MBIF 93	4.91	5.91	1.43	18.97
MBIF 113	2.68	3.68	1.03	9.09	MBIF 93	5.91	6.91	1.33	18.27
MBIF 113	3.68	4.68	0.34	7.19	MBIF 93	6.91	7.91	1.36	22.61
MBIF 113	4.68	6.00	0.29	7.05	MBIF 93	7.91	8.91	1.14	10.95
MB 32	0.00	1.16	1.36	23.72	MBIF 93	8.91	9.91	1.12	13.54
MB 32	1.16	2.16	1.44	10.23	MBIF 93	9.91	10.91	0.98	11.31
MB 32	2.16	3.16	1.47	8.80	MBIF 93	10.91	11.91	0.81	10.24
MB 32	3.16	4.16	1.24	7.90	MBIF 93	11.91	12.91	0.26	6.59
MB 32	4.16	5.16	1.54	8.70	MBIF 93	12.91	14.20	0.56	7.97
MB 32	5.16	6.16	1.38	8.05	MBIF 52	0.00	0.69	0.78	44.09
MB 32	6.16	7.16	1.06	8.42	MBIF 52	0.69	1.69	0.94	45.18
MB 32	7.16	8.16	1.12	9.98	MBIF 52	1.69	2.69	1.22	13.04
MB 32	8.16	9.30	0.99	9.66	MBIF 52	2.69	3.69	0.97	9.43
MB 59	0.00	1.13	0.82	45.59	MBIF 52	3.69	4.69	1.28	14.04
MB 59	1.13	2.13	1.13	47.17	MBIF 52	4.69	5.69	1.37	14.54
MB 59	2.13	3.13	1.34	27.74	MBIF 52	5.69	6.69	1.22	13.37
MB 59	3.13	4.13	1.53	13.52	MBIF 52	6.69	7.69	1.00	12.05
MB 59	4.13	5.13	1.09	11.51	MBIF 52	7.69	8.69	0.94	10.00
MB 59	5.13	6.13	0.53	7.20	MBIF 52	8.69	9.69	0.86	9.29
MB 59	6.13	7.13	1.33	16.16	MBIF 52	9.69	10.69	1.05	11.84
MB 59	7.13	8.13	1.04	11.43	MBIF 52	10.69	11.69	1.30	12.19
MB 59	8.13	9.13	0.60	8.47	MBIF 52	11.69	12.69	1.17	10.65
MB 59	9.13	10.13	0.65	9.33	MBIF 52	12.69	13.69	0.99	11.81
MB 59	10.13	11.40	0.40	7.20	MBIF 52	13.69	15.00	0.86	8.11
MB 36	0.00	1.05	0.81	44.02	MB 52	0.00	0.54	0.81	47.42
MB 36	1.05	2.05	0.95	31.50	MB 52	0.54	1.54	0.83	49.74
MB 36	2.05	3.05	1.15	28.03	MB 52	1.54	2.54	0.88	49.42
MB 36	3.05	4.05	1.25	12.51	MB 52	2.54	3.54	1.07	35.33
MB 36	4.05	5.05	1.50	17.59	MB 52	3.54	4.54	1.43	31.02
MB 36	5.05	6.05	1.54	17.38	MB 52	4.54	5.54	1.56	27.65
MB 36	6.05	7.05	1.41	17.41	MB 52	5.54	6.54	1.36	26.45
MB 36	7.05	8.05	1.11	10.32	MB 52	6.54	7.54	1.79	17.49
MB 36	8.05	9.05	1.22	18.73	MB 52	7.54	9.00	0.85	7.82
MB 36	9.05	10.05	0.66	8.77	MB 4	0.00	0.68	0.77	44.49
MB 36	10.05	11.00	0.28	6.55	MB 4	0.68	1.68	0.48	10.54
MBIF 23	0.00	1.41	0.92	42.53	MB 4	1.68	3.00	0.26	6.52
MBIF 23	1.41	2.41	1.23	20.20	MB 24	0.00	1.48	1.62	11.30
MBIF 23	2.41	3.41	0.83	8.94	MB 24	1.48	2.48	1.51	19.52
MBIF 23	3.41	4.41	1.45	22.25	MB 24	2.48	3.48	1.18	23.29
MBIF 23	4.41	5.41	0.96	11.12	MB 24	3.48	4.48	1.16	17.26
MBIF 23	5.41	6.41	1.31	17.19	MB 24	4.48	5.48	1.57	28.09
MBIF 23	6.41	7.41	1.02	19.50	MB 24	5.48	6.48	1.61	23.75
MBIF 23	7.41	8.60	0.36	7.02	MB 24	6.48	7.48	0.65	6.91
MBIF 8	0.00	0.66	0.85	46.72	MB 24	7.48	9.00	0.38	6.37
MBIF 8	0.66	1.66	0.82	47.14	MBIF 24	0.00	1.10	0.83	48.61
MBIF 8	1.66	2.66	0.08	46.08	MBIF 24	1.10	2.10	0.77	48.25
MBIF 8	2.66	3.66	0.71	47.18	MBIF 24	2.10	3.10	0.75	48.02
MBIF 8	3.66	4.66	0.85	48.11	MBIF 24	3.10	4.10	1.16	41.00
MBIF 8	4.66	5.66	1.12	39.65	MBIF 24	4.10	5.10	1.46	16.72
MBIF 8	5.66	6.66	1.03	12.89	MBIF 24	5.10	6.10	1.64	20.60
MBIF 8	6.66	7.66	0.54	8.13	MBIF 24	6.10	7.10	1.39	21.84
MBIF 8	7.66	8.66	0.32	7.24	MBIF 24	7.10	8.10	1.35	18.21
MBIF 8	8.66	9.30	0.25	6.57	MBIF 24	8.10	9.10	1.41	17.53
MBIF 48	0.00	0.59	1.16	36.27	MBIF 24	9.10	10.10	1.34	13.18
MBIF 48	0.59	1.59	1.09	9.68	MBIF 24	10.10	11.10	1.13	10.94
MBIF 48	1.59	2.59	0.72	8.52	MBIF 24	11.10	12.10	1.15	13.12
MBIF 48	2.59	3.59	0.75	10.55	MBIF 24	12.10	13.10	0.90	12.12
MBIF 48	3.59	4.59	0.91	8.89	MBIF 24	13.10	14.10	0.89	15.03
MBIF 48	4.59	5.59	1.15	12.11	MBIF 24	14.10	15.10	0.67	7.71
MBIF 48	5.59	6.59	0.64	8.51	MBIF 24	15.10	16.00	0.45	6.67
MBIF 48	6.59	8.00	0.36	6.85	MBIF 27	0.00	1.14	0.90	38.86
MBIF 62	0.00	0.73	0.69	46.71	MBIF 27	1.14	2.14	1.07	39.33
MBIF 62	0.73	1.73	0.93	48.47	MBIF 27	2.14	3.14	1.38	29.50
MBIF 62	1.73	2.73	1.02	48.00	MBIF 27	3.14	4.14	1.40	30.06

MBIF 27	4.14	5.14	1.24	23.83	MBIF 21	9.69	10.69	1.54	9.76
MBIF 27	5.14	6.14	1.09	13.95	MBIF 21	10.69	11.69	1.92	16.17
MBIF 27	6.14	7.14	0.83	11.74	MBIF 21	11.69	12.69	1.09	10.40
MBIF 27	7.14	8.14	0.95	12.37	MBIF 21	12.69	13.69	1.10	11.08
MBIF 27	8.14	9.14	0.91	11.62	MBIF 21	13.69	14.69	1.11	13.79
MBIF 27	9.14	10.14	0.96	10.84	MBIF 21	14.69	15.69	1.27	14.35
MBIF 27	10.14	11.14	0.72	9.71	MBIF 21	15.69	16.69	1.60	15.58
MBIF 27	11.14	12.14	0.66	9.45	MBIF 21	16.69	17.69	1.14	43.37
MBIF 27	12.14	13.00	0.37	7.08	MBIF 21	17.69	19.30	1.04	9.89
MBIF 32	0.00	1.25	1.23	45.09	MB 15	0.00	1.35	0.84	19.49
MBIF 32	1.26	2.26	1.32	42.00	MB 15	1.35	2.35	0.80	11.13
MBIF 32	2.26	3.26	1.47	33.20	MB 15	2.35	3.35	1.06	13.59
MBIF 32	3.26	4.26	1.46	35.81	MB 15	3.35	4.35	0.68	7.60
MBIF 32	4.26	5.26	1.45	34.24	MB 15	4.35	5.35	0.85	10.33
MBIF 32	5.26	6.26	1.42	28.18	MB 15	5.35	6.35	0.92	9.58
MBIF 32	6.26	7.26	1.45	14.80	MB 15	6.35	7.35	0.81	8.71
MBIF 32	7.26	8.26	1.33	27.38	MB 15	7.35	8.35	1.00	12.98
MBIF 32	8.26	9.26	1.44	32.76	MB 15	8.35	9.35	0.69	8.76
MBIF 32	9.26	10.26	1.45	23.73	MB 15	9.35	10.35	0.85	10.84
MBIF 32	10.26	11.26	1.35	22.10	MB 15	10.35	11.35	0.81	10.56
MBIF 32	11.26	12.26	1.31	19.54	MB 15	11.35	12.35	1.04	12.79
MBIF 32	12.26	13.26	1.25	16.77	MB 15	12.35	13.35	0.85	8.30
MBIF 32	13.26	14.26	1.01	9.65	MB 15	13.35	14.35	0.98	10.63
MBIF 32	14.26	15.40	0.67	7.16	MB 15	14.35	15.35	0.96	11.89
MBIF 79	0.00	1.24	0.66	44.24	MB 15	15.35	16.35	0.91	9.73
MBIF 79	1.24	2.24	0.88	48.92	MB 15	16.35	17.35	0.95	9.81
MBIF 79	2.24	3.24	0.91	47.75	MB 15	17.35	18.35	0.79	9.26
MBIF 79	3.24	4.24	0.96	46.44	MB 15	18.35	19.35	0.52	7.66
MBIF 79	4.24	5.24	1.29	43.74	MB 15	19.35	20.00	0.26	6.45
MBIF 79	5.24	6.24	0.92	20.59	MBIF 72	0.00	0.94	0.74	47.32
MBIF 79	6.24	7.24	1.34	16.19	MBIF 72	0.94	1.94	0.89	48.43
MBIF 79	7.24	8.24	1.39	13.42	MBIF 72	1.94	2.94	0.88	48.76
MBIF 79	8.24	9.24	1.37	18.56	MBIF 72	2.94	3.94	0.79	47.64
MBIF 79	9.24	10.24	1.36	24.98	MBIF 72	3.94	4.94	1.00	48.82
MBIF 79	10.24	11.24	1.09	13.86	MBIF 72	4.94	5.94	1.15	49.83
MBIF 79	11.24	12.24	1.32	22.49	MBIF 72	5.94	6.94	1.39	17.46
MBIF 79	12.24	13.24	0.75	8.98	MBIF 72	6.94	7.94	1.16	9.33
MBIF 79	13.24	14.24	1.06	12.81	MBIF 72	7.94	8.94	1.72	15.40
MBIF 79	14.24	15.24	0.77	9.11	MBIF 72	8.94	9.94	1.46	13.57
MBIF 79	15.24	16.00	0.41	6.82	MBIF 72	9.94	10.94	1.54	22.80
MBIF 67	0.00	0.52	1.49	31.78	MBIF 72	10.94	11.94	1.57	20.03
MBIF 67	0.52	1.52	1.78	12.38	MBIF 72	11.94	12.94	1.27	15.86
MBIF 67	1.52	2.52	1.81	16.73	MBIF 72	12.94	13.94	1.03	12.53
MBIF 67	2.52	3.52	1.90	18.06	MBIF 72	13.94	14.94	0.80	10.24
MBIF 67	3.52	4.52	1.07	7.15	MBIF 72	14.94	15.94	0.94	12.19
MBIF 67	4.52	5.52	1.33	11.98	MBIF 72	15.94	16.94	1.24	14.64
MBIF 67	5.52	6.52	1.46	18.04	MBIF 72	16.94	17.94	0.92	12.81
MBIF 67	6.52	7.52	1.30	13.31	MBIF 72	17.94	18.94	0.61	10.33
MBIF 67	7.52	8.52	1.12	10.41	MBIF 72	18.94	19.60	0.72	6.87
MBIF 67	8.52	9.52	1.06	10.35	MBIF 38	0.00	0.69	0.94	43.66
MBIF 67	9.52	10.52	0.89	10.00	MBIF 38	0.69	1.69	1.02	48.10
MBIF 67	10.52	12.00	0.59	7.20	MBIF 38	1.69	2.69	0.90	46.57
MBIF 37	0.00	0.60	0.87	46.30	MBIF 38	2.69	3.69	1.02	47.16
MBIF 37	0.60	1.60	1.83	17.99	MBIF 38	3.69	4.69	1.26	42.93
MBIF 37	1.60	2.60	2.01	28.71	MBIF 38	4.69	5.69	1.42	38.12
MBIF 37	2.60	3.60	2.51	21.24	MBIF 38	5.69	6.69	1.71	25.38
MBIF 37	3.60	4.60	1.97	15.03	MBIF 38	6.69	7.69	1.54	20.90
MBIF 37	4.60	5.60	1.19	9.51	MBIF 38	7.69	8.69	1.64	22.53
MBIF 37	5.60	6.60	1.04	12.50	MBIF 38	8.69	9.69	1.61	14.72
MBIF 37	6.60	7.60	1.24	11.84	MBIF 38	9.69	10.69	1.34	10.83
MBIF 37	7.60	8.60	1.02	9.23	MBIF 38	10.69	11.69	1.19	11.67
MBIF 37	8.60	9.60	0.85	8.86	MBIF 38	11.69	12.69	1.42	19.17
MBIF 37	9.60	10.60	0.81	7.70	MBIF 38	12.69	13.69	1.64	15.15
MBIF 37	10.60	11.60	0.82	7.93	MBIF 38	13.69	14.69	1.82	12.32
MB 18	0.00	1.24	0.78	45.51	MBIF 38	14.69	15.69	1.51	15.69
MB 18	1.24	2.24	0.99	38.87	MBIF 38	15.69	16.69	1.67	16.09
MB 18	2.24	3.24	0.60	8.65	MBIF 38	16.69	17.69	1.69	15.93
MB 18	3.24	4.24	0.47	7.61	MBIF 38	17.69	18.69	1.27	11.66
MB 18	4.24	5.24	0.47	7.73	MBIF 38	18.69	19.69	1.55	14.05
MB 18	5.24	6.60	0.31	7.02	MBIF 38	19.69	20.69	1.47	9.61
MBIF 21	0.00	0.69	0.64	46.08	MBIF 38	20.69	21.69	1.08	12.16
MBIF 21	0.69	1.69	0.82	48.24	MBIF 38	21.69	22.69	0.97	9.19
MBIF 21	1.69	2.69	0.98	49.56	MBIF 38	22.69	24.00	0.43	7.09
MBIF 21	2.69	3.69	0.90	48.79	MBIF 60	0.00	0.83	0.67	45.85
MBIF 21	3.69	4.69	1.06	46.64	MBIF 60	0.83	1.83	0.91	49.14
MBIF 21	4.69	5.69	1.18	13.44	MBIF 60	1.83	2.83	1.01	49.31
MBIF 21	5.69	6.69	1.41	39.70	MBIF 60	2.83	3.83	1.05	50.07
MBIF 21	6.69	7.69	1.71	26.40	MBIF 60	3.83	4.83	1.01	50.44
MBIF 21	7.69	8.69	1.94	19.85	MBIF 60	4.83	5.83	0.93	45.63
MBIF 21	8.69	9.69	1.90	17.65	MBIF 60	5.83	6.83	1.09	48.31

MBIF 60	6.83	7.83	1.40	44.06
MBIF 60	7.83	8.83	2.05	26.85
MBIF 60	8.83	9.83	2.11	16.92
MBIF 60	9.83	10.83	1.36	8.76
MBIF 60	10.83	11.83	1.22	9.10
MBIF 60	11.83	12.83	1.20	9.71
MBIF 60	12.83	13.83	1.29	9.93
MBIF 60	13.83	14.83	1.18	9.53
MBIF 60	14.83	15.83	1.81	19.33
MBIF 60	15.83	16.83	1.59	14.69
MBIF 60	16.83	17.83	1.02	8.45
MBIF 60	17.83	18.90	0.28	6.40
MB 30	0.00	0.69	0.76	46.91
MB 30	0.69	1.69	0.90	49.12
MB 30	1.69	2.69	0.99	48.72
MB 30	2.69	3.69	0.98	47.67
MB 30	3.69	4.69	1.30	31.12
MB 30	4.69	5.69	1.66	21.98
MB 30	5.69	6.69	1.97	13.42
MB 30	6.69	7.69	2.14	12.73
MB 30	7.69	8.69	1.15	8.33
MB 30	8.69	9.69	1.66	12.16
MB 30	9.69	10.69	1.59	13.47
MB 30	10.69	11.69	1.39	12.13
MB 30	11.69	12.69	1.41	13.32
MB 30	12.69	13.69	1.28	8.92
MB 30	13.69	14.69	0.89	9.81
MB 30	14.69	15.69	1.03	8.75
MB 30	15.69	16.69	1.04	10.19
MB 30	16.69	17.69	0.97	11.98
MB 30	17.69	19.00	0.62	7.90
MBIF 6	0.00	0.64	0.79	46.87
MBIF 6	0.64	1.64	0.95	48.57
MBIF 6	1.64	2.64	0.75	47.86
MBIF 6	2.64	3.64	0.98	27.26
MBIF 6	3.64	4.64	0.58	8.70
MBIF 6	4.64	6.00	0.33	7.33
MB 54	0.00	1.16	0.69	48.43
MB 54	1.16	2.16	0.81	48.50
MB 54	2.16	3.16	1.17	24.63
MB 54	3.16	4.16	0.77	8.04
MB 54	4.16	5.16	1.52	18.96
MB 54	5.16	6.16	0.99	8.88
MB 54	6.16	7.16	1.03	12.11
MB 54	7.16	8.16	1.10	10.69
MB 54	8.16	9.16	0.91	11.22
MB 54	9.16	10.16	0.92	13.71
MB 54	10.16	11.16	0.86	12.13
MB 54	11.16	12.16	0.57	9.59
MB 54	12.16	13.00	0.36	7.19
MB 16	0.00	1.04	0.81	48.20
MB 16	1.04	2.04	1.01	47.86
MB 16	2.04	3.04	0.76	47.70
MB 16	3.04	4.04	0.85	49.55
MB 16	4.04	5.04	1.57	34.18
MB 16	5.04	6.04	1.72	30.72
MB 16	6.04	7.04	1.74	22.59
MB 16	7.04	8.04	0.84	9.00
MB 16	8.04	9.04	0.68	7.75
MB 16	9.04	10.04	1.01	11.15
MB 16	10.04	11.04	0.88	12.32
MB 16	11.04	12.04	0.71	10.18
MB 16	12.04	13.04	0.59	9.69
MB 16	13.04	14.04	0.62	9.73
MB 16	14.04	15.04	0.29	7.24
MB 11	0.00	1.14	0.76	47.48
MB 11	1.14	2.14	0.83	48.25
MB 11	2.14	3.14	0.81	49.23
MB 11	3.14	4.14	0.75	47.49
MB 11	4.14	5.14	0.98	45.35
MB 11	5.14	6.14	1.08	37.13
MB 11	6.14	7.14	1.98	20.18
MB 11	7.14	8.14	2.20	21.49
MB 11	8.14	9.14	2.03	18.60
MB 11	9.14	10.14	1.87	26.49
MB 11	10.14	11.14	1.75	22.80
MB 11	11.14	12.14	1.69	14.22
MB 11	12.14	13.14	1.38	12.90
MB 11	13.14	14.14	1.74	12.05
MB 11	14.14	15.14	1.52	14.37

MB 11	15.14	16.14	1.07	9.39
MB 11	16.14	17.00	0.73	6.89
MBIF 47	0.00	1.23	0.88	46.56
MBIF 47	1.23	2.23	0.83	49.23
MBIF 47	2.23	3.23	0.74	48.00
MBIF 47	3.23	4.23	0.76	49.70
MBIF 47	4.23	5.23	0.80	48.12
MBIF 47	5.23	6.23	1.09	41.38
MBIF 47	6.23	7.23	0.91	47.93
MBIF 47	7.23	8.23	1.42	25.12
MBIF 47	8.23	9.23	1.21	13.89
MBIF 47	9.23	10.23	1.92	14.78
MBIF 47	10.23	11.23	1.06	10.19
MBIF 47	11.23	12.23	0.98	10.21
MBIF 47	12.23	13.23	1.19	9.98
MBIF 47	13.23	14.23	0.86	9.42
MBIF 47	14.23	15.23	0.76	8.97
MBIF 47	15.23	16.23	0.37	7.00
MBIF 47	16.23	17.80	0.57	7.24
MBIF 51	0.00	1.07	0.87	47.25
MBIF 51	1.07	2.07	0.84	48.22
MBIF 51	2.07	3.07	0.89	48.19
MBIF 51	3.07	4.07	0.73	47.88
MBIF 51	4.07	5.07	1.10	42.88
MBIF 51	5.07	6.07	0.99	47.92
MBIF 51	6.07	7.07	1.02	49.37
MBIF 51	7.07	8.07	1.30	44.26
MBIF 51	8.07	9.07	1.83	20.07
MBIF 51	9.07	10.07	2.22	14.60
MBIF 51	10.07	11.07	2.12	16.13
MBIF 51	11.07	12.07	0.74	7.31
MBIF 51	12.07	13.00	0.36	6.02
MB 33	0.00	1.39	0.78	45.32
MB 33	1.39	2.39	1.02	47.82
MB 33	2.39	3.39	1.05	49.02
MB 33	3.39	4.39	1.06	48.05
MB 33	4.39	5.39	1.16	47.72
MB 33	5.39	6.39	1.72	28.46
MB 33	6.39	7.39	1.68	26.52
MB 33	7.39	8.39	1.62	19.82
MB 33	8.39	9.39	1.57	9.87
MB 33	9.39	10.39	1.23	9.94
MB 33	10.39	11.39	1.79	15.31
MB 33	11.39	12.39	1.59	13.67
MB 33	12.39	13.39	1.41	10.37
MB 33	13.39	14.39	1.14	9.06
MB 33	14.39	15.39	1.15	9.68
MB 33	15.39	16.39	1.18	10.72
MB 33	16.39	17.39	1.06	11.26
MB 33	17.39	18.39	1.11	14.30
MB 33	18.39	19.39	0.89	12.12
MB 33	19.39	20.39	0.57	8.27
MB 33	20.39	21.39	0.92	10.67
MB 33	21.39	22.39	1.21	15.94
MB 33	22.39	23.39	0.87	10.48
MB 33	23.39	24.39	0.79	9.36
MB 33	24.39	25.20	0.61	6.84
MBIF 56	0.00	1.14	0.78	48.45
MBIF 56	1.14	2.14	0.84	48.21
MBIF 56	2.14	3.14	0.91	49.89
MBIF 56	3.14	4.14	0.89	47.64
MBIF 56	4.14	5.14	1.06	49.87
MBIF 56	5.14	6.14	1.21	49.10
MBIF 56	6.14	7.14	2.02	33.08
MBIF 56	7.14	8.14	1.58	42.89
MBIF 56	8.14	9.14	1.45	48.33
MBIF 56	9.14	10.14	1.46	44.12
MBIF 56	10.14	11.14	2.34	23.16
MBIF 56	11.14	12.14	1.99	22.08
MBIF 56	12.14	13.14	1.85	11.89
MBIF 56	13.14	14.00	2.07	20.77
MBIF 46	0.00	0.89	1.05	40.74
MBIF 46	0.89	1.89	1.60	25.84
MBIF 46	1.89	2.89	1.63	14.98
MBIF 46	2.89	3.89	1.49	14.12
MBIF 46	3.89	4.89	2.06	14.39
MBIF 46	4.89	5.89	1.92	9.63
MBIF 46	5.89	6.89	1.90	13.35
MBIF 46	6.89	7.89	1.87	14.79
MBIF 46	7.89	8.89	1.71	12.09



MBIF 46	8.89	9.89	1.62	8.98	MBIF 53	5.06	6.06	1.72	23.66
MBIF 46	9.89	10.89	1.63	8.44	MBIF 53	6.06	7.06	1.69	19.80
MBIF 46	10.89	11.89	1.68	8.91	MBIF 53	7.06	8.06	1.96	19.71
MBIF 46	11.89	12.89	1.73	9.65	MBIF 53	8.06	9.06	1.85	14.37
MBIF 46	12.89	13.89	1.34	9.14	MBIF 53	9.06	10.06	1.46	11.39
MBIF 46	13.89	15.00	0.90	6.61	MBIF 53	10.06	11.06	1.35	9.57
MB 8	0.00	0.52	0.76	46.87	MBIF 53	11.06	12.06	0.91	7.34
MB 8	0.52	1.52	0.95	44.78	MBIF 53	12.06	13.06	0.95	8.56
MB 8	1.52	2.52	1.33	32.89	MBIF 53	13.06	14.06	0.69	7.58
MB 8	2.52	3.52	1.14	14.60	MBIF 53	14.06	15.00	0.59	6.61
MB 8	3.52	4.52	1.25	13.27	MBIF 63	0.00	0.55	0.79	45.47
MB 8	4.52	5.52	0.75	9.24	MBIF 63	0.55	1.55	0.86	47.44
MB 8	5.52	6.52	0.27	6.20	MBIF 63	1.55	2.55	0.82	47.28
MB 8	6.52	7.52	0.36	6.77	MBIF 63	2.55	3.55	0.92	51.00
MB 8	7.52	8.52	0.44	6.61	MBIF 63	3.55	4.55	0.99	45.76
MB 8	8.52	9.52	0.44	6.53	MBIF 63	4.55	5.55	1.31	24.01
MB 8	9.52	10.52	0.55	7.18	MBIF 63	5.55	6.55	1.05	14.78
MB 8	10.52	11.52	0.56	6.97	MBIF 63	6.55	7.55	1.33	11.62
MB 8	11.52	12.52	0.46	6.58	MBIF 63	7.55	8.55	1.44	9.78
MB 8	12.52	14.00	0.42	6.47	MBIF 63	8.55	9.55	1.16	11.04
MB 9	0.00	0.66	0.67	44.38	MBIF 63	9.55	10.55	0.47	6.82
MB 9	0.66	1.66	0.99	48.14	MBIF 63	10.55	11.55	0.43	7.55
MB 9	1.66	2.66	1.07	49.34	MBIF 63	11.55	12.55	0.33	6.69
MB 9	2.66	3.66	1.23	48.83	MBIF 63	12.55	13.55	0.26	6.21
MB 9	3.66	4.66	1.12	22.24	MBIF 63	13.55	15.00	0.44	6.22
MB 9	4.66	5.66	1.68	23.56	MBIF 11	0.00	0.74	0.77	42.23
MB 9	5.66	6.66	1.48	14.99	MBIF 11	3.74	4.74	0.86	46.52
MB 9	6.66	7.66	1.31	12.23	MBIF 11	4.74	5.74	1.02	54.47
MB 9	7.66	8.66	0.67	7.82	MBIF 11	6.74	7.74	1.52	12.87
MB 9	8.66	9.66	0.64	7.38	MBIF 11	7.74	8.74	1.48	12.15
MB 9	9.66	10.66	0.90	8.66	MBIF 11	9.74	10.74	1.08	8.70
MB 9	10.66	11.66	0.94	8.20	MBIF 11	12.74	13.74	1.28	11.65
MB 9	11.66	12.66	0.46	6.54	MBIF 11	15.74	16.74	0.43	7.29
MB 9	12.66	13.66	0.29	6.24	MBIF 11	16.74	17.74	0.79	8.41
MB 9	13.66	15.00	0.28	6.04	MBIF 11	17.74	18.70	0.28	6.07
MBIF 101	0.00	1.15	0.73	48.00	MBIF 111	0.00	1.08	1.66	17.34
MBIF 101	1.15	2.15	0.78	47.32	MBIF 111	1.08	2.08	1.43	9.51
MBIF 101	3.15	4.15	0.79	43.08	MBIF 111	2.08	3.08	1.71	12.41
MBIF 101	4.15	5.15	0.75	40.99	MBIF 111	3.08	4.08	1.63	17.93
MBIF 101	5.15	6.15	0.86	39.10	MBIF 111	4.08	5.08	1.97	19.46
MBIF 101	6.15	7.15	0.85	37.79	MBIF 111	5.08	6.08	1.48	12.75
MBIF 101	7.15	8.15	1.42	29.10	MBIF 111	6.08	7.08	1.27	8.77
MBIF 101	8.15	9.15	0.99	38.91	MBIF 111	7.08	8.08	0.86	9.15
MBIF 101	9.15	10.15	0.70	8.70	MBIF 111	8.08	9.08	1.32	11.83
MBIF 101	10.15	11.50	0.33	6.47	MBIF 111	9.08	10.08	1.40	13.02
MB 46	0.00	0.70	0.66	46.96	MBIF 111	10.08	11.08	1.50	13.52
MB 46	0.70	1.70	0.73	48.68	MBIF 111	11.08	12.08	1.36	10.89
MB 46	1.70	2.70	0.87	50.57	MBIF 111	12.08	13.08	0.81	8.83
MB 46	2.70	3.70	0.92	49.01	MBIF 111	13.08	14.08	0.48	8.36
MB 46	3.70	4.70	0.96	48.64	MBIF 111	14.08	15.00	0.32	7.19
MB 46	4.70	5.70	1.05	49.93	MBIF 73	0.00	1.26	0.89	40.94
MB 46	5.70	6.70	1.16	47.03	MBIF 73	1.26	2.26	0.67	10.12
MB 46	6.70	7.70	1.12	47.21	MBIF 73	2.26	3.26	1.32	19.19
MB 46	7.70	8.70	1.48	37.02	MBIF 73	3.26	4.26	0.55	8.57
MB 46	8.70	9.70	1.10	14.82	MBIF 73	4.26	5.00	0.27	6.05
MB 46	9.70	10.70	2.25	21.90	MBIF 22	0.00	1.10	0.87	48.71
MB 46	10.70	11.70	1.51	32.47	MBIF 22	1.10	2.10	0.88	49.80
MB 46	11.70	12.70	1.12	16.35	MBIF 22	2.10	3.10	1.12	46.37
MB 46	12.70	13.70	1.48	16.05	MBIF 22	3.10	4.10	1.52	27.11
MB 46	13.70	14.60	0.03	6.06	MBIF 22	4.10	5.10	1.57	28.26
MB 23	0.00	1.08	0.75	47.83	MBIF 22	5.10	6.10	1.34	11.87
MB 23	1.08	2.08	0.83	47.22	MBIF 22	6.10	7.10	1.16	11.89
MB 23	2.08	3.08	0.93	46.35	MBIF 22	7.10	8.10	1.14	12.48
MB 23	3.08	4.08	1.23	47.15	MBIF 22	8.10	9.10	1.31	17.13
MB 23	4.08	5.08	1.61	31.51	MBIF 22	9.10	10.10	1.11	12.23
MB 23	5.08	6.08	2.00	15.25	MBIF 22	10.10	11.20	0.61	7.42
MB 23	6.08	7.08	1.82	11.66	MBIF 77	0.00	0.52	0.71	46.64
MB 23	7.08	8.08	1.73	15.76	MBIF 77	0.52	1.52	0.77	45.87
MB 23	8.08	9.08	1.64	18.03	MBIF 77	1.52	2.52	0.75	44.01
MB 23	9.08	10.08	1.70	16.34	MBIF 77	2.52	3.52	0.82	45.04
MB 23	10.08	11.08	1.27	9.65	MBIF 77	3.52	4.52	1.07	44.29
MB 23	11.08	12.08	1.33	13.52	MBIF 77	4.52	5.52	1.12	7.73
MB 23	12.08	13.08	1.67	15.10	MBIF 77	5.52	6.52	0.66	13.15
MB 23	13.08	14.08	1.41	11.32	MBIF 77	6.52	7.52	1.15	15.73
MB 23	14.08	14.90	0.29	6.02	MBIF 77	7.52	8.52	0.93	12.00
MBIF 53	0.00	1.06	0.64	47.57	MBIF 77	8.52	9.52	0.96	11.82
MBIF 53	1.06	2.06	0.82	48.39	MBIF 77	9.52	10.52	1.58	30.04
MBIF 53	2.06	3.06	1.08	46.63	MBIF 77	10.52	12.00	0.77	10.73
MBIF 53	3.06	4.06	1.03	44.44	MBIF 13	0.00	0.57	0.66	46.45
MBIF 53	4.06	5.06	1.40	26.40	MBIF 13	0.57	1.57	0.78	48.45

MBIF 13	1.57	2.57	0.90	50.09	MBIF 19	1.89	2.89	0.78	30.80
MBIF 13	2.57	3.57	0.79	48.41	MBIF 19	2.89	3.89	0.94	18.30
MBIF 13	3.57	4.57	1.12	41.39	MBIF 19	3.89	4.89	1.45	20.07
MBIF 13	4.57	5.57	1.45	25.99	MBIF 19	4.89	5.89	1.47	15.79
MBIF 13	5.57	6.57	1.15	21.67	MBIF 19	5.89	6.89	1.38	14.52
MBIF 13	6.57	7.57	1.64	11.26	MBIF 19	6.89	7.89	1.36	13.72
MBIF 13	7.57	8.57	1.40	16.05	MBIF 19	7.89	8.89	1.41	14.72
MBIF 13	8.57	9.57	1.83	15.71	MBIF 19	8.89	9.89	1.01	10.91
MBIF 13	9.57	10.57	1.57	16.74	MBIF 19	9.89	10.89	0.48	9.82
MBIF 13	10.57	12.00	0.58	7.38	MBIF 4	0.00	0.92	0.62	43.48
MBIF 3	0.00	1.02	0.95	31.62	MBIF 4	0.92	1.92	0.85	47.10
MBIF 3	1.02	2.02	1.13	13.11	MBIF 4	1.92	2.92	0.98	43.65
MBIF 3	2.02	3.02	0.96	9.70	MBIF 4	2.92	3.92	0.54	8.14
MBIF 3	3.02	4.02	1.12	8.84	MBIF 4	3.92	4.92	0.38	6.84
MBIF 3	4.02	5.02	0.89	9.37	MBIF 4	4.92	5.92	1.00	12.13
MBIF 3	5.02	6.30	0.60	6.97	MBIF 4	5.92	6.92	0.99	12.22
MBIF 26	0.00	0.96	0.90	44.43	MBIF 4	6.92	7.92	0.59	7.74
MBIF 26	0.96	1.96	1.00	41.71	MBIF 4	7.92	9.00	0.33	6.76
MBIF 26	1.96	2.96	1.61	28.85	MBIF 83	0.00	0.98	0.87	47.24
MBIF 26	2.96	3.96	1.21	14.91	MBIF 83	0.98	1.98	1.00	47.51
MBIF 26	3.96	4.96	1.66	13.37	MBIF 83	1.98	2.98	0.82	41.69
MBIF 26	4.96	5.96	1.99	13.37	MBIF 83	2.98	3.98	0.88	12.42
MBIF 26	5.96	6.96	1.41	11.91	MBIF 83	3.98	4.98	0.65	8.50
MBIF 26	6.96	7.96	0.91	8.34	MBIF 83	4.98	5.98	1.62	18.15
MBIF 26	7.96	8.96	1.22	8.95	MBIF 83	5.98	6.98	1.40	9.52
MBIF 26	8.96	9.96	1.26	8.35	MBIF 83	6.98	7.98	1.50	12.10
MBIF 26	9.96	10.96	1.11	8.56	MBIF 83	7.98	8.98	1.54	27.91
MBIF 26	10.96	12.00	0.31	6.80	MBIF 83	8.98	9.98	1.11	7.54
MBIF 103	0.00	0.87	0.79	45.78	MBIF 83	9.98	10.98	1.31	23.92
MBIF 103	0.87	1.87	0.88	40.24	MBIF 83	11.98	12.98	1.10	8.09
MBIF 103	1.87	2.87	1.18	31.48	MBIF 83	12.98	13.10	0.45	7.00
MBIF 103	2.87	3.87	1.45	35.06	MBIF 61	0.00	1.14	0.82	46.71
MBIF 103	3.87	4.87	1.53	21.29	MBIF 61	1.14	2.14	1.29	28.68
MBIF 103	4.87	5.87	0.97	9.34	MBIF 61	2.14	3.14	0.80	7.17
MBIF 103	5.87	6.87	0.76	9.52	MBIF 61	3.14	4.14	0.60	9.95
MBIF 103	6.87	8.00	0.50	7.54	MBIF 61	4.14	5.14	1.22	16.71
MBIF 25	0.00	0.57	0.78	45.23	MBIF 61	5.14	6.14	1.44	23.08
MBIF 25	0.57	1.57	1.08	33.59	MBIF 61	6.14	7.14	1.25	40.47
MBIF 25	1.57	2.57	1.60	17.63	MBIF 61	7.14	8.14	0.96	11.62
MBIF 25	2.57	3.57	1.33	16.78	MBIF 61	8.14	9.14	0.73	9.50
MBIF 25	3.57	4.57	1.96	8.95	MBIF 61	9.14	10.14	0.90	12.61
MBIF 25	4.57	5.57	0.89	9.47	MBIF 61	10.14	11.14	0.96	13.22
MBIF 25	5.57	6.57	0.69	9.66	MBIF 61	11.14	12.14	0.74	9.30
MBIF 25	6.57	7.57	0.36	7.89	MBIF 61	12.14	13.00	0.30	6.80
MBIF 25	7.57	8.00	0.26	6.59	MBIF 95	0.00	0.56	0.82	43.81
MBIF 10	0.00	1.00	1.21	26.64	MBIF 95	0.56	1.56	1.10	16.85
MBIF 10	1.00	2.00	1.47	31.73	MBIF 95	1.56	2.56	0.88	12.32
MBIF 10	2.00	3.00	1.51	27.83	MBIF 95	2.56	4.00	0.37	7.23
MBIF 10	3.00	4.00	1.71	23.52	MB 57	0.00	0.76	0.64	46.52
MBIF 10	4.00	5.00	1.13	11.99	MB 57	0.76	1.76	0.72	47.69
MBIF 10	5.00	6.00	1.17	18.10	MB 57	1.76	2.76	0.95	42.41
MBIF 10	6.00	7.00	0.74	11.38	MB 57	2.76	3.76	1.17	13.27
MBIF 10	7.00	8.00	1.08	12.37	MB 57	3.76	4.76	1.41	11.55
MBIF 10	8.00	9.00	0.69	8.26	MB 57	4.76	5.76	0.70	9.81
MBIF 10	9.00	10.00	0.83	9.53	MB 57	5.76	7.00	0.28	6.86
MBIF 10	10.00	11.00	0.92	9.94	MB 2	0.00	1.34	0.89	29.29
MBIF 10	11.00	12.00	1.06	11.81	MB 2	1.34	2.34	0.65	10.83
MBIF 10	12.00	13.60	0.40	7.05	MB 2	2.34	3.34	0.37	7.75
MBIF 33	0.00	1.00	0.78	47.26	MB 2	3.34	4.34	0.31	7.32
MBIF 33	1.00	2.00	0.92	46.83	MB 2	4.34	5.00	0.29	7.02
MBIF 33	2.00	3.00	1.07	34.45	MBIF 29	0.00	1.13	1.01	41.80
MBIF 33	3.00	4.00	0.85	10.33	MBIF 29	1.13	2.13	0.65	8.13
MBIF 33	4.00	5.00	0.84	8.53	MBIF 29	2.13	3.13	0.66	8.60
MBIF 33	5.00	6.00	0.89	12.05	MBIF 29	3.13	4.13	0.65	8.47
MBIF 33	6.00	7.00	0.83	9.98	MBIF 29	4.13	5.13	0.76	11.61
MBIF 33	7.00	8.00	0.95	9.24	MBIF 29	5.13	6.13	0.92	9.17
MBIF 33	8.00	9.00	0.47	8.42	MBIF 29	6.13	7.13	0.64	9.98
MBIF 33	9.00	10.00	0.68	8.30	MBIF 29	7.13	8.00	0.35	6.73
MBIF 43	0.00	0.53	0.85	47.26	MBIF 109	0.00	0.71	0.93	45.34
MBIF 43	0.53	1.53	0.86	44.05	MBIF 109	0.71	1.71	1.34	16.77
MBIF 43	1.53	2.53	1.01	49.58	MBIF 109	1.71	2.71	0.91	11.80
MBIF 43	2.53	3.53	1.42	30.25	MBIF 109	2.71	3.71	1.27	10.47
MBIF 43	3.53	4.53	1.27	18.76	MBIF 109	3.71	4.71	1.12	12.15
MBIF 43	4.53	5.53	1.16	23.73	MBIF 109	4.71	5.71	1.31	13.80
MBIF 43	5.53	6.53	0.94	16.50	MBIF 109	5.71	6.71	1.32	13.75
MBIF 43	6.53	7.53	0.82	9.10	MBIF 109	6.71	7.71	1.07	12.95
MBIF 43	7.53	8.53	0.88	10.00	MBIF 109	7.71	8.71	0.66	8.33
MBIF 43	8.53	9.80	0.62	7.45	MBIF 109	8.71	10.60	0.59	8.92
MBIF 19	0.00	0.89	0.81	44.45	MBIF 71	0.00	1.25	0.65	46.67
MBIF 19	0.89	1.89	0.84	44.52	MBIF 71	1.25	2.25	0.72	46.70

MBIF 71	2.25	3.25	0.92	45.61
MBIF 71	3.25	4.25	0.96	43.90
MBIF 71	4.25	5.25	1.30	13.40
MBIF 71	5.25	6.25	0.70	8.58
MBIF 71	6.25	7.25	0.37	7.61
MBIF 71	7.25	8.25	0.31	6.66
MBIF 71	8.25	9.25	1.05	14.79
MBIF 71	9.25	10.25	0.38	8.71
MBIF 71	10.25	11.20	0.37	10.04
MB 65	0.00	0.92	1.01	30.44
MB 65	0.92	1.92	1.38	12.70
MB 65	1.92	2.92	1.40	15.54
MB 65	2.92	3.92	1.15	14.12
MB 65	3.92	4.92	1.33	11.70
MB 65	4.92	5.92	1.34	11.97
MB 65	5.92	6.92	0.95	9.46
MB 65	6.92	7.92	0.77	7.75
MB 65	7.92	8.50	0.44	6.88
MBIF 55	0.00	1.43	1.55	26.74
MBIF 55	1.43	2.43	1.87	19.20
MBIF 55	2.43	3.43	1.67	16.85
MBIF 55	3.43	4.43	1.64	15.58
MBIF 55	4.43	5.43	1.99	23.10
MBIF 55	5.43	6.43	1.92	27.70
MBIF 55	6.43	7.43	1.95	13.56
MBIF 55	7.43	8.43	1.60	10.38
MBIF 55	8.43	9.43	1.59	13.92
MBIF 55	9.43	10.43	1.47	11.30
MBIF 55	10.43	12.00	0.74	7.68
MBIF 108	0.00	1.03	0.92	43.31
MBIF 108	1.03	2.03	1.20	38.00
MBIF 108	2.03	3.03	2.08	12.33
MBIF 108	3.03	4.03	2.42	22.98
MBIF 108	4.03	5.03	1.85	35.26
MBIF 108	5.03	6.03	2.15	20.67
MBIF 108	6.03	7.03	1.62	40.70
MBIF 108	7.03	8.03	2.24	19.70
MBIF 108	8.03	9.03	2.11	15.19
MBIF 108	9.03	10.03	1.89	14.98
MBIF 108	10.03	11.03	1.70	11.01
MBIF 108	11.03	12.03	1.54	9.52
MBIF 108	12.03	13.03	1.58	11.32
MBIF 108	13.03	14.03	1.79	13.29
MBIF 108	14.03	15.03	1.66	11.74
MBIF 108	15.03	16.03	1.56	10.95
MBIF 108	16.03	17.03	1.32	8.71
MBIF 108	17.03	18.03	1.49	11.58
MBIF 108	18.03	19.03	1.41	13.34
MBIF 108	19.03	20.03	1.10	10.35
MBIF 108	20.03	21.03	1.09	9.78
MBIF 108	21.03	22.03	1.10	9.72
MBIF 108	22.03	23.08	0.72	7.68
MBIF 100	0.00	1.37	1.25	17.50
MBIF 100	1.37	2.37	1.68	18.98
MBIF 100	2.37	3.37	1.53	25.76
MBIF 100	3.37	4.37	1.19	13.79
MBIF 100	4.37	5.37	1.09	11.32
MBIF 100	5.37	6.37	1.17	10.66
MBIF 100	6.37	7.37	1.13	11.76
MBIF 100	7.37	8.37	1.23	11.99
MBIF 100	8.37	9.37	0.86	11.86
MBIF 100	9.37	10.37	0.64	20.53
MBIF 100	10.37	11.37	0.27	6.75
MBIF 100	11.37	12.00	0.37	6.62
MB 38	0.00	0.70	0.74	46.51
MB 38	0.70	1.70	0.90	45.69
MB 38	1.70	2.70	0.80	48.46
MB 38	2.70	3.70	1.21	18.21
MB 38	3.70	4.70	1.49	15.87
MB 38	4.70	5.70	1.60	19.64
MB 38	5.70	6.70	1.33	37.80
MB 38	6.70	7.70	1.28	19.06
MB 38	7.70	8.70	1.35	34.30
MB 38	8.70	9.70	1.63	28.32
MB 38	9.70	10.70	1.42	13.98
MB 38	10.70	11.70	1.36	10.05
MB 38	11.70	12.70	1.29	9.15
MB 38	12.70	13.70	1.06	13.31
MB 38	13.70	14.70	0.76	11.50
MB 38	14.70	16.00	0.49	7.61

MB 19	0.00	0.78	0.94	44.09
MB 19	0.78	1.78	1.26	42.42
MB 19	1.78	2.78	1.32	14.62
MB 19	2.78	3.78	1.76	28.85
MB 19	3.78	4.78	1.85	24.36
MB 19	4.78	5.78	1.60	12.11
MB 19	5.78	6.78	1.76	16.02
MB 19	6.78	7.78	1.81	20.54
MB 19	7.78	8.78	1.52	35.50
MB 19	8.78	9.78	1.60	28.98
MB 19	9.78	10.78	1.73	32.14
MB 19	10.78	11.78	1.79	19.57
MB 19	11.78	12.78	1.43	14.78
MB 19	12.78	13.78	0.78	9.09
MB 19	13.78	14.78	0.66	8.40
MB 19	14.78	15.78	0.78	8.02
MB 19	15.78	16.80	0.38	7.58
MB 37	0.00	1.46	0.77	47.82
MB 37	1.46	2.46	0.81	47.69
MB 37	2.46	3.46	0.86	48.92
MB 37	3.46	4.46	1.13	38.29
MB 37	4.46	5.46	1.70	19.06
MB 37	5.46	6.46	1.38	12.09
MB 37	6.46	7.46	1.43	12.84
MB 37	7.46	8.46	1.79	15.81
MB 37	8.46	9.46	1.19	9.84
MB 37	9.46	10.46	1.01	8.60
MB 37	10.46	11.46	1.16	10.14
MB 37	11.46	12.46	1.16	9.71
MB 37	12.46	13.46	1.36	10.52
MB 37	13.46	14.46	1.07	8.76
MB 37	14.46	15.46	0.69	7.69
MB 37	15.46	16.46	0.67	6.92
MB 37	16.46	17.46	0.55	6.42
MB 12	0.00	0.64	0.64	45.64
MB 12	0.64	1.64	0.69	50.50
MB 12	1.64	2.64	0.88	48.06
MB 12	2.64	3.64	0.84	51.69
MB 12	3.64	4.64	0.99	45.41
MB 12	4.64	5.64	1.46	30.16
MB 12	5.64	6.64	1.55	35.17
MB 12	6.64	7.64	1.64	29.31
MB 12	7.64	8.64	1.89	15.24
MB 12	8.64	9.64	1.86	17.00
MB 12	9.64	10.64	1.59	16.01
MB 12	10.64	11.64	1.08	10.00
MB 12	11.64	12.64	0.92	11.38
MB 12	12.64	13.64	0.50	8.28
MB 12	13.64	15.00	0.36	6.60
MB 10	0.00	1.03	0.75	45.23
MB 10	1.03	2.03	0.85	48.46
MB 10	2.03	3.03	1.00	49.02
MB 10	3.03	4.03	1.16	43.93
MB 10	4.03	5.03	1.08	34.53
MB 10	5.03	6.03	1.07	44.81
MB 10	6.03	7.03	1.55	26.35
MB 10	7.03	8.03	1.95	15.53
MB 10	8.03	9.03	2.08	12.10
MB 10	9.03	10.03	1.76	13.50
MB 10	10.03	11.03	2.12	16.20
MB 10	11.03	12.03	1.19	7.89
MB 10	12.03	13.00	0.47	6.55
MBIF 66	0.00	1.05	0.78	47.56
MBIF 66	1.05	2.05	0.86	50.22
MBIF 66	2.05	3.05	0.93	48.71
MBIF 66	3.05	4.05	1.06	39.56
MBIF 66	4.05	5.05	1.55	16.06
MBIF 66	5.05	6.05	0.88	8.59
MBIF 66	6.05	7.05	0.77	7.21
MBIF 66	7.05	8.05	1.79	22.30
MBIF 66	8.05	9.05	1.95	25.99
MBIF 66	10.05	11.05	1.84	22.25
MBIF 66	11.05	12.05	1.42	10.55
MBIF 66	12.05	13.05	1.32	13.61
MBIF 66	13.05	14.05	0.76	8.04
MBIF 97	0.00	1.30	0.75	47.54
MBIF 97	1.30	2.30	0.93	47.96
MBIF 97	2.30	3.30	0.87	44.28
MBIF 97	3.30	4.30	0.85	45.80
MBIF 97	4.30	5.30	0.81	46.04

MBIF 97	5.30	6.30	0.97	45.90	5 N400 E5C	0.00	1.18	0.73	43.81
MBIF 97	6.30	7.30	1.41	31.37	5 N400 E5C	1.18	2.18	0.66	43.11
MBIF 97	7.30	8.30	1.17	47.91	5 N400 E5C	2.18	3.18	0.77	45.40
MBIF 97	8.30	9.30	1.09	46.96	5 N400 E5C	3.18	4.18	0.82	48.71
MBIF 97	9.30	10.30	0.73	9.29	5 N400 E5C	4.18	5.18	0.97	45.66
MBIF 97	10.30	11.30	1.52	23.14	5 N400 E5C	5.18	6.18	1.09	30.69
MBIF 97	11.30	12.30	0.36	7.77	5 N400 E5C	6.18	7.18	1.45	32.35
MBIF 97	12.30	13.00	0.27	6.54	5 N400 E5C	7.18	8.18	1.13	29.35
5 N350 E35	0.00	0.83	0.81	45.76	5 N400 E5C	8.18	9.18	0.92	11.70
5 N350 E35	0.83	1.83	1.17	43.13	5 N400 E5C	9.18	10.00	0.36	6.50
5 N350 E35	1.83	2.83	1.11	10.32	5 N450 E45	0.00	1.13	0.58	7.07
5 N350 E35	2.83	3.83	0.82	8.33	5 N450 E45	1.13	2.13	0.55	6.82
5 N350 E35	3.83	4.83	1.19	13.29	5 N450 E45	2.13	3.13	0.83	9.42
5 N350 E35	4.83	5.83	0.80	8.63	5 N450 E45	3.13	4.13	0.96	11.44
5 N350 E35	5.83	6.83	0.61	8.09	5 N450 E45	4.13	5.13	1.10	9.76
5 N350 E35	6.83	7.83	0.32	6.73	5 N450 E45	5.13	6.13	1.27	14.03
5 N350 E35	7.83	8.83	0.26	5.91	5 N450 E45	6.13	7.13	1.25	9.19
5 N350 E35	8.83	9.83	0.26	5.91	5 N450 E45	7.13	8.13	0.85	7.45
5 N350 E35	9.83	10.83	0.25	5.89	5 N450 E45	8.13	9.13	0.63	7.30
5 N350 E35	10.83	12.00	0.26	5.96	5 N450 E45	9.13	10.13	0.84	9.76
5 N500 E15	0.00	0.85	0.67	46.11	5 N450 E45	10.13	11.00	1.05	38.82
5 N500 E15	0.85	1.85	0.77	47.16	6 N150 E5C	0.00	1.00	0.77	46.74
5 N500 E15	1.85	2.85	1.44	21.33	6 N150 E5C	1.00	2.00	0.91	49.64
5 N500 E15	2.85	3.85	1.08	10.76	6 N150 E5C	2.00	3.00	0.86	48.18
5 N500 E15	3.85	4.85	0.97	37.80	6 N150 E5C	3.00	4.00	0.85	46.32
5 N500 E15	4.85	5.85	1.42	15.93	6 N150 E5C	4.00	5.00	0.93	49.08
5 N500 E15	5.85	6.85	1.62	22.97	6 N150 E5C	5.00	6.00	1.33	34.27
5 N500 E15	6.85	7.85	0.89	9.73	6 N150 E5C	6.00	7.00	1.75	16.82
5 N500 E15	7.85	8.85	0.68	6.32	6 N150 E5C	7.00	8.00	1.59	12.61
5 N500 E15	8.85	9.00	0.35	7.01	6 N150 E5C	8.00	9.00	0.81	7.53
5 N450 E40	0.00	1.01	0.99	42.97	6 N150 E5C	9.00	10.00	0.52	7.82
5 N450 E40	1.01	2.01	1.05	13.14	6 N150 E5C	10.00	11.00	0.85	13.36
5 N450 E4C	2.01	3.01	0.77	8.53	6 N150 E5C	11.00	12.00	0.51	7.29
5 N450 E4C	3.01	4.01	0.58	7.51	6 N50 E10C	0.00	1.14	0.80	44.78
5 N450 E4C	4.01	5.01	0.54	8.48	6 N50 E10C	1.14	2.14	0.74	46.66
5 N450 E4C	5.01	6.01	0.59	8.74	6 N50 E10C	2.14	3.14	0.74	46.85
5 N450 E4C	6.01	7.01	0.62	9.39	6 N50 E10C	3.14	4.14	1.02	44.98
5 N450 E4C	7.01	8.01	0.58	8.72	6 N50 E10C	4.14	5.14	0.92	47.75
5 N450 E4C	8.01	9.00	0.32	6.53	6 N50 E10C	5.14	6.14	1.01	47.17
6 N250 E20	0.00	1.43	0.63	46.33	6 N50 E10C	6.14	7.14	1.20	47.09
6 N250 E20	1.43	2.43	0.84	48.96	6 N50 E10C	7.14	8.14	1.55	31.16
6 N250 E20	2.43	3.43	1.56	14.44	6 N50 E10C	8.14	9.14	1.52	16.74
6 N250 E20	3.43	4.43	1.28	36.47	6 N50 E10C	9.14	10.14	1.57	18.10
6 N250 E20	4.43	5.43	1.06	45.56	6 N50 E10C	10.14	11.14	1.31	13.27
6 N250 E20	5.43	6.43	0.88	7.16	6 N50 E10C	11.14	12.14	1.12	11.26
6 N250 E20	6.43	7.43	1.08	8.54	6 N50 E10C	12.14	13.00	0.83	7.50
6 N250 E20	7.43	8.43	1.38	10.23	5 N500 E10	0.00	1.15	0.67	46.28
6 N250 E20	8.43	9.43	1.53	13.60	5 N500 E10	1.15	2.15	0.81	47.71
6 N250 E20	9.43	10.43	1.20	11.63	5 N500 E10	2.15	3.15	0.92	40.60
6 N250 E20	10.43	11.43	1.20	14.42	5 N500 E10	3.15	4.15	0.77	9.45
6 N250 E20	11.43	12.43	1.14	14.45	5 N500 E10	4.15	5.15	0.35	7.33
6 N250 E20	12.43	13.43	1.25	16.36	5 N500 E10	5.15	6.15	0.57	9.54
6 N250 E20	13.43	14.43	1.25	18.64	5 N500 E10	6.15	7.15	0.73	11.31
6 N250 E20	14.43	15.43	1.21	13.78	5 N500 E10	7.15	8.15	0.51	7.15
6 N250 E20	15.43	16.43	1.36	17.42	5 N500 E10	8.15	9.15	0.32	6.21
6 N250 E20	16.43	17.43	1.02	8.58	5 N150 E45	0.00	0.89	1.01	41.77
6 N250 E20	17.43	18.00	0.93	8.37	5 N150 E45	0.89	1.89	0.90	16.83
5 N350 E4C	0.00	1.27	0.69	45.60	5 N150 E45	1.89	2.89	0.36	8.04
5 N350 E4C	2.27	3.27	1.27	31.97	5 N150 E45	2.89	3.89	0.36	7.86
5 N350 E4C	9.27	10.27	0.83	9.79	5 N150 E45	3.89	4.89	0.30	6.44
5 N350 E4C	10.27	11.27	0.52	7.22	5 N150 E45	4.89	5.89	0.31	7.01
5 N350 E4C	11.27	12.27	0.35	6.49	5 N150 E45	5.89	6.89	0.28	6.10
5 N350 E4C	12.27	13.27	0.27	5.98	5 N150 E45	6.89	8.00	0.28	6.06
5 N350 E4C	13.27	14.27	0.26	5.88	5 N400 E5C	0.00	1.03	0.65	44.42
6 N350 E40	0.00	1.33	0.75	45.69	5 N400 E5C	1.03	2.03	0.73	47.78
6 N350 E40	1.33	2.33	1.30	34.80	5 N400 E5C	2.03	3.03	1.03	48.15
6 N350 E40	2.33	3.33	0.92	45.86	5 N400 E5C	3.03	4.03	0.94	47.47
6 N350 E40	3.33	4.33	1.05	10.49	5 N400 E5C	4.03	5.03	0.86	46.57
6 N350 E40	4.33	5.33	1.00	11.26	5 N400 E5C	8.03	9.03	1.71	29.17
6 N350 E40	5.33	6.00	0.47	7.24	5 N400 E5C	10.03	11.03	1.62	29.24
6 N250 E5C	0.00	1.03	0.63	44.79	5 N400 E5C	11.03	12.03	1.56	25.22
6 N250 E5C	1.03	2.03	0.72	32.17	5 N400 E5C	12.03	13.03	1.65	17.85
6 N250 E5C	2.03	3.03	0.70	10.08	5 N400 E5C	13.03	14.03	1.29	8.79
6 N250 E5C	3.03	4.03	1.02	31.31	5 N400 E5C	16.03	17.03	0.58	9.96
6 N250 E5C	4.03	5.03	0.34	6.21	5 N400 E5C	17.03	18.03	0.78	14.07
6 N250 E5C	5.03	6.03	0.48	7.04	5 N400 E5C	18.03	19.03	0.73	10.65
6 N250 E5C	6.03	7.03	0.63	8.31	5 N400 E5C	19.03	20.00	0.28	6.99
6 N250 E5C	7.03	8.03	0.41	7.68	6 N150 E25	0.00	0.82	0.76	47.40
6 N250 E5C	8.03	9.03	0.37	7.39	6 N150 E25	0.82	1.82	0.89	48.02
6 N250 E5C	9.03	10.00	0.30	6.44	6 N150 E25	1.82	2.82	0.84	47.74



6 N150 E25	3.82	4.82	1.18	13.76
6 N150 E25	4.82	5.82	1.13	16.44
6 N150 E25	5.82	8.00	0.50	7.44
TH1	0.00	0.90	0.67	47.99
TH1	0.90	1.90	0.79	49.23
TH1	1.90	2.90	0.73	49.68
TH1	2.90	3.90	0.89	48.24
TH1	9.90	10.90	0.34	8.76
TH1	10.90	11.90	0.27	6.96
TH1	11.90	12.90	0.34	8.20
TH1	14.90	15.90	0.29	7.03
5 N300 E30	0.00	0.65	0.47	39.63
5 N300 E30	0.65	1.65	0.76	49.12
5 N300 E30	1.65	2.65	0.80	40.84
5 N300 E30	2.65	3.65	0.92	46.61
5 N300 E30	3.65	4.65	0.80	47.50
5 N300 E30	4.65	5.65	1.04	48.85
5 N300 E30	5.65	6.65	1.59	38.99
5 N300 E30	6.65	7.65	1.32	24.97
5 N300 E30	7.65	8.65	1.53	21.15
5 N300 E30	8.65	9.65	1.58	16.20
5 N300 E30	9.65	10.65	1.58	19.41
5 N300 E30	10.65	11.65	0.59	8.52
5 N300 E30	11.65	13.00	0.90	14.75
:5 N500 E5(	0.00	1.10	0.73	46.82
:5 N500 E5(	1.10	2.10	0.80	49.25
:5 N500 E5(	2.10	3.10	0.89	47.87
:5 N500 E5(	3.10	4.10	1.38	30.15
:5 N500 E5(	4.10	5.10	1.81	9.20
:5 N500 E5(	5.10	6.10	1.85	16.08
:5 N500 E5(	6.10	7.10	1.62	22.42
:5 N500 E5(	7.10	8.10	1.55	31.11
:5 N500 E5(	8.10	9.10	1.74	15.91
:5 N500 E5(	9.10	10.10	1.53	16.39
:5 N500 E5(	10.10	11.10	1.19	10.89
:5 N500 E5(	11.10	12.10	0.97	11.75
:5 N500 E5(	12.10	13.10	0.84	12.48
:5 N500 E5(	13.10	14.10	0.58	8.57
:5 N500 E5(	14.10	15.00	0.38	8.14
5 N200 E5C	0.00	1.09	1.04	40.85
5 N200 E5C	1.09	2.09	1.08	30.87
5 N200 E5C	2.09	3.09	0.51	9.13
5 N200 E5C	3.09	4.09	0.31	6.52
5 N200 E5C	4.09	5.09	0.26	5.95
5 N200 E5C	5.09	6.09	0.24	5.69
5 N200 E5C	6.09	7.09	0.24	5.70
5 N200 E5C	7.09	8.00	0.25	5.77
6 N150 E20	0.00	1.18	0.76	46.76
6 N150 E20	1.18	2.18	0.99	46.70
6 N150 E20	2.18	3.18	1.13	33.91
6 N150 E20	3.18	4.18	1.31	11.91
6 N150 E20	4.18	5.18	1.51	11.74
6 N150 E20	5.18	6.18	1.58	13.88
6 N150 E20	6.18	7.18	1.49	18.54
6 N150 E20	7.18	8.18	0.53	6.51
6 N150 E20	8.18	9.18	1.09	12.77
6 N150 E20	9.18	10.18	0.79	8.95
6 N150 E20	10.18	11.18	0.57	9.18
6 N150 E20	11.18	12.18	0.50	9.98
6 N150 E20	12.18	13.18	0.67	10.27
6 N150 E20	13.18	14.18	1.09	17.38
6 N150 E20	14.18	15.18	1.14	13.73
6 N150 E20	15.18	16.18	0.71	10.94
6 N150 E20	16.18	17.00	0.33	6.35
5 N400 E20	0.00	1.45	0.97	47.46
5 N400 E20	1.45	2.45	1.05	47.66
5 N400 E20	2.45	3.45	1.06	47.27
5 N400 E20	3.45	4.45	1.78	14.17
5 N400 E20	4.45	5.45	1.21	10.58
5 N400 E20	5.45	6.45	1.15	9.90
5 N400 E20	6.45	7.45	1.19	16.21
5 N400 E20	7.45	8.45	1.06	11.17
5 N400 E20	8.45	9.45	1.06	14.17
5 N400 E20	9.45	10.45	0.38	6.86
5 N400 E20	10.45	11.00	0.33	6.42
6 N150 E10	0.00	1.12	0.47	39.98
6 N150 E10	1.12	2.12	0.57	42.92
6 N150 E10	2.12	3.12	0.81	49.96
6 N150 E10	3.12	4.12	0.76	47.98
6 N150 E10	4.12	5.12	0.85	46.40

6 N150 E10	5.12	6.12	0.85	18.91
6 N150 E10	6.12	7.12	0.46	8.64
6 N150 E10	7.12	8.12	0.33	7.26
6 N150 E10	8.12	9.12	0.37	7.86
6 N150 E10	9.12	10.00	0.27	6.09
MAB-01	0.00	1.00	0.89	23.92
MAB-01	1.00	2.00	0.42	8.90
MAB-01	2.00	3.00	0.28	7.24
MAB-01	3.00	4.00	0.23	5.26
MAB-01	4.00	5.00	0.25	5.63
MAB-02	0.00	1.00	0.54	11.76
MAB-02	1.00	2.00	0.30	9.15
MAB-02	2.00	3.00	0.31	7.36
MAB-02	3.00	4.00	0.23	7.02
MAB-02	4.00	5.00	0.25	7.06
MAB-02	5.00	6.00	0.26	7.13
MAB-02	6.00	7.00	0.24	6.01
MAB-02	7.00	8.00	0.25	5.81
MAB-03	0.00	1.00	0.52	51.01
MAB-03	1.00	2.00	0.75	48.16
MAB-03	2.00	3.00	1.26	27.00
MAB-03	3.00	4.00	1.12	13.17
MAB-03	4.00	5.00	0.75	9.72
MAB-04	0.00	1.00	0.52	44.08
MAB-04	1.00	2.00	0.64	43.90
MAB-04	2.00	3.00	0.75	43.82
MAB-04	3.00	4.00	0.84	46.81
MAB-04	4.00	5.00	0.82	46.98
MAB-04	5.00	6.00	0.80	42.88
MAB-04	6.00	7.00	0.82	37.30
MAB-04	7.00	8.00	1.34	22.65
MAB-04	8.00	9.00	1.27	11.56
MAB-04	9.00	10.00	0.59	10.85
MAB-04	10.00	11.00	0.33	9.09
MAB-04	11.00	12.00	0.28	7.82
MAB-05	0.00	1.00	0.78	46.38
MAB-05	1.00	2.00	0.78	46.34
MAB-05	2.00	3.00	0.85	41.13
MAB-05	3.00	4.00	0.80	28.19
MAB-05	4.00	5.00	0.95	7.13
MAB-05	5.00	6.00	0.82	9.08
MAB-05	6.00	7.00	0.70	9.15
MAB-05	7.00	8.00	0.64	9.49
MAB-05	8.00	9.00	0.63	10.97
MAB-05	9.00	10.00	0.69	15.51
MAB-05	10.00	11.00	0.74	8.86
MAB-05	11.00	12.00	1.02	11.83
MAB-05	12.00	13.00	0.89	12.32
MAB-05	13.00	14.00	0.82	16.91
MAB-05	14.00	15.00	0.45	9.03
MAB-05	15.00	16.00	0.31	7.81
MAB-05	16.00	17.00	1.03	45.94
MAB-05	17.00	18.00	0.32	10.11
MAB-05	18.00	19.00	0.34	10.25
MAB-06	0.00	1.00	1.40	26.77
MAB-06	1.00	2.00	1.35	9.56
MAB-06	2.00	3.00	0.99	7.34
MAB-06	3.00	4.00	0.51	7.40
MAB-06	4.00	5.00	0.23	5.99
MAB-06	5.00	6.00	0.24	5.84
MAB-06	6.00	7.00	0.26	6.41
MAB-06	7.00	8.00	0.34	6.98
MAB-06	8.00	9.00	0.24	5.78
MAB-06	9.00	10.00	0.30	7.14
MAB-07	0.00	1.00	0.61	48.51
MAB-07	1.00	2.00	0.64	45.10
MAB-07	2.00	3.00	0.92	49.84
MAB-07	3.00	4.00	0.81	47.36
MAB-07	4.00	5.00	1.24	47.10
MAB-07	5.00	6.00	1.09	48.61
MAB-07	6.00	7.00	0.96	49.99
MAB-07	7.00	8.00	0.92	48.34
MAB-07	8.00	9.00	1.31	47.34
MAB-07	9.00	10.00	1.10	49.14
MAB-07	10.00	11.00	1.34	48.02
MAB-07	11.00	12.00	1.79	33.20
MAB-07	12.00	13.00	1.86	9.79
MAB-07	13.00	14.00	1.85	8.82
MAB-07	14.00	15.00	1.80	17.99
MAB-07	15.00	16.00	1.57	10.93

MAB-07	16.00	17.00	1.49	18.71	MAB-10	8.00	9.00	1.10	16.64
MAB-07	17.00	18.00	1.30	29.06	MAB-10	9.00	10.00	1.06	18.84
MAB-07	18.00	19.00	1.70	34.24	MAB-10	10.00	11.00	1.15	20.70
MAB-07	19.00	20.00	1.68	28.47	MAB-10	11.00	12.00	1.13	28.13
MAB-07	20.00	21.00	1.43	27.08	MAB-10	12.00	13.00	1.28	19.04
MAB-07	21.00	22.00	1.49	23.08	MAB-10	13.00	14.00	0.81	14.25
MAB-07	22.00	23.00	1.34	25.86	MAB-10	14.00	15.00	0.75	12.05
MAB-07	23.00	24.00	1.06	16.26	MAB-10	15.00	16.00	0.30	8.21
MAB-07	24.00	25.00	1.21	18.52	MAB-10	16.00	17.00	0.38	11.30
MAB-07	25.00	26.00	1.14	13.88	MAB-10	17.00	18.00	0.38	8.61
MAB-07	26.00	27.00	1.29	13.68	MAB-10	18.00	19.00	0.52	13.22
MAB-07	27.00	28.00	1.05	12.46	MAB-10	19.00	20.00	0.39	11.22
MAB-07	28.00	29.00	1.04	14.85	MAB-10	20.00	21.00	0.32	11.63
MAB-07	29.00	30.00	1.12	14.63	MAB-10	21.00	22.00	0.31	10.13
MAB-07	30.00	31.00	0.81	11.74	VIAB-19S-3I	0.00	1.00	0.37	47.61
MAB-07	31.00	32.00	0.73	10.11	VIAB-19S-3I	1.00	2.00	0.77	50.19
VIAB-7S-17I	0.00	1.00	0.62	49.50	VIAB-19S-3I	2.00	3.00	0.74	46.49
VIAB-7S-17I	1.00	2.00	0.76	48.20	VIAB-19S-3I	3.00	4.00	0.73	50.89
VIAB-7S-17I	2.00	3.00	0.66	50.08	VIAB-19S-3I	4.00	5.00	0.68	49.48
VIAB-7S-17I	3.00	4.00	0.80	49.61	VIAB-19S-3I	5.00	6.00	0.83	48.96
VIAB-7S-17I	4.00	5.00	0.78	41.39	VIAB-19S-3I	6.00	7.00	0.81	46.06
VIAB-7S-17I	5.00	6.00	0.36	11.59	VIAB-19S-3I	7.00	8.00	1.62	44.23
MAB-08	0.00	1.00	0.66	49.11	VIAB-19S-3I	8.00	9.00	1.35	32.99
MAB-08	1.00	2.00	0.76	48.73	VIAB-19S-3I	9.00	10.00	1.36	17.26
MAB-08	2.00	3.00	0.92	25.19	VIAB-19S-3I	10.00	11.00	1.28	15.53
MAB-08	3.00	4.00	0.89	18.70	VIAB-19S-3I	11.00	12.00	1.35	10.34
MAB-08	4.00	5.00	0.80	10.06	VIAB-19S-3I	12.00	13.00	0.99	9.76
MAB-08	5.00	6.00	1.24	13.86	VIAB-19S-3I	13.00	14.00	1.12	9.91
MAB-08	6.00	7.00	0.89	9.34	VIAB-19S-3I	14.00	15.00	0.81	12.69
MAB-08	7.00	8.00	0.71	10.20	VIAB-19S-3I	15.00	16.00	0.68	13.77
MAB-08	8.00	9.00	0.65	9.02	VIAB-19S-3I	16.00	17.00	0.71	9.22
MAB-08	9.00	10.00	0.55	7.89	VIAB-19S-3I	17.00	18.00	0.88	10.75
MAB-08	10.00	11.00	0.82	11.10	VIAB-19S-3I	18.00	19.00	0.74	11.36
MAB-08	11.00	12.00	0.69	10.08	VIAB-19S-3I	19.00	20.00	0.52	7.96
MAB-08	12.00	13.00	0.66	10.15	MAB-11	0.00	1.00	0.68	48.75
MAB-08	13.00	14.00	0.74	9.77	MAB-11	1.00	2.00	0.93	49.06
MAB-08	14.00	15.00	0.67	7.38	MAB-11	2.00	3.00	0.86	49.26
MAB-08	15.00	16.00	1.12	20.35	MAB-11	3.00	4.00	0.74	47.60
MAB-08	16.00	17.00	1.09	23.60	MAB-11	4.00	5.00	1.54	48.37
MAB-08	17.00	18.00	0.66	11.76	MAB-11	5.00	6.00	1.24	47.01
MAB-08	18.00	19.00	0.70	13.26	MAB-11	6.00	7.00	0.97	46.78
MAB-08	19.00	20.00	0.77	12.79	MAB-11	7.00	8.00	0.89	45.44
MAB-08	20.00	21.00	0.61	10.08	MAB-11	8.00	9.00	1.67	20.81
MAB-08	21.00	22.00	0.47	7.28	MAB-11	9.00	10.00	1.90	16.54
MAB-08	22.00	23.00	0.46	9.47	MAB-11	10.00	11.00	1.73	10.28
MAB-08	23.00	24.00	0.39	10.03	MAB-11	11.00	12.00	1.66	9.88
MAB-08	24.00	25.00	0.37	6.41	MAB-11	12.00	13.00	1.56	17.41
MAB-09	0.00	1.00	0.69	11.90	MAB-11	13.00	14.00	1.58	20.87
MAB-09	1.00	2.00	0.57	8.11	MAB-11	14.00	15.00	0.87	9.87
MAB-09	2.00	3.00	0.55	7.71	MAB-11	15.00	16.00	1.14	8.18
MAB-09	3.00	4.00	0.40	8.22	MAB-11	16.00	17.00	1.46	14.20
MAB-09	4.00	5.00	0.27	6.77	MAB-11	17.00	18.00	1.43	12.05
MAB-09	5.00	6.00	0.16	5.08	MAB-11	18.00	19.00	1.36	17.50
MAB-09	6.00	7.00	0.23	5.59	MAB-11	19.00	20.00	1.58	21.82
MAB-09	7.00	8.00	0.18	4.90	MAB-11	20.00	21.00	1.44	9.56
VIAB-9S-17I	0.00	1.00	0.80	50.16	MAB-11	21.00	22.00	1.04	7.11
VIAB-9S-17I	1.00	2.00	0.91	49.62	MAB-12	0.00	1.00	1.05	8.41
VIAB-9S-17I	2.00	3.00	1.23	50.15	MAB-12	1.00	2.00	1.58	14.33
VIAB-9S-17I	3.00	4.00	1.10	20.34	MAB-12	2.00	3.00	1.77	21.92
VIAB-9S-17I	4.00	5.00	1.71	15.88	MAB-12	3.00	4.00	1.74	21.74
VIAB-9S-17I	5.00	6.00	1.71	30.96	MAB-12	4.00	5.00	2.07	31.20
VIAB-9S-17I	6.00	7.00	1.70	23.01	MAB-12	5.00	6.00	1.35	28.57
VIAB-9S-17I	7.00	8.00	0.72	8.12	MAB-12	6.00	7.00	1.26	42.49
VIAB-9S-17I	8.00	9.00	1.12	7.98	MAB-12	7.00	8.00	0.78	48.90
VIAB-9S-17I	9.00	10.00	1.04	18.54	MAB-12	8.00	9.00	0.76	50.22
VIAB-9S-17I	10.00	11.00	1.65	19.75	MAB-12	9.00	10.00	0.78	48.27
VIAB-9S-17I	11.00	12.00	1.43	8.53	MAB-12	10.00	11.00	0.56	48.62
VIAB-9S-17I	12.00	13.00	1.27	9.94	MAB-12	11.00	12.00	1.20	13.52
VIAB-9S-17I	13.00	14.00	0.52	6.99	MAB-12	12.00	13.00	1.17	11.80
VIAB-9S-19I	0.00	1.00	0.90	46.04	MAB-12	13.00	14.00	1.03	13.38
VIAB-9S-19I	1.00	2.00	0.44	8.45	MAB-12	14.00	15.00	0.41	7.44
VIAB-9S-19I	2.00	3.00	0.75	11.19	MAB-12	15.00	16.00	0.75	11.38
MAB-10	0.00	1.00	0.65	50.45	MAB-12	16.00	17.00	0.59	8.18
MAB-10	1.00	2.00	0.94	50.94	MAB-12	17.00	18.00	0.26	6.48
MAB-10	2.00	3.00	0.97	50.34	MAB-13	0.00	1.00	0.68	48.04
MAB-10	3.00	4.00	1.04	49.32	MAB-13	1.00	2.00	0.68	48.09
MAB-10	4.00	5.00	1.12	49.86	MAB-13	2.00	3.00	0.50	49.61
MAB-10	5.00	6.00	1.17	50.33	MAB-13	3.00	4.00	0.64	49.40
MAB-10	6.00	7.00	1.55	30.08	MAB-13	4.00	5.00	1.20	26.95
MAB-10	7.00	8.00	1.57	24.07	MAB-13	5.00	6.00	0.82	43.91

MAB-13	6.00	7.00	0.94	27.81	MAB-15	0.00	1.00	0.60	35.32
MAB-13	7.00	8.00	1.30	25.65	MAB-15	1.00	2.00	0.94	14.11
MAB-13	8.00	9.00	1.28	16.39	MAB-15	2.00	3.00	0.74	10.36
MAB-13	9.00	10.00	1.60	22.21	MAB-15	3.00	4.00	0.76	7.43
MAB-13	10.00	11.00	1.30	17.47	MAB-15	4.00	5.00	0.25	6.50
MAB-13	11.00	12.00	1.04	18.67	MAB-15	5.00	6.00	0.38	8.19
MAB-13	12.00	13.00	0.72	11.19	MAB-15	6.00	7.00	0.65	8.71
MAB-13	13.00	14.00	0.85	13.30	MAB-15	7.00	8.00	0.64	7.77
MAB-13	14.00	15.00	0.60	11.61	MAB-16	0.00	1.00	1.00	52.85
MAB-13	15.00	16.00	0.36	5.74	MAB-16	1.00	2.00	0.97	50.92
MAB-13	16.00	17.00	0.25	7.63	MAB-16	2.00	3.00	0.99	50.74
MAB-13	17.00	18.00	0.28	9.07	MAB-16	3.00	4.00	0.88	54.06
VIAB-23S-9I	0.00	1.00	0.76	48.14	MAB-16	4.00	5.00	1.25	47.28
VIAB-23S-9I	1.00	2.00	0.93	47.93	MAB-16	5.00	6.00	1.13	51.64
VIAB-23S-9I	2.00	3.00	1.01	48.46	MAB-16	6.00	7.00	1.13	49.69
VIAB-23S-9I	3.00	4.00	0.93	42.75	MAB-16	7.00	8.00	1.03	50.63
VIAB-23S-9I	4.00	5.00	0.86	39.62	MAB-16	8.00	9.00	1.06	9.92
VIAB-23S-9I	5.00	6.00	1.07	37.00	MAB-16	9.00	10.00	0.81	15.66
VIAB-23S-9I	6.00	7.00	1.51	22.14	MAB-16	10.00	11.00	1.57	40.19
VIAB-23S-9I	7.00	8.00	1.43	32.76	MAB-16	11.00	12.00	1.61	29.86
VIAB-23S-9I	8.00	9.00	1.92	23.21	MAB-16	12.00	13.00	0.34	6.96
VIAB-23S-9I	9.00	10.00	2.03	32.81	MAB-16	13.00	14.00	1.24	9.29
VIAB-23S-9I	10.00	11.00	1.36	43.17	MAB-16	14.00	15.00	1.69	14.80
VIAB-23S-9I	11.00	12.00	1.53	45.18	MAB-16	15.00	16.00	1.80	16.98
VIAB-23S-9I	12.00	13.00	1.92	31.90	MAB-16	16.00	17.00	0.67	5.73
VIAB-23S-9I	13.00	14.00	1.96	27.74	MAB-16	17.00	18.00	0.26	6.80
VIAB-23S-9I	14.00	15.00	1.88	20.79	MAB-16	18.00	19.00	0.34	9.93
VIAB-23S-9I	15.00	16.00	1.80	16.73	MAB-16	19.00	20.00	0.32	8.07
VIAB-23S-9I	16.00	17.00	1.58	24.71	MAB-17	0.00	1.00	0.68	50.86
VIAB-23S-9I	17.00	18.00	1.69	20.34	MAB-17	1.00	2.00	0.87	51.36
VIAB-23S-9I	18.00	19.00	1.33	12.68	MAB-17	2.00	3.00	1.12	18.11
VIAB-23S-9I	19.00	20.00	1.26	10.73	MAB-17	3.00	4.00	0.73	15.77
VIAB-23S-9I	20.00	21.00	1.34	18.78	MAB-17	4.00	5.00	1.11	17.80
VIAB-23S-9I	21.00	22.00	0.91	12.26	MAB-17	5.00	6.00	1.02	12.09
VIAB-23S-9I	22.00	23.00	0.65	8.35	MAB-17	6.00	7.00	0.65	10.29
VIAB-13S-17	0.00	1.00	0.44	49.85	MAB-17	7.00	8.00	0.74	18.53
VIAB-13S-17	1.00	2.00	0.61	51.77	MAB-17	8.00	9.00	0.76	14.72
VIAB-13S-17	2.00	3.00	0.68	50.71	MAB-17	9.00	10.00	0.59	8.99
VIAB-13S-17	3.00	4.00	0.76	48.08	MAB-17	10.00	11.00	0.25	6.80
VIAB-13S-17	4.00	5.00	0.88	47.36	MAB-17	11.00	12.00	0.24	6.46
VIAB-13S-17	5.00	6.00	1.32	29.19	MAB-17	12.00	13.00	0.26	7.20
VIAB-13S-17	6.00	7.00	1.22	29.04	MAB-17	13.00	14.00	0.20	6.20
VIAB-13S-17	7.00	8.00	1.36	31.61	MAB-17	14.00	15.00	0.22	6.18
VIAB-13S-17	8.00	9.00	0.70	10.85	VIAB-17S-7I	0.00	1.00	0.51	44.44
VIAB-13S-17	9.00	10.00	0.67	10.47	VIAB-17S-7I	1.00	2.00	0.61	47.50
VIAB-13S-17	10.00	11.00	0.77	13.29	VIAB-17S-7I	2.00	3.00	0.84	47.77
VIAB-13S-17	11.00	12.00	1.29	15.02	VIAB-17S-7I	3.00	4.00	0.88	49.11
VIAB-13S-17	12.00	13.00	0.64	8.96	VIAB-17S-7I	4.00	5.00	0.92	32.43
VIAB-13S-17	13.00	14.00	0.47	8.13	VIAB-17S-7I	5.00	6.00	1.48	27.63
VIAB-13S-17	14.00	15.00	0.50	8.73	VIAB-17S-7I	6.00	7.00	0.81	10.55
VIAB-13S-17	15.00	16.00	0.37	7.75	VIAB-17S-7I	7.00	8.00	0.86	10.23
VIAB-13S-19	0.00	1.00	0.99	42.08	VIAB-17S-7I	8.00	9.00	0.53	10.25
VIAB-13S-19	1.00	2.00	0.55	11.39	VIAB-17S-7I	9.00	10.00	0.73	7.94
VIAB-13S-19	2.00	3.00	0.34	7.94	VIAB-17S-7I	10.00	11.00	0.50	9.45
VIAB-13S-19	3.00	4.00	0.82	13.48	VIAB-17S-7I	11.00	12.00	0.97	14.56
VIAB-13S-19	4.00	5.00	1.27	16.32	VIAB-17S-7I	12.00	13.00	1.51	21.33
VIAB-13S-19	5.00	6.00	0.41	7.45	VIAB-17S-7I	13.00	14.00	0.57	11.44
VIAB-13S-19	6.00	7.00	0.42	7.30	VIAB-17S-7I	14.00	15.00	0.55	7.51
MAB-14	0.00	1.00	0.76	43.96	VIAB-17S-7I	15.00	16.00	0.65	9.81
MAB-14	1.00	2.00	0.78	15.95	VIAB-17S-7I	16.00	17.00	0.37	9.88
MAB-14	2.00	3.00	0.61	12.30	VIAB-17S-7I	17.00	18.00	0.28	7.14
MAB-14	3.00	4.00	0.34	7.83	VIAB-17S-2I	0.00	1.00	0.68	48.00
MAB-14	4.00	5.00	0.27	7.60	VIAB-17S-2I	1.00	2.00	0.79	48.81
MAB-14	5.00	6.00	0.27	6.92	VIAB-17S-2I	2.00	3.00	0.90	48.48
MAB-14	6.00	7.00	0.35	6.83	VIAB-17S-2I	3.00	4.00	1.31	32.45
MAB-14	7.00	8.00	0.34	6.25	VIAB-17S-2I	4.00	5.00	1.26	13.55
MAB-14	8.00	9.00	0.32	7.02	VIAB-17S-2I	5.00	6.00	1.02	12.55
MAB-14	9.00	10.00	0.31	7.82	VIAB-17S-2I	6.00	7.00	0.61	10.76
MAB-14	10.00	11.00	0.27	7.64	VIAB-17S-2I	7.00	8.00	0.31	8.98
MAB-14	11.00	12.00	0.28	7.97	VIAB-17S-2I	8.00	9.00	0.28	8.67
MAB-14	12.00	13.00	0.16	6.07	VIAB-17S-2I	9.00	10.00	0.26	8.01
MAB-14	13.00	14.00	0.22	6.43	VIAB-17S-3I	0.00	1.00	0.51	43.96
MAB-14	14.00	15.00	0.23	7.10	VIAB-17S-3I	1.00	2.00	0.76	23.14
MAB-14	15.00	16.00	0.24	7.67	VIAB-17S-3I	2.00	3.00	0.70	12.13
MAB-14	16.00	17.00	0.21	7.17	VIAB-17S-3I	3.00	4.00	0.75	11.00
MAB-14	17.00	18.00	0.18	5.87	VIAB-17S-3I	4.00	5.00	0.36	10.15
MAB-14	18.00	19.00	0.18	7.24	VIAB-17S-3I	5.00	6.00	0.29	7.36
MAB-14	19.00	20.00	0.17	6.45	MAB-18	0.00	1.00	0.71	51.87
MAB-14	20.00	21.00	0.20	5.74	MAB-18	1.00	2.00	1.00	15.99
MAB-14	21.00	22.00	0.20	5.76	MAB-18	2.00	3.00	0.80	51.18

MAB-18	3.00	4.00	0.91	45.95
MAB-18	4.00	5.00	0.79	12.78
MAB-18	5.00	6.00	0.63	12.40
MAB-18	6.00	7.00	0.51	9.84
МAB-185-7I	0.00	1.00	0.70	47.68
МAB-185-7I	1.00	2.00	0.83	47.65
МAB-185-7I	2.00	3.00	0.76	50.81
МAB-185-7I	3.00	4.00	1.06	45.53
МAB-185-7I	4.00	5.00	1.21	10.68
МAB-185-7I	5.00	6.00	1.40	10.99
МAB-185-7I	6.00	7.00	1.43	9.19
МAB-185-7I	7.00	8.00	1.73	23.95
МAB-185-7I	8.00	9.00	1.11	9.11
МAB-185-7I	9.00	10.00	1.05	8.78
МAB-185-7I	10.00	11.00	0.83	7.84
МAB-185-7I	11.00	12.00	1.06	11.53
МAB-185-7I	12.00	13.00	1.24	10.52
МAB-185-7I	13.00	14.00	1.47	13.92
МAB-185-7I	14.00	15.00	1.28	11.68
МAB-185-7I	15.00	16.00	1.10	9.78
МAB-185-7I	16.00	17.00	0.56	8.93
МAB-185-7I	17.00	18.00	0.37	8.68
МAB-185-7I	18.00	19.00	0.48	9.61
МAB-185-7I	19.00	20.00	0.78	11.01
МAB-185-7I	20.00	21.00	1.15	11.75
МAB-185-7I	21.00	22.00	0.70	9.74
МAB-185-7I	22.00	23.00	0.70	6.44
МAB-185-2I	0.00	1.00	0.33	44.55
МAB-185-2I	1.00	2.00	0.54	49.39
МAB-185-2I	2.00	3.00	0.89	46.88
МAB-185-2I	3.00	4.00	0.80	49.82
МAB-185-2I	4.00	5.00	1.69	15.22
МAB-185-2I	5.00	6.00	1.83	16.67
МAB-185-2I	6.00	7.00	1.58	35.78
МAB-185-2I	7.00	8.00	0.97	49.41
МAB-185-2I	8.00	9.00	1.40	11.36
МAB-185-2I	9.00	10.00	1.31	10.07
МAB-185-2I	10.00	11.00	1.07	8.44
МAB-185-2I	11.00	12.00	1.87	10.73
МAB-185-2I	12.00	13.00	1.51	12.97
МAB-185-2I	13.00	14.00	1.15	17.45
МAB-185-2I	14.00	15.00	1.06	10.85
МAB-185-3I	0.00	1.00	0.64	45.13
МAB-185-3I	1.00	2.00	0.65	48.20
МAB-185-3I	2.00	3.00	0.68	47.89
МAB-185-3I	3.00	4.00	0.93	45.93
МAB-185-3I	4.00	5.00	0.92	28.04
МAB-185-3I	5.00	6.00	1.64	15.77
МAB-185-3I	6.00	7.00	1.46	16.20
МAB-185-3I	7.00	8.00	1.23	12.59
МAB-185-3I	8.00	9.00	0.57	8.46
МAB-185-3I	9.00	10.00	0.79	11.11
МAB-185-3I	10.00	10.50	0.61	10.19
МAB-185-8I	0.00	1.00	1.41	14.41
МAB-185-8I	1.00	2.00	1.66	8.35
МAB-185-8I	2.00	3.00	1.86	8.65
МAB-185-8I	3.00	4.00	2.01	10.76
МAB-185-8I	4.00	5.00	1.89	12.08
МAB-185-8I	5.00	6.00	1.66	8.37
МAB-185-8I	6.00	7.00	1.61	10.64
МAB-185-8I	7.00	8.00	0.93	6.51
МAB-185-8I	8.00	9.00	1.24	8.14
МAB-185-8I	9.00	10.00	1.77	8.85
МAB-185-8I	10.00	11.00	1.06	8.35
МAB-185-8I	11.00	12.00	0.79	8.01
МAB-185-8I	12.00	13.00	0.75	8.82
МAB-185-8I	13.00	14.00	0.74	9.33
МAB-185-8I	14.00	15.00	0.92	11.05
МAB-185-8I	15.00	16.00	0.46	6.65
MAB-19	0.00	1.00	0.40	49.28
MAB-19	1.00	2.00	0.60	39.98
MAB-19	2.00	3.00	0.56	14.14
MAB-19	3.00	4.00	0.51	13.36
MAB-19	4.00	5.00	0.57	13.00
MAB-19	5.00	6.00	0.37	10.84
MAB-19	6.00	7.00	0.42	10.33
MAB-19	7.00	8.00	0.39	8.62
MAB-19	8.00	9.00	0.42	7.67
МAB-195-0I	0.00	1.00	0.70	47.83
МAB-195-0I	1.00	2.00	0.86	48.40

МAB-195-0I	2.00	3.00	0.94	49.50
МAB-195-0I	3.00	4.00	1.56	19.35
МAB-195-0I	4.00	5.00	1.07	9.74
МAB-195-0I	5.00	6.00	1.50	17.66
МAB-195-0I	6.00	7.00	1.18	12.52
МAB-195-0I	7.00	8.00	0.46	8.92
МAB-195-0I	8.00	9.00	0.44	9.87
МAB-195-0I	9.00	10.00	0.50	10.77
МAB-195-0I	10.00	11.00	0.35	9.69
МAB-195-0I	11.00	12.00	0.29	8.57
МAB-195-1I	0.00	1.00	0.75	48.57
МAB-195-1I	1.00	2.00	1.08	49.90
МAB-195-1I	2.00	3.00	1.31	45.18
МAB-195-1I	3.00	4.00	1.57	12.46
МAB-195-1I	4.00	5.00	1.50	11.73
МAB-195-1I	5.00	6.00	1.19	12.25
МAB-195-1I	6.00	7.00	0.90	10.04
МAB-195-1I	7.00	8.00	0.70	10.76
МAB-195-1I	8.00	9.00	0.56	9.19
МAB-195-1I	9.00	10.00	0.61	9.54
МAB-195-1I	10.00	11.00	0.73	9.71
МAB-195-1I	11.00	12.00	0.55	7.77
МAB-195-2I	0.00	1.00	0.52	45.34
МAB-195-2I	1.00	2.00	0.81	48.83
МAB-195-2I	2.00	3.00	0.84	48.78
МAB-195-2I	3.00	4.00	0.99	46.06
МAB-195-2I	4.00	5.00	1.01	46.57
МAB-195-2I	5.00	6.00	1.19	41.12
МAB-195-2I	6.00	7.00	1.39	23.99
МAB-195-2I	7.00	8.00	1.72	19.69
МAB-195-2I	8.00	9.00	2.14	15.39
МAB-195-2I	9.00	10.00	1.92	23.97
МAB-195-2I	10.00	11.00	1.86	30.99
МAB-195-2I	11.00	12.00	1.35	38.93
МAB-195-2I	12.00	13.00	1.64	20.62
МAB-195-2I	13.00	14.00	1.84	23.15
МAB-195-2I	14.00	15.00	1.59	26.55
МAB-195-2I	15.00	16.00	1.79	19.81
МAB-195-2I	16.00	17.00	1.97	9.70
МAB-195-2I	17.00	18.00	1.92	15.51
МAB-195-2I	18.00	19.00	1.79	10.24
МAB-195-2I	19.00	20.00	1.88	17.51
МAB-195-2I	20.00	21.00	1.74	13.67
МAB-195-2I	21.00	22.00	1.47	24.25
МAB-195-2I	22.00	23.00	1.54	33.00
МAB-195-2I	23.00	24.00	1.86	12.87
МAB-195-2I	24.00	25.00	1.24	10.21
МAB-195-2I	25.00	26.00	0.97	10.49
МAB-195-4I	0.00	1.00	0.62	43.72
МAB-195-4I	1.00	2.00	0.76	46.37
МAB-195-4I	2.00	3.00	0.84	47.31
МAB-195-4I	3.00	4.00	1.00	48.23
МAB-195-4I	4.00	5.00	1.15	49.83
МAB-195-4I	5.00	6.00	1.90	18.08
МAB-195-4I	6.00	7.00	1.95	19.67
МAB-195-4I	7.00	8.00	1.95	19.96
МAB-195-4I	8.00	9.00	1.87	12.78
МAB-195-4I	9.00	10.00	1.27	10.40
МAB-195-4I	10.00	11.00	1.35	15.89
МAB-195-4I	11.00	12.00	1.38	10.22
МAB-195-4I	12.00	13.00	1.32	6.66
МAB-195-6I	0.00	1.00	0.60	45.13
МAB-195-6I	1.00	2.00	0.84	45.83
МAB-195-6I	2.00	3.00	1.27	44.31
МAB-195-6I	3.00	4.00	1.61	38.73
МAB-195-6I	4.00	5.00	2.28	14.40
МAB-195-6I	5.00	6.00	1.69	11.51
МAB-195-6I	6.00	7.00	1.78	13.34
МAB-195-6I	7.00	8.00	1.29	8.70
МAB-195-6I	8.00	9.00	0.89	8.08
МAB-195-6I	9.00	10.00	1.40	15.87
МAB-195-6I	10.00	11.00	1.63	11.44
МAB-195-6I	11.00	12.00	1.10	9.45
МAB-195-6I	12.00	13.00	1.89	11.37
МAB-195-6I	13.00	14.00	1.59	9.50
МAB-195-6I	14.00	15.00	1.41	13.61
МAB-195-6I	15.00	16.00	1.34	15.37
МAB-195-6I	16.00	17.00	1.09	9.33
МAB-195-6I	17.00	18.00	1.56	26.16
МAB-195-7I	0.00	1.00	0.43	45.39



VAB-19S-7I	1.00	2.00	0.68	47.53
VAB-19S-7I	2.00	3.00	0.85	48.08
VAB-19S-7I	3.00	4.00	0.74	47.51
VAB-19S-7I	4.00	5.00	0.94	47.07
VAB-19S-7I	5.00	6.00	0.87	46.64
VAB-19S-7I	6.00	7.00	1.48	39.09
VAB-19S-7I	7.00	8.00	1.85	18.26
VAB-19S-7I	8.00	9.00	1.59	16.85
VAB-19S-7I	9.00	10.00	1.52	11.45
VAB-19S-7I	10.00	11.00	1.60	19.13
VAB-19S-7I	11.00	12.00	0.92	7.95
VAB-19S-7I	12.00	13.00	1.44	17.75
VAB-19S-7I	13.00	14.00	0.91	8.57
VAB-19S-7I	14.00	15.00	0.70	7.57
VAB-19S-7I	15.00	16.00	0.43	7.93
VAB-19S-8I	0.00	1.00	0.87	48.04
VAB-19S-8I	1.00	2.00	1.36	47.93
VAB-19S-8I	2.00	3.00	1.30	48.88
VAB-19S-8I	3.00	4.00	1.22	47.38
VAB-19S-8I	4.00	5.00	1.22	44.39
VAB-19S-8I	5.00	6.00	1.28	47.73
VAB-19S-8I	6.00	7.00	1.26	49.64
VAB-19S-8I	7.00	8.00	1.89	32.69
VAB-19S-8I	8.00	9.00	2.02	24.72
VAB-19S-8I	9.00	10.00	2.07	21.23
VAB-19S-8I	10.00	11.00	2.07	22.36
VAB-19S-8I	11.00	12.00	2.15	24.61
VAB-19S-8I	12.00	13.00	2.12	19.06
VAB-19S-8I	13.00	14.00	2.02	26.39
VAB-19S-8I	14.00	15.00	2.21	27.16
VAB-19S-8I	15.00	16.00	2.09	32.18
VAB-19S-8I	16.00	17.00	2.16	27.46
VAB-19S-8I	17.00	18.00	2.15	22.34
VAB-19S-8I	18.00	19.00	1.96	24.59
VAB-19S-8I	19.00	20.00	1.90	24.28
VAB-19S-8I	20.00	21.00	2.03	14.22
VAB-19S-8I	21.00	22.00	1.94	11.70
VAB-19S-8I	22.00	23.00	1.89	12.16
VAB-19S-8I	23.00	24.00	2.00	13.16
VAB-19S-8I	24.00	25.00	1.97	12.01
VAB-19S-8I	25.00	26.00	1.62	10.77
VAB-19S-8I	26.00	27.00	0.76	6.61
VAB-19S-9I	0.00	1.00	0.36	46.69
VAB-19S-9I	1.00	2.00	0.60	48.74
VAB-19S-9I	2.00	3.00	0.48	46.38
VAB-19S-9I	3.00	4.00	1.20	27.21
VAB-19S-9I	4.00	5.00	1.19	35.36
VAB-19S-9I	5.00	6.00	1.44	23.01
VAB-19S-9I	6.00	7.00	1.47	15.84
VAB-19S-9I	7.00	8.00	1.52	15.54
VAB-19S-9I	8.00	9.00	1.35	13.03
VAB-19S-9I	9.00	10.00	1.33	14.94
VAB-19S-9I	10.00	11.00	1.19	14.14
VAB-19S-9I	11.00	12.00	1.04	11.06
VAB-19S-9I	12.00	13.00	1.10	14.22
VAB-19S-9I	13.00	14.00	1.07	9.16
VAB-19S-9I	14.00	15.00	0.96	11.89
VAB-19S-9I	15.00	16.00	0.89	10.29
VAB-19S-9I	16.00	17.00	0.64	8.79
VAB-19S-9I	17.00	18.00	0.50	7.24
MAB-20	0.00	1.00	0.27	37.12
MAB-20	1.00	2.00	0.45	14.08
MAB-20	2.00	3.00	0.21	20.82
MAB-20	3.00	4.00	0.19	19.03
MAB-20	4.00	5.00	0.37	23.18
MAB-20	5.00	6.00	0.33	8.88
MAB-20	6.00	7.00	1.01	17.65
MAB-20	7.00	8.00	1.03	10.77
MAB-20	8.00	9.00	0.82	6.81
MAB-21	0.00	1.00	0.84	45.30
MAB-21	1.00	2.00	1.34	18.22
MAB-21	2.00	3.00	1.47	14.24
MAB-21	3.00	4.00	1.25	8.64
MAB-21	4.00	5.00	1.06	9.83
MAB-21	5.00	6.00	1.59	16.60
MAB-21	6.00	7.00	1.38	15.20
MAB-21	7.00	8.00	1.41	10.85
MAB-21	8.00	9.00	1.93	13.28
MAB-21	9.00	10.00	1.77	13.05
MAB-21	10.00	11.00	1.70	18.34

MAB-21	11.00	12.00	1.23	13.69
MAB-21	12.00	13.00	1.62	9.28
MAB-21	13.00	14.00	1.39	9.74
VAB-21S-3I	0.00	1.00	0.46	45.90
VAB-21S-3I	1.00	2.00	0.80	52.13
VAB-21S-3I	2.00	3.00	0.73	51.91
VAB-21S-3I	3.00	4.00	0.70	50.80
VAB-21S-3I	4.00	5.00	0.88	49.96
VAB-21S-3I	5.00	6.00	1.01	49.59
VAB-21S-3I	6.00	7.00	1.12	45.43
VAB-21S-3I	7.00	8.00	1.65	30.29
VAB-21S-3I	8.00	9.00	1.70	24.61
VAB-21S-3I	9.00	10.00	1.84	13.94
VAB-21S-3I	10.00	11.00	1.78	21.98
VAB-21S-3I	11.00	12.00	1.64	17.57
VAB-21S-3I	12.00	13.00	2.04	28.68
VAB-21S-3I	13.00	14.00	1.33	27.35
VAB-21S-3I	14.00	15.00	1.58	16.69
VAB-21S-3I	15.00	16.00	1.74	21.70
VAB-21S-3I	16.00	17.00	1.95	13.22
VAB-21S-3I	17.00	18.00	1.58	15.18
VAB-21S-3I	18.00	19.00	2.09	18.14
VAB-21S-3I	19.00	20.00	1.56	13.60
VAB-21S-3I	20.00	21.00	1.65	14.92
VAB-21S-3I	21.00	22.00	1.37	10.00
VAB-21S-3I	22.00	23.00	0.95	7.93
VAB-21S-4I	0.00	1.00	0.52	45.49
VAB-21S-4I	1.00	2.00	0.79	48.81
VAB-21S-4I	2.00	3.00	0.95	49.04
VAB-21S-4I	3.00	4.00	1.12	46.17
VAB-21S-4I	4.00	5.00	1.80	41.07
VAB-21S-4I	5.00	6.00	1.81	21.17
VAB-21S-4I	6.00	7.00	1.32	15.33
VAB-21S-4I	7.00	8.00	1.29	35.34
VAB-21S-4I	8.00	9.00	1.82	18.38
VAB-21S-4I	9.00	10.00	1.53	15.59
VAB-21S-4I	10.00	11.00	1.50	16.78
VAB-21S-4I	11.00	12.00	1.39	16.17
VAB-21S-4I	12.00	13.00	1.16	11.77
VAB-21S-4I	13.00	14.00	1.15	11.80
VAB-21S-4I	14.00	15.00	1.05	10.69
VAB-21S-4I	15.00	16.00	0.82	10.09
VAB-21S-4I	16.00	17.00	0.77	11.58
VAB-21S-4I	17.00	18.00	0.57	11.05
MAB-22	0.00	1.00	0.49	51.87
MAB-22	1.00	2.00	0.54	51.96
MAB-22	2.00	3.00	0.74	47.08
MAB-22	3.00	4.00	1.25	8.64
MAB-22	4.00	5.00	0.78	20.21
MAB-22	5.00	6.00	1.71	19.39
MAB-22	6.00	7.00	1.49	14.75
MAB-22	7.00	8.00	0.96	15.43
MAB-22	8.00	9.00	0.31	7.16
MAB-22	9.00	10.00	1.18	12.38
MAB-22	10.00	11.00	0.96	9.66
VAB-22S-2I	0.00	1.00	0.70	47.31
VAB-22S-2I	1.00	2.00	0.97	50.03
VAB-22S-2I	2.00	3.00	0.94	49.38
VAB-22S-2I	3.00	4.00	0.61	50.54
VAB-22S-2I	4.00	5.00	0.67	50.01
VAB-22S-2I	5.00	6.00	0.70	51.98
VAB-22S-2I	6.00	7.00	0.87	51.23
VAB-22S-2I	7.00	8.00	0.71	51.52
VAB-22S-2I	8.00	9.00	0.86	51.07
VAB-22S-2I	9.00	10.00	0.97	49.79
VAB-22S-2I	10.00	11.00	0.74	48.42
VAB-22S-2I	11.00	12.00	1.12	50.36
VAB-22S-2I	12.00	13.00	1.81	27.44
VAB-22S-2I	13.00	14.00	1.97	38.61
VAB-22S-2I	14.00	15.00	2.06	20.64
VAB-22S-2I	15.00	16.00	1.21	9.09
VAB-22S-3I	0.00	1.00	0.58	46.75
VAB-22S-3I	1.00	2.00	0.78	46.03
VAB-22S-3I	2.00	3.00	0.54	47.97
VAB-22S-3I	3.00	4.00	0.67	44.18
VAB-22S-3I	4.00	5.00	0.59	46.15
VAB-22S-3I	5.00	6.00	0.65	44.19
VAB-22S-3I	6.00	7.00	0.82	47.52
VAB-22S-3I	7.00	8.00	0.90	44.04
VAB-22S-3I	8.00	9.00	0.43	41.08

МAB-24S-3I	5.00	6.00	1.18	31.07
МAB-24S-3I	6.00	7.00	1.26	19.79
МAB-24S-3I	7.00	8.00	1.05	13.71
МAB-24S-3I	8.00	9.00	1.09	12.59
МAB-24S-3I	9.00	10.00	1.11	16.07
МAB-24S-3I	10.00	11.00	1.14	13.10
МAB-24S-3I	11.00	12.00	1.01	8.44
МAB-24S-3I	12.00	13.00	0.98	9.99
МAB-24S-3I	13.00	14.00	1.03	9.51
МAB-24S-3I	14.00	15.00	0.92	11.32
МAB-24S-3I	15.00	16.00	0.60	10.02
МAB-24S-3I	16.00	17.00	0.60	9.28
МAB-24S-7I	0.00	1.00	0.69	46.56
МAB-24S-7I	1.00	2.00	1.04	47.16
МAB-24S-7I	2.00	3.00	1.20	41.23
МAB-24S-7I	3.00	4.00	1.15	46.69
МAB-24S-7I	4.00	5.00	0.84	17.36
МAB-24S-7I	5.00	6.00	0.72	15.90
МAB-24S-7I	6.00	7.00	0.82	15.64
МAB-24S-7I	7.00	8.00	0.91	14.49
МAB-24S-7I	8.00	9.00	1.05	12.05
МAB-24S-7I	9.00	10.00	1.01	9.75
МAB-24S-7I	10.00	11.00	0.98	9.27
МAB-24S-7I	11.00	12.00	1.03	9.27
МAB-24S-7I	12.00	13.00	0.97	7.90
МAB-17S-4I	0.00	1.00	0.65	43.04
МAB-17S-4I	1.00	2.00	0.38	17.32
МAB-17S-4I	2.00	3.00	0.56	9.99
МAB-17S-4I	3.00	4.00	1.17	9.68
МAB-17S-4I	4.00	5.00	1.02	9.12
МAB-17S-4I	5.00	6.00	1.27	13.50
МAB-17S-4I	6.00	7.00	0.72	8.04
МAB-21S-2I	0.00	1.00	0.80	45.79
МAB-21S-2I	1.00	2.00	0.84	46.45
МAB-21S-2I	2.00	3.00	0.77	47.72
МAB-21S-2I	3.00	4.00	0.79	47.93
МAB-21S-2I	4.00	5.00	0.86	45.55
МAB-21S-2I	5.00	6.00	1.59	27.80
МAB-21S-2I	6.00	7.00	1.99	20.16
МAB-21S-2I	7.00	8.00	1.42	10.77
МAB-21S-2I	8.00	9.00	1.41	24.03
МAB-21S-2I	9.00	10.00	1.41	26.61
МAB-21S-2I	10.00	11.00	1.37	24.18
МAB-21S-2I	11.00	12.00	1.47	20.43

**Technical Report on the Updated Mineral Resource Estimates of  
Marcventures Mining and Development Corporation's Nickel- Iron  
Laterite Mining Operation Located in the Municipalities of Carrascal  
and Cantilan, Province of Surigao del Sur, Northern Mindanao,  
Philippines**

**[Covered by MPSA 016-93-XI]**



*Drone photo showing Pili mined out area with on-going rehabilitation  
(Location: N598,480, E1,031,034 looking due north).*

*Prepared by:* **Jayvhel T. Guzman, Irvin B. Samaniego & Cherry R. Carlom**  
Geologists, Marcventures Mining and Development Corporation

*Prepared for:* **Marcventures Mining and Development Corporation**  
Unit E, One Luna Place, E. Luna Street,  
Butuan City, Philippines

*Reviewed by:*  
**Tomas D. Malihan**  
PRC Registered Geologist, Reg. No. 0387  
PMRC-accredited Competent Person (CP), Accreditation No. 07-08-06  
*Exploration Results and Mineral Resource Estimation;  
Porphyry Copper-Gold, Epithermal Gold, Nickel-Iron Laterite, Chromite and Iron-  
Copper-Gold Skarn Deposits Exploration*

## **CERTIFICATION AND CONSENT OF CP FOR THIS TECHNICAL REPORT**

### **Limitations, Warranty and Closure**

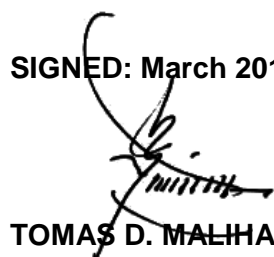
This Report entitled “**Technical Report on the Updated Mineral Resource Estimates of Marcventures Mining and Development Corporation’s Nickel-Iron Laterite Mining Operation Located in the Municipalities of Carrascal and Cantilan, Province of Surigao del Sur, Northern Mindanao, Philippines [Covered by MPSA 016-93-XI]**” was prepared by a Team composed of company geologists under the Geology and Exploration Department (GED) of Marcventure Mining and Development Corporation headed by Ms. Jayvhel T. Guzman . The report was submitted to the undersigned for review and certification in his capacity as Competent Person (CP) for Geology accredited by the Geological Society of the Philippines (GSP) and guided by the Philippine Mineral Reporting Code (PMRC). The updated resource estimate was based on available drilling data and information gathered from the 2017 drilling campaign and collated by the GED Team as of February, 2018. The purpose of the review was to verify the validity of MMDC’s yearend resource inventory declared in this report which will be submitted to the Philippine Stock Exchange (PSE) and the Mines and Geosciences Bureau (MGB) as required for the company’s mining operation in its tenement area. This CP has gone over the procedures employed by the GED Team and the validity of the data used in the updating of the resource and found them all in order. The resource declared in this report is considered certifiable as to its validity and this CP consents that it could be considered an official resource estimate declaration of MMDC as of December 31, 2017.

The certification on the validity of the contents of this report is valid from the date of signing by the undersigned. However, in the event that any new geological information, exploration results and ore deposit models will arise that may have direct or indirect implication on the mineral resources inventory as declared in this Report, the said inventory may be rendered inaccurate and should therefore be appreciated or treated with caution.

Consequently, the Mineral Resources Inventory in this Report should not be relied upon after an elapsed period of one year without the professional review, technical verification and updating by the undersigned or by another Competent Person/s.

This warranty is in lieu of other warranties, either expressed or implied.

**SIGNED: March 2018**



**TOMAS D. MALIHAN**

PRC-registered Geologist, Registration No. 0387

PMRC/GSP-accredited Competent Person (CP), Accreditation No. 07-08-06

PTR No. 3440026

Issued at: Baguio City

Date of Issue: January 03, 2018



## **Table of Contents**

Cover Page .....	1
Competent Person Certificate of Consent .....	2
Table of Contents .....	3
 SUMMARY .....	 5
 1.0 INTRODUCTION .....	 9
1.1 Scope of Work .....	9
1.2 Purpose and Compliance with PMRC .....	9
1.3 Data Verification .....	9
1.4 Technical Report Team .....	9
2.0 RELIANCE ON OTHER EXPERTS .....	10
3.0 TENEMENT AND MINERAL RIGHTS .....	10
4.0 GEOGRAPHY .....	12
4.1 Location and Accessibility .....	12
4.2 Topography, Physiography and Drainage .....	13
4.3 Climate .....	14
4.4 Vegetation .....	15
5.0 HISTORY .....	15
5.1 Exploration .....	15
5.2 Mining Operation .....	18
6.0 GEOLOGIC SETTING AND MINERALIZATION .....	19
6.1 Regional Geology, Tectonic Setting and Stratigraphy .....	19
6.2 Local Geology .....	22
6.2.1 Quaternary Alluvium .....	24
6.2.2 Timamana Limestone .....	24
6.2.3 Alipao Andesite .....	24
6.2.4 Sohoton Greenschist .....	24
6.2.5 Dinagat Ophiolite Complex .....	24
6.3 Mineralization .....	25
7.0 EXPLORATION .....	26
7.1 Surveying of Drill hole Location .....	27
7.2 Drilling and Sampling Procedure .....	27
7.3 Sample Preparation and Analysis .....	29
7.4 Sample Storage and Security .....	29
8.0 DATA VERIFICATION .....	29
8.1 Drilling Database .....	29
8.2 QA/QC .....	31
9.0 RESOURCE ESTIMATION .....	35
10.0 CONCLUSIONS AND RECOMMENDATIONS .....	39
11.0 REFERENCES .....	39

## **LIST OF FIGURES**

Figure 3-1:	MMDC tenement location map .....	11
Figure 4-1:	Map of geographic features and road network .....	12
Figure 4-2:	Watershed map .....	14
Figure 4-3:	Climate map .....	15
Figure 6-1:	General tectonic map .....	20
Figure 6-2:	Map of ophiolite belts in the Philippines .....	21
Figure 6-3:	Stratigraphic column .....	22
Figure 6-4:	Geologic map of MMDC tenement .....	23
Figure 8-1:	MMDC Drill hole location map as of December 31, 2017 .....	30
Figure 9-1:	2015 vs 2016 Ni and Fe cut-off grades used for resource estimation of Cabangahan, Sipampang and Pili areas .....	36
Figure 9-2:	MMDC mineral resource extent map .....	38

## **LIST OF PHOTOGRAPHS**

Photograph 6-1:	Annotated photograph of a laterite profile taken at Cabangahan area with corresponding Ni and Fe values of the various laterite zones.....	25
Photograph 6-2:	Annotated photograph of a laterite profile taken at Pili area with corresponding Ni and Fe values of the various laterite zones.....	26
Photograph 7-1:	In-house drilling team at work .....	28
Photograph 7-2:	A sample of drill hole data sheet with entries .....	28

## **LIST OF TABLES**

Table 3-1:	Technical description of MMDC MPSA .....	10
Table 5-1:	Resource estimates of previous exploration activities .....	16
Table 5-2:	Production and shipment history .....	18
Table 5-3:	Detailed shipment history .....	19
Table 7-1:	Summary of development drilling undertaken from 2008 to 2017 .....	27
Table 8-1:	MMDC's Database record summary .....	31
Table 9-1:	Resource classification scheme .....	35
Table 9-2:	MMDC Mineral Resource as of December 31, 2017 .....	37

## SUMMARY

Marcventures Mining and Development Corporation (MMDC) holds the exploration and operating rights to the area covered by an approved Mineral Production Sharing Agreements, denominated as **MPSA-016-93-XI** by virtue of a Deed of Assignment (DOA) executed on January 19, 1995 between Ventura Timber Corporation, the original owner of the MPSA, and MMDC. The mining tenement is located in the Municipalities of Carrascal and Cantilan, in Surigao del Sur on the northeast portion of Mindanao Island. On March 11, 2008, after a lapse of 13 years, the DOA was approved by the Secretary of the Department of Environment and Natural Resources (DENR). The first application for renewal of exploration period was granted to MMDC on January 24, 2008. On December 22, 2008, MMDC was granted Environmental Compliance Certificate (**ECC**) for a 120-hectare area within the MPSA initially designated as mining area.

MMDC commenced mining operation starting in the 4<sup>th</sup> Quarter of 2010 which initially included forest/vegetation cover clearing and, later, stockpiling of limonite and saprolite materials extracted from the 120-hectare area within Cabangahan (**Area 2**) which was covered by the first issued ECC.

On July 14, 2011, MMDC was granted a second renewal of its exploration permit. By the 3<sup>rd</sup> Quarter of 2011, MMDC was able to start shipping out limonite and saprolite ores to foreign buyers. From 2011 to the end of 2015, MMDC has produced about 9.60 million WMT of limonite and saprolite ores and shipped about 9.46 million WMT. About 12% of the shipped ore was saprolite with an average grade of 1.65% Ni and 17.48% Fe. The rest were limonite with an average grade of 0.89% Ni and 50.10% Fe.

**Tables A and B** summarize the production and shipment histories, respectively, of MMDC from 2010 to 2017.

**Table A.** Production history of MMDC.

Calendar Year	Total Material Moved/Produced												TOTAL
	Limonite	% Ni	% Fe	Saprolite	% Ni	% Fe	LGO	% Ni	% Fe	Waste	% Ni	% Fe	
2010	37,800	-	-	-	-	-	-	-	-	-	-	-	37,800
2011	498,181	-	-	189,379	-	-	-	-	-	-	-	-	687,560
2012	401,181	-	-	157,170	-	-	-	-	-	1,143	1.20	35.65	559,494
2013	2,945,090	0.87	49.71	13,600	1.58	14.91	-	-	-	19,810	1.11	41.01	2,978,567
2014	1,343,797	0.91	49.49	241,870	1.50	15.78	705,179	0.88	47.10	-	-	-	2,290,963
2015	2,448,462	0.93	49.57	522,931	1.58	17.66	71,245	1.11	45.90	6,180	1.00	44.85	3,048,935
2016	1,793,701	0.88	49.69	774,629	1.55	19.62	9,446	1.00	47.00	433,246	0.94	29.55	3,011,142
2017	829,099	0.72	49.32	1,429,013	1.57	18.4	51,920	1.21	28.81	809,804	0.89	22.16	3,119,836
<b>Total</b>	<b>10,297,312</b>	<b>0.88</b>	<b>49.60</b>	<b>3,328,592</b>	<b>1.56</b>	<b>18.40</b>	<b>837,791</b>	<b>0.92</b>	<b>45.90</b>	<b>1,270,183</b>	<b>0.91</b>	<b>25.10</b>	<b>15,733,878</b>

**Table B.** Shipment history of MMDC.

Calendar Year	Total Shipped Ore						
	Limonite	% Ni	% Fe	Saprolite	% Ni	% Fe	TOTAL
2010	-	-	-	-	-	-	-
2011	464,112	0.81	50.47	163,986	1.83	15.54	<b>628,149</b>
2012	460,227	1.01	49.80	157,706	1.81	18.31	<b>617,984</b>
2013	2,775,738	0.84	50.61	-	-	-	<b>2,775,790</b>
2014	1,914,378	0.92	49.58	188,861	1.58	18.33	<b>2,103,289</b>
2015	2,797,876	0.92	49.93	541,192	1.57	17.52	<b>3,339,119</b>
2016	1,895,112	0.88	49.83	701,990	1.50	16.19	<b>2,597,152</b>
2017	744,679	0.70	49.84	1,434,978	1.48	16.51	<b>2,179,707</b>
<b>Total</b>	<b>11,052,122</b>	<b>0.87</b>	<b>50.00</b>	<b>3,188,712</b>	<b>1.51</b>	<b>16.70</b>	<b>14,241,190</b>

A yearly systematic rotary in-fill drilling program was conducted over Cabangahan, Sipangpang and Pili areas from 2010 to 2014 to upgrade the mineral resources and / or block additional resource. The program was continued in 2016 to further extend the drilling activities in Cabangahan (Lancuag Area) primarily to upgrade existing Inferred and Indicated resources to Measured category as well as to cover portions in the tenement which were not drilled during the previous drilling programs.

In 2016 the management decided to adopt production drilling within the disturbed portions of Cabangahan and Pili area and within the adjacent part of the Sipangpang active mining area. Simultaneously, development drilling was continued in the northern portion of Cabangahan area with the same objective

Starting 2017 mining season, MMDC had an estimated limonite and saprolite resource of about 66.35 million WMT. After the 2017 mining period, MMDC's remaining limonite and saprolite resource was estimated at 63.54 million WMT; this included the additional resource blocked during the 2017 drilling activity.

For 2017, a total of 629 holes were drilled from March to November 2017 with a total combined depth of 6,203.23 meters. Average depth drilled in Cabangahan was 11.98 meters and 7.05 meters in Sipangpang. Drilling interval was 50 meters. The exploration procedures adopted in the 2017 drilling campaign followed the usual standard operating procedure observed in the previous years with the usual emphasis in the standard drilling protocol, i.e., drillhole location surveying, handling of cores retrieved from drillholes, core logging, sampling, sample processing and analysis, QA/QC and sample security. MMDC is deemed compliant with the industry standard and the guidelines recommended by the PMRC to assure the validity of the sample assays used in the resource updating.

**Polygon method** was used by the GED Team in processing the drill hole data produced during the 2017 drilling operation to update the estimate of MMDC's mineral resource inventory as of end of December 2017. In this method, each drill hole is assigned a polygon that represents the extent of the area of influence of the drill hole. The assumption is that, everywhere within the polygon, the thickness and grade of the resource material is uniform and more or less the same to the resource material of the drill hole enclosed by the polygon.

The area of influence of each drill hole is based on the halfway rule, which states that the influence of a drill hole sample extends halfway to other samples laterally adjacent to it.

The resources are classified purely as a function of the drilling density as summarized in **Table C**.

**Table C.** Resource classification scheme.

Area	Measured		Indicated		Inferred	
	Limonite	Saprolite	Limonite	Saprolite	Limonite	Saprolite
Cabangahan	25-m, 50m	25-m	100-m	50-m	-	100-m
Pili	50-m	-	200-m	-	-	-
Sipangpang	100-m	-	200-m	-	-	-

The volume of each block is the product of the area of influence and the combined thickness of samples that fall within the set cut-off grades of each ore type. To determine the equivalent Wet Metric Tonnage (WMT), the total in-situ volume is multiplied to a **swell factor of 1.35 and 1.37**, and to the **bulk density of 1.16 and 1.46 for soft and hard materials, respectively**. The soft materials contain about **38% moisture** while hard materials contain about **15% moisture**.

The Ni and Fe cut-off grades that were used in 2016 were applied in estimating the remaining resource of MMDC as of end of 2017. The cut-off grades for limonite and saprolite were adjusted to include low-nickel saprolite and to exclude low-iron limonite due to the newly developed market for low grade saprolite ore and the higher nickel requirement for high iron limonite ore in the current and near future market situation.

The updated resource estimate is summarized in the Table D below. The total Measured and Indicated resource estimated as of end of December 2017 is about **63.54 million WMT** with an average grade of **0.92% Ni and 41.29% Fe**. This is broken down into **55.44 million WMT** of Measured and Indicated limonite resource at **0.85% Ni and 45.36% Fe**, and **8.11 million WMT** of Measured and Indicated saprolite resource at **1.44% Ni and 12.85% Fe**.



**Table D. MMDC's Mineral Resource as of Dec. 31, 2017 (inclusive of ore reserve).**

Area	Material	% Ni cut-off	% Fe cut-off	WMT	DMT	% Ni	% Fe	Ni Tonnes
<b>Measured and Indicated Resource as of Dec. 31, 2017</b>								
<b>CABANGAHAN</b>	Saprolite High Nickel	≥ 1.6	< 20	2,323,000	1,487,000	1.86	13.29	28,000
	Saprolite Low Nickel	1.0 - 1.6	< 20	5,783,000	4,014,000	1.27	13.55	51,000
	<b>Sub-total/Ave.</b>			<b>8,106,000</b>	<b>5,501,000</b>	<b>1.44</b>	<b>13.48</b>	<b>79,000</b>
	Limonite High Iron	≥ 0.5	≥ 45	15,528,000	9,627,000	0.82	48.89	79,000
	Limonite Low iron	≥ 0.7	20 - 45	8,246,000	5,112,000	1.23	31.23	63,000
	<b>Sub-total/Ave.</b>			<b>23,774,000</b>	<b>14,739,000</b>	<b>0.96</b>	<b>42.76</b>	<b>142,000</b>
	<b>TOTAL/AVE.</b>			<b>31,880,000</b>	<b>20,240,000</b>	<b>1.08</b>	<b>35.32</b>	<b>221,000</b>
<b>SIPANGPANG</b>	Saprolite High Nickel	≥ 1.6	< 20	-	-	-	-	-
	Saprolite Low Nickel	1.0 - 1.6	< 20	-	-	-	-	-
	<b>Sub-total/Ave.</b>			-	-	-	-	-
	Limonite High Iron	≥ 0.5	≥ 45	26,002,000	16,121,000	0.71	49.67	114,000
	Limonite Low iron	≥ 0.7	20 - 45	3,789,000	2,349,000	1.06	32.70	25,000
	<b>Sub-total/Ave.</b>			<b>29,791,000</b>	<b>18,470,000</b>	<b>0.75</b>	<b>47.51</b>	<b>139,000</b>
	<b>TOTAL/AVE.</b>			<b>29,791,000</b>	<b>18,470,000</b>	<b>0.75</b>	<b>47.51</b>	<b>139,000</b>
<b>PILI</b>	Saprolite High Nickel	≥ 1.6	< 20	-	-	-	-	-
	Saprolite Low Nickel	1.0 - 1.6	< 20	-	-	-	-	-
	<b>Sub-total/Ave.</b>			-	-	-	-	-
	Limonite High Iron	≥ 0.5	≥ 45	1,261,000	782,000	0.81	49.44	6,000
	Limonite Low iron	≥ 0.7	20 - 45	611,000	379,000	1.13	32.89	4,000
	<b>Sub-total/Ave.</b>			<b>1,872,000</b>	<b>1,161,000</b>	<b>0.91</b>	<b>44.04</b>	<b>10,000</b>
	<b>TOTAL/AVE.</b>			<b>1,872,000</b>	<b>1,161,000</b>	<b>0.91</b>	<b>44.04</b>	<b>10,000</b>
<b>TOTAL</b>	Saprolite High Nickel	≥ 1.6	< 20	2,323,000	1,487,000	1.86	13.29	28,000
	Saprolite Low Nickel	1.0 - 1.6	< 20	5,783,000	4,014,000	1.27	13.55	51,000
	<b>Sub-total/Ave.</b>			<b>8,106,000</b>	<b>5,501,000</b>	<b>1.44</b>	<b>13.48</b>	<b>79,000</b>
	Limonite High Iron	≥ 0.5	≥ 45	42,791,000	26,530,000	0.75	49.38	199,000
	Limonite Low iron	≥ 0.7	20 - 45	12,646,000	7,840,000	1.17	31.75	92,000
	<b>Sub-total/Ave.</b>			<b>55,437,000</b>	<b>34,370,000</b>	<b>0.85</b>	<b>45.36</b>	<b>291,000</b>
	<b>TOTAL/AVE.</b>			<b>63,543,000</b>	<b>39,871,000</b>	<b>0.92</b>	<b>41.29</b>	<b>370,000</b>
<b>Inferred Resource as of Dec. 31, 2017</b>								
<b>CABANGAHAN</b>	Saprolite High Nickel	≥ 1.6	< 20	584,000	362,000	1.71	14.38	6,000
	Saprolite Low Nickel	1.0 - 1.6	< 20	6,252,000	3,914,000	1.22	13.38	48,000
	<b>Sub-total/Ave.</b>			<b>6,836,000</b>	<b>4,276,000</b>	<b>1.26</b>	<b>13.47</b>	<b>54,000</b>
	Limonite High Iron	≥ 0.5	≥ 45	-	-	-	-	-
	Limonite Low iron	≥ 0.7	20 - 45	-	-	-	-	-
	<b>Sub-total/Ave.</b>			-	-	-	-	-
	<b>TOTAL/AVE.</b>			<b>6,836,000</b>	<b>4,276,000</b>	<b>1.26</b>	<b>13.47</b>	<b>54,000</b>

## **1.0 INTRODUCTION**

### **1.1 Scope of Work**

The author was commissioned by Marcventures Mining and Development Corporation to review this technical report prepared by MMDC's team of geologists under the Geology and Exploration Department in his capacity as PMRC/GSP- accredited Competent Person (CP) for Geology and if found valid, certify the updated nickeliferrous laterite resource estimates arrived at by the team from the results of most recent drilling campaign within its nickel mining operation area located within the municipalities of Carrascal and Cantilan, in Surigao del Sur in the northern part of Mindanao Island of the Philippines.

The report provides a comprehensive assessment of historical data and results of the exploration programs carried over the tenement area from 2008 to 2017. The mineral resource model prepared by the GED's Geological Team and reviewed by the undersigned CP was based on the assay results of 57,153 samples collected from 3,955 drill holes that were drilled and completed during that period. The database used in this estimation was audited by the author and was deemed to be sufficiently reliable to support the updated mineral resource estimation as of December 31, 2017 presented in this report.

### **1.2 Purpose and Compliance with PMRC**

This Technical Report complies with the requirements, guidelines and the implementing rules and regulations of the Philippine Mineral Reporting Code (PMRC) and follows the most recent template for reporting of exploration results and mineral resources of nickel laterite deposits.

### **1.3 Data Verification**

The data used in the preparation of this report were compiled from technical reports written by the various consultants of MMDC as well as from the works of MMDC geologists and mining engineers available in the company's archive. The updating of the resource was based on the drilling data from the 2017 drilling campaign that were verified by this CP.

### **1.4 Technical Report Team**

The undersigned CP depended primarily on the exploration data gathered, compiled and provided by the technical team of the Geology and Exploration Department of MMDC derived from past and ongoing drilling activities as well as from available technical reports from earlier exploration works. The GED is based in Carrascal, Surigao del Sur and is headed by Ms. Jayvhel T. Guzman under the management and guidance of Engr. Robert V. Belgica.

MMDC has been continuously conducting infill drilling in its mining operation area to upgrade its mineral resources from Indicated and Inferred to Measured and Indicated categories.

## 2.0 RELIANCE ON OTHER EXPERTS

This CP relied mainly on the report prepared by Geologists Jayvhel T. Guzman, Irvin B. Samaniego and Cherry R. Carlom. Geologists Guzman and Samaniego joined MMDC in 2012 and, over the years working in the company's nickel laterite mine, are believed to have gained considerable experience and invaluable technical knowledge in the nickel laterite style of mineralization. On the other hand, Geologist Carlom, since she joined the MMDC in 2016, has been assigned in the supervision and implementation of infill and development drilling of the company.

## 3.0 TENEMENT STATUS AND MINERAL RIGHTS

On June 19, 1992, the Philippine Government, represented by the Secretary of the Department of Environment and Natural Resources (DENR), and Ventura Timber Corporation (Ventura) executed a Mineral Production Sharing Agreement denominated as **MPSA No. 016-93-XI** covering an area measuring 4,799 hectares located in the Municipalities of Cantilan and Carrascal in the Province of Surigao del Sur in northern Mindanao (**Fig. 3-1**). A small portion of the tenement area extends into the adjoining Municipality of Madrid, south of Cantilan. The MPSA was approved by the President of the Philippines on July 1, 1993, granting Ventura an initial exploration permit to the contract area for two (2) years to undertake the required mineral exploration pursuant to an approved Two -Year Exploration Work Program. **Table 3-1** shows the Technical Description of the corners of the area that comprise MPSA. 016-93-XIII:

**Table 3-1.** Technical description of MPSA 016-93-XIII in Luzon-Mindanao Datum.

Corner	Longitude	Latitude
1	125° 52' 30"	9° 20' 00"
2	125° 55' 00"	9° 20' 00"
3	125° 55' 00"	9° 19' 00"
4	125° 54' 00"	9° 19' 00"
5	125° 54' 00"	9° 15' 30"
6	125° 53' 30"	9° 15' 30"
7	125° 53' 30"	9° 14' 00"
8	125° 51' 00"	9° 14' 00"
9	125° 51' 00"	9° 15' 00"
10	125° 51' 30"	9° 15' 00"
11	125° 51' 30"	9° 19' 00"
12	125° 52' 30"	9° 19' 00"

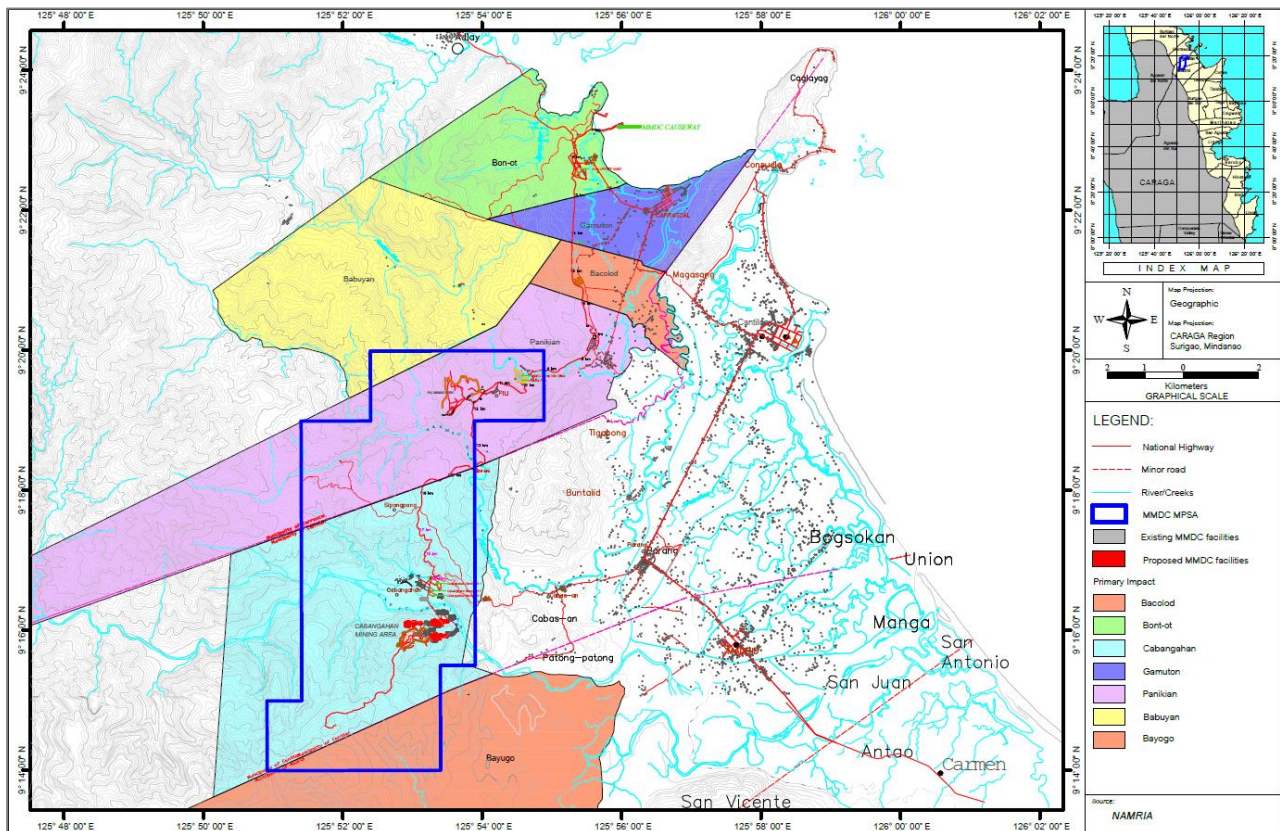
On January 19, 1995, a Deed of Assignment (DOA) involving MPSA No. 016-93-XI was executed by and between Ventura and Marcventure Mining and Development Corporation (MMDC) granting MMDC the rights to explore the MPSA area. On March 11, 2008, after a lapse of 13 years, the DOA was finally approved by the

DENR Secretary. The first renewal of exploration period was granted to MMDC on January 24, 2008 and the second renewal, on July 14, 2011.

On December 22, 2008, MMDC was granted Environmental Compliance Certificate (**Reference Code 0807-022-1093**) which covers an initial mine area of 120 hectares. The ECC (**ECC-R13-1101-0006**) which covered the causeway, the pier yard and the road project, was issued by EMB CARAGA on February 11, 2011. On August 2011, MMDC was able to make its first laterite ore shipment abroad.

MMDC filed a request for amendment of ECC 0807-022-1093 to cover the whole 4,799 hectares of MPSA No. 016-93-XIII. Approval for the amendment of the ECC was granted on April 23, 2013 which allowed the company to mine outside the original 120 hectares that were earlier granted ECC. This allowed the annual production to be increased from 1,500,000 WMT to 3,000,000 WMT. The amendment also superseded MMDC's ECC-R13-1101-0006 for its causeway, pier yard and road project. The Declaration for Mining Project Feasibility (DMPF) for the whole tenement area was approved by the Mines and Geosciences Bureau (MGB) on October 16, 2014.

On September 17, 2015, MMDC's filed for another amendment of its ECC which was subsequently approved by the MGB. This allows the company to further increase its production capacity to up to 5,000,000 WMT.



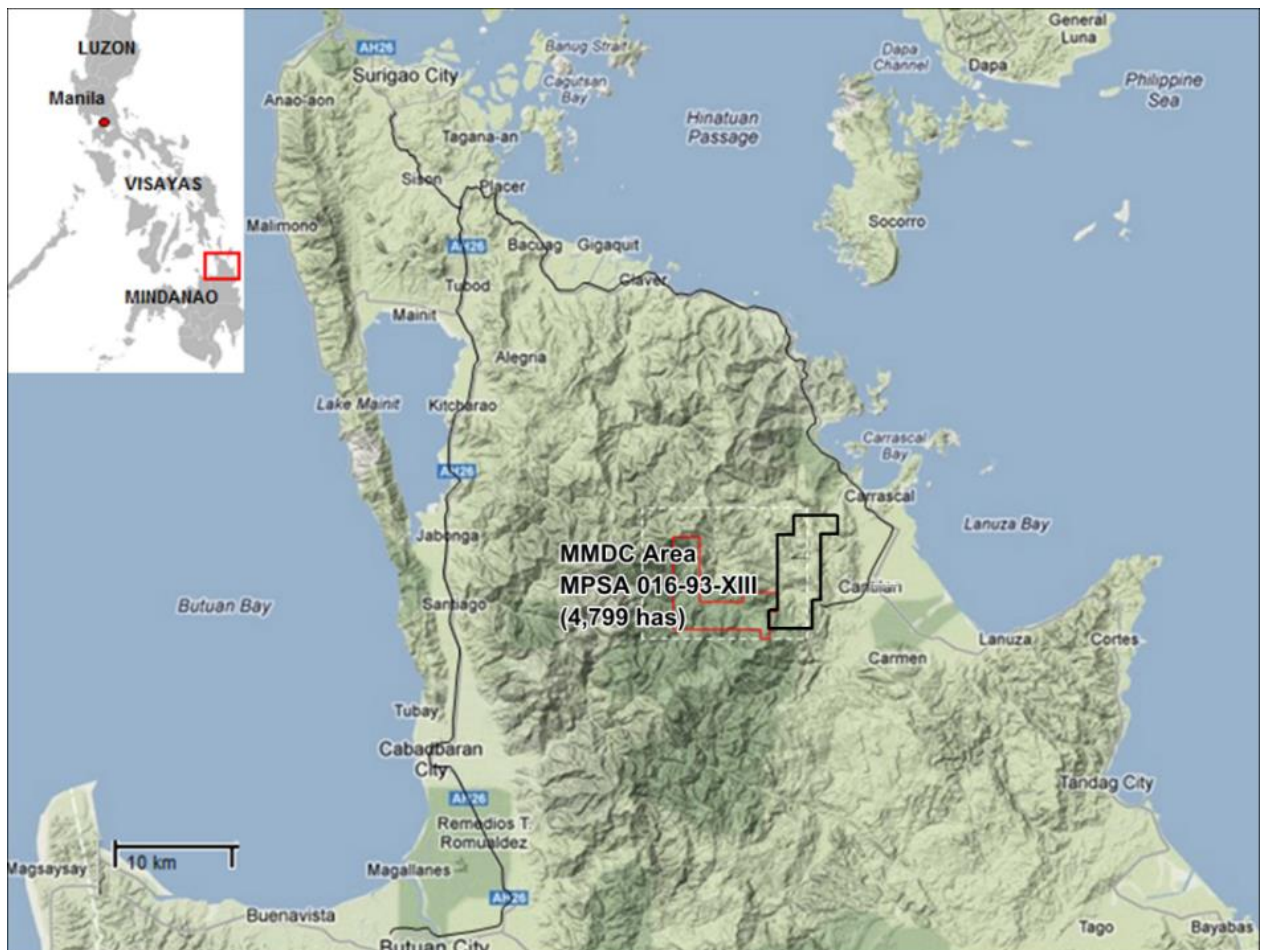
**Figure 3-1.** Location map showing the various barangay boundaries.



## 4.0 GEOGRAPHY

### 4.1 Location and Accessibility

The tenement area is located approximately three (3) kilometers west of Cantilan town proper which lies along the Surigao City - Tandag City National Highway. The area is accessible from Cantilan through the rehabilitated and much improved former logging road starting from Barangay Panikian going westward. Cantilan is about 120 road-km southeast from Surigao City and about 60 road-km northwest from Tandag City, capital of Surigao del Sur (**Fig. 4-1**). From Manila or Cebu City, the MPSA area can be most conveniently reached by air where Philippine Air Lines (PAL) and the Cebu Pacific (CebPac) maintain daily scheduled flights to Surigao City and the nearby Butuan City in the adjoining province of Agusan del Norte. Compared to Surigao City's airport, however, Butuan City's airport has a longer runway and can accommodate bigger planes (i.e., Airbus 300s).



**Figure 4-1.** Map showing geographic features in regional scale and road network from Surigao City and Butuan City to MMDC's Tenement area.



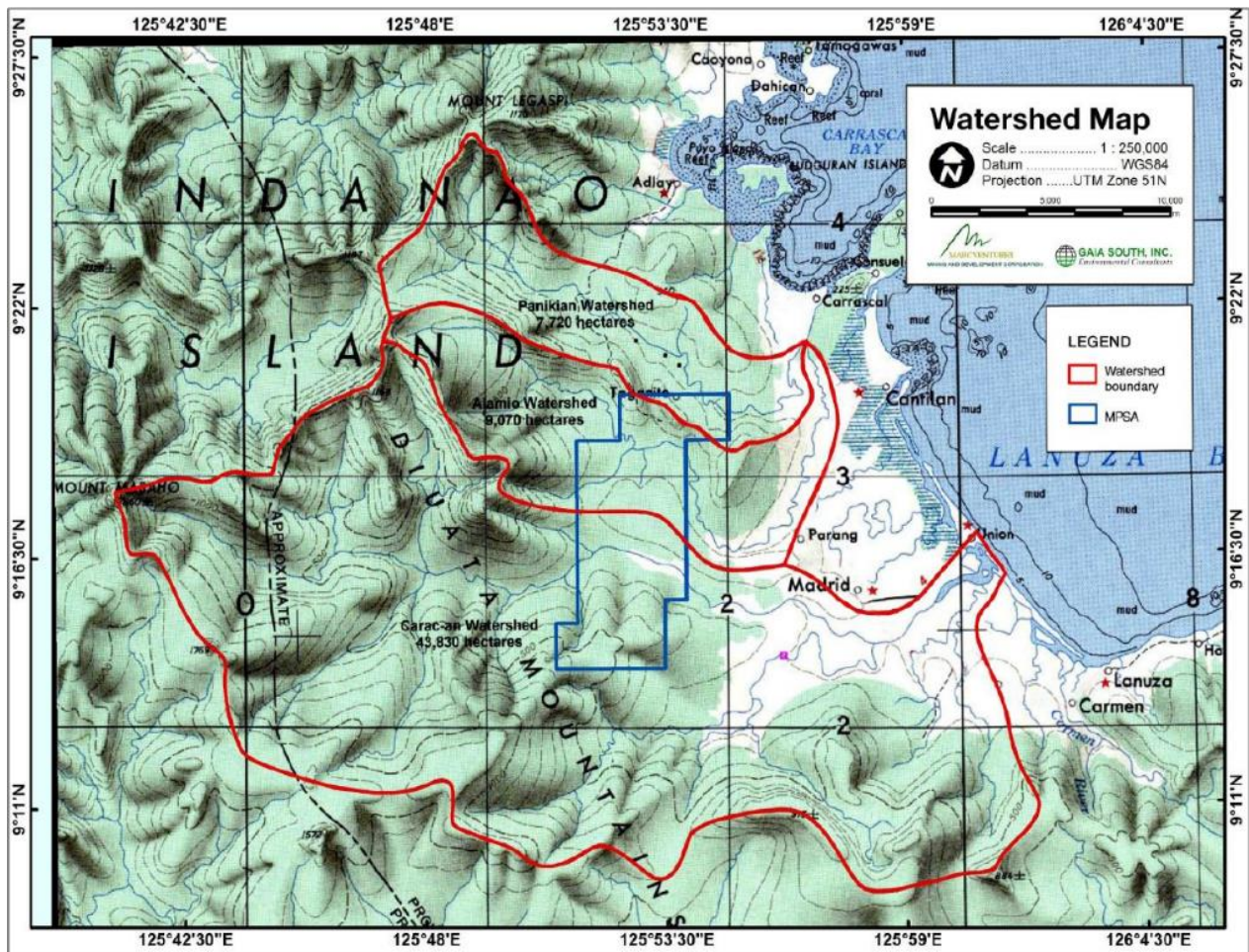
## 4.2 Topography, Physiography and Drainage

The tenement area is located at the northeastern fringe of the Diwata Mountain Range (also called the Pacific Cordillera of Mindanao), a 300-km stretch of rugged mountains that extends all the way to the Davao-ComVal provinces. To the west of the Diwata Mountain Range are found the topographic low areas exemplified by the Tubay Valley and Lake Mainit. These areas are bordered to the west by a 70-km long elevated terrain called Malimono Ridge, that runs parallel to the west coast of Surigao del Norte.

Within the tenement area, the terrain is generally gently to moderately sloping and undulating except for some portions in the Cabangahan area which exhibit more rugged features and steeper slopes.

The MMDC MPSA area lies within the catchments of three (3) drainage systems namely: the Carac-an, Alamio and Panikian river systems (**Fig. 4-2**). Carac-an River is the largest drainage system in the area with headwater originating at the eastern slope of Mount Mabaho in the central portion of northern Mindanao Island. The tributaries flow in a general eastward direction and converge in the Cantilan-Madrid Alluvial Plain, then going northeast passing by Barangay Union in Madrid before emptying into Lanuza Bay in the Pacific Ocean.

Alamio River originates at the rugged mountains northwest of the MPSA area and flows southeastward through its northern section before reaching the Cantilan-Madrid Alluvial Plain where it shifts north-northeastward and meanders along the western edge of the alluvial plain. It merges with the Binoni River before crossing the highway near Carrascal town proper where it is referred to as the Carrascal River. The Carrascal River drains to Carrascal Bay.



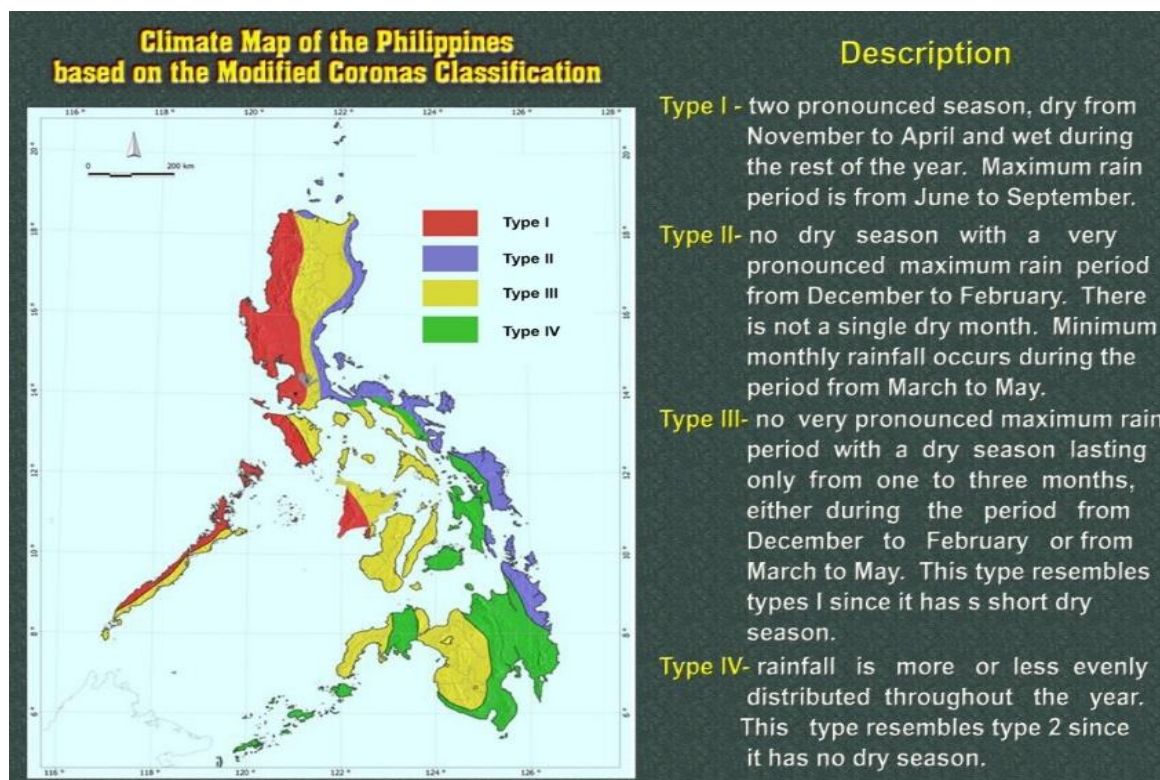
**Figure 4-2.** Watershed map of the MMDC Tenement area and vicinity

The Paniklan River is the smallest river system originating at the southern slope of Mount Legaspi located northwest of the MPSA area. The river assumes a southeast direction and upon reaching the Cantilan-Madrid Alluvial Plain, it becomes known as the Binoni River. The Binoni River then merges with the Alamio River.

### 4.3 Climate

Surigao del Sur exhibits Type II Climate based on the Modified Corona System of Climate Classification established by the Philippine Atmospheric, Geophysical and Astronomical Services Administration (PAGASA). Type II is characterized by having no well defined dry season and with a very pronounced maximum rainy period from December to February (**Fig. 4-3**).

The mean annual rainfall in the Philippines varies from 965 to 4,064 mm with Baguio City, eastern Samar and eastern Surigao recording the highest amount of rainfall while the southern portion of Cotabato receives the least amount of rain. Maximum rainfall is experienced from November to February and minimum rainfall from May to April with annual rainfall not exceeding 4,500 millimeters (Kintanar, 1984).



**Figure 4-3.** Climate map of the Philippines based on the Modified Coronas Classification established by PAGASA with relative location of MMDC Tenement area ([www.pagasa.dost.gov.ph](http://www.pagasa.dost.gov.ph)).

#### 4.4 Vegetation

Dense growth of primary forest trees (e.g., narra, lauan, apitong, tangile) covers the mountainous portions of the tenement. Secondary growth forest covers the logged out portions of the area. Lowland areas are used for agricultural purposes and are cultivated with rice, corn, coconut and fruit trees. Mangroves are observed to grow along the lower sections of rivers and coastal areas.

## 5.0 HISTORY

### 5.1 Exploration

The Surigao Mineral District rose to prominence as early as 1914 during the American occupation with the declaration by the US Governor General for the Philippines of a 640 sq km tract of land comprising what is now the Surigao provinces, as a mineral reservation. In 1939, the mineral reservation was further expanded by President Manuel L. Quezon by virtue of a presidential proclamation that included the islands of Nonoc, Dinagat and Siargao, designated as Parcels II, III and IV, respectively with Masapelid Island as part of Parcel II. The original area declared mineral reservation in 1914 comprising of the northern part of the mainland Mindanao, was designated Parcel I.



In the 1950s, the potential of northern Mindanao area for nickeliferous laterite was first recognized when the Bureau of Mines delineated areas with laterite in the Surigao Peninsula. Several companies had taken interest in the property including Surigao Nickel Mining and Industrial Corporation which entered in a joint venture with Marcopper Mining Corporation in the 1970s. In 1991, Ventura Timber Corporation engaged Geomin Management Corporation to explore the area which was followed by Queensland Nickel Incorporated and Hinatuan Mining Corporation in 1992. **Table 5-1** summarizes the previous exploration works and various resource estimates undertaken in the tenement area.

Initially, auger drilling and test-pitting were conducted to explore the area. In 1992, Hinatuan Mining Corporation used portable vibro drills to explore for saprolite and drilled at several random locations. The drilling program delineated a 120-hectare mineralized zone in Cabangahan, which was then referred to as 'Area 2'. The result of the drilling activity became the basis for the first PMRC-compliant report of C. A. Arcilla in 2010.

A yearly systematic rotary in-fill drilling program was conducted over Cabangahan, Sipangpang and Pili areas from 2010 to 2014 to upgrade the mineral resources and/or block additional resource. The program was continued in 2016 to further extend the drilling activities in Cabangahan (Lancuag Area) primarily to upgrade existing Inferred and Indicated resources to Measured category as well as to cover portions in the tenement which were not drilled during the previous drilling campaigns.

In 2016 the management decided to adopt production drilling within the disturbed portions of Cabangahan and Pili area and within the adjacent part of the Sipangpang active mining area. Simultaneously, development drilling was still implemented in the northern portion of Cabangahan area with the same objective.

**Table 5-1.** Resource estimates from previous exploration works (*modified from Arcilla et.al. 2012*).

Period	Proponent	Area Coverage	Auger drill holes	Test pits	Rotary drill holes	Results / Resource Estimate
1970	Marcopper Mining Corp / Surigao Nickel Mining and Industrial Corp	- 1,300 has.	- over 1,000 sampling points			• <b>80 million MT</b> of laterite; average 1.2 percent nickel and 0.1 percent cobalt
1991	Geomin Management Corp	- Area 1, Area 2	- 45 holes - 275 meters total aggregate depth - 300-m grid	- 200-m grid spacing		• 0.1 to 13% heavy mineral fraction, high anomaly in central northern part of the area; conducted geological mapping, petrographic and mineralogical studies

1992	Hinatuan Mining	- Area 2 (25 has.)			- 25 holes (range = 7-24 meters)	<ul style="list-style-type: none"> <li>• <b>826kg</b> of limonite at 0.9% Ni cut-off, averaging 1.16% Ni and 50.7% Fe;</li> <li>• <b>2,044kg</b> of saprolite at 1.6% Ni cut-off, averaging 2.15% Ni</li> </ul>
1994	Ventura Timber	- 1,500 has.	- 1,000 drill holes	- 111 test pits (range = 6.3-14.3 meters)		<ul style="list-style-type: none"> <li>• estimated potential resource of <b>100 million MT</b> at 1.5% Ni, 24% Fe and 0.05% Co</li> </ul>
2000	QNI Philippines	- 400 has.	- 412 drill holes			<ul style="list-style-type: none"> <li>• <i>none</i></li> </ul>
2009	Arcilla	- Area 2 (117 has.)			- 170 holes	<ul style="list-style-type: none"> <li>• <b>3.8 million MT</b> of Indicated Limonite at 1% Ni cut-off, averaging 1.3% Ni and 35.9% Fe; 5.6 MMT of Indicated Saprolite at 1% Ni cut-off, averaging 1.4% Ni</li> </ul>
2012	de Luna	<ul style="list-style-type: none"> <li>- Pili (199 has.)</li> <li>- Sipangpang (822 has.)</li> <li>- Cabangahan (516 has.)</li> <li>- <b>TOTAL = 1,537 has.</b></li> </ul>			<ul style="list-style-type: none"> <li>- 1,289 holes</li> <li>- 21,266.98 m</li> <li>- 21,247 samples</li> </ul>	<ul style="list-style-type: none"> <li>• <b>2,883,000 WMT</b> of Measured and Indicated Saprolite Resource, averaging 1.9% Ni and 11.81% Fe</li> <li>• <b>15,991,000 WMT</b> of Measured and Indicated Limonite Resource averaging 1.08% Ni and 44.48% Fe.</li> </ul>
2013	de Luna	<ul style="list-style-type: none"> <li>- Pili (210 has.)</li> <li>- Sipangpang (795 has.)</li> <li>- Cabangahan (498 has.)</li> <li>- <b>TOTAL = 1,650 has.</b></li> </ul>			<ul style="list-style-type: none"> <li>- 1,584 holes</li> <li>- 24,222.38 m</li> <li>- 24,216 samples</li> </ul>	<ul style="list-style-type: none"> <li>• <b>2,928,000 WMT</b> of Measured and Indicated Saprolite Resource, averaging 1.91% Ni and 12.06% Fe</li> <li>• <b>51,009,000 WMT</b> of Measured and Indicated Limonite Resource averaging 0.83% Ni and 47.56% Fe.</li> </ul>
2014	de Luna	<ul style="list-style-type: none"> <li>- Pili (210 has.)</li> <li>- Sipangpang (795 has.)</li> <li>- Cabangahan (498 has.)</li> <li>- <b>TOTAL = 1,650 has.</b></li> </ul>			<ul style="list-style-type: none"> <li>- 1,851 holes</li> <li>- 27,053.61 m</li> <li>- 27,048 samples</li> </ul>	<ul style="list-style-type: none"> <li>• <b>3,209,000 WMT</b> of Measured and Indicated Saprolite Resource, averaging 1.90% Ni and 11.98% Fe</li> <li>• <b>62,157,000 WMT</b> of Measured and Indicated Limonite Resource averaging 0.83% Ni and 46.02% Fe.</li> </ul>



2015	de Luna	- Pili (210 has.) - Sipangpang (795 has.) - Cabangahan (498 has.) - <b>TOTAL = 1,650 has.</b>			- 2,150 holes - 31,353.65 m - 31,349 samples	<b>•3.113,700 WMT</b> of Measured and Indicated Saprolite Resource, averaging 1.85% Ni and 12.05% Fe <b>•60,035,800 WMT</b> of Measured and Indicated Limonite Resource averaging 0.83% Ni and 45.88% Fe.
2016	de Luna	- Pili (210 has.) - Sipangpang (795 has.) - Cabangahan (498 has.) - <b>TOTAL = 1,650 has.</b>			- 3,326 holes - 50,955.89 m - 50,951 samples	<b>•8.46 million WMT</b> of Measured and Indicated Saprolite Resource, averaging 1.50% Ni and 12.85% Fe <b>•57.89 WMT</b> of Measured and Indicated Limonite Resource averaging 0.86% Ni and 45.27% Fe.

## 5.2 Mining Operation

MMDC started its mining operation starting in the Fourth Quarter of 2010 which initially included forest /vegetation cover clearing, grabbing and, later, stockpiling of limonite and saprolite materials from the 120- hectare area within Cabangahan (Area 2) which was covered by the first issued ECC.

By the Third Quarter of 2011, MMDC was able to start shipping out limonite and saprolite ores to foreign buyers. From 2011 to end of 2015, MMDC has produced about 9.60 million WMT of limonite and saprolite ores and shipped about 9.46 million WMT, as presented in Table 4-2. About 12% of the shipped ore was saprolite with an average grade of 1.65% Ni and 17.48% Fe. The rest were limonite with average grade of 0.89% Ni and 50.10% Fe.

**Tables 5-2** and **5-3** summarize the production and shipment histories, respectively, of MMDC from 2011 to 2017.

**Table 5-2.** Production history of MMDC.

Calendar Year	Total Material Moved/Produced												
	Limonite	% Ni	% Fe	Saprolite	% Ni	% Fe	LGO	% Ni	% Fe	Waste	% Ni	% Fe	TOTAL
2010	37,800	-	-	-	-	-	-	-	-	-	-	-	37,800
2011	498,181	-	-	189,379	-	-	-	-	-	-	-	-	687,560
2012	401,181	-	-	157,170	-	-	-	-	-	1,143	1.20	35.65	559,494
2013	2,945,090	0.87	49.71	13,600	1.58	14.91	-	-	-	19,810	1.11	41.01	2,978,567
2014	1,343,797	0.91	49.49	241,870	1.50	15.78	705,179	0.88	47.10	-	-	-	2,290,963
2015	2,448,462	0.93	49.57	522,931	1.58	17.66	71,245	1.11	45.90	6,180	1.00	44.85	3,048,935
2016	1,793,701	0.88	49.69	774,629	1.55	19.62	9,446	1.00	47.00	433,246	0.94	29.55	3,011,142
2017	829,099	0.72	49.32	1,429,013	1.57	18.4	51,920	1.21	28.81	809,804	0.89	22.16	3,119,836
Total	10,297,312	0.88	49.60	3,328,592	1.56	18.40	837,791	0.92	45.90	1,270,183	0.91	25.10	15,733,878

**Table 5-3.** Shipment history of MMDC.

Calendar Year	Total Shipped Ore						TOTAL
	Limonite	% Ni	% Fe	Saprolite	% Ni	% Fe	
2010	-	-	-	-	-	-	-
2011	464,112	0.81	50.47	163,986	1.83	15.54	<b>628,149</b>
2012	460,227	1.01	49.80	157,706	1.81	18.31	<b>617,984</b>
2013	2,775,738	0.84	50.61	-	-	-	<b>2,775,790</b>
2014	1,914,378	0.92	49.58	188,861	1.58	18.33	<b>2,103,289</b>
2015	2,797,876	0.92	49.93	541,192	1.57	17.52	<b>3,339,119</b>
2016	1,895,112	0.88	49.83	701,990	1.50	16.19	<b>2,597,152</b>
2017	744,679	0.70	49.84	1,434,978	1.48	16.51	<b>2,179,707</b>
<b>Total</b>	<b>11,052,122</b>	<b>0.87</b>	<b>50.00</b>	<b>3,188,712</b>	<b>1.51</b>	<b>16.70</b>	<b>14,241,190</b>

Upon the start of the 2017 mining season, MMDC had an estimated limonite and saprolite resource of about 66.35 million WMT. After the 2017 mining period, MMDC's remaining limonite and saprolite resource was estimated at 63.54 million WMT; this included the additional resource blocked during the 2017 drilling activity.

## 6.0 GEOLOGIC SETTING AND MINERALIZATION

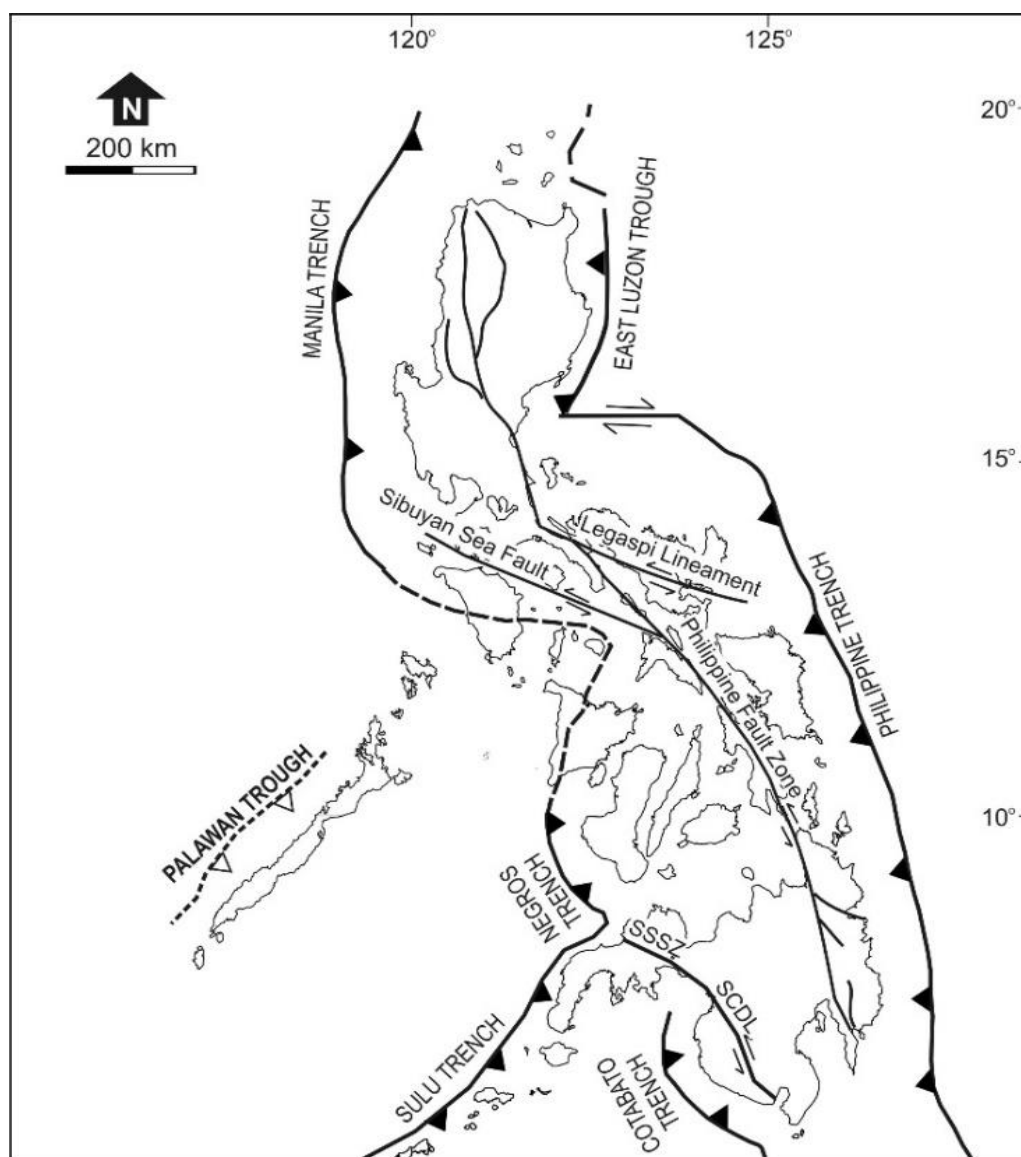
### 6.1 Regional Geology, Tectonic Setting and Stratigraphy

The principal tectonic element of the Philippine archipelago is the elongate Philippine Mobile Belt (Rangin, 1991) which is bound to the east and west by two major subduction zone systems, and bisected along its north-south axis by the Philippine Fault (**Fig. 6-1**).

The Philippine Fault and its associated faults play an important role in the mineralization of the Surigao District. The trace of the Philippine Fault in Surigao is marked by highly rectilinear NNW-SSE- trending Tubay Valley, Lake Mainit and Maniayao Volcano. These structures were formed by pull-apart mechanism associated with left-stepping left-lateral strike slip fault.

Intense physical and chemical weathering of ultramafic rocks believed to form part of ophiolite belts which became exposed to the tropical climatic conditions due to orogenic processes produces nickel-bearing laterite. The distribution of ophiolite belts in the Philippines is shown in **Fig. 6-2**.

The basement rocks in the district are basalts and slabs of the Dinagat Ophiolite and metamorphic rocks of the Cretaceous Sohoton Greenschist. The ophiolite consists of amphibolite, peridotite, pyroxenite, gabbro and dunite. They are regionally serpentinized and can be found along Malimono Ridge and along the Northern Pacific Cordillera. These rocks were dated to be Cretaceous to Paleocene (**MGB, 2010; Rohrlach, 2005**).

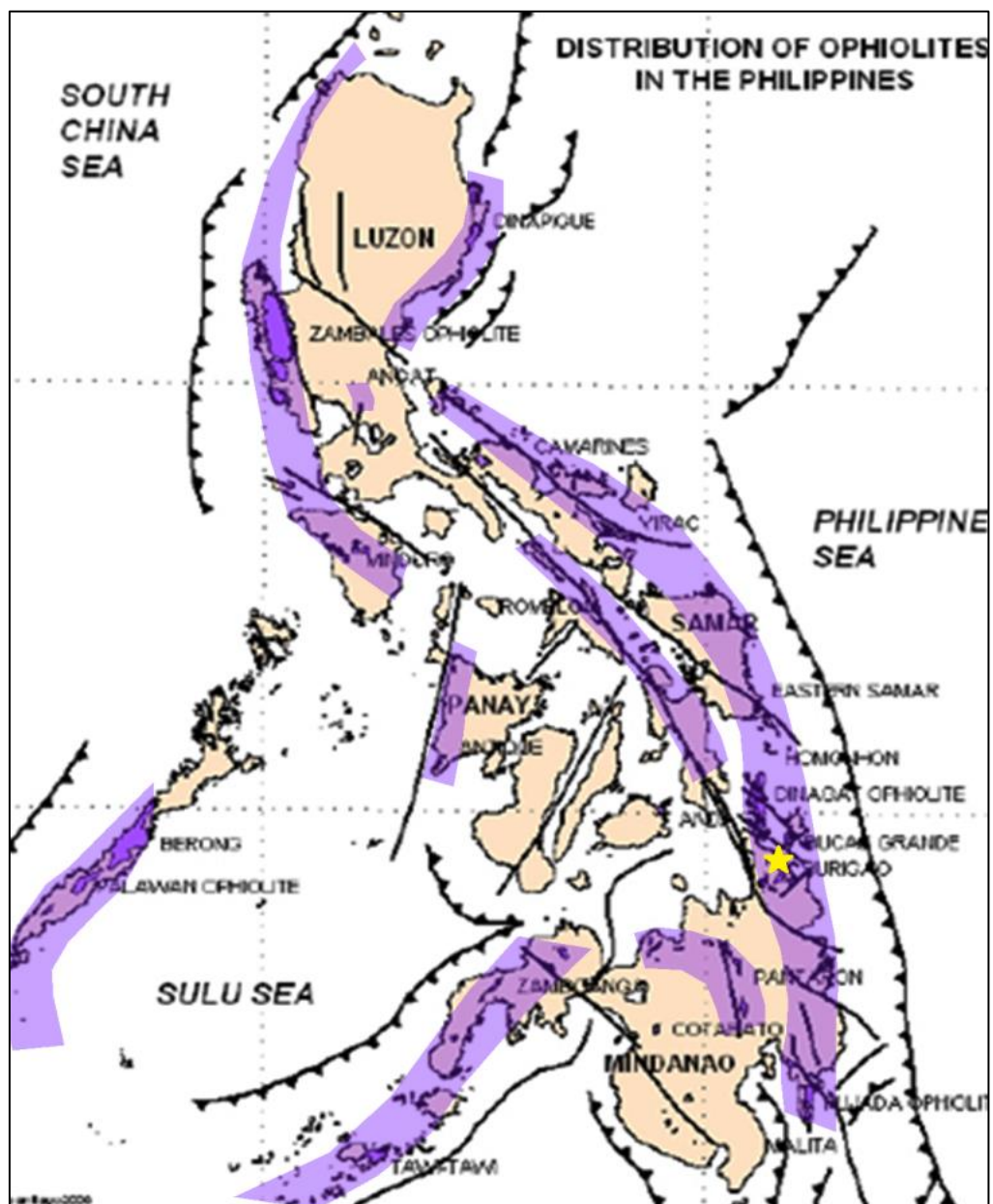


**Figure 6-1.** General tectonic map of the Philippines with relative location of the tenement area.

Overlying the basement rocks are calcareous conglomerates of the Upper Eocene Madanlog Formation in Surigao, and its equivalent terrigenous and calcareous sediments of the Nabanog Formation in Agusan. These formations are in turn overlain by the Late Oligocene to Early Miocene Bacuag Formation. The Bacuag Formation consists of basaltic flow and breccia, limestone, limestone conglomerate, wackes, siltstone, and muddy limestone.

Intruding the Bacuag Formation and other older formations is the Asiga Diorite named after the river where most outcrops of the intrusive are observed. The Early to Late Miocene Alipao Andesite also intrudes the Bacuag Formation in the vicinities of Alipao and in the Siana Mine Pit. The Bacuag Formation is overlain by the Lower to Middle Miocene Mabuhay Formation (called ***Motherlode Turbidite*** by UNDP, 1987). The Middle Miocene Timamana Limestone unconformably overlies the Bacuag and Mabuhay Formations. This consists of massive coralline limestone (**MGB, 2010**).

Andesitic pyroclastic eruption and lava flows formed the Tugunan Formation (called **Mabuhay Clastics by UNDP, 1987**) during the Pliocene. Associated magmatism brought about the epithermal mineralization of the Surigao District (**Rohrlach, 2005**), and produced the andesites referred to as the Andesite Group by Santos et.al. (1962) and as the Andesite Series by Santos-Ynigo (1944). These were separated by MGB (2010) into the Early to Late Pleistocene Ipil Andesite, Late Pliocene Bad-as Dacite and the Pleistocene Maniayao Andesite. Pleistocene deposits in the region consist of the Mainit Formation, Hinatigan Formation and Placer Conglomerate (**MGB, 2010**), all of which are dominated by conglomerates and sandstones. **Fig. 6-3** shows the updated stratigraphic column of the Northern Pacific Cordillera by MGB, 2010.



**Figure 6-2.** Map showing the distribution of ophiolite belts in the Philippines with relative location of MMDC tenement area.

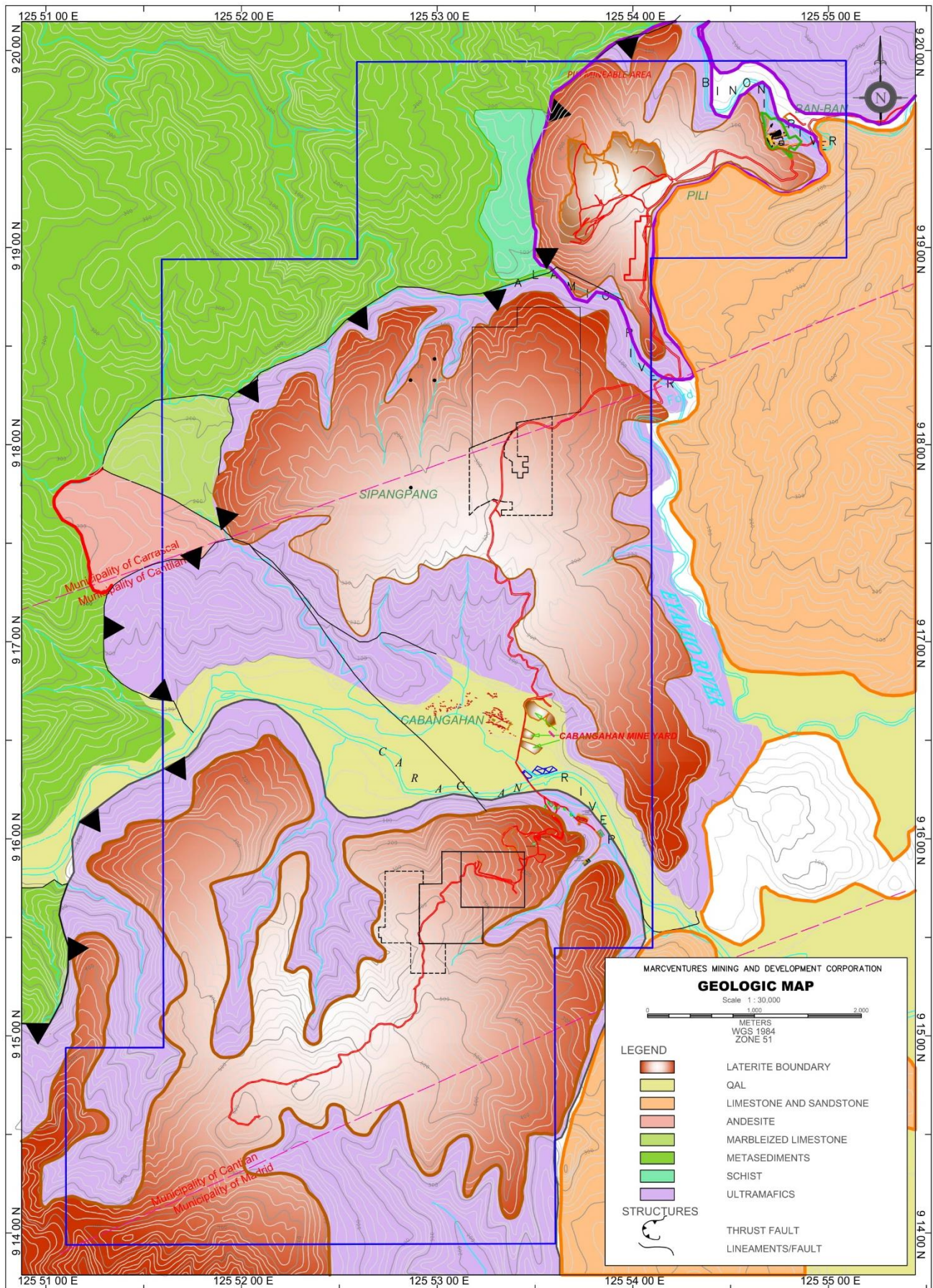
PERIOD	EPOCH	AGE	Ma	NORTHERN PACIFIC CORDILLERA
NEOGENE	HOLOCENE		0.0115	
	PLEISTOCENE	3	0.126	Maniayao Andesite
		2	0.78	Placer Conglomerate
		1	1.81	Mainit Formation
	PLIOCENE	3	2.59	Bad-as Dacite
		2	3.60	Ipil Andesite
		1	5.33	
	MIOCENE	— 3 —	7.25	Tugunan Formation
			11.61	
		— 2 —	13.65	Timamana Limestone
			15.97	Alipao Andesite
		— 1 —	20.43	Mabuhay Formation
			23.03	
PALEOGENE	OLIGOCENE	2	28.4	Asiga Diorite
		1	33.9	Bacuag Formation
	EOCENE	4	37.2	
		3	40.4	Madanlog Formation
		2	48.6	
		1	55.8	
	PALEOCENE	3	58.7	
		2	61.7	
		1	65.5	
CRETACEOUS	K2		99.6	Sohoton Greenschist
	K1		145.5	Dinagat Ophiolite
JURASSIC				

**Figure 6-3.** Updated stratigraphic column of the Northern Pacific Cordillera of Mindanao (MGB, 2010).

## 6.2 Local Geology

The MMDC tenement is covered by lateritic deposit derived from the in situ physical and chemical weathering of the underlying ultramafic rocks. The geology of the project area could be best described based on the five (5) major rock units found in the area, namely: Quaternary Alluvium, Timamana Limestone, Alipao Andesite, Sohoton Greenschist and Dinagat Ophiolite Complex (**Fig. 6-4**).





**Figure 6-4.** Geologic Map of the MMDC Tenement Area.

### **6.2.1 Quaternary Alluvium**

This unit is made up of unconsolidated sand and gravel deposited by the fluvial system along the valley floors. The alluvial materials consist of a mixture of all rock types eroded where the river system passes through

### **6.2.2 Timamana Limestone**

Residual hills at the eastern peripheries of the project area are underlain by the thick Middle Miocene Timamana Limestone. It is composed of massive coralline limestone and may contain oolites, coral and shell fragments. The limestone unit caps the ultramafic unit with outcrops found in Sitio Bagong Pili and Purok 5 in Barangay Panikian.

Outcrops are generally cream to gray in color. Hand samples are also cream to gray color and composed of sand- to mud-sized calcareous sediments.

### **6.2.3 Alipao Andesite**

The Alipao Andesite intrudes all older units and is assigned to a Middle Miocene age by UNDP (1987). Outcrops are found in the northwestern part of Cabangahan area. Rock samples exhibit gray to greenish colour with no observed manifestation of having undergone metamorphism. Texture is aphanitic to porphyritic with long amphibole phenocrysts in fine-grained matrix.

### **6.2.4 Sohoton Greenschist**

The Sohoton Greenschist is composed of greenschist, phyllite and low-grade metamorphic sedimentary and volcanic rocks with marble interbeds. Phyllite and low-grade metamorphic rocks are distributed over the northwestern part of the tenement area.

### **6.2.5 Dinagat Ophiolite Complex**

The Dinagat Ophiolite Complex is composed of amphibolite, residual peridotite, cumulate peridotite, massive layered gabbro, sheeted dike complex and pillow basalts dated Cretaceous in age.

Serpentinized peridotite, pyroxenite and dunite are exposed along road cuts in Barangay Panikian and Barangay Cabangahan. Fresh rock samples are greenish black to black in color. Dunite is predominantly composed of olive green grains of olivine. Pyroxene occurs as fine to coarse black crystals in peridotite and pyroxenite.



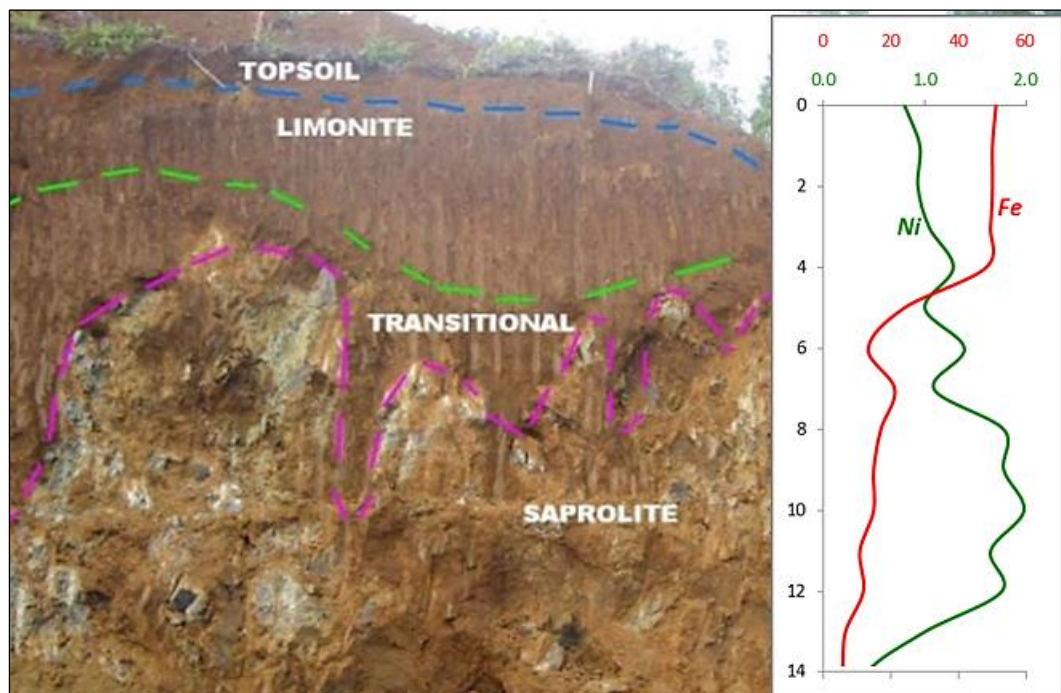
### 6.3 Mineralization

The nickel/iron deposits within the MMDC tenement area are in the form of laterite (limonite and saprolite materials) derived from the in situ physical and chemical weathering of the underlying ultramafic rocks belonging to the Dinagat Ophiolite Complex. Limonite is the accumulation of the residual product of the upper oxidizing zone in the weathering profile. It is essentially made up of clay and other oxide minerals rich in iron. The lower reducing zone directly underlying the limonite is the saprolite, a secondary nickel-enriched zone made up of rocks and clay in silicate form. Laterites are surface and near surface deposits localized by topographic controls and favourable geologic structures.

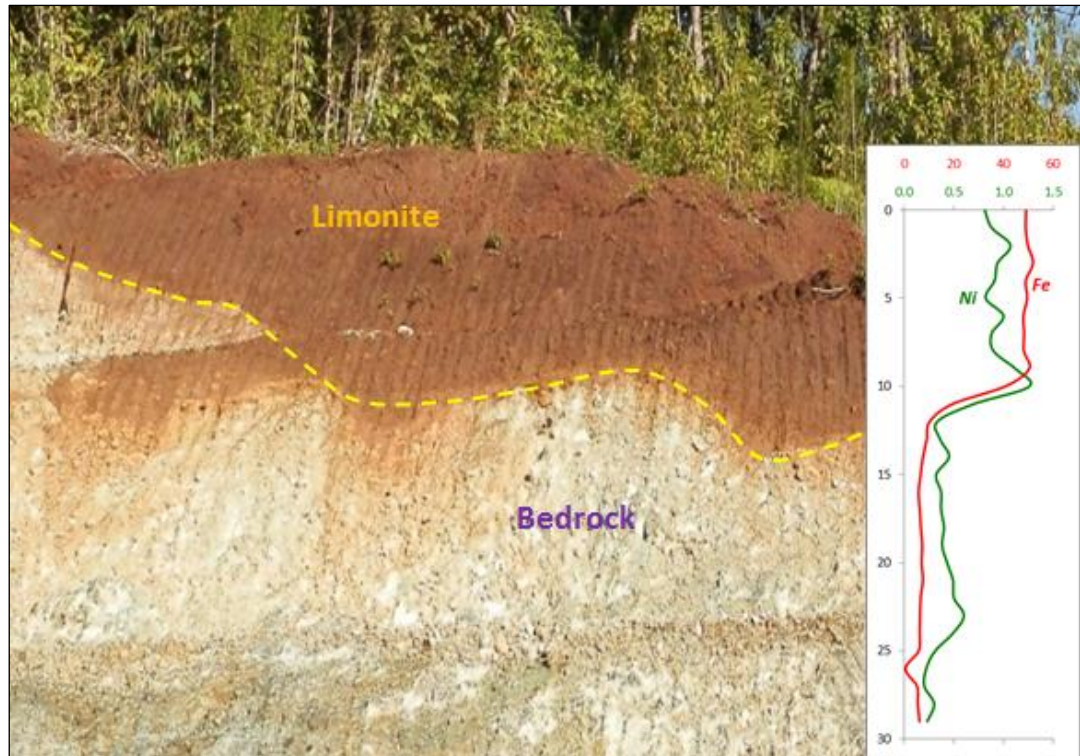
The MMDC tenement comprises of three (3) laterite-covered areas, namely: Cabangahan, Sipangpang and Pili.

The typical laterite deposit in Cabangahan shows distinct color variation with depth, to wit:

1) A pale yellowish and light brown upper to near surface limonite; 2) a middle section of yellowish limonite and saprolite transition; and, 3) a multi-colored bottom section of saprolite just before the fresh bedrock (**Photo 6-1**). The colour described is the gross effect of several colours as viewed in its totality. However, a closer examination of the laterite would reveal various shades of red, brown, orange, yellow and gray. They appear as alternating bands, streaks, oolites, lenses and mottled colors. Occasional chromite, magnetite, and manganese specks are noted.



**Photograph 6-1.** Annotated photograph of a laterite profile taken at Cabangahan area with corresponding Ni and Fe values of the various laterite zones.



**Photograph 6-2.** Annotated photograph of a laterite profile taken at Pili area with corresponding Ni and Fe values of the various laterite zones

The laterite profile in Pili area consists mainly of limonite ore surrounded by nearly ubiquitous horizon of ferruginous concretions. Saprolite zone occurs as soft, foliated earthy aggregates with no marketable ore grade content. (**Photo.6-2**). Sipangpang has almost the same characteristics as Pili, such that it also lacks underlying high-nickel saprolite in its laterite profile.

## 7.0 EXPLORATION

MMDC conducted drilling in Sipangpang and Cabangahan area simultaneous with the mining operations in 2016 with the objective of blocking additional mineral resources as well as to upgrade the already known Inferred and Indicated resources to Indicated and Measured categories, respectively. **Table 7-1** summarizes the drilling accomplishments in Cabangahan, Sipangpang and Pili area to date.

**Table 7-1.** Summary of development drilling undertaken from 2008 to 2017.

Period/ Year	Cabangahan			Sipangpang			Pili			TOTAL		
	No. of Holes	No. of Samples	Total Depth	No. of Holes	No. of Samples	Total Depth	No. of Holes	No. of Samples	Total Depth	No. of Holes	No. of Samples	Total Depth
2008-2012	1,009	17,080	17,095.88	231	3,088	3,091.30	49	1,079	1,079.80	1,289	21,247	21,266.98
2013	21	348	347.92	9	94	91.6	265	2,527	2,515.88	295	2,969	2,955.40
2014	147	2,030	2032.39	120	802	798.84	-	-	-	267	2,832	2,831.23
2015	887	14,102	14,101.16	-	-	-	-	-	-	887	14,102	14,101.16
2016	588	9,801	9,801.12	-	-	-	-	-	-	588	9,801	9,801.12
2017	361	4,313	4,313.34	268	1,889	1,889.89	-	-	-	629	6,202	6,203.23
<b>Total</b>	<b>3,013</b>	<b>47,674</b>	<b>47,691.81</b>	<b>628</b>	<b>5,873</b>	<b>5,871.63</b>	<b>314</b>	<b>3,606</b>	<b>3,595.68</b>	<b>3,955</b>	<b>57,153</b>	<b>57,159.12</b>

A total of 629 holes were drilled from March to November 2017 with a total combined depth of 6, 203.23 meters. Average depth drilled in Cabangahan was 11.98 meters while in Sipangpang, it was 7.05 meters. Drilling interval was 50m.

### 7.1 Surveying of Drillhole Location

The Geodetic Survey of drillhole collars was conducted using Topcon Total Station (**GPT-3107N and GTS-100N**) and using PRS 92 as the reference system. Surveyed drill hole locations were marked with stake and flagging tape and the hole properly identified with Block ID bearing the DDH No., local northing and easting, the collar elevation and depth reached by the hole.

### 7.2 Drilling and Core Sampling Procedures

MMDC's in-house drilling crew deployed 10 units of YHP-model drill machines in its drilling operation in the tenement area. The drill rigs are powered by 8hp Robin engines. The drill rigs use BQ size, single tube core barrel. A drilling crew moves its assigned drill rig to a designated surveyed drill hole location and commences drilling (**Photo 7-1**). A drilling supervisor monitors the drilling activities that include drill run, core length and percent recoveries which are recorded in the standard Drill Hole Data Sheet (**Photo 7-2**).

A drill core sample is retrieved after each drill run and carefully placed in an empty core box and marked properly with core block labelled with the Block ID, local northing, local easting, elevation, depth, date drilled and the responsible drilling crew. Samples are logged by the geologist or an experienced geologic aide on site. After logging, sampling of the cores is done at a nominal interval of one (1) meter down the hole regardless of laterite horizon boundaries. The samples are placed in properly labelled sample plastic bags and temporarily stored in the core house for safekeeping before delivery to MMDC's Sample Preparation Facility located at Sitio Banban, Barangay Panikian.





**Photograph 7-1.** Photograph of MMDC in-house drilling team conducting drilling in Cabangahan area.

MARCVENTURES MINING & DEVELOPMENT CORPORATION										
<b>ADDRESS</b> <b>PROJECT AREA</b> Pili (YBM 7) <b>Date started</b> 7/18/13 <b>Shift/ Time</b> Day <b>Date completed</b> 7/20/13 <b>Shift/ Time</b> Day						<b>BLOCK</b> M3 <b>Northing</b> 350 <b>Easting</b> 150 <b>COLLAR ELEV. (M.)</b> 179.10 <b>Drill Hole Inclination</b> Vertical <b>Core size (dia. in cm.)</b>				
Drill Run (mtr.)	Core length	Lithology	Physical Description			Analysis				Other
From	To	cm.	% Rec.	(lat. in, trans. sep., box)		Sample No.	% Ni	% Fe	% Co	
0	1-10	100	75	+	+	+	+	+	+	+
1-10	2-10	100	95	+	+	+	+	+	+	+
2-10	3-10	100	97	+	+	+	+	+	+	+
3-10	4-10	100	97	+	+	+	+	+	+	+
4-10	5-10	100	98	+	+	+	+	+	+	+
5-10	6-10	100	98	+	+	+	+	+	+	+
6-10	7-10	100	98	+	+	+	+	+	+	+
7-10	8-10	100	98	+	+	+	+	+	+	+
8-10	9-10	100	98	+	+	+	+	+	+	+
9-10	10-10	100	98	+	+	+	+	+	+	+
10-10	11-10	100	85	+	+	+	+	+	+	+
(CEOH)										
→ Lim; dk. brown - brown; poorly compacted; highly oxidized; crumbly textured mat'l; Hematite as the major mineral content.  → Lim; light brown - orange brown; med. compacted; med. oxidized; friable in texture; Mn stringers were also common along the interval.  → BR; fresh serpentinitized dunite containing antedural - subdural olivine and pyx xstls; limonitic coatings were also noted along the interval; crushed - pulverized BRs ultramafics as the bottom part of the interval.						1170 0.68 51.90 0.15 1171 0.80 52.02 0.14 1172 0.86 50.01 0.17 1173 0.96 52.00 0.12 1174 0.89 51.04 0.13 1175 0.82 50.90 0.12 1176 0.99 50.42 0.13 1177 1.08 50.13 0.12 1178 1.40 23.42 0.04 1179 0.68 7.52 0.02 1180 0.95 8.72 0.02				
<b>DEPTH (M.)</b> 11.10						<b>TOTAL SAMPLES</b> 11				
<b>PREPARED:</b>		<b>LOGGED:</b>				<b>ANALYZED:</b>				
K2		7/21 GEOLOGIST / CORE LOG SPECIALIST				Gail D. Gaciong 7-26-13 CHEMIST DATE				

**Photograph 7-2.** Photograph of a Sample of Drillhole Data Sheet with entries.

### 7.3 Sample Preparation and Analysis

At MMDC's Sample Preparation Facility located at Sitio Banban in Barangay Panikian, the sample is manually crushed on steel plate using sledge hammer and quartered using wooden ply board. Half of the sample is placed into a metal tray and the other half is returned into the plastic sample bag to be stored as coarse duplicate. To dry the samples, metal trays containing the samples are placed into the oven and heated at 105°C for eight (8) hours, or more if needed.

The sample is then passed through a crusher to crush "the lumps" that were formed while drying the sample. A riffle splitter is used to divide the sample into two parts. One part is retained and stored as coarse reject that can be used in case check analysis maybe required in the future. The other part is pulverized to 150- mesh where about 1 gram sample is taken for analysis.

Analyses of drill core samples are performed by the MMDC Laboratory using Atomic Absorption Spectrometry (AAS) and using X-ray Fluorescence Spectrometry (XRF).

### 7.4 Sample Storage and Security

Coarse duplicates are temporarily stored at the core house located adjacent to the Assay Laboratory and the Sample Preparation Facility. The pulp duplicates are kept in the Sample Preparation Facility. Maximum holding period of coarse duplicates is one (1) year. Afterwards it will be properly disposed or used as filling material, if applicable.

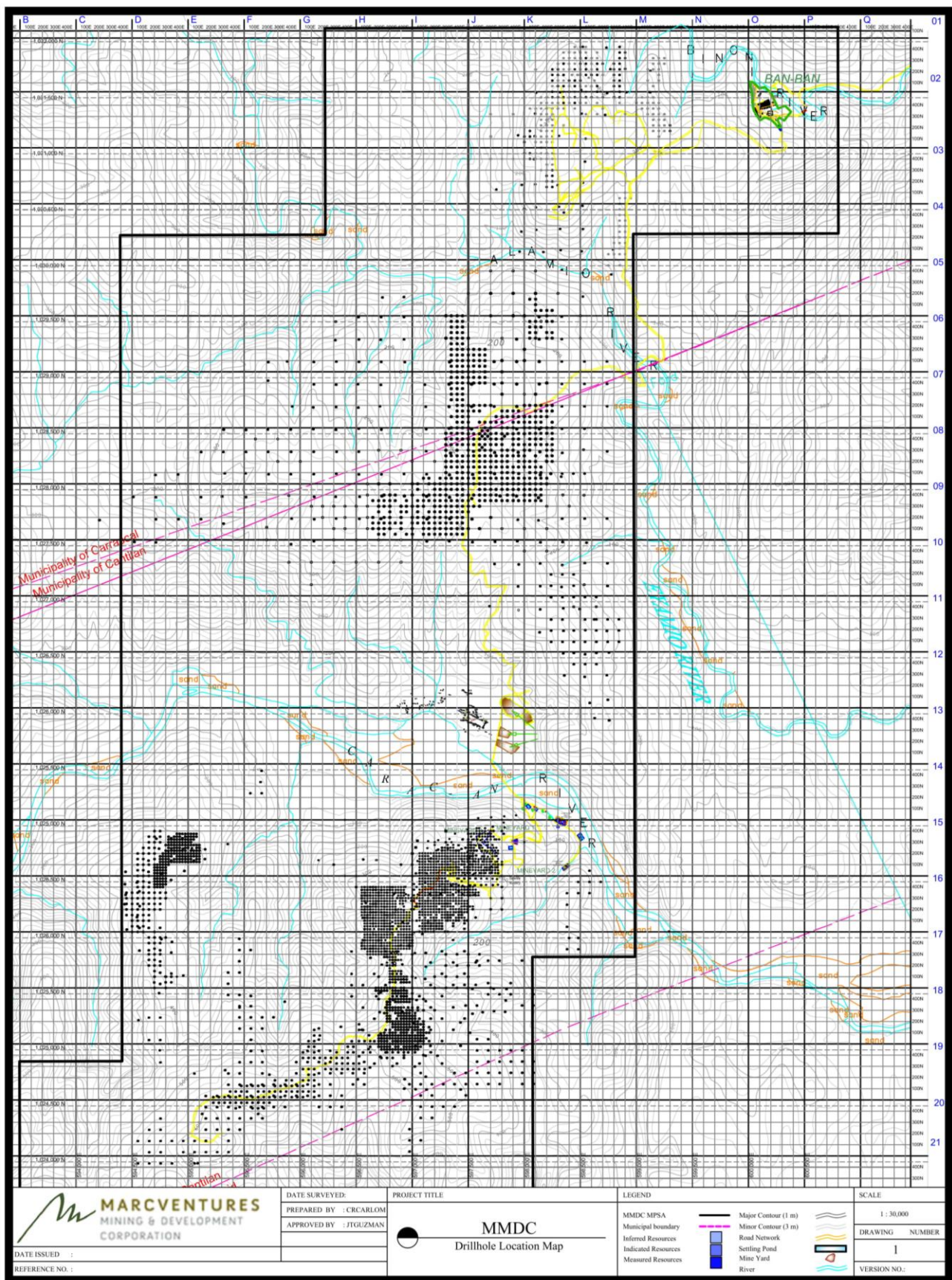
## 8.0 DATA VERIFICATION

### 8.1 Drilling database

Data was arranged into excel files containing the collar and assay data of each hole. Separate excel files were created for Cabangahan, Pili and Sipangpang areas. A total of 31,388 samples were considered in the estimation of the updated mineral resources (**Table 8-1**). Collar elevation of holes whose resources have been mined was also updated before estimation. This is to exclude samples that have already been mined out based on survey data.

The MMDC drill hole location map (**Fig.8.1**) shows the locations of all drill holes drilled in the tenement area as of December 31, 2017. These include the 629 holes were drilled from March to November 2017 with a total combined depth of 6, 203.23 meters that were used in the updated resource estimate..





**Figure 8-1. MMDC drill hole location map as of December 31, 2017.**

**Table 8-1.** MMDC's Database record summary.

	Cabangahan		Sipangpang		Pili	
	Ni	Fe	Ni	Fe	Ni	Fe
Mean	1.00	21.71	0.60	27.95	0.69	29.11
Standard Error	0.002704	0.087979	0.003335	0.229644	0.011384	0.293734
Median	0.94	12.51	0.58	25.52	0.69	29.61
Mode	0.80	6.14	0.23	49.56	0.23	50.38
Standard Deviation	0.517137	16.82591	0.28926	19.91693	0.77911	20.10307
Sample Variance	0.267431	283.1112	0.083671	396.6842	0.607012	404.1334
Kurtosis	-0.157782	-1.179544	1.174874	-1.874915	3428.306	-1.878826
Skewness	0.546246	0.74249	0.802615	0.025683	54.17637	-0.030726
Range	3.44	57.47	2.255	55.095	50	53.46
Minimum	0.01	0.01	0.005	0.175	0	0.36
Maximum	3.45	57.48	2.26	55.27	50	53.82
Sum	47,691.81	47,691.81	5,871.63	5,871.63	3,595.68	3,595.68
Count	47,674	47,674	5,873	5,873	3,606	3,606

## 8.2 QA / QC

In any chemical laboratory, especially in the minerals industry, QA/QC system manages to reduce the quality failures to acceptable (non-zero) level. Quality control/assurance is designed to detect, reduce, and correct deficiencies in a laboratory's internal analytical process prior to the release of analytical results, in order to improve the quality of the results reported by the laboratory.

MMDC's QA/QC program includes mandatory use of traceable Certified Reference Material (CRM) for the calibration and as reference in all analysis conducted. Each batch of samples processed includes at least 2 CRMs and results should be within acceptable difference as specified in the certificates. Results that go beyond are re-assayed for confirmation either from the pulp or coarse sample as deemed necessary.

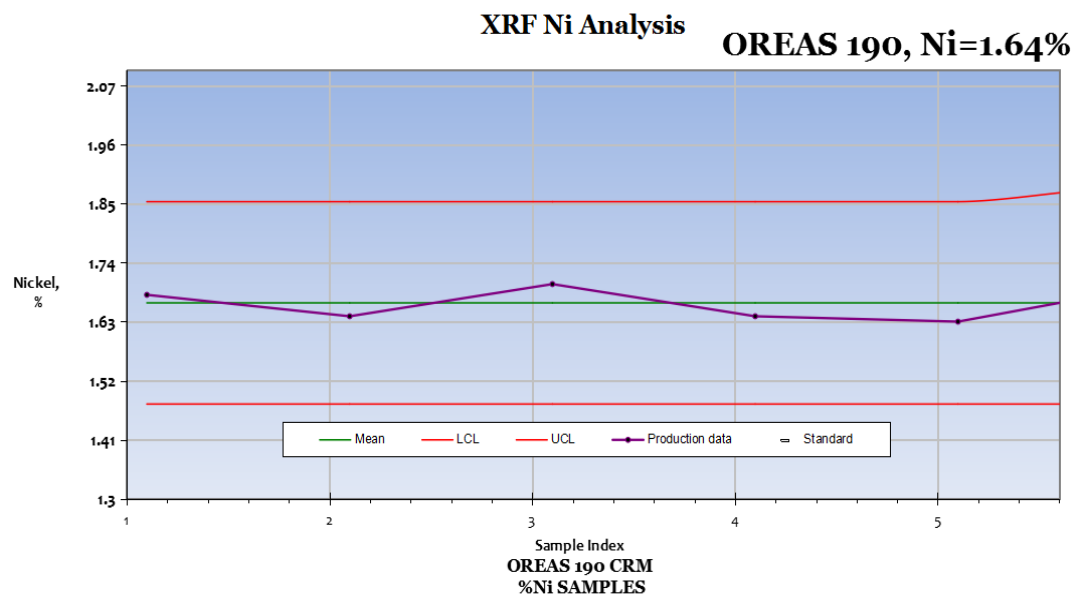
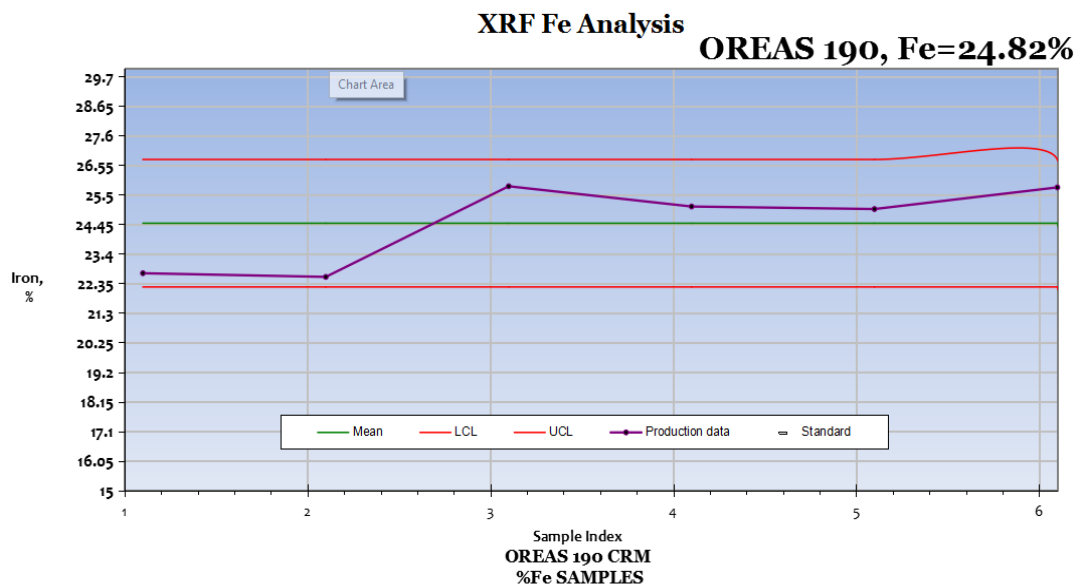
For sampling, grinding efficiency is tested to sure that pulp meets the required size of 90% passing 200 mesh. This is done before the sample is submitted for analysis and in cases where sieve test fails, 5 samples preceding the sample tested and 5 samples following are subjected to re-grinding until all samples are compliant.

Included in this program is assaying of pulp samples in duplicates for every 10 samples processed. The results should be within +/- 5% difference. In cases where this is not met random re-assaying is done.

As a general rule amongst laboratories, 10% of the output shall be subjected to 3<sup>rd</sup> party analysis. Results shall then be evaluated and corrective action done if necessary.

Although there is a limited data generated since re-calibration was only done on February 22, 2018, graphical analysis of available data demonstrates high accuracy of results. The following graphs illustrate the performance of all

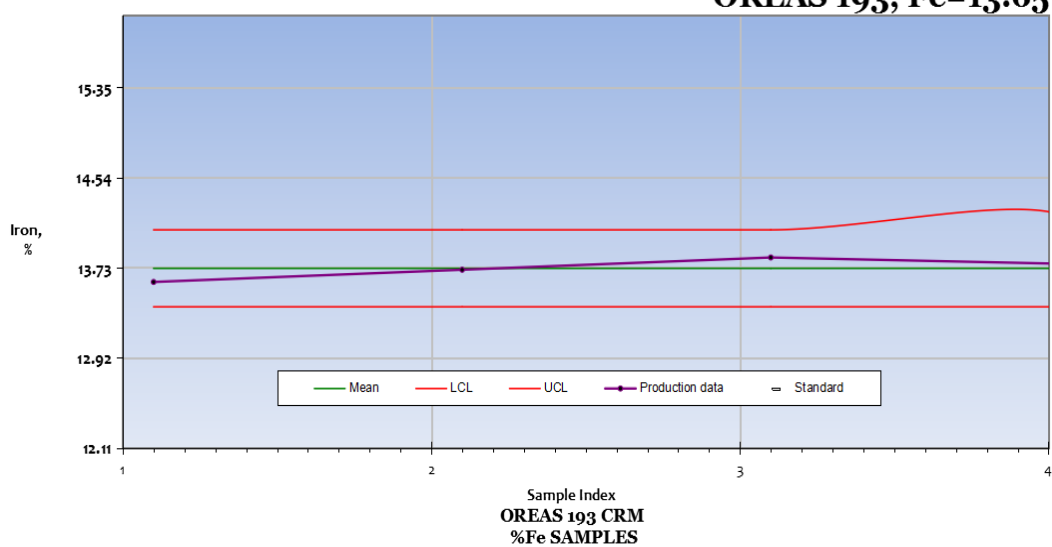
analysis in reference to the CRMs values. A more detailed analysis shall be made in the coming operating months.





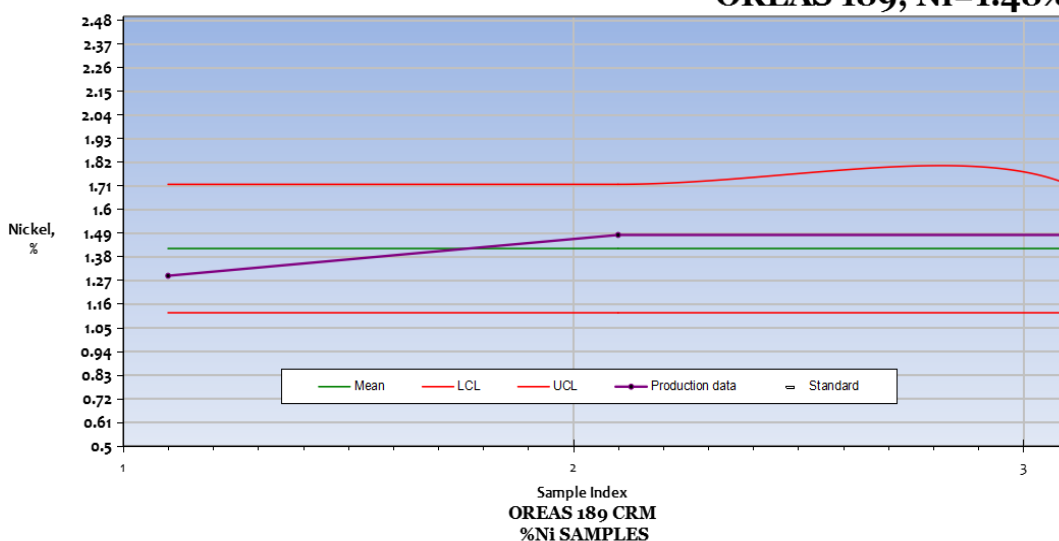
### XRF Fe Analysis

**OREAS 193, Fe=13.65%**



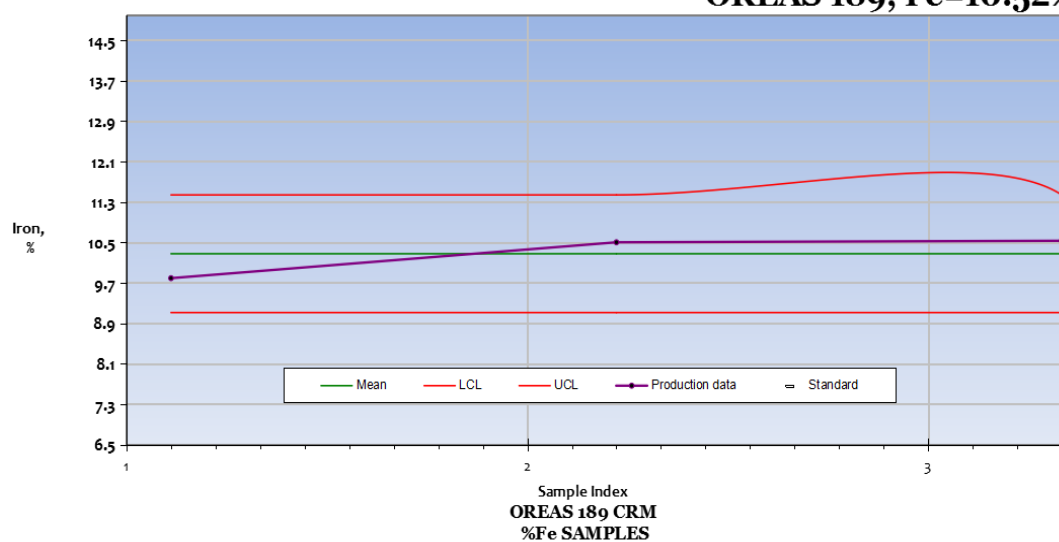
### XRF Ni Analysis

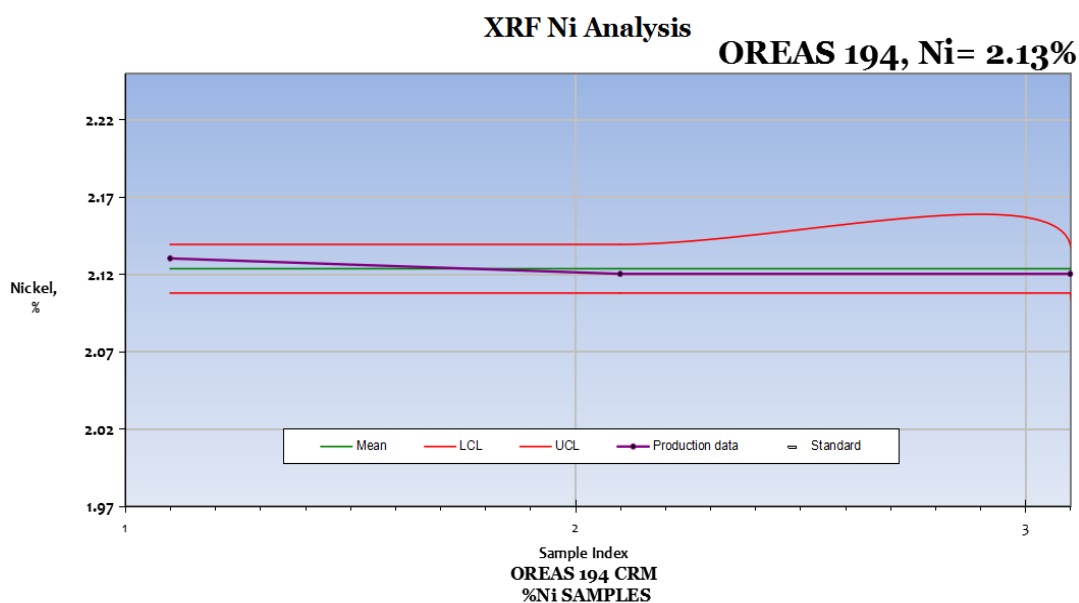
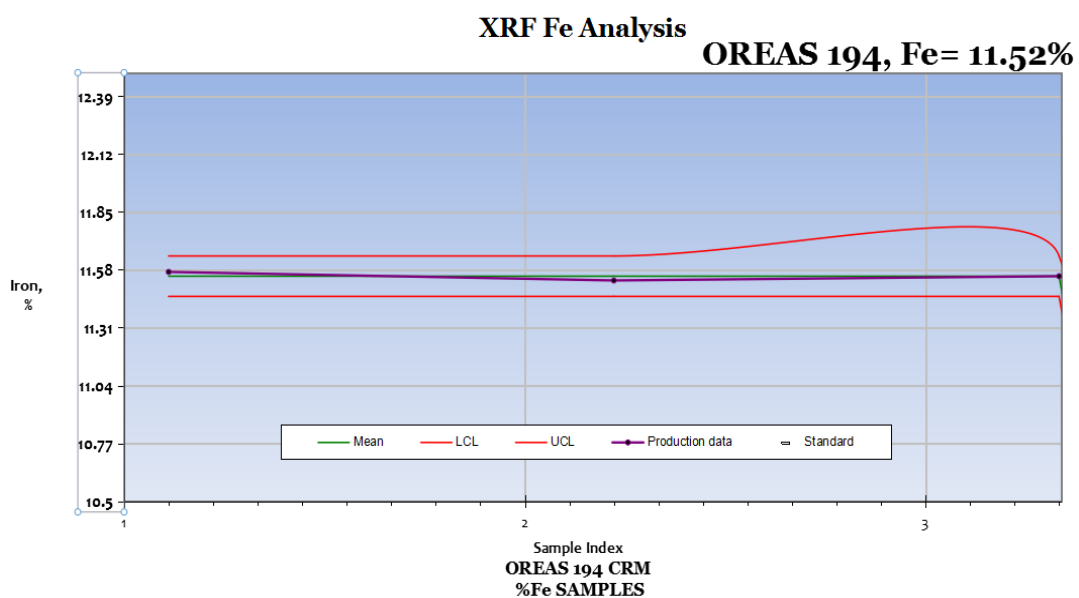
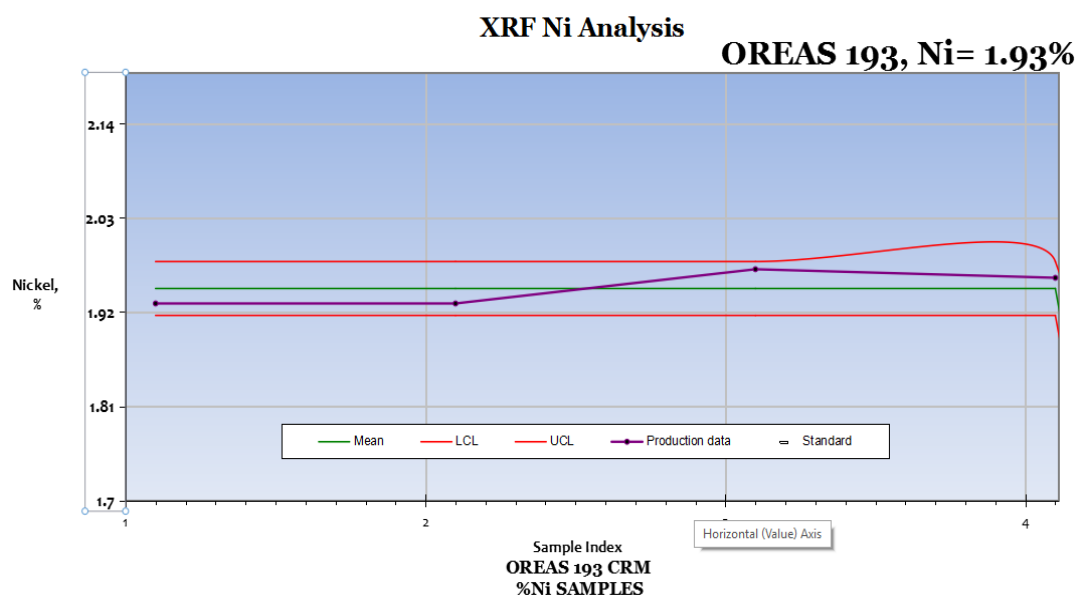
**OREAS 189, Ni=1.48%**



### XRF Fe Analysis

**OREAS 189, Fe=10.52%**





## 9.0 RESOURCE ESTIMATION

**Polygon method** was used to estimate MMDC's mineral resource inventory as of end of December 2017. In this method, each drill hole is assigned a polygon that represents the extent of the area of influence of the drill hole. The assumption is that everywhere within the polygon, the thickness and grade of the resource material is uniform and more or less the same to the resource material of the drill hole enclosed by the polygon.

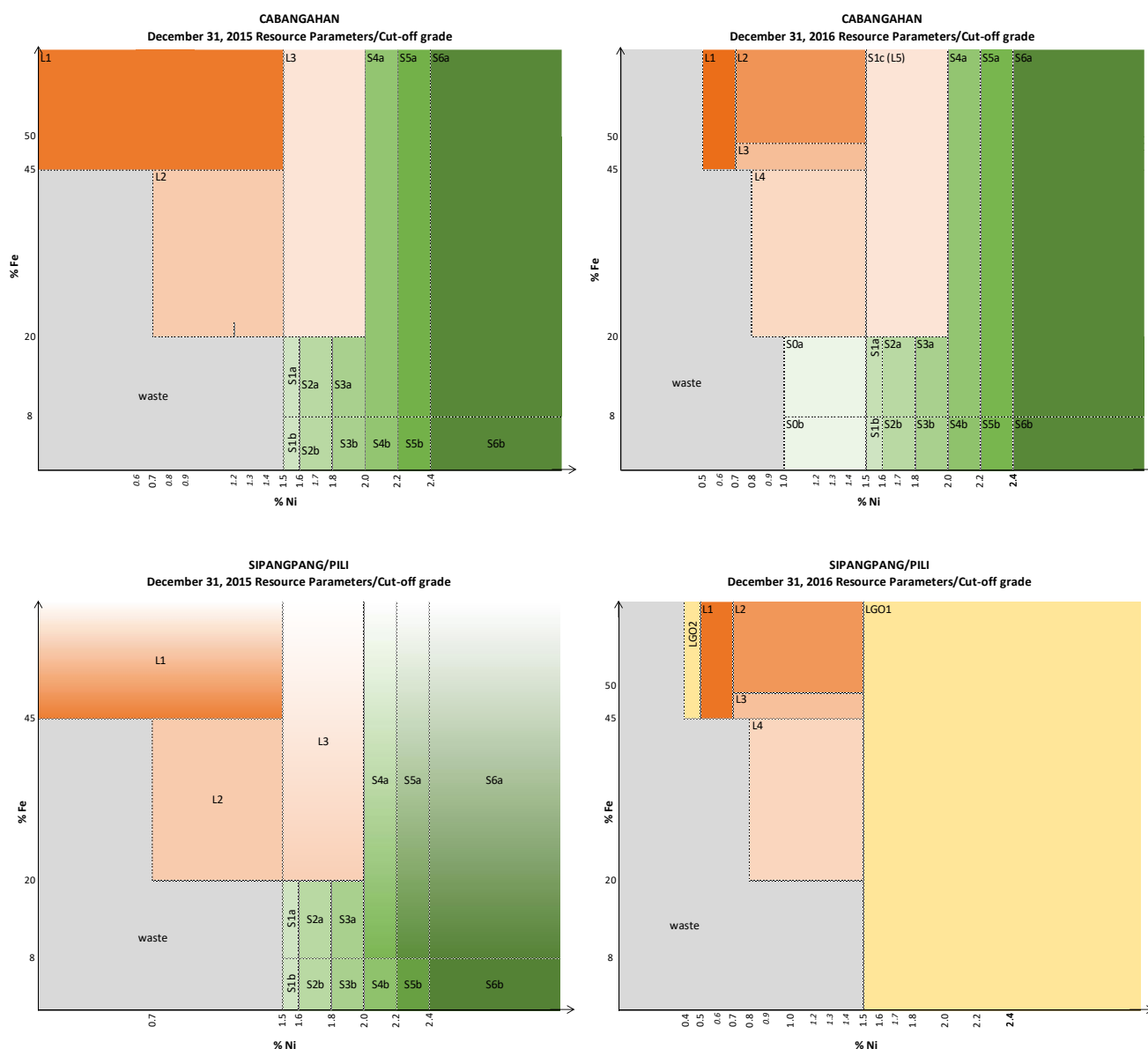
The area of influence of each drill hole is based on the halfway rule, which states that the influence of a drill hole sample extends halfway to other samples laterally adjacent to it. The resources are classified purely as a function of the drilling density as summarized in Table 8-1.

**Table 9-1.** Resource classification scheme.

Area	Measured		Indicated		Inferred	
	Limonite	Saprolite	Limonite	Saprolite	Limonite	Saprolite
Cabangahan	25-m, 50m	25-m	100-m	50-m	-	100-m
Pili	50-m	-	200-m	-	-	-
Sipangpang	100-m	-	200-m	-	-	-

The volume of each block is the product of the area of influence and the combined thickness of samples that fall within the set cut-off grades of each ore type (**Fig.9-1**). To determine the equivalent Wet Metric Tonnage (WMT), the total in-situ volume is multiplied to a **bulk density of 1.5** for both limonite and saprolite resource. **Moisture content of 38%** was used to compute for dry metric tonnes from wet metric tonnes.

The Ni and Fe cut-off grades that were used in 2016 were applied in estimating the remaining resource of MMDC as of end of 2017. The cut-off grades for limonite and saprolite were adjusted to include low-nickel saprolite and to exclude low-iron limonite due to the newly developed market for low grade saprolite ore and the higher nickel requirement for high iron limonite ore in the current and near future market situation. **Figure 9-1** shows the comparison of 2015 and 2016 cut-off grade for Ni and Fe used in the resource estimation for each year.



**Figure 9-1.** (Top) 2015 vs 2016 Ni and Fe cut-off grades used for resource estimation of Cabangahan. (Bottom) 2015 vs 2016 Ni and Fe cut-off grades used for resource estimation of Sipangpang and Pili areas.

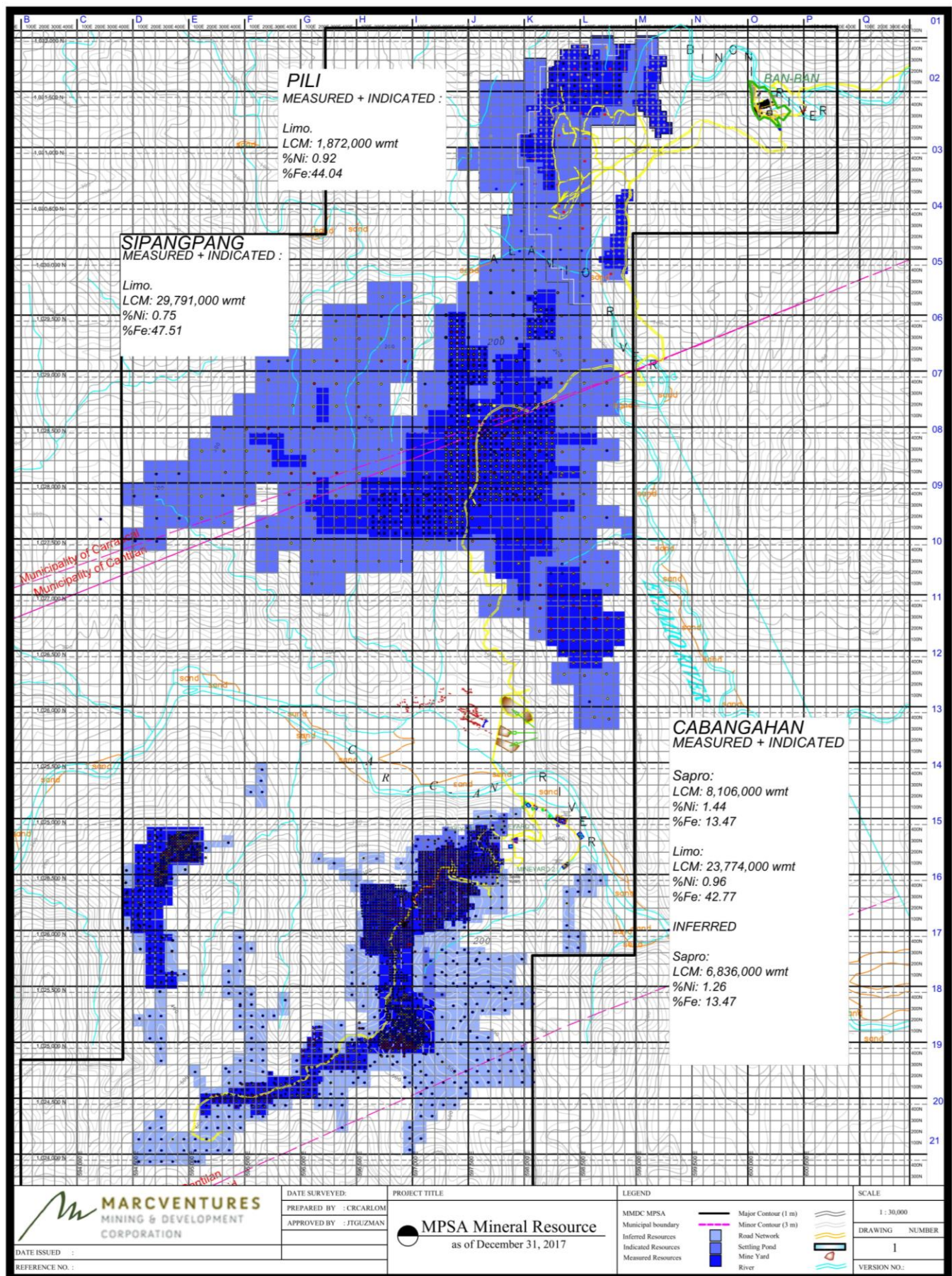
The updated resource estimated is summarized in **Table 9-2**. The total measured and indicated resource estimated as of end of December 2017 is approximately **63.54 million WMT with 0.92% Ni and 41.29% Fe**. This is equivalent to **55.44 million WMT** of Measured and Indicated limonite resource at **0.85% Ni and 45.36% Fe**, and **8.11 million WMT** of measured and indicated saprolite resource at **1.44% Ni and 12.85% Fe**.

The extent of mineral resource within the tenement area as defined by past drilling campaigns conducted by MMDC as of December 31, 2017, is shown in **Fig. 9-2**.



**Table 9-2. MMDC Mineral Resource as of Dec. 31, 2017 (inclusive of ore reserve).**

Area	Material	% Ni cut-off	% Fe cut-off	WMT	DMT	% Ni	% Fe	Ni Tonnes
<b>Measured and Indicated Resource as of Dec. 31, 2017</b>								
<b>CABANGAHAN</b>	Saprolite High Nickel	≥ 1.6	< 20	2,323,000	1,487,000	1.86	13.29	28,000
	Saprolite Low Nickel	1.0 - 1.6	< 20	5,783,000	4,014,000	1.27	13.55	51,000
	<b>Sub-total/Ave.</b>			<b>8,106,000</b>	<b>5,501,000</b>	<b>1.44</b>	<b>13.48</b>	<b>79,000</b>
	Limonite High Iron	≥ 0.5	≥ 45	15,528,000	9,627,000	0.82	48.89	79,000
	Limonite Low iron	≥ 0.7	20 - 45	8,246,000	5,112,000	1.23	31.23	63,000
	<b>Sub-total/Ave.</b>			<b>23,774,000</b>	<b>14,739,000</b>	<b>0.96</b>	<b>42.76</b>	<b>142,000</b>
	<b>TOTAL/AVE.</b>			<b>31,880,000</b>	<b>20,240,000</b>	<b>1.08</b>	<b>35.32</b>	<b>221,000</b>
<b>SIPANGPANG</b>	Saprolite High Nickel	≥ 1.6	< 20	-	-	-	-	-
	Saprolite Low Nickel	1.0 - 1.6	< 20	-	-	-	-	-
	<b>Sub-total/Ave.</b>			<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
	Limonite High Iron	≥ 0.5	≥ 45	26,002,000	16,121,000	0.71	49.67	114,000
	Limonite Low iron	≥ 0.7	20 - 45	3,789,000	2,349,000	1.06	32.70	25,000
	<b>Sub-total/Ave.</b>			<b>29,791,000</b>	<b>18,470,000</b>	<b>0.75</b>	<b>47.51</b>	<b>139,000</b>
	<b>TOTAL/AVE.</b>			<b>29,791,000</b>	<b>18,470,000</b>	<b>0.75</b>	<b>47.51</b>	<b>139,000</b>
<b>PILI</b>	Saprolite High Nickel	≥ 1.6	< 20	-	-	-	-	-
	Saprolite Low Nickel	1.0 - 1.6	< 20	-	-	-	-	-
	<b>Sub-total/Ave.</b>			<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
	Limonite High Iron	≥ 0.5	≥ 45	1,261,000	782,000	0.81	49.44	6,000
	Limonite Low iron	≥ 0.7	20 - 45	611,000	379,000	1.13	32.89	4,000
	<b>Sub-total/Ave.</b>			<b>1,872,000</b>	<b>1,161,000</b>	<b>0.91</b>	<b>44.04</b>	<b>10,000</b>
	<b>TOTAL/AVE.</b>			<b>1,872,000</b>	<b>1,161,000</b>	<b>0.91</b>	<b>44.04</b>	<b>10,000</b>
<b>TOTAL</b>	Saprolite High Nickel	≥ 1.6	< 20	2,323,000	1,487,000	1.86	13.29	28,000
	Saprolite Low Nickel	1.0 - 1.6	< 20	5,783,000	4,014,000	1.27	13.55	51,000
	<b>Sub-total/Ave.</b>			<b>8,106,000</b>	<b>5,501,000</b>	<b>1.44</b>	<b>13.48</b>	<b>79,000</b>
	Limonite High Iron	≥ 0.5	≥ 45	42,791,000	26,530,000	0.75	49.38	199,000
	Limonite Low iron	≥ 0.7	20 - 45	12,646,000	7,840,000	1.17	31.75	92,000
	<b>Sub-total/Ave.</b>			<b>55,437,000</b>	<b>34,370,000</b>	<b>0.85</b>	<b>45.36</b>	<b>291,000</b>
	<b>TOTAL/AVE.</b>			<b>63,543,000</b>	<b>39,871,000</b>	<b>0.92</b>	<b>41.29</b>	<b>370,000</b>
<b>Inferred Resource as of Dec. 31, 2017</b>								
<b>CABANGAHAN</b>	Saprolite High Nickel	≥ 1.6	< 20	584,000	362,000	1.71	14.38	6,000
	Saprolite Low Nickel	1.0 - 1.6	< 20	6,252,000	3,914,000	1.22	13.38	48,000
	<b>Sub-total/Ave.</b>			<b>6,836,000</b>	<b>4,276,000</b>	<b>1.26</b>	<b>13.47</b>	<b>54,000</b>
	Limonite High Iron	≥ 0.5	≥ 45	-	-	-	-	-
	Limonite Low iron	≥ 0.7	20 - 45	-	-	-	-	-
	<b>Sub-total/Ave.</b>			<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
	<b>TOTAL/AVE.</b>			<b>6,836,000</b>	<b>4,276,000</b>	<b>1.26</b>	<b>13.47</b>	<b>54,000</b>



**Figure 9-2.** MMDC Mineral Resource Extent Map as of December 31, 2017.

## 10.0 CONCLUSION AND RECOMMENDATION

MMDC conducted development drilling within its Cabangahan and Sipangpang areas simultaneous to its mining operation in 2017 to upgrade its Inferred and Indicated resources to Indicated and Measured resource categories, respectively. The company also conducted exploration drilling in Lancuag ridge (within the Cabangahan area) to block additional resources and also to upgrade Inferred and Indicated resources to Indicated and Measured categories.

Before the start of the 2017 mining season, MMDC has an estimated total Measured and Indicated resource of about 66.35 million WMT. This includes 8.46 million WMT of saprolite resource with an average grade of 1.50% Ni and 12.85% Fe, and 57.89 million WMT of limonite resource averaging 0.86% Ni and 45.27% Fe.

The company extracted about 3.12 million WMT of ore material from its Cabangahan, Sipangpang and Pili mining areas which reduced the resources inventory of MMDC as of end of December 2017. However, the development drilling that was conducted by the company in 2017 resulted to an additional resource of about 0.32 Million WMT.

As of the end of December 2017, there was about 63.54 million WMT of combined Measured and Indicated resources delimited by MMDC which include 8.12 million WMT saprolite averaging 1.44% Ni and 13.47% Fe and 55.44 million WMT limonite at 0.85% Ni and 45.36% Fe.

For 2018, MMDC should continue its development drilling program in Cabangahan focusing within the eastern portion to upgrade the existing Indicated resources to Measured resources. Development drilling in Sipangpang shall cover the eastern and southern portion with the aim to upgrade Indicated resources to Measured resources. The company should also continue conducting additional exploration drilling in Lancuag area, also within Cabangahan, to possibly define additional saprolite and limonite resources that could be converted to mineable reserve.

## 11.0 REFERENCES

- Arcilla, C.A. 2010. Application for Mineral Resource Validation. MPSA Exploration No. 016-93-XIII.
- Arcilla, et. al. 2012. Geology of Marcventures Mining and Development Corporations's MPSA 016-93-XIII Cantilan and Carrascal, Surigao del Sur, Philippines. Diliman, Quezon City.
- BMG. 1981. Geology and Mineral Resources of the Philippines, 1st ed. 1. Manila: Ministry of Natural Resources.
- Malihan, T.D. (undated). Geologic Report of the Marc Ventures Mining and Development Corporation Nickel Laterite Project (MPSA No. 016-93-XIII), Cantilan and Carrascal Municipalities, Province of Surigao del Sur.



- MGB. 2010. Geology of the Philippines, 2nd ed. Quezon City.
- NAMRIA (1956). Topographic Map of Madrid. The National Mapping Resource Information Authority (NAMRIA). 1:50,000. 4147-I.
- Peña, R.E. 2008. Lexicon of the Philippine Stratigraphy. Geological Society of the Philippines, Mandaluyong City.
- Quebral, R.D., Pubellier, M., Rangin, C. 1996. The onset movement of the Philippine Fault in eastern Mindanao: A transition from a collision to a strike-slip environment. *Tectonics*, 15 (4), 713-726.
- Santos-Ynigo, L. 1961. Geology and Geochemistry of the Nickeliferous Laterites of Nonoc and Adjacent Islands, Surigao Province, Philippines.
- Santos-Ynigo, L. 1944. Geology of Surigao Gold District, Mindanao. Quezon City.
- Sta. Cruz, J. 1994. Geology and Mineral Potentials. Ventura Timber Corporation's Contract Area MPSA No. 016-93-XI.

**Technical Report on the Exploration Results and Mineral Resource Estimate of  
Alumina Mining Philippines, Inc. (AMPI)  
[MPSA 179-2002-VIII-SBMR]  
and  
Bauxite Resources, Inc. (BARI)  
[MPSA 180-2002-VIII-SBMR]  
Located in the Municipalities of Paranas, Motiong, San Jose de Buan,  
Gandara and San Jorge  
Province of Samar**



*Photo showing extent of bauxite mineralization in one of the major depressions in Barangay Lawaan, Municipality of Paranas (Wright).*

**Prepared by: J.T. Guzman, H.T. Villano, R.L. Tan, J.M. Mendez**  
Geologists, Marcventures Mining and Development Corporation

**Reviewed and Certified by:**  
**T. D. Malihan**  
Registered Professional Geologist, Reg. No. 0387  
Competent Person (CP) Accreditation No. 07-08-06  
*Exploration Results and Mineral Resource Estimation, PMRC/GSP  
Porphyry Copper-Gold, Epithermal Gold, Nickel Laterite, Chromite and Iron-  
Copper-Gold Skarn Deposits Exploration*

**Prepared for: Marcventures Holdings, Inc.**  
4<sup>th</sup> Floor Citibank Centre, Paseo de Roxas  
Makati City, Philippines



## **CERTIFICATION AND CONSENT OF CP FOR TECHNICAL REPORT**

This Report entitled “**Technical Report on the Exploration Results and Mineral Resource Estimate of Alumina Mining Philippines, Inc. (“AMPI”) covered by MPSA 179-2002-VIII (SBMR) and Bauxite Resources, Inc. (“BARI”) covered by MPSA 180-2002-VIII (SBMR)**”, both of which are located within the municipalities of Motiong, San Jose de Buan and Paranas in the Province of Samar, a part of Samar Island in Eastern Visayas (Region VIII), was prepared by Jayvhel T. Guzman, Herbert T. Villano, Ralph Rey L. Tan, and Jelan M. Mendez, geologists of Marcventures Mining and Development Corporation (“MMDC”) for purposes of making a disclosure to the Philippine Stock Exchange (PSE) and Securities Exchange Commission (SEC) for the acquisition by Marcventures Holdings Inc. (“MHI”) of these mineral properties and also to support the company’s application for Declaration of Mining Project Feasibility (DMPF) with the Mines and Geosciences Bureau (MGB) that could lead to the development and exploitation of the bauxite deposits delineated within the MPSA areas from past exploration campaigns. MMDC is a wholly-owned subsidiary of MHI.

Earlier operators declared resources estimated from AMPI and BARI. The MMDC Technical Team however, opted to make its own estimates of the resource and embarked in checking and verifying the exploration methodologies used by these operators for purposes of validating the database used in the resource estimation. Using the same exploration database provided by Asia Pilot Mining, the MMDC Team employed Inverse Distance Weighting (IDW) method in the new resource estimation. **For AMPI, the Team came out with some 41.7Mwmt of combined Measured and Indicated resource with grades averaging 40%  $\text{Al}_2\text{O}_3$  with 14.5%  $\text{SiO}_2$ . For BARI, the resource came out at 31.5Mwmt averaging 43.8%  $\text{Al}_2\text{O}_3$  and 7.98%  $\text{SiO}_2$ .** This is equivalent to a total Measured and Indicated Resource of some 73.2Mwmt with grades averaging 41.66%  $\text{Al}_2\text{O}_3$  and 11.69%  $\text{SiO}_2$ .

The resource figures were further checked by conventional Polygon method of resource estimation with AMPI coming out with 47.3Mwmt of resource but limited the classification to Indicated category which came out higher by about 5.6M compared to the IDW-derived figure. The grades however, came very close to each other (40% vs. 40.8%  $\text{Al}_2\text{O}_3$  and 14.5% vs. 13.16%  $\text{SiO}_2$ .) For BARI, the Polygon method-derived resource was 35.1Mwmt, some 3.6Mwmt higher than the IDW-derived resource but the average grade came out also very close to each other (44.08% vs. 43.8%  $\text{Al}_2\text{O}_3$  and 7.67% vs 7.98%  $\text{SiO}_2$ ).

**Inferred resources of AMPI and BARI were also estimated using IDW wherein some 17.3Mwmt was estimated for AMPI with grades averaging 38.96%  $\text{Al}_2\text{O}_3$  and 16.59%  $\text{SiO}_2$  while about 28.4Mwmt was estimated for BARI at 43.75%  $\text{Al}_2\text{O}_3$  and 8.09%  $\text{SiO}_2$ .** Additional drilling and test pitting works need to be done to upgrade these Inferred resources to Measured and Indicated resources. Assuming that 25% of these Inferred resources will be upgraded to Measured and Indicated resources once the additional drilling and test pitting works are completed, this will translate to additional Measured and Indicated resources of some 11.4Mwmt at 41.94%  $\text{Al}_2\text{O}_3$  and 11.30%  $\text{SiO}_2$ . **The projected total Measured and Indicated resources will now be 84.6Mwmt averaging 41.70%  $\text{Al}_2\text{O}_3$  and 11.64%  $\text{SiO}_2$ .**

The undersigned, in his capacity as Competent Person (CP) for Geology, accredited by the Geological Society of the Philippines (GSP) and guided by the Philippine Mineral Reporting Code (PMRC), was engaged by the MMDC Management through its President and CEO, Engr. Arsenio K. Sebial, Jr., to review and if warranted, certify the resource estimates made by the MMDC Technical Team. It is this CP’s opinion that the resource verification methodologies, resource estimation methods used along with professional opinions, interpretation and conclusions made by the MMDC exploration Team as documented in this report and reviewed by this CP appears to have been done in accordance with geo-scientific principles and practice and accepted industry standards. The findings, conclusion and

recommendations arrived at by the Technical Team are therefore deemed to be valid and in order.

Consequently, the Mineral Resources Inventory stated in this report may be considered accurate and reliable and even conservative by this CP as the database used by the MMDC Team in the resource estimation has been adequately checked, verified and validated.

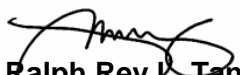
**SIGNED: June 2017**


**For Marcventures Mining and Development Corporation**

**Report Prepared by:**


  
**Jayvhel T. Guzman**  
Head - Geological Exploration Division

  
**Herbert T. Villano**  
Chief Exploration Geologist

  
**Ralph Rey L. Tan**  
Geologist

  
**Jelan M. Mendez**  
Geologist

**Report Reviewed and Certified by:**

  
**TOMAS D. MALIHAN**  
Registered Professional Geologist,  
PRC Registration No. 0387  
PMRC/GSP –accredited Competent Person in Geology  
Accreditation No. 07-08-06  
PTR No. 2967424  
Issued at: Baguio City  
Date of Issue: January 11, 2017

## **Table of Contents**

Cover Page	1
Competent Person Certificate of Consent	2
Table of Contents	4
EXECUTIVE SUMMARY	8
1. INTRODUCTION	16
1.1 Purpose and Compliance with PMRC	16
1.2 Scope of Work	16
1.3 Data Verification and Field Visits	16
1.4 Technical Report Preparation Team	17
2. RELIANCE ON OTHER EXPERTS	17
3. TENEMENT AND MINERAL RIGHTS	17
3.1 Description of Mineral Rights	17
3.2 History of Mineral Rights	19
4. GEOGRAPHIC FEATURES	21
4.1 Location and Accessibility	21
4.2 Topography, Physiography and Drainage	21
4.3 Climate	22
4.4 Local Resources	23
5. PREVIOUS WORK	23
5.1 Mines and Geosciences Bureau	23
5.2 Alusuisse	24
5.3 Earthcare Geologists & Affiliates	24
5.4 China Non-Ferrous Metals Corporation	24
5.5 Pacific Aluminium Holdings Limited	25
5.6 Asia Pilot Mining Philippines Corporation/SRK China	26
6. HISTORY OF PRODUCTION	27
7. REGIONAL GEOLOGY	27
7.1 Regional Geologic Setting	27
7.2 Regional Structures	28
8. MINERAL PROPERTY GEOLOGY	29
9. MINERALIZATION IN THE MINERAL PROPERTY	29
9.1 Overview of Mineralization	29
9.2 Style of Mineralization	30
10. EXPLORATION	33
10.1 Drilling and Test Pitting	33
10.2 Sampling Methodology	35
10.3 Specific Gravity, Moisture and Swell Factor Measurement	36
10.4 Sample Analysis	38
10.5 Data verification and QAQC	39
11. MINERAL RESOURCES ESTIMATE	44
11.1 General Statement and Resource Summary	44
11.2 Database for Estimation: Validation and Integrity	44
11.3 Mineral Resource Estimation: Inverse Distance Weighting	45
11.3.1 Resource Database	46
11.3.2 Compositing	46
11.3.3 Specific Gravity	47

11.3.4 Basic Statistics	47
11.3.5 Block Modelling and Grade Estimation	49
11.3.6 Mineral Resource Classification	49
11.3.7 Mineral Resource Statement	53
11.3.8 Grade Sensitivity Analysis	54
11.4 Mineral Resource Estimation: Polygon Method	55
12. CONCLUSIONS AND RECOMMENDATIONS	56
13. REFERENCES	57
14. ACKNOWLEDGEMENT	58
ANNEXES	59



## **LIST OF FIGURES**

Figure 3-1	Location map showing AMPI and BARI tenement areas	18
Figure 3-2	Map showing outline of SBMR with AMPI and BARI boundaries	20
Figure 4-1	Road network from Tacloban City going to AMPI and BARI	22
Figure 4-2	Climate map of the Philippines	23
Figure 5-1	Photos showing PAMPC drilling activities	25
Figure 5-2	Xinbaoyuan in-fill auger drilling	26
Figure 7-1	Regional geologic map of Samar Island	28
Figure 8-1	Geologic map of AMPI and BARI	29
Figure 9-1	Typical bauxite laterite profile	30
Figure 9-2	XRD pattern of SAM 100 sample	32
Figure 9-3	XRD pattern of SAM 316 sample	32
Figure 9-4	XRD pattern of SAM 354 sample	33
Figure 10-1	MMDC twin hole drilling activities	35
Figure 10-2	MMDC field sampling activities	35
Figure 10-3	MMDC test pitting activities	36
Figure 10-4	MMDC field sample preparation activities	36
Figure 10-5	Specific gravity and moisture determination	37
Figure 10-6	Swell factor sampling and measurement	37
Figure 10-7	MMDC Sample Preparation Facility and equipment	39
Figure 10-8	MMDC sample preparation and XRF equipment	39
Figure 10-9	MMDC drill hole and test pit $\text{Al}_2\text{O}_3$ and $\text{SiO}_2$ scatter plot	40
Figure 10-10	MMDC drill hole and test pit $\text{Al}_2\text{O}_3$ and $\text{SiO}_2$ histogram	41
Figure 10-11	MMDC twin hole and AMPI $\text{Al}_2\text{O}_3$ and $\text{SiO}_2$ scatter plot	41
Figure 10-12	MMDC correlation graph of $\text{Al}_2\text{O}_3$ and $\text{SiO}_2$ samples	42
Figure 10-13	MMDC vs Intertek $\text{Al}_2\text{O}_3$ and $\text{SiO}_2$ scatter plot	43
Figure 10-14	MPRD plot of MMDC and Intertek $\text{Al}_2\text{O}_3$ and $\text{SiO}_2$ assay results	43
Figure 11-1	AMPI and BARI drill hole location map	45
Figure 11-2	AMPI and BARI extracted data	46
Figure 11-3	AMPI $\text{Al}_2\text{O}_3$ vs $\text{SiO}_2$ and $\text{Al}_2\text{O}_3$ vs $\text{TiO}_2$ scatter plot	48
Figure 11-4	AMPI $\text{Al}_2\text{O}_3$ and $\text{SiO}_2$ histogram	48
Figure 11-5	BARI $\text{Al}_2\text{O}_3$ vs $\text{SiO}_2$ and $\text{Al}_2\text{O}_3$ vs $\text{TiO}_2$ scatter plot	48
Figure 11-6	AMPI $\text{Al}_2\text{O}_3$ and $\text{SiO}_2$ histogram	48
Figure 11-7	AMPI block model summary	50
Figure 11-8	BARI block model summary	50
Figure 11-9	AMPI block model and constraints	51
Figure 11-10	BARI block model and constraints	52
Figure 11-11	AMPI and BARI grade-tonnage curve	55

## **LIST OF TABLES**

Table 3-1	Technical description of AMPI and BARI MPSAs	18
Table 5-1	Summary of previous geologic works and results	26
Table 9-1	Summary of bulk element composition obtained from XRF	31
Table 9-2	Mineral phases identified in the samples	31
Table 10-1	MMDC drill holes during due diligence	34
Table 10-2	MMDC test pits during due diligence	34
Table 10-3	Comparison of MMDC vs AMPI historical drill hole depth	34
Table 10-4	Results of specific gravity and moisture determination	38
Table 10-5	Results of swell factor determination	38
Table 10-6	MMDC due diligence drill hole and test pit assay statistics	40
Table 10-7	Results of inter-laboratory check samples	42
Table 11-1	Summary of AMPI basic statistics	47
Table 11-2	Summary of BARI basic statistics	47
Table 11-3	Summary of AMPI Mineral Resources estimated by IDW	53
Table 11-4	Summary of BARI Mineral Resources estimated by IDW	53
Table 11-5	Total AMPI and BARI Mineral Resources by IDW	54
Table 11-6	AMPI and BARI Grade and Tonnage estimates at various COG	55
Table 11-7	Summary of AMPI Indicated Resources by polygon method	56
Table 11-8	Summary of BARI Indicated Resources by polygon method	56

## **EXECUTIVE SUMMARY**

### **Introduction**

**Aluminum Mining Philippines Inc. (“AMPI”)** and **Bauxite Resources, Inc. (“BARI”)** are two bauxite projects covered by Mineral Production Sharing Agreements denominated as **MPSA 179-2002-VIII (SBMR)** and **MPSA 180-2002-VIII (SBMR)**, respectively, located in Samar Province in the island of Samar in Eastern Visayas, Philippines. The AMPI MPSA covers 6,694.05 hectares while BARI MPSA covers 5,435.00 hectares. The ownership of the two MPSAs is held by **Asia Pilot Mining Philippines Corporation (Asia Pilot Mining)**. The bauxite deposits were developed in a predominantly limestone terrain in broad valley floors flanked by low lying limestone hills with typical karst topographic features. The aluminum mineral deposits are comprised predominantly of aluminum mineral gibbsite ( $\text{Al}(\text{OH})_3$ ), with lesser amount of boehmite ( $\text{AlOOH}$ ) and alumogothite ( $\text{FeAlOOH}$ ). The bauxite deposits appear to have been trapped and concentrated in numerous sinkholes of various shapes and sizes developed in the limestone bedrock through long periods of lateritic tropical weathering and erosions of portions of the limestone and other alumina-rich sedimentary units interbedded with it in the reducing environmental conditions existing in these sink holes.

### **History of the Discovery of Bauxite Deposits in Samar Island and the Exploration Methodologies Employed by Various Companies that Evaluated the Bauxite Potential of the AMPI and BARI Tenement Areas of Asia Pilot Mining Philippines Corporation**

From 1974 to 1976, the Mines and Geosciences Bureau (“MGB”) conducted geological surveys on the mineral potential of Samar Island. One of the notable results of this regional mineral survey was the delineation of extensive bauxite deposits in Western Samar Province. In 1977, the island of Samar was declared a Bauxite Mineral Reservation by then President Ferdinand E. Marcos by virtue of Proclamation No. 1615. In 1979, MGB came out with an estimated 132Mmt of bauxite resource with grades ranging from 27 to 43%  $\text{Al}_2\text{O}_3$ .

In the mid-1970s, Alusuisse conducted preliminary auger drilling and test pitting on sinkholes in the BARI property, mainly in the southern half of the tenement. A global estimation of the potential indicated that 38Mt, of which 9Mmt was “Exportable grade”, 21Mmt “Refinery Grade” and 8Mmt was “Low Grade”. Alusuisse only studied about half of the sinkholes found in BARI. By extension to the other sinkholes on the mineral property, Alusuisse estimated a potential bauxite deposit of about 79Mmt. The estimation methods used was presumed to be possibly polygonal.

In late June to early July 2003, Earthcare Geologist & Affiliates (“Earthcare”), a local geological consulting company based in Tacloban City, undertook a seven days geological reconnaissance in the AMPI and BARI tenement areas. The Earthcare team took samples from test pits in the AMPI project area which were assayed at the commercial SGS laboratory in Manila. Earthcare also chip sampled an outcrop in the BARI project area and also took samples from some of the existing shallow drillholes. Earthcare came out with a ‘Potential Ore Estimate’ for the BARI property amounting

to 100Mmt, and for AMPI area 38Mmt.

Pacific Aluminum Holding, Ltd. ("PAHL") and China Non-Ferrous Metals Corporation ("CNMC") conducted exploration in AMPI and BARI areas in 2004. Test pitting and auger drilling were employed by CNMC to verify and assess the resource potential in both project areas. A total of 93 pits and 336 auger holes were completed in 2004 with 31 pits in AMPI and 62 pits in BARI; 258 holes with a total length of 3,502 in AMPI and 108 holes totaling 1,162 m in BARI. A report compiling the results of the geological verification was prepared by CNMC in 2004.

In 2005, Phil Jankowski, a Competent Person from SRK Consulting in Australia, estimated a total of resource of 51.8 Million tonnes of bauxite at 43.9%  $\text{Al}_2\text{O}_3$  and 2.2%  $\text{SiO}_2$  for the AMPI and BARI bauxite project based on the results of CNMC's exploration activities. Volume of each sinkhole was estimated using Surpac. The bulk density of  $1.7 \text{ g/cm}^3$  from the measurements of test pit spoil was applied to calculate the tonnage. Cut-off grade used was not mentioned in the report. The estimated resource is further broken down as follows; Indicated Resource of 39.16 Million tonnes at 43.5%  $\text{Al}_2\text{O}_3$  and 2.2%  $\text{SiO}_2$ , and Inferred Resource of 12.64 Million tonnes at 44.9%  $\text{Al}_2\text{O}_3$  and 1.9%  $\text{SiO}_2$ .

A May 2007 SRK report prepared also by Mr. Jankowski disclosed a total of 12.1 Million tonnes of Indicated bauxite resources in AMPI at 39.83%  $\text{Al}_2\text{O}_3$  and 13.76%  $\text{SiO}_2$ . Additional 1.8 Million tonnes Inferred resource at 35.66%  $\text{Al}_2\text{O}_3$  and 15.17%  $\text{SiO}_2$  was also reported. This is based on data supplied to SRK which, after editing, consisted of records for 2,335 collars and 9,115 assays. Sinkhole outline and topography were also provided for the creation of three-dimensional wireframe models. An average density of  $1.6 \text{ t/m}^3$  was applied which is based on the mean of 962 density measurements acquired by PAMPC.

In 2006 – 2008, PAHL conducted a more detailed exploration program on the two projects employing auger drilling at a grid of 100 m x 100 m. This was followed by in-fill holes in selected areas at 50m in between the 100 x 100m grid, locally making the grid at 50 x 50 m.

The PAHL exploration data was further verified by Asia Pilot Mining in 2013-2014 and the data was included in the integrated database.

More recently, in a resource report signed by SRK Principal Consultant Yiefei Jia dated December 2016, SRK Consulting China Ltd. disclosed that it has estimated the JORC Code-compliant Mineral Resources for AMPI and BARI at a cut-off grade of 28%  $\text{Al}_2\text{O}_3$ , with consideration of available alumina and reactive  $\text{SiO}_2$ . A total of 35 Mwmt, Measured and Indicated Resources, were estimated in AMPI at 41%  $\text{Al}_2\text{O}_3$  while a total of 82 Mwmt of Measured and Indicated Resources were estimated for BARI at 42%  $\text{Al}_2\text{O}_3$ . It has been also noted that the silica content in BARI is about 6% which is much lower than that in AMPI at about 11%.

Period	Proponent	Area Coverage	Exploration Activity	Results / Resource Estimate
1979	Mines and Geosciences Bureau	Samar	<ul style="list-style-type: none"> <li>Geological survey targeting gold, copper and magnesium as well as confirming presence of extensive bauxite deposits</li> </ul>	<ul style="list-style-type: none"> <li>131.6M t of bauxite as 'mineable ore reserve' at grades ranging from 27% to 43% Al<sub>2</sub>O<sub>3</sub>*</li> </ul>
Mid '70s	Alusuisse	BARI	<ul style="list-style-type: none"> <li>Preliminary auger drilling and test pitting on sinkholes at the southern half of the property</li> </ul>	<ul style="list-style-type: none"> <li>38M t 'positive reserve' equivalent to 9M t 'exportable grade', 21M t 'refinery grade' and 8M t as 'low grade'</li> <li>projected a total potential reserve of 79M t in BARI*</li> </ul>
2003	Earthcare Geologists and Affiliates	AMPI and BARI	<ul style="list-style-type: none"> <li>chip sampling and test pitting; samples were submitted to SGS laboratory in Manila</li> </ul>	<ul style="list-style-type: none"> <li>AMPI = 38.3M t 'potential ore estimate'</li> <li>BARI = 100.0M t 'potential ore estimate'</li> </ul>
2004	China Non-Ferrous Metals Corporation	AMPI and BARI	<ul style="list-style-type: none"> <li>AMPI = 31 test pits, 259 auger holes equivalent to 3,242.68m</li> <li>BARI = 62 test pits, 113 auger holes equivalent to 906.26m</li> </ul>	<ul style="list-style-type: none"> <li>39.16M t Total AMPI and BARI Indicated resource at 43.5% Al<sub>2</sub>O<sub>3</sub> and 2.2% SiO<sub>2</sub></li> <li>12.64M t Total AMPI and BARI Indicated resource at 44.9% Al<sub>2</sub>O<sub>3</sub> and 1.9% SiO<sub>2</sub></li> </ul>
2005-2008	Pacific Aluminium Holdings Limited	AMPI	<ul style="list-style-type: none"> <li>2,335 drill holes</li> <li>9,115 sample analysis</li> <li>962 density measurements = 1.6 t/m<sup>3</sup></li> </ul>	<ul style="list-style-type: none"> <li>12.1M t Indicated resource at 39.83% Al<sub>2</sub>O<sub>3</sub> and 13.76% SiO<sub>2</sub></li> <li>1.8M t Inferred resource at 35.66% Al<sub>2</sub>O<sub>3</sub> and 15.17% SiO<sub>2</sub></li> </ul>
2013-2015	Asia Pilot Mining Philippines/ SRK China	AMPI	<ul style="list-style-type: none"> <li>306 test pits</li> <li>2,863 auger holes</li> </ul>	<ul style="list-style-type: none"> <li>35.0M t Measured and Indicated resource at 41.0% Al<sub>2</sub>O<sub>3</sub> and 11.3% SiO<sub>2</sub></li> <li>4.5M t Inferred resource at 40.8% Al<sub>2</sub>O<sub>3</sub> and 12.9% SiO<sub>2</sub></li> </ul>
		BARI	<ul style="list-style-type: none"> <li>535 test pits</li> <li>3,295 auger holes</li> </ul>	<ul style="list-style-type: none"> <li>82.6M t Measured and Indicated resource at 42.7% Al<sub>2</sub>O<sub>3</sub> and 5.6% SiO<sub>2</sub></li> <li>75.1M t Inferred resource at 41.2% Al<sub>2</sub>O<sub>3</sub> and 5.5% SiO<sub>2</sub></li> </ul>
2017	Marcventures Mining and Development Corp.	AMPI	<ul style="list-style-type: none"> <li>2,862 drill holes and test pits</li> <li>16,015.91 meters</li> <li>8,616 samples</li> </ul>	<ul style="list-style-type: none"> <li>41.7 t Measured and Indicated resource at 40.06% Al<sub>2</sub>O<sub>3</sub> and 14.50% SiO<sub>2</sub></li> <li>17.3M t Inferred resource at 38.96% Al<sub>2</sub>O<sub>3</sub> and 16.59% SiO<sub>2</sub></li> </ul>
		BARI	<ul style="list-style-type: none"> <li>3,295 drill holes and test pits</li> <li>13,457.14 meters</li> <li>6,971 samples</li> </ul>	<ul style="list-style-type: none"> <li>31.5M t Measured and Indicated resource at 43.78% Al<sub>2</sub>O<sub>3</sub> and 7.96% SiO<sub>2</sub></li> <li>28.4M t Inferred resource at 43.75% Al<sub>2</sub>O<sub>3</sub> and 8.09% SiO<sub>2</sub></li> </ul>

\*not acceptable to JORC-compliant documents

## MMDC's Verification and Validation Program

Marcventures Mining and Development Corp. (MMDC), as a wholly-owned subsidiary of Marcventures Holdings, Inc. (MHI), conducted due diligence over the AMPI contract area from January 9 to February 10, 2017. The activity's objective was to verify the validity of the exploration methodology and integrity of the database as well as the parameters (density and moisture) that was used in the resource estimation done by



SRK as contracted by Asia Pilot. Unfortunately, due diligence in BARI did not push through due to security issues. However, verification of the AMPI dataset can somewhat verify the integrity of the BARI dataset considering that the same exploration work programs were historically conducted in AMPI and BARI.

The MMDC Exploration Team was able to finish 11 cored drill holes with depths ranging from 6.00 to 22.00 meters and combined depth of 151.50 meters. The holes were twinned with holes drilled earlier by Asia Pilot Mining (AMPI holes) which ranged in depth from 7.4 meters to 22.00 meters. The two set of twinned holes (MMDC and AMPI) are not necessarily of the same depths for each twin. Total number of samples collected was 219 which were assayed for  $\text{Al}_2\text{O}_3$ ,  $\text{SiO}_2$ , Fe, MgO and  $\text{Cr}_2\text{O}_3$  using XRF. A total of six (6) test pits were also completed but at depth of exactly four (4) meters each totalling 24 meters. A total of 36 samples were collected from the test pit and also assayed of the same mineral compound as the cored holes. The Team also conducted procedures in the field to determine the specific gravity of bauxite as well as its swell factor as part of QA/QC in the resource estimation.

On correlation between the twinned holes, scatter plots illustrates the close correlation between the twin hole data thereby confirming, more or less, the validity and integrity of the assay data that were used in the resource estimations of AMPI and BARI resources.

### **MMDC's Resource Estimates for AMPI and BARI**

Having been convinced on the integrity of the project's database from the results of its field verification works, MMDC opted to make its own estimates of the AMPI and BARI resources. The mineral resource estimation made use of the database that was provided by Asia Pilot to MMDC from exploration campaigns conducted from 2004 to 2014. The database consisted of collar, survey, assay and geology data of 8,616 samples from 2,862 drill holes and test pits of AMPI and 6,971 samples from 3,295 drill holes and test pits of BARI from 2004 to 2014.

Two methods were used to estimate the mineral resources, namely: Inverse Distance Weighting (IDW) and Conventional Polygon Method. The polygon method served to double check the resource figures derived from IDW.

Block modelling and resource estimation by way of Inverse Distance Weighting (IDW) was done using a combination of Microlynx and Surpac Version 6.7 software. IDW is a type of deterministic method for multivariate interpolation with a known scattered set of points. The assigned values to unknown points are calculated with a weighted average of the values available at the known points.

Microlynx was used to create the top and bottom surfaces of the resource model as well as the boundaries or resource extent. Construction of geological solids and block model, and interpolation of metal grades were done in Surpac 6.7. Microsoft excel was used to tabulate the resulting mineral resource estimates.

Tabulated below are the summary of Measured and Indicated Mineral Resources of AMPI and BARI project areas estimated using IDW. At a cut-off grade of 28%  $\text{Al}_2\text{O}_3$ , AMPI contains 41.7 Million tonnes of Measured and Indicated Mineral Resource at an

average grade of 40.06% Al<sub>2</sub>O<sub>3</sub> and 14.50% SiO<sub>2</sub>. BARI contains about 31.5 Million tonnes of Measured and Indicated Mineral Resource at an average grade of 43.78% Al<sub>2</sub>O<sub>3</sub> and 7.96% SiO<sub>2</sub>. This is equivalent to a total Measured and Indicated Resource of some 73.2Mwmt with grades averaging 41.66% Al<sub>2</sub>O<sub>3</sub> and 11.69% SiO<sub>2</sub>.

Inferred resources of AMPI and BARI were also estimated using IDW wherein some 17.3Mwmt was estimated for AMPI with grades averaging 38.96% Al<sub>2</sub>O<sub>3</sub> and 16.59% SiO<sub>2</sub> while about 28.4Mwmt was estimated for BARI at 43.75% Al<sub>2</sub>O<sub>3</sub> and 8.09% SiO<sub>2</sub>. Additional drilling and test pitting works need to be done to upgrade these Inferred resources to Measured and Indicated resources. Assuming that 25% of these Inferred resources will be upgraded to Measured and Indicated resources once the additional drilling and test pitting works are completed, this will translate to additional Measured and Indicated resources of some 11.4Mwmt at 41.94% Al<sub>2</sub>O<sub>3</sub> and 11.30% SiO<sub>2</sub>. The projected total Measured and Indicated resources will now be 84.6Mwmt averaging 41.70% Al<sub>2</sub>O<sub>3</sub> and 11.64% SiO<sub>2</sub>.

Summary of AMPI Mineral Resources estimated by Inverse Distance Weighting.

<i>AMPI_Measured and Indicated Resource</i>							
<i>Cut-off grade</i>	<i>Volume</i>	<i>WMT</i>	<i>Al2O3</i>	<i>SiO2*</i>	<i>Al/Si</i>	<i>Rx SiO2**</i>	<i>Al/RxSi</i>
> 50% Al2O3	155,000	249,000	50.67	2.29	22.13	1.26	40.21
45-50% Al2O3	3,763,000	6,021,000	47.09	4.29	10.98	2.36	19.95
40-45% Al2O3	10,460,000	16,737,000	42.17	10.6	3.98	5.83	7.23
35-40% Al2O3	7,643,000	12,229,000	37.87	17.21	2.2	9.47	4.00
28-35% Al2O3	4,048,000	6,477,000	31.83	29.44	1.08	16.19	1.97
	<b>26,069,000</b>	<b>41,713,000</b>	<b>40.06</b>	<b>14.5</b>	<b>2.76</b>	<b>7.98</b>	<b>5.02</b>

<i>AMPI_Inferred Resource</i>							
<i>Cut-off grade</i>	<i>Volume</i>	<i>WMT</i>	<i>Al2O3</i>	<i>SiO2*</i>	<i>Al/Si</i>	<i>Rx SiO2**</i>	<i>Al/RxSi</i>
> 50% Al2O3	17,000	27,000	50.73	2.45	20.71	1.35	37.58
45-50% Al2O3	1,700,000	2,720,000	46.83	4.04	11.59	2.22	21.09
40-45% Al2O3	3,412,000	5,460,000	42.31	10.33	4.1	5.68	7.45
35-40% Al2O3	2,778,000	4,444,000	37.57	18.16	2.07	9.99	3.76
28-35% Al2O3	2,890,000	4,624,000	31.64	29.94	1.06	16.47	1.92
	<b>10,797,000</b>	<b>17,275,000</b>	<b>38.96</b>	<b>16.59</b>	<b>2.35</b>	<b>9.12</b>	<b>4.27</b>

Summary of BARI Mineral Resources estimated by Inverse Distance Weighting.

<i>BARI_Measured and Indicated Resource</i>							
<i>Cut-off grade</i>	<i>Volume</i>	<i>WMT</i>	<i>Al2O3</i>	<i>SiO2*</i>	<i>Al/Si</i>	<i>Rx SiO2**</i>	<i>Al/RxSi</i>
> 50% Al2O3	1,572,000	2,516,000	51.72	1.45	35.67	0.80	64.65
45-50% Al2O3	7,062,000	11,299,000	47.33	3.11	15.22	1.71	27.68
40-45% Al2O3	6,815,000	10,904,000	42.64	8.92	4.78	4.91	8.68
35-40% Al2O3	3,227,000	5,163,000	37.98	14.91	2.55	8.20	4.63
28-35% Al2O3	992,000	1,587,000	32.69	23.58	1.38	13.68	2.39
	<b>19,668,000</b>	<b>31,469,000</b>	<b>43.78</b>	<b>7.96</b>	<b>5.5</b>	<b>4.38</b>	<b>10.0</b>

<b>BARI_Inferred Resource</b>							
<b>Cut-off grade</b>	<b>Volume</b>	<b>WMT</b>	<b>Al2O3</b>	<b>SiO2*</b>	<b>Al/Si</b>	<b>Rx SiO2**</b>	<b>Al/RxSi</b>
> 50% Al2O3	1,341,000	2,145,000	51.9	1.39	37.39	0.76	68.29
45-50% Al2O3	6,711,000	10,738,000	47.28	3.31	14.28	1.82	25.98
40-45% Al2O3	5,822,000	9,315,000	42.76	8.71	4.91	4.81	8.89
35-40% Al2O3	2,754,000	4,407,000	37.87	15.32	2.47	8.43	4.49
28-35% Al2O3	1,145,000	1,831,000	32.69	23.4	1.4	12.87	2.54
	<b>17,773,000</b>	<b>28,436,000</b>	<b>43.75</b>	<b>8.09</b>	<b>5.41</b>	<b>4.45</b>	<b>9.83</b>

Total AMPI and BARI Mineral Resources estimated by Inverse Distance Weighting.

<b>AMPI and BARI Total Measured and Indicated Resource</b>							
<b>Cut-off grade</b>	<b>Volume</b>	<b>WMT</b>	<b>Al2O3</b>	<b>SiO2*</b>	<b>Al/Si</b>	<b>Rx SiO2**</b>	<b>Al/RxSi</b>
> 50% Al2O3	1,727,000	2,765,000	51.63	1.53	33.75	0.84	61.46
45-50% Al2O3	10,825,000	17,320,000	47.25	3.52	13.42	1.94	24.36
40-45% Al2O3	17,275,000	27,641,000	42.36	9.94	4.26	5.47	7.74
35-40% Al2O3	10,870,000	17,392,000	37.9	16.53	2.29	9.09	4.17
28-35% Al2O3	5,040,000	8,064,000	32.0	28.29	1.31	15.56	2.06
	<b>45,737,000</b>	<b>73,182,000</b>	<b>41.66</b>	<b>11.69</b>	<b>3.56</b>	<b>6.43</b>	<b>6.48</b>

<b>AMPI and BARI Total Inferred Resource</b>							
<b>Cut-off grade</b>	<b>Volume</b>	<b>WMT</b>	<b>Al2O3</b>	<b>SiO2*</b>	<b>Al/Si</b>	<b>Rx SiO2**</b>	<b>Al/RxSi</b>
> 50% Al2O3	1,358,000	2,172,000	51.89	1.4	37.06	0.77	67.39
45-50% Al2O3	8,411,000	13,458,000	47.19	3.46	13.64	1.90	24.84
40-45% Al2O3	9,234,000	14,775,000	42.59	9.31	4.57	5.12	8.32
35-40% Al2O3	5,532,000	8,851,000	37.72	16.75	2.25	9.21	4.10
28-35% Al2O3	4,035,000	6,455,000	31.94	28.08	1.14	15.44	2.07
	<b>28,570,000</b>	<b>45,711,000</b>	<b>41.94</b>	<b>11.3</b>	<b>3.71</b>	<b>6.22</b>	<b>6.74</b>

**\*Total Silica (SiO2) – XRF analysis of random bauxite samples from the properties demonstrated that Reactive Silica is about 55-60% of the Total Silica, therefore Reactive Silica is about 6.42-7.04%**

**\*\*Reactive Silica (RxSiO2) – estimated to be from 55 to 60% of the Total Silica, is tabulated in column 7 for the various Al2O3 cut-off grades and the corresponding ration of Alumina/Reactive Silica (Al/RxSi) shown in Column 8. The inclusion of these columns in the Resource table is considered relevant in the Technical Report as the reactive silica to a certain concentration, could affect the economics of the metallurgical treatment of the bauxite ore. The estimated reactive silica percentages used in these estimates which are based on historical data, appear largely favorable in terms of its ratio with Al2O3, however, this might need further checking.**

In the conventional polygon method, each drill hole is assigned a polygon that represents the extent of the area of influence of the drill hole. It is assumed that everywhere within the polygon, the thickness and grade of the resource material is uniform and, more or less, the same as the resource material of the drill hole enclosed by the polygon. Calculations and reporting of the resources were manually done using Microsoft Excel.

Conventional polygon method was done with the assumption that all drill hole and test pit data are regularly spaced at 50-meter interval. The volume of each block is the product of the area of influence, in this case 2,500 sq. m., and the combined thickness of samples that fall within the set cut-off grades. To determine the equivalent Wet Metric Tonnage (WMT), the total in-situ volume is multiplied by the density value of 1.6 g/cm<sup>3</sup>. Based on these parameters and assumptions, resource estimates for AMPI and BARI using polygon method yielded the following Indicated Resources.

Summary of AMPI Indicated Resources estimated using conventional polygon method.

AMPI MEASURED + INDICATED MINERAL RESOURCE ESTIMATE								
Ore Class	Cut-off Grade	BCM	WMT	%Al <sub>2</sub> O <sub>3</sub>	%SiO <sub>2</sub>	Al/Si	%H <sub>2</sub> O	DMT
Bx1	> 50 Al <sub>2</sub> O <sub>3</sub>	421,000	673,000	50.74	2.01	28.58	30.00	471,100
Bx2	45-50 Al <sub>2</sub> O <sub>3</sub>	4,447,000	7,115,000	46.96	4.18	12.70	30.00	4,980,500
Bx3	40-45 Al <sub>2</sub> O <sub>3</sub> , ≤ 8 SiO <sub>2</sub>	13,017,000	20,827,000	42.26	10.33	4.63	30.00	14,578,900
Bx4a	35-40 Al <sub>2</sub> O <sub>3</sub> , ≤ 7 SiO <sub>2</sub>	397,000	635,000	38.57	8.18	5.34	30.00	444,500
Bx4b	35-40 Al <sub>2</sub> O <sub>3</sub> , > 7 SiO <sub>2</sub>	8,210,000	13,137,000	37.79	18.04	2.37	30.00	9,195,900
Bx5a	28-35 Al <sub>2</sub> O <sub>3</sub> , ≤ 6 SiO <sub>2</sub>	67,000	106,000	32.86	10.11	3.68	30.00	74,200
Bx5b	28-35 Al <sub>2</sub> O <sub>4</sub> , > 6 SiO <sub>2</sub>	3,003,000	4,805,000	32.40	27.62	1.33	30.00	3,363,500
<b>Total/Ave.</b>		<b>29,562,000</b>	<b>47,298,000</b>	<b>40.78</b>	<b>13.16</b>	<b>3.51</b>		<b>20,475,000</b>

Summary of BARI Indicated Resources estimated using conventional polygon method.

BARI MEASURED + INDICATED MINERAL RESOURCE ESTIMATE								
Ore Class	Cut-off Grade	BCM	WMT	%Al <sub>2</sub> O <sub>3</sub>	%SiO <sub>2</sub>	Al/Si	%H <sub>2</sub> O	DMT
Bx1	> 50 Al <sub>2</sub> O <sub>3</sub>	2,840,000	4,544,000	52.13	1.36	43.25	30.00	3,180,800
Bx2	45-50 Al <sub>2</sub> O <sub>3</sub>	8,244,000	13,190,400	47.40	2.89	18.57	30.00	9,233,280
Bx3	40-45 Al <sub>2</sub> O <sub>3</sub>	5,629,000	9,006,400	42.57	8.73	5.52	30.00	6,304,480
Bx4a	37-40 Al <sub>2</sub> O <sub>3</sub> , ≤ 7 SiO <sub>2</sub>	506,000	809,600	38.89	6.74	6.54	30.00	566,720
Bx4b	37-40 Al <sub>2</sub> O <sub>3</sub> , > 7 SiO <sub>2</sub>	2,117,000	3,387,200	38.54	15.47	2.82	30.00	2,371,040
Bx5a	28-37 Al <sub>2</sub> O <sub>3</sub> , ≤ 6 SiO <sub>2</sub>	543,000	868,800	34.47	10.53	3.71	30.00	608,160
Bx5b	28-37 Al <sub>2</sub> O <sub>4</sub> , > 6 SiO <sub>2</sub>	2,085,000	3,336,000	33.42	23.95	1.58	30.00	2,335,200
<b>Total/Ave.</b>		<b>21,964,000</b>	<b>35,142,400</b>	<b>44.08</b>	<b>7.68</b>	<b>6.50</b>		<b>19,285,280</b>

It will be noted that although the resources estimated using polygon method is generally higher in tonnage than the resources estimated using IDW, the resulting grades of the two resources are quite close and considered within acceptable range from one another.

The resource estimates of the MMDC Technical Team differs with that of SRK China in the December 2016 report of CP Dr. Yiefei Jia in both tonnages and grades. In MMDC's Report, total resource estimated for AMPI was 41.7M tonnes of Measured and Indicated category with an average grade of 40.06% Al<sub>2</sub>O<sub>3</sub> and 14.50% SiO<sub>2</sub>, and BARI containing 31.5M tonnes of Measured and Indicated category with an average grade of 43.78% Al<sub>2</sub>O<sub>3</sub> and 7.96% SiO<sub>2</sub> or a total Measured and Indicated Resource for the two tenements of some 73.2Mwmt with grades averaging 41.66% Al<sub>2</sub>O<sub>3</sub> and 11.69% SiO<sub>2</sub>. SRK, in its December 2016 Report, on the other hand came out, at the same cut-off grade of 28% Al<sub>2</sub>O<sub>3</sub>, with AMPI containing 35.0M tonnes of Measured and Indicated Resource with an average grade of 41.0% Al<sub>2</sub>O<sub>3</sub> and 4.5M tonnes of Inferred Mineral Resource with an average grade of 40.8% Al<sub>2</sub>O<sub>3</sub>. For BARI, a total of 82.6M tonnes of Measured and Indicated Resource with an average grade

of 42.7% Al<sub>2</sub>O<sub>3</sub> and 75.1M tonnes of Inferred Resource with an average grade of 41.2% Al<sub>2</sub>O<sub>3</sub> were estimated.

Comparing the various figures, the AMPI Measured and Indicated resource estimated by MMDC would appear larger by 6.7M tonnes compared to SRK China (41.7 vs 35.0 M) while in grade, MMDC is 0.96% Al<sub>2</sub>O<sub>3</sub> lower compared to SRK China (40.06 vs 41.0% Al<sub>2</sub>O<sub>3</sub>). For BARI, the tonnage variance is more significant with MMDC coming out with 31.5M tonnes as against SRK China's 82.6M tonnes of Measured and Indicated Resource or a difference of 51.1M tonnes. For the grades, MMDC came out with 43.78% Al<sub>2</sub>O<sub>3</sub> while SRK China declared an average grade of 42.7%Al<sub>2</sub>O<sub>3</sub>, a difference of 1.08%.

The variances in the estimates, particularly for the tonnages, may be due to the different methods used in the resource estimation. MMDC used the Inverse Distance Weighing (IDW) complimented by conventional Polygon Method as a check while SRK China employed Leapfrog, CAD and Surpac Version 6.3. The wide variance in tonnage, particularly in BARI may be explained by what we may considered over projection of the test pit and auger assay data influence used. SRK China projected the influence of the hole assays to a maximum of 100 meters while MMDC limited its projection to 50 meters only. In the case of AMPI, where MMDC came out with a slightly bigger tonnage, this could be explained by the use of additional data that SRK did not use in its estimate. Regarding the grade variances, these may be due to the methods of determining the assays employed by the two Teams, i.e., the method of compositing the assays used in the estimation.

It should be noted, however, that in as far as the grades are concerned, the variances are not considered very significant. It will be noted also that both MMDC and SRK China came out with close favorable percent SiO<sub>2</sub> in BARI. Dr. Yiefei Jia, also noted that the estimates for BARI, particularly, needs further refining if additional exploration data becomes available. The MMDC figures in tonnages and grades, could be considered conservative and more reliable.

As an additional upside for the project, the MMDC Team has determined the swell factor of the bauxite materials by actual field testing during the recent verification/validation fieldworks which was 1.25. This translates to 91.5Mwmt or an additional 18.3Mwmt from the 73.2Mwmt resource estimated for AMPI and BARI by the MMDC Technical Team.



## **1.1 Purpose and Compliance with PMRC**

The undersigned Competent Person (CP) was commissioned by Engr. Arsenio K. Sebial, Jr., President and CEO of Marcventures Mining and Development Corporation (MMDC), to review and certify this technical report prepared by MMDC's Geological Exploration Division (GED) Team on the exploration results and mineral resource estimation of Alumina Mining Philippines, Inc. (AMPI) and Bauxite Resources, Inc. (BARI) located within the Municipalities of Paranas (formerly Wright), Motiong, San Jorge, Gandara and San Jose de Buan, Province of Samar. The two properties are owned by Asia Pilot Mining Philippines Corporation. MMDC is a wholly-owned subsidiary of Marcventures Holdings, Inc. (MHI).

This report was prepared in compliance with the Philippine Mineral Reporting Code (PMRC) and follows the most recent template for reporting of exploration results and mineral resources of lateritic mineral deposit to support the public disclosure of exploration activities, particularly, core drilling and test pitting undertaken within the two tenement areas from 2004 to 2014.

This report also complies with the requirements of the Mines and Geosciences Bureau (MGB) in the development of a mining project.

## **1.2 Scope of Work**

The report provides a detailed summary of the results of the exploration activities carried over the AMPI and BARI Bauxite Project (AMPI) from 2004 to 2014. The mineral resource model prepared by the MMDC Exploration Team considers 8,616 samples from 2,862 drill holes and test pits of AMPI from 2004 to 2014 and 6,971 samples from 3,295 drill holes and test pits of BARI from the same period.

## **1.3 Data Verification and Field Visits**

The undersigned CP depended primarily to the information given by the technical personnel of the Exploration Team of MMDC derived from previous technical reports and additional data obtained from earlier exploration works. Included in this report are the consolidated data from geological interpretation and data gathered during MMDC's field verification.

The database provided by Asia Pilot to MMDC for the resource estimation was verified and validated by the MMDC Exploration Team through geologic mapping and sub-surface sampling that was done from January 2017 to February 2017. This Competent Person (CP) in turn conducted a field visit in the area to check the due diligence activity that was done by the MMDC Exploration Team. Based on these activities, the database provided by Asia Pilot has been determined to be sufficiently reliable to support mineral resource estimation.

## **1.4 Technical Report Preparation Team**

The members of the MMDC Exploration Team are Geologists Jayvhel T. Guzman, Head of the Geological Exploration Division (GED), Herbert T. Villano, Chief Geologist and Ralph Rey L. Tan and Jelan M. Mendez, Ms. Guzman, Mr. Villano and Mr. Tan are licensed geologists and are active members of the Geological Society of the Philippines.

Asia Pilot was represented by its Corporate Secretary, Mr. Steven M. Herrera, who provided the historical information, previous reports, maps and assay results to the MMDC Exploration Team.

## **2. RELIANCE ON OTHER EXPERTS**

This Competent Person (CP) relied mainly on this report prepared by Geologists Jayvhel T. Guzman and Herbert T. Villano, who are licensed Geologists but are not CPs. Geologists Guzman and Villano are both employed by MMDC and have provided technical guidance to MMDC Exploration Team since 2013 and 2015, respectively. They are experienced persons in the nickel laterite style of mineralization which is basically the same as lateritic style of bauxite mineralization.

The Exploration Team of MMDC managed the conduct of the field verification activities over the AMPI Bauxite Project from January 2017 to February 2017. This included geologic mapping and test pitting as well as twin hole drilling. Mr. Herbert T. Villano acted as the Team Leader of the MMDC Exploration Team which included Geologists Ralph Rey L. Tan and Jelan M. Mendez as well as Mapping Specialist Ronito T. Martinez.

## **3. TENEMENT AND MINERAL RIGHTS**

### **3.1 Description of mineral rights**

Alumina Mining Philippines, Inc. (AMPI) holds the Mineral Production Sharing Agreement (MPSA) denominated as MPSA No. 179-2002-VIII which covers 6,694.05 hectares in the Municipalities of Paranas (formerly Wright), Motiong and San Jose de Buan, Province of Samar. Bauxite Resources, Inc. (BARI) holds the Mineral Production Sharing Agreement MPSA No. 180-2002-VIII covering 5,435.00 hectares in the Municipalities of Gandara, San Jose de Buan, Matuguinao and San Jorge, Province of Samar. Both MPSAs were approved in December 5, 2002, valid for 25 years and renewable for another 25 years. Technical description of the two MPSAs are presented in Table 3-1.

**Table 3-1.** Technical description of AMPI and BARI MPSAs.

Alumina Mining Philippines, Inc. (AMPI) MPSA 179-2002-VIII-SBMR Area = 6,694.05 hectares			Bauxite Resources, Inc. (BARI) MPSA 180-2002-VIII-SBMR Area = 5,435 hectares		
corner	longitude	latitude	corner	longitude	latitude
1	125° 06' 00"	11° 57' 00"	1	124° 59' 00"	12° 08' 00"
2	125° 06' 00"	11° 52' 00"	2	124° 59' 00"	12° 02' 30"
3	125° 02' 00"	11° 52' 00"	3	124° 56' 00"	12° 02' 30"
4	125° 02' 00"	11° 57' 00"	4	124° 56' 00"	12° 08' 00"



**Figure 3-1.** Location map of Alumina Mining Philippines, Inc. (AMPI) and Bauxite Resources, Inc. (BARI) MPSAs.

### 3.2 History of mineral rights

Samar Island is known to host bauxite deposits after geologic works made during the early '60s and '70s by the government and private entities proved the occurrence of these deposits in the island. On February 4, 1977, then President Ferdinand Marcos promulgated Proclamation No. 1615 creating the Samar Island Bauxite Reservation (SBMR). Some of the Samar Island bauxite deposits were earmarked for an aluminium smelter proposed by Reynolds Aluminum Corporation. However, for some reasons, Reynolds later abandoned the project and withdrew from the Philippines.

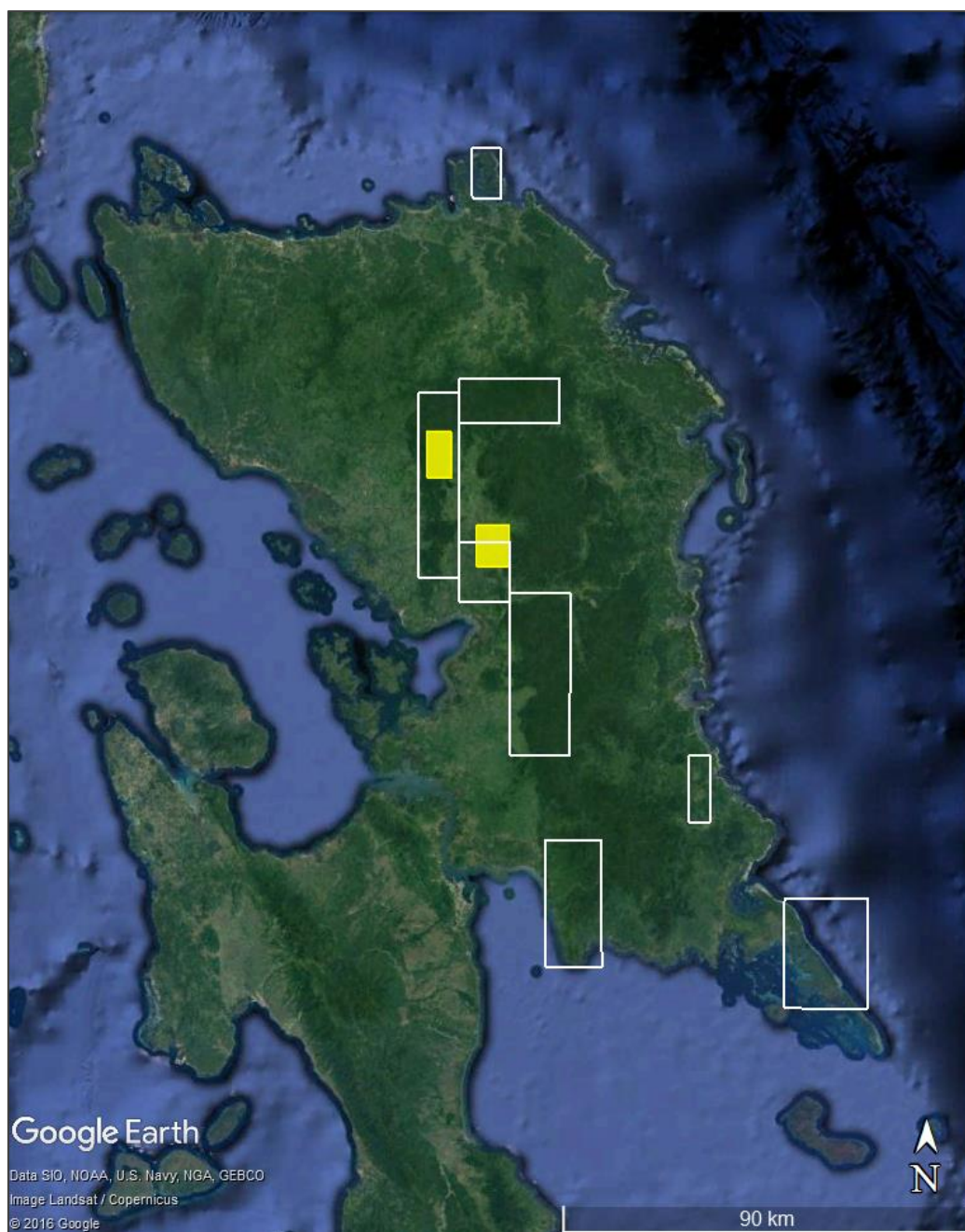
The mineral reservation covers a total 220,791 hectares consisting of three parcels; from Batag Island off the northeastern coast of Northern Samar down south to Hinabangan in what used to be known as Western Samar (now simply called Samar Province) and extending to Guian in Eastern Samar further south (Figure 3-2). Being the only known significant deposit of aluminium 'ores' in the Philippines, these areas are considered strategic and vital for the State. Previous studies made by the Mines and Geosciences Bureau estimated the geologic reserves of SBMR at 242 Million tonnes with an average grade of 40.80%  $\text{Al}_2\text{O}_3$ .

On May 2, 2002, Aluminum Mining Philippines, Inc. (AMPI) and Bauxite Resources Incorporation (BARI) filed mining applications at the Mines and Geosciences Bureau covering portions of the Municipalities of Gandara, San Jorge, San Jose de Buan, Motion and Paranas. The applications were approved on December 5, 2002 as MPSA 179-2002-VIII and MPSA 180-2002-VIII.

On August 13, 2003, Presidential Proclamation No. 442 was declared covering a sizeable portion of Samar Island into the Samar Island Natural Park (SINP) which overlapped some portions of the SBMR. Portions of AMPI and BARI are also covered by the declaration, however, considering the MPSAs were approved before the proclamation, prior rights of AMPI and BARI should be respected.

On June 27, 2005, a Memorandum of Agreement was signed between the AMPI-BARI party and the Hongkong-based holding company, Pacific Aluminum Holding Limited (PAHL) and its affiliates. This announced PAHL's interest to undertake and invest in the mineral exploration, development and utilization of the bauxite deposits within the contract areas. The succeeding year, detailed exploration work and validation of previous exploratory works were conducted by the exploration group of PAHL, Pacific Aluminum Philippines Corporation (PAMPC).

Since 2014, Asia Pilot Mining Philippines, Corp. ("Asia Pilot Mining") holds 100% interest of AMPI and BARI.



**Figure 3-2.** Map showing the outline of Samar Bauxite Mineral Reservation (white) with location of AMPI and BARI tenement area (yellow).



## **4. GEOGRAPHIC FEATURES**

### **4.1 Location and accessibility**

The AMPI and BARI project areas are located in the Province of Samar (formerly known as Western Samar) in Eastern Visayas (Region VIII) in the Philippines.

The AMPI contract area which is located within the municipalities of Motiong, San Jose de Buan and Paranas, is approximately 25 kilometers east-northeast of Catbalogan City (Figure 4-1). The BARI contract area on the other hand, is within the municipalities of Gandara, San Jose de Buan and Paranas and is approximately 35 kilometers north-northeast of Catbalogan City, the provincial capital of Samar Province. Catbalogan has major regional infrastructures that include a port and an airport. However, at present, the airport is not operational..

AMPI contract area can be reached from Tacloban City via 1.5-2 hours land travel along Maharlika (AH26) Highway going to the direction of Catbalogan City. From the junction of Buray at the Municipality of Paranas, turn right using the Taft-Paranas Road, then turn left at Loquilocon to the provincial road going to San Jose de Buan. Barangay Concepcion, which holds most of the sinkholes in AMPI, is about 12 kilometers from the junction of Loquilocon.

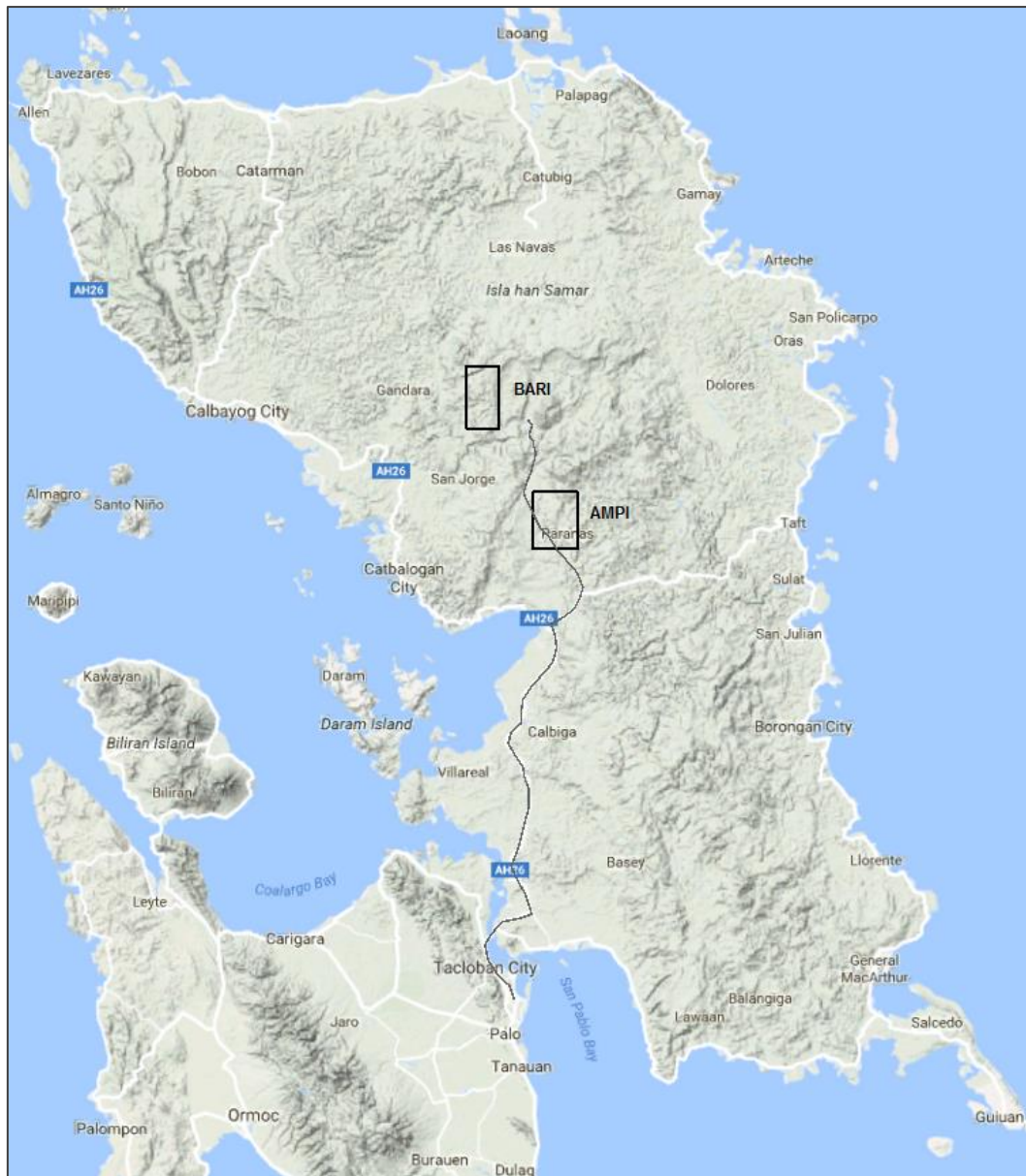
The BARI contract area which is about 15 kilometers northwest of Barangay Concepcion, can be reached from the town proper of San Jose de Buan. Through a 3-hour walk from the town proper, one can reach Barangay Galutan which is at the southern end of BARI area. From there, access to bauxite-bearing BARI sinkholes is by foot paths and unformed tracks.

### **4.2 Topography, physiography, drainage and vegetation**

Samar Island is described to have moderate relief comprising of alluvial filled basins with higher limestone ridges and hills surrounding them. From coast to coast, the mountain ranges are generally characterized to be low but mostly rugged and steep. The highest mountain peaks follows a curved line that traverses predominantly north-south from the northwest coast bordering Samar Sea and passing through the center portion of the island, going to the south coast of Lauan Bay.

AMPI area has moderate relief with elevation ranging from 100 to 200 masl, the higher limestone ridges and hills surrounding the basins reach maximum height of 464 masl. The alluvial basins are generally arable with rice, corn, banana and coconut crops. The limestone ridges are covered by dense tropical rainforest.

Although having moderate relief, BARI area is higher in elevation than AMPI with elevation ranging from 200 masl in the south to a maximum of 693 masl in the north.



**Figure 4-1.** Road network from Tacloban City going to AMPI and BARI tenement areas.

### 4.3 Climate

The project area falls into two types of climate, the Type II and Type IV based on the Modified Coronas Classification climate map of the Philippines (Figure 4-2).

Type II climate indicates no dry season with a very pronounced maximum rain period from December to February or the northeast monsoon (Amihan). Minimum monthly rainfall occurs during the period from March to May and no single dry month. The western part of the project areas are affected by Type IV in which rainfall is more or less evenly distributed throughout the year and resembles with Type II since it has no dry season.

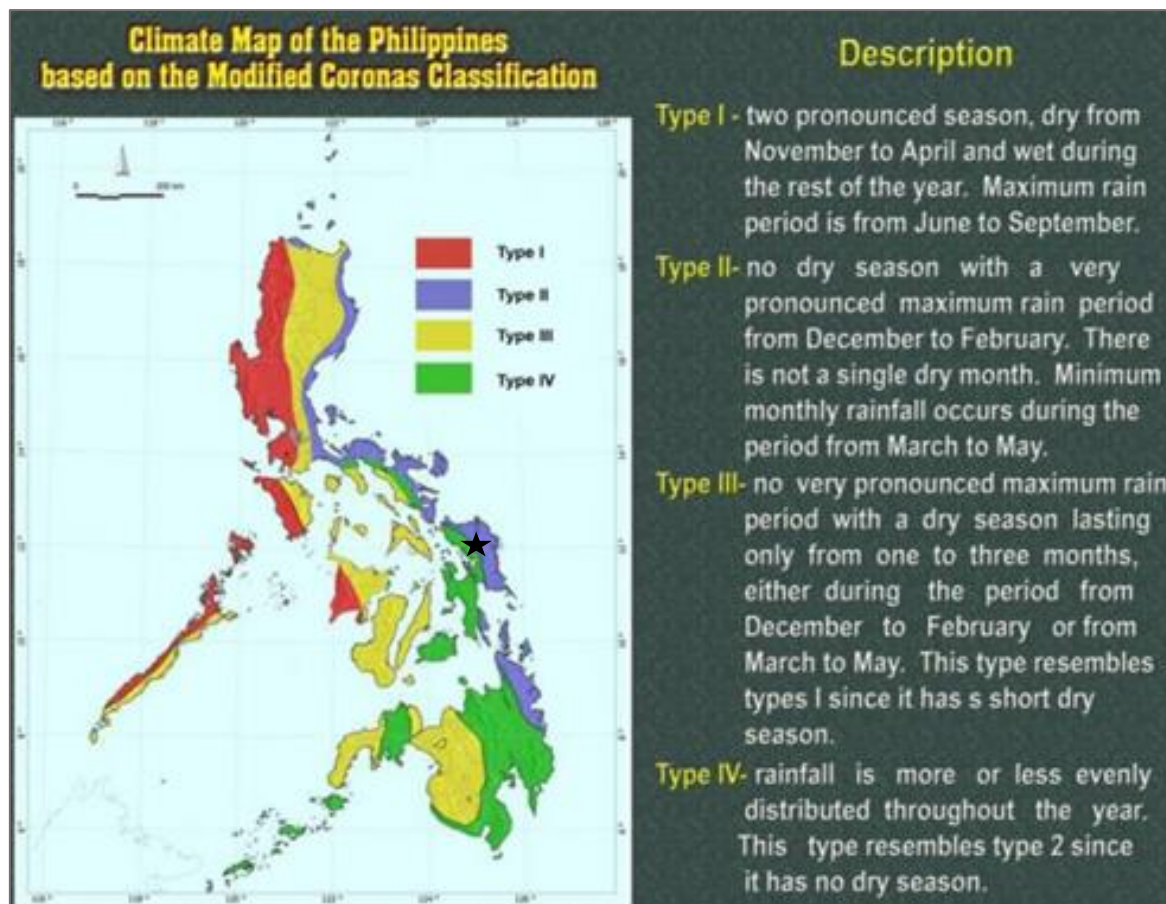


Figure 4-2. Climate map of the Philippines based on Modified Coronas Classification.

#### 4.4 Local Resources

Communities inside the AMPI project area are generally relying on farming for their livelihood, planting crops such as corn, cassava, peanut, rice, ginger and coconut. Some locals engage in producing charcoal briquettes, and manual limestone quarrying for income.

### 5. PREVIOUS WORK

#### 5.1 Mines and Geosciences Bureau

Between 1974 and 1976, the Mines and Geosciences Bureau (MGB) conducted a geological survey in Samar, targeting gold, copper and magnesium as well as confirming the presence of extensive bauxite deposits.

In 1979, MGB estimated a total of 131.6 Million tonnes of bauxite as 'mineable ore reserve' at grades ranging from 27% to 43%  $\text{Al}_2\text{O}_3$ ; of which 544 Thousand tonnes was in the AMPI project area. The estimate is not JORC or PMRC compliant in the manner that it is stated but it can be taken as a guide to future exploration potential in the region.

## **5.2 Alusuisse**

Alusuisse, a Swiss industrial group founded as Aluminium Industrie Aktien in 1898 in Zurich, Switzerland, conducted preliminary auger drilling and test pitting on sinkholes in the southern half of BARI property in the mid '70s. The group estimated a 'positive reserve' of 38 Million tonnes, of which 9 Million tonnes was 'exportable grade', 21 Million as 'refinery grade' and 8 Million as 'low grade' (Table 3-2). By extension to the other sinkholes in the property, Alusuisse estimated a potential of 79 Million tonnes of bauxite in BARI.

Considering that there are no full record of the data used in the estimates, neither the 38 Million tonnes estimate nor the 79 Million tonnes potential can be reported in JORC or PMRC standard.

## **5.3 Earthcare Geologists & Affiliates**

A Filipino geological consulting company based in Tacloban City, Earthcare Geologist & Affiliates, undertook a seven-day geological reconnaissance of the AMPI and BARI properties in June and July, 2003. Samples were collected from test pits in AMPI and were sent to SGS laboratory in Manila for analysis. Chip samples were also taken from an outcrop in BARI and likewise were submitted for analysis. Maps were produced showing the potential karstic sinkholes in the two project areas.

The group came up with a 'potential ore estimate' using the maps produced during geologic mapping. The area of the karstic sinkholes was manually measured on 1:40,000 plan maps. The measured area is then multiplied to an assumed depth of 10 meters and assumed density of 1.3 t/m<sup>3</sup>. The 'potential ore estimate' for BARI was around 100 Million tonnes, and for AMPI to be around 38 Million tonnes.

Same as the previous resource estimates, the estimation of Earthcare does not meet JORC or PMRC standard and could not be released publicly.

## **5.4 China Non-Ferrous Metals Corporation**

China Non-Ferrous Metals Corporation (CNMC), as engaged by Pacific Aluminium Holdings Limited (PAHL), conducted exploration in AMPI and BARI areas from June to November 2004. Test pitting and auger drilling were employed by the company to verify and assess the resource potential of the two areas.

A total of 93 test pits and 336 auger holes were completed by CNMC during its exploration activity on 2004. This is equivalent to 31 test pits in AMPI and 62 test pits in BARI. A total of 259 auger holes with an aggregate depth of 3,242.68 meters were drilled in AMPI while a total of 113 holes equivalent to 906.26 meters were completed in BARI. Average drilling depth in AMPI is 12.52 meters and 8.02 meters for BARI.

In 2005, Phil Jankowski, a Competent Person from SRK Consulting in Australia, estimated a total of resource of 51.8 Million tonnes of bauxite at 43.9% Al<sub>2</sub>O<sub>3</sub> and 2.2% SiO<sub>2</sub> for the AMPI and BARI bauxite project based on the results of CNMC's exploration activities. Volume of each sinkhole was estimated using Surpac. The bulk density of 1.7 g/cm<sup>3</sup> from the measurements of test pit spoil was applied to calculate



the tonnage. Cut-off grade used was not mentioned in the report. The estimated resource is further broken down as follows; Indicated Resource of 39.16 Million tonnes at 43.5%  $\text{Al}_2\text{O}_3$  and 2.2%  $\text{SiO}_2$ , and Inferred Resource of 12.64 Million tonnes at 44.9%  $\text{Al}_2\text{O}_3$  and 1.9%  $\text{SiO}_2$ .

On a positive note, Mr. Jankowski stated that there could be as much as an extra 80 Million tonnes of bauxite ore in AMPI and BARI, based on the concept of extending the results of their estimation to other parts of the project areas not studied during CNMC's exploration activities.

## 5.5 Pacific Aluminium Holdings Limited

Bulk of the data that was used by MMDC in its resource estimation of AMPI and BARI is from the exploration work program that was implemented by Pacific Aluminium Holdings Limited (PAHL) from 2005 to 2008. PAHL, a Hongkong-based holding company commenced its exploration activities through its Philippine subsidiary, Pacific Aluminum Mining Philippines Corporation (PAMPC).

On April 2006, another report from SRK's Consultant, Phil Jankowski, inspected the work program and verified its suitability for use in estimating the resources and reserves to the standards required by the JORC Code. Overall, the auger drilling and sampling program of PAHL was deemed well designed and well implemented.



**Figure 5-1.** a) simple 20-centimeter long auger bit used by CNMC in its auger drilling activities, b) drillers retrieving the auger rods, c) samplers bagging the 2-meter composite sample, d) sample CNMC Checker's Daily Report.

A May 2007 SRK report prepared also by Mr. Jankowski disclosed a total of 12.1 Million tonnes of Indicated bauxite resources in AMPI at 39.83%  $\text{Al}_2\text{O}_3$  and 13.76%  $\text{SiO}_2$ . Additional 1.8 Million tonnes Inferred resource at 35.66%  $\text{Al}_2\text{O}_3$  and 15.17%  $\text{SiO}_2$  was also reported. This is based on data supplied to SRK which, after editing, consisted of records for 2,335 collars and 9,115 assays. Sinkhole outline and topography were also provided for the creation of three-dimensional wireframe models. An average density of  $1.6 \text{ t/m}^3$  was applied which is based on the mean of 962 density measurements acquired by PAMPC.

However, no similar report for BARI was provided to MMDC during its due diligence.



## 5.6 Asia Pilot Mining Philippines Corp./SRK China

Since November 2012, Asia Pilot Mining Philippines, Corp. has 100% stake equity of AMPI and BARI tenements and has contracted SRK China to prepare an exploration and resource report for these tenements.

Commissioned by SRK China, Philippine Xinbaoyuan Mining Corporation (Xinbaoyuan) led the bauxite exploration of AMPI and BARI in 2013 and 2014 specifically the 1:10,000 geological sketch survey, control point measurement and validation of sinkholes in the project. Verification and in-fill drilling and sampling was conducted, the results of which were also audited by SRK and found to be sufficiently reliable to interpret and support the mineral resource estimation.



**Figure 5-2.** In-fill auger drilling and sample drying done by Xinbaoyuan as contracted by Asia Pilot.

In a resource report signed by SRK China Principal Consultant Yiefei Jia effective December 2016, SRK China disclosed that it has estimated the JORC Code-compliant Mineral Resources for AMPI and BARI at a cut-off grade of 28%  $\text{Al}_2\text{O}_3$ , with consideration of available alumina and reactive  $\text{SiO}_2$ . A total of 35 Million tonnes Measured and Indicated Resources were estimated in AMPI at 41%  $\text{Al}_2\text{O}_3$  while a total of 82 Million tonnes of Measured and Indicated Resources were estimated for BARI at 42%  $\text{Al}_2\text{O}_3$ . It has been also noted that the silica content in BARI is about 6% which is much lower than that in AMPI at about 11%.

**Table 5-1.** Summary of previous geologic activities and results in AMPI and BARI.

Period	Proponent	Area Coverage	Exploration Activity	Results / Resource Estimate
1979	Mines and Geosciences Bureau	Samar	Geological survey targeting gold, copper and magnesium as well as confirming presence of extensive bauxite deposits	131.6M t of bauxite as 'mineable ore reserve' at grades ranging from 27% to 43% $\text{Al}_2\text{O}_3$ *
Mid '70s	Alusuisse	BARI	Preliminary auger drilling and test pitting on sinkholes at the southern half of the property	<ul style="list-style-type: none"> <li>38M t 'positive reserve' equivalent to 9M t 'exportable grade', 21M t 'refinery grade' and 8M t as 'low grade'</li> <li>projected a total potential reserve of 79M t in BARI*</li> </ul>

2003	Earthcare Geologists and Affiliates	AMPI and BARI	<ul style="list-style-type: none"> <li>chip sampling and test pitting; samples were submitted to SGS laboratory in Manila</li> </ul>	<ul style="list-style-type: none"> <li>AMPI = 38.3M t 'potential ore estimate'*</li> <li>BARI = 100.0M t 'potential ore estimate'*</li> </ul>
2004	China Non-Ferrous Metals Corporation	AMPI and BARI	<ul style="list-style-type: none"> <li>AMPI = 31 test pits, 259 auger holes equivalent to 3,242.68m</li> <li>BARI = 62 test pits, 113 auger holes equivalent to 906.26m</li> </ul>	<ul style="list-style-type: none"> <li>39.16M t Total AMPI and BARI Indicated resource at 43.5% Al<sub>2</sub>O<sub>3</sub> and 2.2% SiO<sub>2</sub></li> <li>12.64M t Total AMPI and BARI Indicated resource at 44.9% Al<sub>2</sub>O<sub>3</sub> and 1.9% SiO<sub>2</sub></li> </ul>
2005-2008	Pacific Aluminium Holdings Limited	AMPI	<ul style="list-style-type: none"> <li>2,335 drill holes</li> <li>9,115 sample analysis</li> <li>962 density measurements = 1.6 t/m<sup>3</sup></li> </ul>	<ul style="list-style-type: none"> <li>12.1M t Indicated resource at 39.83% Al<sub>2</sub>O<sub>3</sub> and 13.76% SiO<sub>2</sub></li> <li>1.8M t Inferred resource at 35.66% Al<sub>2</sub>O<sub>3</sub> and 15.17% SiO<sub>2</sub></li> </ul>
2013-2015	Asia Pilot Mining Philippines/ SRK China	AMPI	<ul style="list-style-type: none"> <li>306 test pits</li> <li>2,863 auger holes</li> </ul>	<ul style="list-style-type: none"> <li>35.0M t Measured and Indicated resource at 41.0% Al<sub>2</sub>O<sub>3</sub> and 11.3% SiO<sub>2</sub></li> <li>4.5M t Inferred resource at 40.8% Al<sub>2</sub>O<sub>3</sub> and 12.9% SiO<sub>2</sub></li> </ul>
		BARI	<ul style="list-style-type: none"> <li>535 test pits</li> <li>3,295 auger holes</li> </ul>	<ul style="list-style-type: none"> <li>82.6M t Measured and Indicated resource at 42.7% Al<sub>2</sub>O<sub>3</sub> and 5.6% SiO<sub>2</sub></li> <li>75.1M t Inferred resource at 41.2% Al<sub>2</sub>O<sub>3</sub> and 5.5% SiO<sub>2</sub></li> </ul>
2017	Marcventures Mining and Development Corp.	AMPI	<ul style="list-style-type: none"> <li>2,862 drill holes and test pits</li> <li>16,015.91 meters</li> <li>8,616 samples</li> </ul>	<ul style="list-style-type: none"> <li>41.7 t Measured and Indicated resource at 40.06% Al<sub>2</sub>O<sub>3</sub> and 14.50% SiO<sub>2</sub></li> <li>17.3M t Inferred resource at 38.96% Al<sub>2</sub>O<sub>3</sub> and 16.59% SiO<sub>2</sub></li> </ul>
		BARI	<ul style="list-style-type: none"> <li>3,295 drill holes and test pits</li> <li>13,457.14 meters</li> <li>6,971 samples</li> </ul>	<ul style="list-style-type: none"> <li>31.5M t Measured and Indicated resource at 43.78% Al<sub>2</sub>O<sub>3</sub> and 7.96% SiO<sub>2</sub></li> <li>28.4M t Inferred resource at 43.75% Al<sub>2</sub>O<sub>3</sub> and 8.09% SiO<sub>2</sub></li> </ul>

## 6. HISTORY OF PRODUCTION

AMPI and BARI properties are still under exploration and development stages. So far, there are no recorded mineral production in the area.

## 7. REGIONAL GEOLOGY

### 7.1 Regional Geologic Setting

The Samar basin presents stratigraphic characteristics similar to those of the Visayan Sea Basin. Here, Upper Oligocene to Lower Miocene volcanoclastics unconformably overlies a mixed basement of ophiolites and metamorphic rocks. The Middle Miocene interval is represented by a widespread deformed limestone formation which presently covers almost 25% of Samar Island (Garcia and Mercado, 1981). This limestone body is unconformably overlain by Upper Miocene to Pleistocene shales and carbonates. The basin axis is generally oriented north to south.

## 7.2 Regional Structures

The Island of Samar lies in the eastern periphery of the Visayas region. It is located together with Leyte, within the immediate vicinity of the Philippine rift zone and the Philippine deep, two major geologic structures greatly influencing the geology of the Philippine Archipelago. The main tectonic line of the Philippine rift zone, a strike-slip fault system, extends through the entire length of the island of Leyte, with its splays and submarine trench where an oceanic plate plunges westward under a sialic block Island and continues downward to the eastern coast of Mindanao.

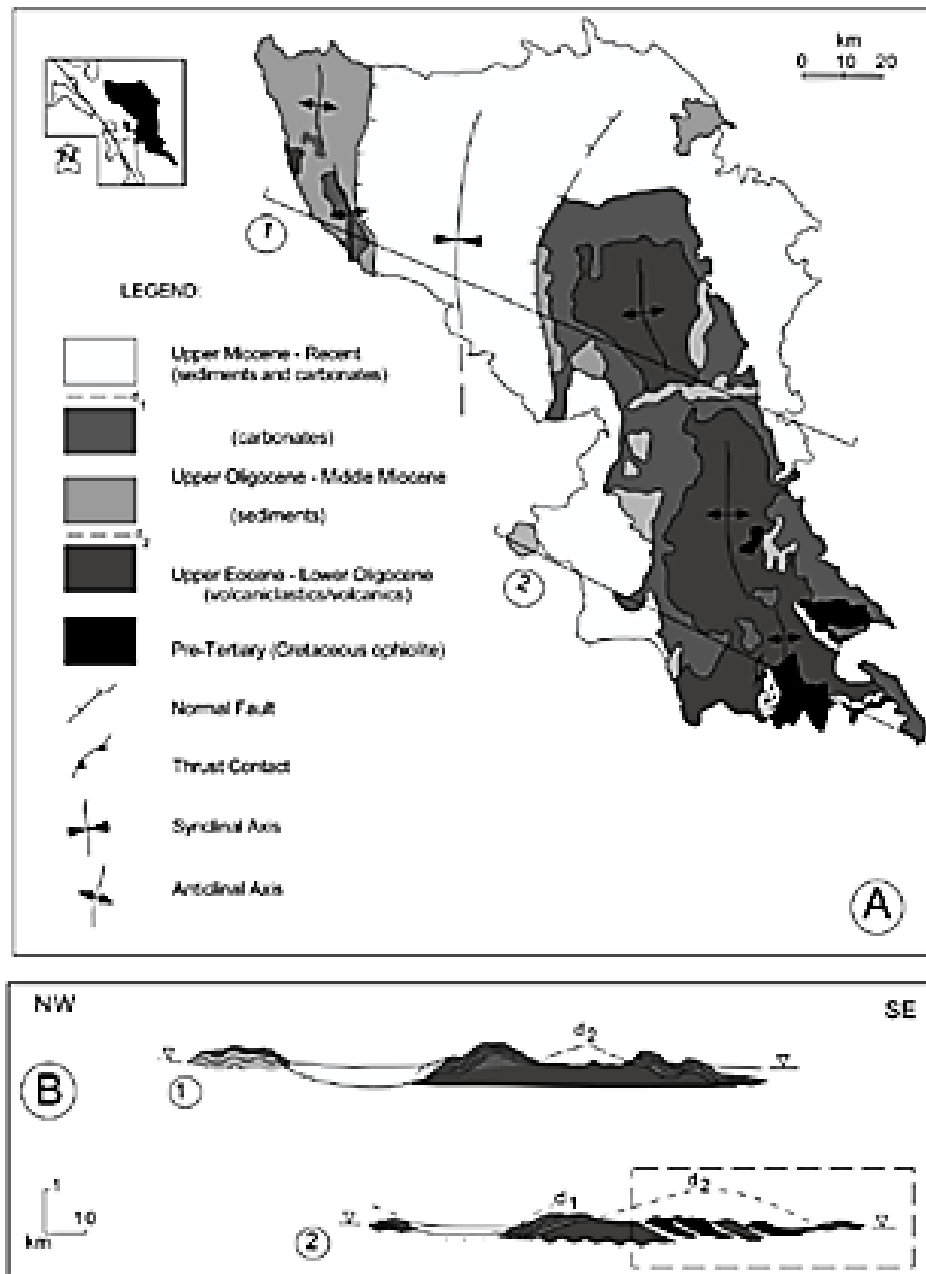
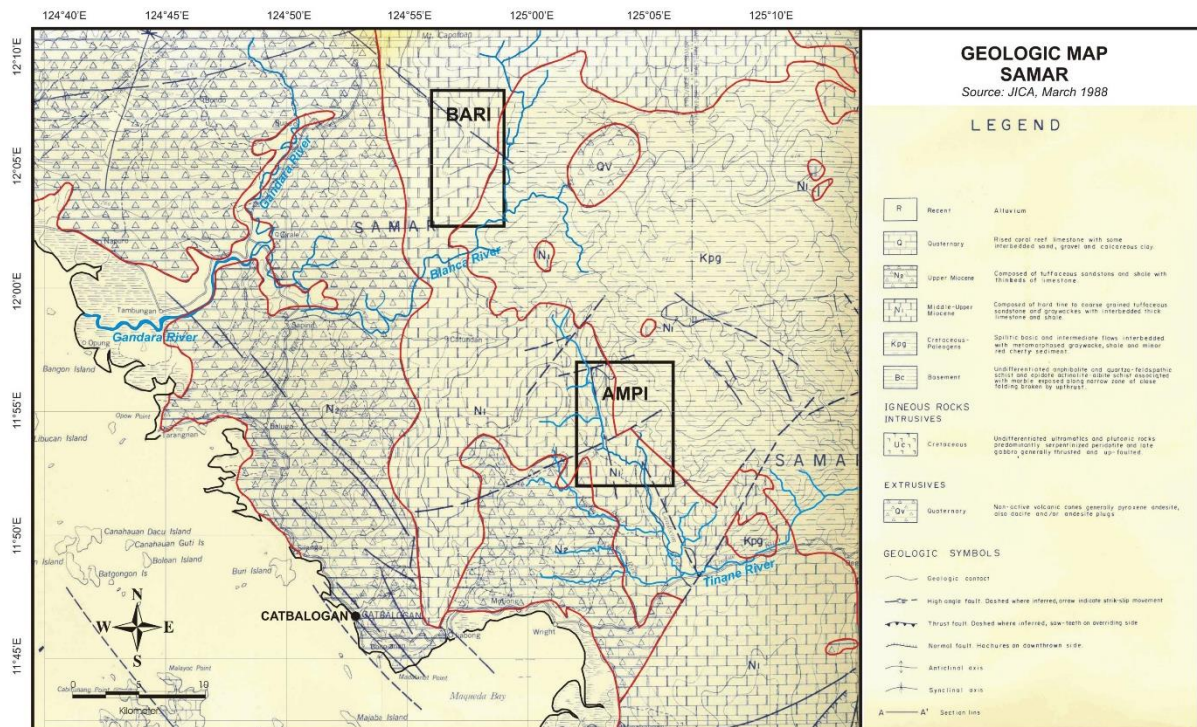


Figure 7-1. Regional geologic map of Samar Island (Aurelio et al.).

## 8. MINERAL PROPERTY GEOLOGY

Geological Mapping of sinkholes and lithological formations was conducted by walking through the contract area and thru megascopic identification of rock fragments and bedrock encountered during drilling. Interpretation of topographic map and satellite images were also used for identification of sinkholes and structures. Drill cores were logged, and interpreted by the geologist based on megascopic identification and description of color, texture and mineralogical composition. Previous drill holes were also considered especially for identification of sinkhole and depression.

The karstic limestone of the Lower Miocene Daram Formation surrounds and hosts the reddish-brown to yellow-brown bauxite deposit in AMPI and BARI tenement area. Sinkholes and solution channels afforded good accumulation sites of bauxite. The deposit occurs as a discontinuous, surface mantle or lenses invariably on the karsts. Northeast-southwest trending secondary structures were prominently identified inside the AMPI contract area.



**Figure 8-1.** Geologic map of AMPI and BARI showing that most of the two project areas are underlain by limestone which provided sinkholes and dissolution channels as good accumulation sites of bauxite.

## 9. MINERALIZATION IN THE MINERAL PROPERTY

### 9.1 Overview of mineralization

Bauxite forms from a wide variety of alumina-bearing rocks which has undergone relatively long period of lateritic weathering. It ideally forms in tropical or sub-tropical climatic conditions with abundant rainfall and luxuriant vegetation. Location must be well-drained environment and above the phreatic water table. The bauxite deposits

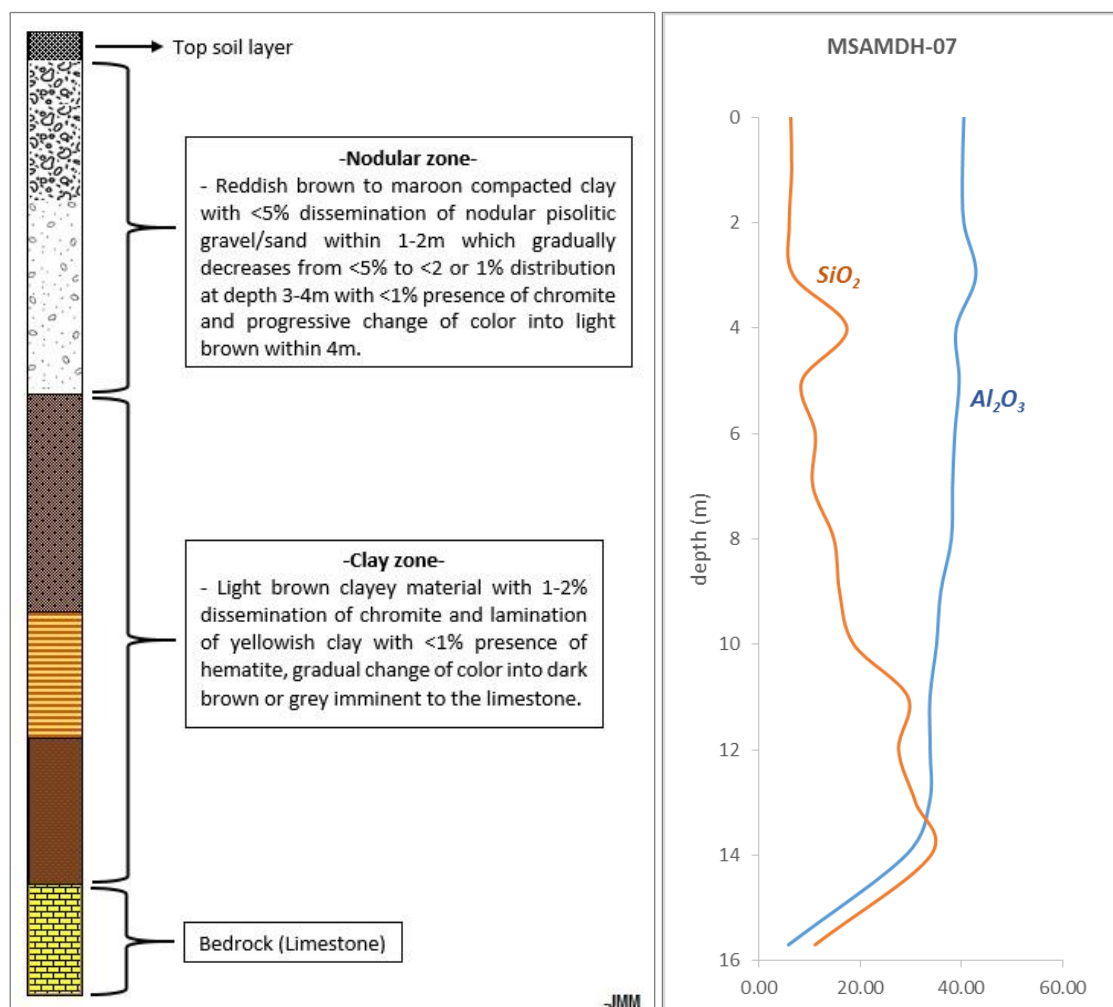


occurring in Samar are derived from the erosion, transportation and sedimentation of pre-existing lateritic soils and weathered alumina-rich rocks, re-deposited in a gradually subsiding basin. Changes from oxidizing-acidic to reducing-alkaline pH probably caused dissolution of silica and precipitation of hydrous aluminum oxides (Garcia et al., 1981).

## 9.2 Style of mineralization

The bauxite deposits in AMPI and BARI are developed in karstic sinkholes in a predominantly limestone terrain. The topography of the base limestone underneath the alluvial/colluvial/elluvial deposits that include the bauxite can be assumed to be irregular.

The bauxite profile is interpreted as consisting of four (4) layers or zones, namely: Top soil, Nodular Zone, Clay Zone and Bedrock (Figure 7). It has been observed that  $\text{Al}_2\text{O}_3$  decreases while  $\text{SiO}_2$  increases with increasing depth. This is consistent with the previously stated characteristic of bauxite wherein hydrous aluminum oxides are precipitated in a reducing-alkaline pH environment while silica is dissolved and therefore leached by groundwater.



**Figure 9-1.** (Left) Bauxite laterite profile as interpreted from drill core samples. (Right)  $\text{Al}_2\text{O}_3$  and  $\text{SiO}_2$  assay values of drill core sample (MSAMDH-07) plotted against depth in meters.



Three (3) samples were submitted to the National Institute of Geological Sciences in the University of the Philippines for X-ray Diffraction (XRD) and handheld X-ray Fluorescence (XRF) for mineral identification and semi-quantitative chemical analysis. Table 9-1 shows the summary of bulk element composition of the samples. The semi-quantitative data obtained from handheld XRF analyser provided relative concentration of elements in the samples but does not provide accurate concentration of elements. Figure 9-2 to 9-4 present the XRD pattern of the samples submitted wherein the relative intensity of each identified minerals are indicated. The summary of minerals identified in the submitted samples is shown listed alphabetically in Table 9-2.

**Table 9-1.** Summary of bulk element composition obtained from handheld XRF.

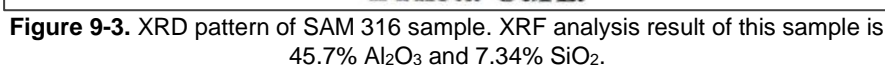
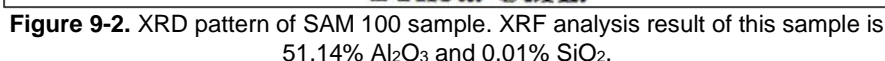
Analyte	Chemical element	SAM 100 (wt. %)	SAM 316 (wt. %)	SAM 354 (wt. %)
LE	Light elements	46.70	49.20	51.30
Al	Aluminum	27.50	23.70	19.50
Fe	Iron	18.80	17.80	18.60
Mg	Magnesium	3.93	3.61	3.07
Ti	Titanium	1.05	0.93	0.94
P	Phosphorus	1.00	0.61	0.29
Si	Silicon	0.47	3.53	5.91
Mn	Manganese	0.36	0.47	0.13
Sr	Strontium	0.09	0.04	0.02
Cr	Chromium	0.04	0.06	0.06
Zr	Zirconium	0.03	0.02	0.02
V	Vanadium	0.03	0.03	0.04
Zn	Zinc	0.02	0.02	0.01
Y	Yttrium	0.02	0.01	<0.01
Ni	Nickel	0.02	0.03	0.02
Cu	Copper	0.01	0.02	0.01
Ta	Tantalum	0.01	0.01	0.01
Pb	Lead	0.01	<0.01	<0.01
Sn	Tin	0.01		

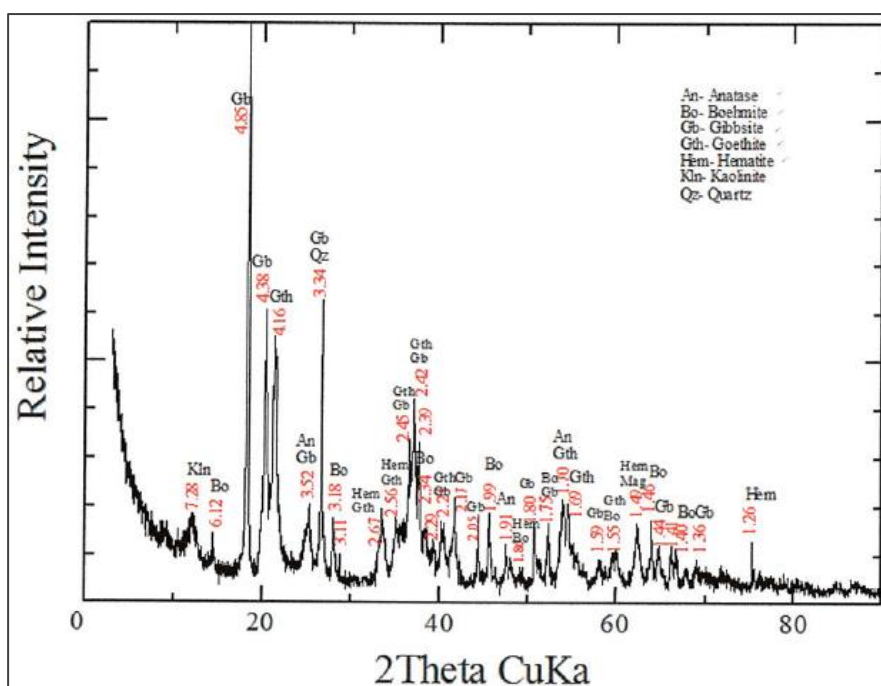
**Table 9-2.** Mineral phases identified in the samples with chemical formula.

Mineral	Chemical Formula
Anatase	TiO <sub>2</sub>
Boehmite	γ-AlO(OH)
Gibbsite	Al(OH) <sub>3</sub>
Goethite	α-FeO(OH)
Hematite	Fe <sub>2</sub> O <sub>3</sub>
Kaolinite Group	Al <sub>2</sub> Si <sub>2</sub> O <sub>5</sub> (OH) <sub>4</sub>
Magnetite	Fe <sup>2+</sup> Fe <sup>3+</sup> <sub>2</sub> O <sub>4</sub>
Quartz	SiO <sub>2</sub>

Based on these results, the minerals in the bauxite ore are predominantly gibbsite and boehmite, with minor goethite, hematite and magnetite mixed with aluminium mineral referred to as alumogeothite. Accessory anatase, kaolinite and quartz were also

Technical Report on the Exploration Results and Mineral Resource Estimate of the Alumina Mining Philippines, Inc. (AMPI) MPSA 179-2002-VIII-SBMR and Bauxite Resources, Inc. (BARI) MPSA 180-2002-VIII-SBMR





**Figure 9-4.** XRD pattern of SAM 354 sample. XRF analysis result of this sample is 39.17%  $\text{Al}_2\text{O}_3$  and 10.82%  $\text{SiO}_2$ .

## 10. EXPLORATION

A field validation was conducted by the MMDC Exploration Team over the AMPI contract area from January 9 to February 10, 2017. The activity's objective is to verify the validity of the exploration methodology and integrity of the database as well as the parameters (density and moisture) that was used in the resource estimation done by SRK as contracted by Asia Pilot. Unfortunately, due diligence in BARI did not push through due to security issues. However, verification of the AMPI dataset can somewhat verify the integrity of the BARI dataset considering that the same exploration work programs were historically conducted in AMPI and BARI.

The MMDC Exploration Team was led by Chief Geologist Herbert T. Villano and included Geologists Ralph Rey L. Tan and Jelan M. Mendez and Mapping Specialist Ronito T. Martinez.

### 10.1 Drilling and Test Pitting

One (1) unit of YBM-YHP (YBM9) man-portable drilling machine with BQ size and tungsten carbide bits was used during the field validation and verification. Twin drill holes were located near location of previous drill holes within identified sinkhole and depression inside four (4) Barangays, namely: Brgy. Paco, Canliguis (Jose Roño), Concepcion and Lawaan I. Handheld GPS was used for locating proposed twin drill holes. Mobilization of drill machine was through manual hauling or by using carts pulled by carabao.

A total of 11 twin drill holes and 6 test pits were completed during the due diligence activity aggregating to a total of 175.50 meters and 24 meters, respectively (Table 10-1 and 10-2). The twin drill holes basically confirms the depth and vertical extent of the

bauxite material within the tenement considering that the mechanized drill unit used in the activity was able to penetrate down to the bedrock material (Table 10-3). It also validates the existence of holes drilled during previous exploration campaigns.

**Table 10-1.** Summary of drill holes completed during the due diligence activity.

Hole ID	Date Started	Date Finished	Northing	Easting	Elev. (m)	Depth (m)	No. of samples
MSAMDH-01	1/14/2017	1/15/2017	11°53'21.6"	125°03'20.3"	111	10.10	16
MSAMDH-02	1/16/2017	1/17/2017	11°53'25.5"	125°03'15.2"	126	15.35	24
MSAMDH-03	1/18/2017	1/18/2017	11°53'50.6"	125°02'41.8"	177	7.00	11
MSAMDH-04	1/19/2017	1/20/2017	11°54'26.4"	125°02'28.7"	144	12.00	18
MSAMDH-05	1/21/2017	1/23/2017	11°54'24.6"	125°02'46.6"	117	16.95	25
MSAMDH-06	1/24/2017	1/26/2017	11°53'50.1"	125°02'21.5"	195	17.15	26
MSAMDH-07	1/27/2017	1/29/2017	11°55'16.7"	125°02'11.5"	142	15.90	23
MSAMDH-08	1/30/2017	1/31/2017	11°52'20.2"	125°03'17.3"	124	21.35	26
MSAMDH-09	2/1/2017	2/1/2017	11°52'26.7"	125°03'17.4"	132	6.00	6
MSAMDH-10	2/2/2017	2/4/2017	11°53'07.9"	125°03'26.8"	121	22.00	33
MSAMDH-11	2/5/2017	2/5/2017	11°52'14.7"	125°04'16.1"	94	7.70	11
<b>Total</b>						<b>151.50</b>	<b>219</b>

**Table 10-2.** Summary of test pits completed during the due diligence activity.

Test Pit ID	Northing	Easting	Elev. (m)	Depth (m)	No. of samples
MTP-01	11°53'25.6"	125°03'15.2"	126	4.00	6
MTP-02	11°53'50.1"	125°02'41.7"	177	4.00	6
MTP-03	11°54'30.5"	125°02'13.1"		4.00	6
MTP-04	11°54'24.7"	125°02'46.8"	117	4.00	6
MTP-05	11°54'26.2"	125°02'28.9"	144	4.00	6
MTP-06	11°55'16.8"	125°02'11.5"	142	4.00	6
<b>Total</b>				<b>24.00</b>	<b>36</b>

**Table 10-3.** Comparison of MMDC vs AMPI historical drill hole depth.

MMDC		Asia Pilot (AMPI)		Remarks
Hole ID	Depth (m)	Hole ID	Depth (m)	
MSAMDH-01	10.10	A5REC43	7.40	4.9m NW of AMPI DH
MSAMDH-02	15.35	A5REC27	12.20	12.2m SE of AMPI DH
MSAMDH-03	7.00	CANLIG29 A	11.50	22.7m east of AMPI DH
MSAMDH-04	12.00	CANLIG9 G24	17.30	4.4m NE of AMPI DH
MSAMDH-05	16.95	CANLIG13 C	15.80	10.2m SW of AMPI DH
MSAMDH-06	17.15	CANLIG2 G4	17.60	10.6m SW of AMPI DH
MSAMDH-07	16.90	A6REC1 G12	22.00	13.5m NW of AMPI DH
MSAMDH-08	21.35	A5GH25	16.55	0.12m south of AMPI DH
MSAMDH-09	6.00	A5GH21	4.00	0.05m SE of AMPI DH
MSAMDH-10	22.00	A5NE5	14.20	16.2m north of AMPI DH
MSAMDH-11	7.70	LAW32	10.70	0.70m SE of AMPI DH

## 10.2 Sampling Methodology

After drilling, core samples were retrieved from the core tube using core pusher then placed in a core box for core photography and logging (Figure 10-1). Once the geologist completes core logging, samples are cut into two along its length. One half of the core is transferred to a plastic sample bag as 1-meter samples while the other half is sampled at a nominal 2-meter interval (Figure 10-2). This is to be able to directly make a comparison between the previous drill hole and the twin drill hole, considering that the previous drill holes were also sampled at 2-meter intervals.



**Figure 10-1.** a) Mobilization of drill machine and accessories by manual hauling and at times using carabaos, b) actual drilling using YBM-YHP drilling machine, c) samples retrieval using core pusher.

Same as the drill holes, 1-meter and 2-meter samples were collected from each test pits. All samples were labelled with serial numbers (Figure 10-3). The equivalent drill hole/test pit ID and sample interval of each were recorded and encoded into a sample database.



**Figure 10-2.** a) Transfer of sample from PVC pipe to core box, b) core logging of MMDC Geologists at field, c) transfer of samples from core box to plastic sample bags.





**Figure 10-3.** a) Actual digging of test pit by local, b) sampling along wall of the test pit by MMDC geologist, c) samples collected from the test pit.

Samples were delivered from the field to the MMDC Exploration Base Camp located at Brgy. Concepcion, Municipality of Panaras for field sample preparation. Weather permitting, sun drying was done to reduce the moisture of each sample thereby also reducing its weight (Figure 10-4). After drying, samples were crushed manually then mixed to ensure homogeneity. Coning and quartering method of sample reduction was done to further minimize the amount of samples that will have to be transported from the field to the assay laboratory of MMDC located at Brgy. Panikian, Municipality of Carrascal, Surigao del Sur.



**Figure 10-4.** a) Sample sun drying, b) manual crushing of samples, c) coning and quartering, d) packing of samples in sacks.

### 10.3 Specific Gravity, Moisture and Swell Factor Measurement

Specific Gravity (SG) determination was done using samples collected from the test pits. A 20cm x 10cm x 10cm sample was collected every 1-meter interval from the test pit wall (Figure 10-5). Samples were immediately wrapped with plastic cover to prevent escape of moisture and material disintegration during transportation. Weight measurement was done using digital weighing scale of MMDC assay laboratory. SG was computed by dividing the measured weight by the volume of the material (2,000 cm<sup>3</sup>).



**Figure 10-5.** a) Samples were collected along the side of the test at 1 meter interval, b) sample was cut carefully to the desired dimension, c). sample sealed in plastic sample bag was weighed using digital scale at MMDC assay laboratory.

After weighing, the SG samples were oven dried for 16 hours at 105°C, then weighed again after every 2 hours of oven drying until weight becomes constant. Percent moisture content of samples was then computed by dividing the weight of sample after oven drying by the weight of sample before drying, then multiplying by 100.

Swell factor (SF) of bauxite material was also conducted during the due diligence. Material was collected from the cleared ground within 10cm x 10cm hole and transferred to a fabricated wooden box measuring 10cm x 10cm 10cm until full (Figure 10-6). The depth of the hole was then recorded and used to calculate the in-situ volume of the material. To compact the material, the box was lifted 10cm from the ground then dropped. The height from the top lid of the box down to the surface of the compacted material was measured then subtracted from the original height (10cm) to determine the new height of the material. The loose volume was then computed by multiplying the area of the box by the new height of the material. SF is the loose volume of the material divided by the in-situ volume of the material.

The process of lifting and dropping the box was repeated three (3) times. The resulting SF of each trials were then averaged to get the average SF of the material.



**Figure 10-6.** a) material was collected from a 10cm x 10cm hole and transferred to fabricated wooden box measuring 10cm x 10cm x 10cm until full, b) wooden box was lifted 10cm from the ground and dropped for compaction.

The specific gravity of the bauxite deposit inside the contract area as calculated from the results of the SG determination activity is 1.69 while moisture averages 28.74% (Table 10-4). This calculated SG coincides with the 1.6 SG that SRK computed and used in the resource estimation. However, SRK did not provide exact calculated moisture content but instead used about 30% moisture. Swell factor computed is 1.25 (Table 10-5) yet additional swell factor determination needs to be conducted since sample was taken from one location only.

**Table 10-4.** Results of specific gravity and moisture determination.

TP ID	From	To	Volume (cu.m.)	Weight (kg)	Weight (ton)	Specific Gravity	% Moisture
MTP-02	0.20	2.20	0.002	2.6474	0.0026	1.324	28.57
	1.20	2.20	0.002	3.1907	0.0032	1.595	29.08
	2.20	3.20	0.002	3.566	0.0036	1.783	28.34
	3.20	4.00	0.002	3.8026	0.0038	1.901	28.04
MTP-04	0.20	2.20	0.002	2.8813	0.0029	1.441	30.56
	1.20	2.20	0.002	3.5068	0.0035	1.753	29.42
	2.20	3.20	0.002	3.6287	0.0036	1.814	28.20
	3.20	4.00	0.002	3.8628	0.0039	1.931	27.74
<b>Average</b>						<b>1.693</b>	<b>28.74</b>

**Table 10-5.** Results of swell factor determination.

TP_ID		Volume in-situ	Volume loose	Swell Factor
MTP-02		680	1000	1.47
	drop 1	680	850	1.25
	drop 2	680	800	1.18
	drop 3	680	750	1.10
<b>Average</b>				<b>1.25</b>

## 10.4 Sample Analysis

A total of 216 split core samples and 36 test pits samples were collected and transported to MMDC assay laboratory in Carrascal, Surigao del Sur for sample preparation and analysis.

At the MMDC assay laboratory, samples are received in the Sample Preparation section to undergo sample preparation. The sample is manually crushed on steel plate using sledge hammer and quartered using wooden ply board. Half of the sample is placed into a metal tray and the other half is returned into the plastic sample bag to be stored as coarse duplicate. To dry the samples, metal trays containing the samples are placed into the oven and heated at 105°C for 8 hours or more if needed (Figure 10-7).





**Figure 10-7.** a) MMDC Sample Preparation Facility in Carrascal, Surigao del Sur, b) steel plates installed on the floor of the Sample Preparation Facility, c) electric oven used for drying samples.

Sample is then passed through a crush to crush “lumps” that were formed while drying the sample. A riffle splitter is used to divide the sample into two parts. One part is retained and stored as coarse reject that can be used for check analysis in the future. The other part is pulverized to 150 mesh where about 10 gram sample is taken for analysis.



**Figure 10-8.** a) Crusher used for size reduction, b) pulverizer used to further reduce the size of the sample after splitting, c) X-Ray Fluorescence (XRF) Spectrometer at MMDC laboratory.

Pulverized sample or the pulp samples is prepared as raw ore pellet to be analysed for  $\text{Al}_2\text{O}_3$ ,  $\text{SiO}_2$ , Fe, MgO,  $\text{Cr}_2\text{O}_3$  using X-Ray Fluorescence (XRF) Spectrometer (Figure 10-8).

### 10.5 Data Verification and QAQC

Of the elements that were analysed for,  $\text{Al}_2\text{O}_3$  and  $\text{SiO}_2$  are of most interest primarily because  $\text{Al}_2\text{O}_3$  bears the aluminum and  $\text{SiO}_2$  affects the amount of energy that is needed during processing of bauxite. Higher  $\text{SiO}_2$  required higher energy to process the ore thereby diminishing the ore price.

The scatter plot and histogram in Figure 10-9 and 10-10 present the range of  $\text{Al}_2\text{O}_3$  and  $\text{SiO}_2$  assay values yielded from the samples. The scatter plot indicates that both drilling and test pitting activity intercepted high alumina-low silica bauxite material. This is manifested by the clustering of alumina values around 40 to 55 percent  $\text{Al}_2\text{O}_3$  and

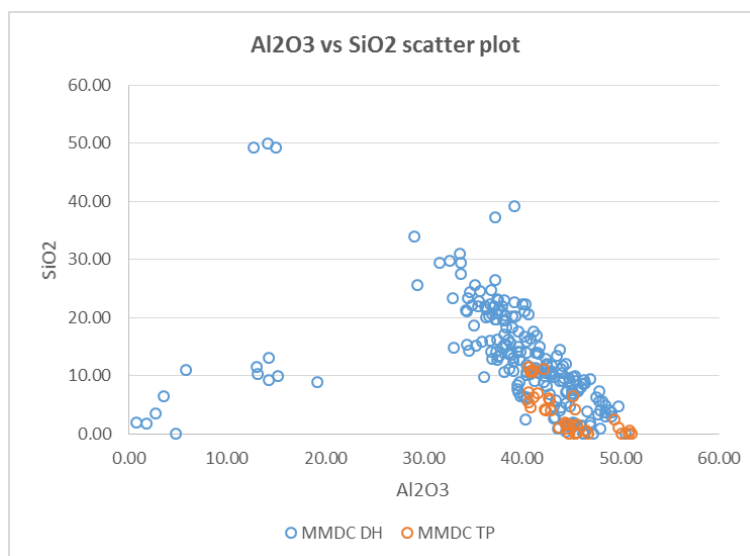
less than 10 percent SiO<sub>2</sub>. Considering that test pits are only 4-meter deep, Al<sub>2</sub>O<sub>3</sub> and SiO<sub>2</sub> assay values of test pit samples were concentrated in the high alumina-low silica range only, and did not intercept lower grade bauxite and bedrock which occurs below 4 meter depth.

**Table 10-6.** MMDC due diligence drill hole and test pit assay values statistics.

	DH_Al <sub>2</sub> O <sub>3</sub>	DH_SiO <sub>2</sub>	TP_Al <sub>2</sub> O <sub>3</sub>	TP_SiO <sub>2</sub>
N of cases	216	216	36	36
Sum	8,415.50	2,767.87	1,599.63	148.02
Minimum	0.79	0.01	40.63	0.01
Maximum	50.56	50.02	51.14	11.60
Range	49.77	50.01	10.51	11.59
Median	40.42	11.13	44.44	3.34
Arithmetic Mean	38.96	12.81	44.43	4.11
Standard deviation	9.07	8.95	3.27	3.87
Mode	37.50	0.01	#N/A	0.01
Variance	82.22	80.07	10.66	14.95
Coefficient of variation	0.23	0.70	0.07	0.94

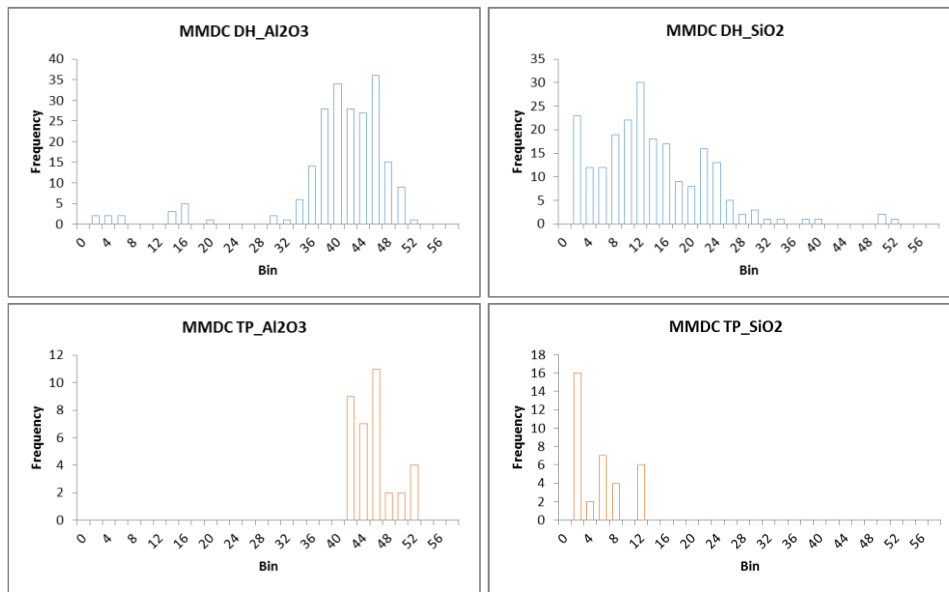
The Al<sub>2</sub>O<sub>3</sub> histogram of MMDC drill hole samples is bell-shaped distribution skewed to the left which indicates high frequency of samples with high alumina value. The spikes at lower alumina values denote intercepted bedrock (limestone) samples. Al<sub>2</sub>O<sub>3</sub> histogram of test pit samples shows peaks at 42 to 54 percent alumina only. This denotes that the test pits were only able to penetrate the shallower high-alumina bauxite material and that no bedrock were intercepted. The SiO<sub>2</sub> histogram of both drill hole and test pit samples show skewness to the right which indicates generally low silica values of the samples.

Figure 10-11 shows the Al<sub>2</sub>O<sub>3</sub> vs SiO<sub>2</sub> scatter plot of MMDC vs. AMPI samples which shows similar trend between the two data sets. Both intercepted high alumina-low silica bauxite material. The data sets also conforms to general characteristic of bauxite such that with increasing depth, alumina decreases and silica increases.

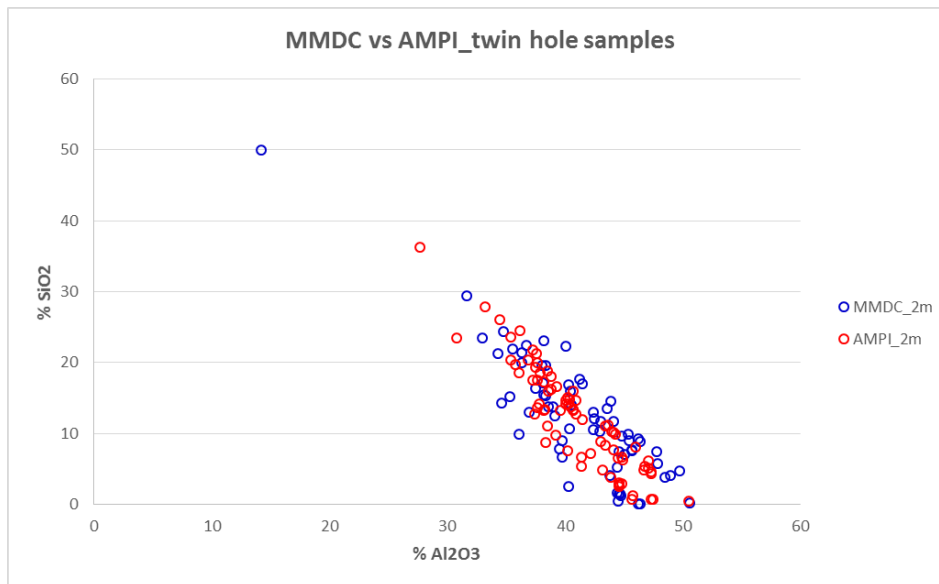


**Figure 10-9.** Al<sub>2</sub>O<sub>3</sub> and SiO<sub>2</sub> scatter plot of MMDC drill hole (DH) and test pit (TP) samples from AMPI.



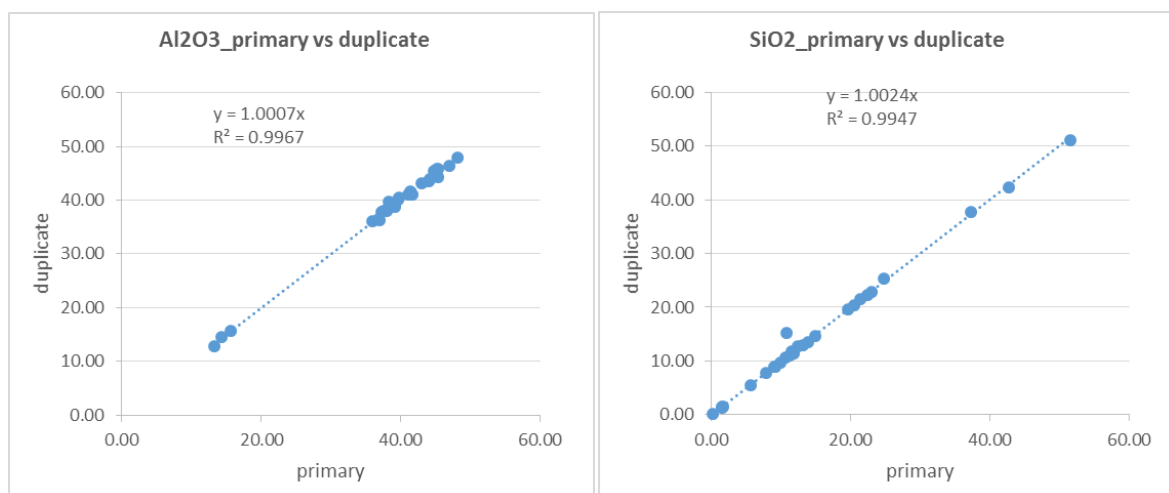


**Figure 10-10.** (Top)  $\text{Al}_2\text{O}_3$  and  $\text{SiO}_2$  histogram of MMDC drill hole (DH) samples. (Bottom)  $\text{Al}_2\text{O}_3$  and  $\text{SiO}_2$  histogram of test pit (TP) samples.



**Figure 10-11.** Scatter plot of  $\text{Al}_2\text{O}_3$  vs  $\text{SiO}_2$  of MMDC and AMPI samples.

Quality assurance and quality control (QAQC) program was implemented to ensure accuracy and precision of field sampling, sample preparation and analysis of the due diligence samples. Field duplicates and blanks were inserted on a regular interval of 1 every 10 samples. Check samples were also submitted to Intertek for inter-laboratory checking. However, assay results from Intertek are still pending as of time of report writing.



**Figure 10-12.** Correlation graph of  $\text{Al}_2\text{O}_3$  and  $\text{SiO}_2$  values of MMDC drill holes and test pits.

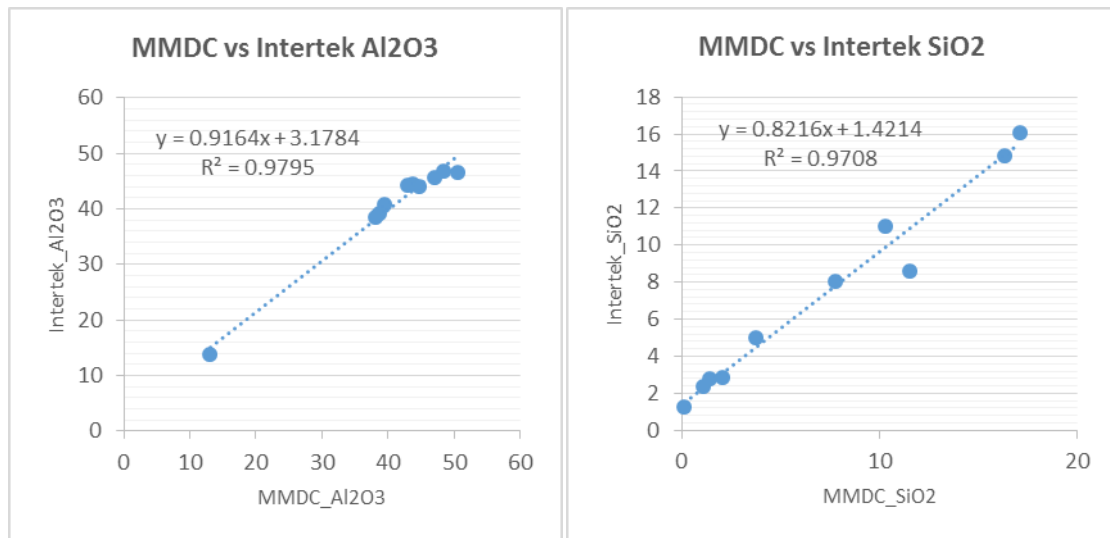
Based on the correlation coefficient,  $R^2$ , 0.9967 for  $\text{Al}_2\text{O}_3$  and 0.9947 for  $\text{SiO}_2$  of the primary and duplicate samples, the accuracy and precision of the field sample preparation as well as sampling and analysis methodology can be established (Figure 10-12).

Inter-laboratory checking was also done to check the accuracy and precision of MMDC assay laboratory in terms of bauxite ore analysis. Ten (10) random samples were submitted to Intertek for XRF analysis. The methods used for the comparison of the MMDC and Intertek analysis results are the X/Y scatter plot with regression line and the Mean Percent Relative Difference (MPRD).

**Table 10-7.** Results of ten (10) samples submitted to Intertek for inter-laboratory checking.

	MMDC		Intertek	
	% $\text{Al}_2\text{O}_3$	% $\text{SiO}_2$	$\text{Al}_2\text{O}_3$	$\text{SiO}_2$
Samar 110	43.73	1.1	44.49	2.39
Samar 138	50.56	0.14	46.65	1.25
Samar 168	46.97	2.04	45.68	2.89
Samar 192	13.01	11.53	13.89	8.59
Samar 223	44.69	1.44	44.1	2.8
Samar 248	48.5	3.75	46.89	5.02
Samar 274	39.54	7.78	40.82	8.04
Samar 301	38.15	17.1	38.59	16.1
Samar 329	42.97	10.33	44.34	11.04
Samar 355	38.66	16.32	39.12	14.86

In the scatter plot, the MMDC assay is plotted on X-axis and the Intertek assay on Y-axis to look for a correlation between the data sets. The correlation coefficient ( $R^2$ ) gives the measure of the strength of the linear association between the two data sets. A perfectly correlated data will have a correlation coefficient of 1.

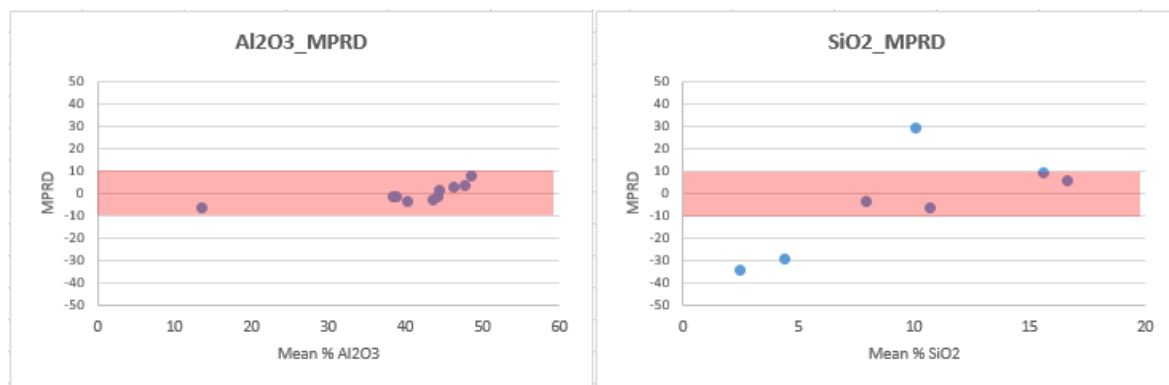


**Figure 10-13.** MMDC vs Intertek Al<sub>2</sub>O<sub>3</sub> and SiO<sub>2</sub> scatter plot.

As shown in Figure 10-13 above, Al<sub>2</sub>O<sub>3</sub> and SiO<sub>2</sub> have correlation coefficient nearing 1, thereby denoting very good correlation between the MMDC and Intertek assays.

In MPRD, it is assumed that each analysis run (MMDC and Intertek) has its own errors and that these errors are equally distributed between each analysis. The mean of the assays (or average) is treated as the reference value or “true” value and deviations from the reference value is expressed as a percentage of the mean.

$$\text{MPRD} = \frac{(\text{assay}_{\text{original}} - \text{assay}_{\text{duplicate}})}{(\text{assay}_{\text{original}} + \text{assay}_{\text{duplicate}}) / 2} \times 100$$



**Figure 10-14.** MPRD plot of MMDC and Intertek Al<sub>2</sub>O<sub>3</sub> and SiO<sub>2</sub> assay results.

A symmetrical pattern around zero MPRD means there is nil bias. If pattern is not symmetrical, this means there might be bias during field sampling, sample preparation or analysis. Note that the Al<sub>2</sub>O<sub>3</sub> MPRD plot shown above has poor symmetry for low and high Al<sub>2</sub>O<sub>3</sub> values. However, all the samples are within  $\pm 10\%$  MPRD and therefore can be concluded to have insignificant bias. In contrast, the SiO<sub>2</sub> MPRD plot shows asymmetrical plot and 3 points outside the  $\pm 10\%$  MPRD which indicates that there might be bias with the SiO<sub>2</sub> analysis of MMDC or Intertek. There is more likely to be

bias in MMDC's analysis for SiO<sub>2</sub> considering that the assay laboratory of MMDC is calibrated for nickel ore analysis and that there is only limited calibration points for bauxite ore analysis in MMDC.

Considering all of these, it may be concluded that the results of the due diligence done by MMDC is acceptable and it can support the verification and integration of the resource database that was provided by Asia Pilot for the preparation of this resource report.

## **11. MINERAL RESOURCES ESTIMATE**

### **11.1 General Statement and Resource Summary**

The mineral resource estimation for AMPI and BARI utilized the drilling and test pitting database that was provided to MMDC Exploration Team by Asia Pilot through its representative Mr. Steven Herrera. The historical database included exploration results of the PAMPC and Asia Pilot exploration campaign from 2004 to 2014.

Two resource estimation methods were conducted to estimate the mineral resources of AMPI and BARI projects, namely: Inverse Distance Weighting (IDW) and Conventional Polygon Method. The use of polygon method is meant to double check the resulting resources to be calculated through IDW.

Block modelling and resource estimation by way of Inverse Distance Weighting (IDW) was done using a combination of Microlynx and Surpac Version 6.7 software. IDW is a type of deterministic method for multivariate interpolation with a known scattered set of points. The assigned values to unknown points are calculated with a weighted average of the values available at the known points.

Microlynx was used to create the top and bottom surfaces of the resource model as well as the boundaries or resource extent. Construction of geological solids and block model, and interpolation of metal grades were done in Surpac 6.7. Microsoft excel was used to tabulate the resulting mineral resource estimates.

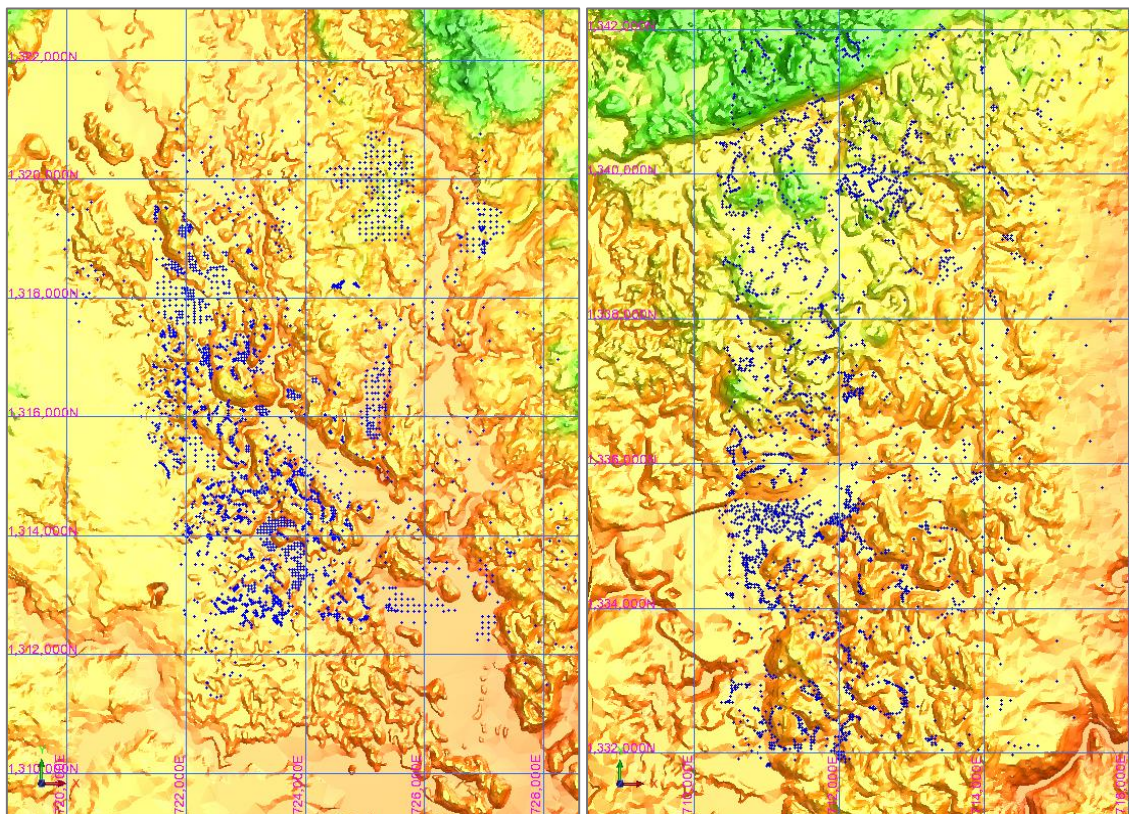
In the conventional polygon method, each drill hole is assigned a polygon that represents the extent of the area of influence of the drill hole. It is assumed that everywhere within the polygon, the thickness and grade of the resource material is uniform and, more or less, the same as the resource material of the drill hole enclosed by the polygon. Calculations and reporting of the resources were manually done using Microsoft Excel.

### **11.2 Database for Estimation: Validation and Integrity**

The mineral resource estimation made use of the database that was provided by Asia Pilot to MMDC. The database consisted of collar, survey, assay and geology data of 8,616 samples from 2,862 drill holes and test pits of AMPI and 6,971 samples from 3,295 drill holes and test pits of BARI from 2004 to 2014 (Figure 11-1). Total meterage from AMPI is 16,015.91 meters and for BARI 13,457.14 meters.

Based on the due diligence activity that was done by the MMDC Exploration Team, the information contained in the database are deemed adequate to support the calculation of the mineral resources of AMPI and BARI. The mineral resources herein are in conformity with the generally accepted guidelines in accordance to the PMRC Code, 2007 edition.

The AMPI and BARI mineral resource presented in this report may need to be refined and updated depending on availability of new data from the two projects. It should also be noted that mineral resources are not mineral reserves and do not have demonstrated economic viability. It is uncertain if all or any part of the mineral resource will be converted into ore reserve without a feasibility study of the project.



**Figure 11-1.** (left) AMPI and (right) BARI drill hole location (blue) with color banded topography (brown = lowest elevation; green = highest elevation)

### 11.3 Mineral Resource Estimation Method: Inverse Distance Weighting

The resource evaluation for AMPI and BARI by way of Inverse Distance Weighting (IDW) included the following procedures:

- Database compilation and verification
- Creation of resource domains (top and bottom boundaries)
- Sample data extraction
- Block modelling and grade interpolation
- Mineral Resource Statement
- Grade sensitivity analysis (grade-tonnage curve)



### 11.3.1 Resource Database

All materials intercepted by the drilling and test pitting activities are assumed to be bauxite with varying levels of  $\text{Al}_2\text{O}_3$  and  $\text{SiO}_2$ .

The resource database provided to MMDC is in Philippine local coordinates (PTM Zone 5), which is a variation of the Universal Transverse Mercator (UTM) coordinate system. The digital topographic data that was acquired from the National Mapping and Resource Information Authority (NAMRIA) is in UTM Luzon Datum. Thus, the northing and easting of the drill holes and test pits were converted to UTM Luzon Datum using Mapinfo Discover 2012.

The database was entered into Microlynx software to search for error such as missing or overlapping intervals, correct lengths, azimuths, dips, duplicated samples, and other minor errors. The dxf file of the NAMRIA digital surface topography was also entered into Microlynx and was used to adjust the collar elevation of the drill holes and test pits.

### 11.3.2 Compositing

Sample data that were used in the interpolation of the block models were derived by using the Extract/Sample Data function of Surpac 6.7 considering that all the samples that were intercepted are bauxite materials, albeit with different levels of  $\text{Al}_2\text{O}_3$  and  $\text{SiO}_2$ .

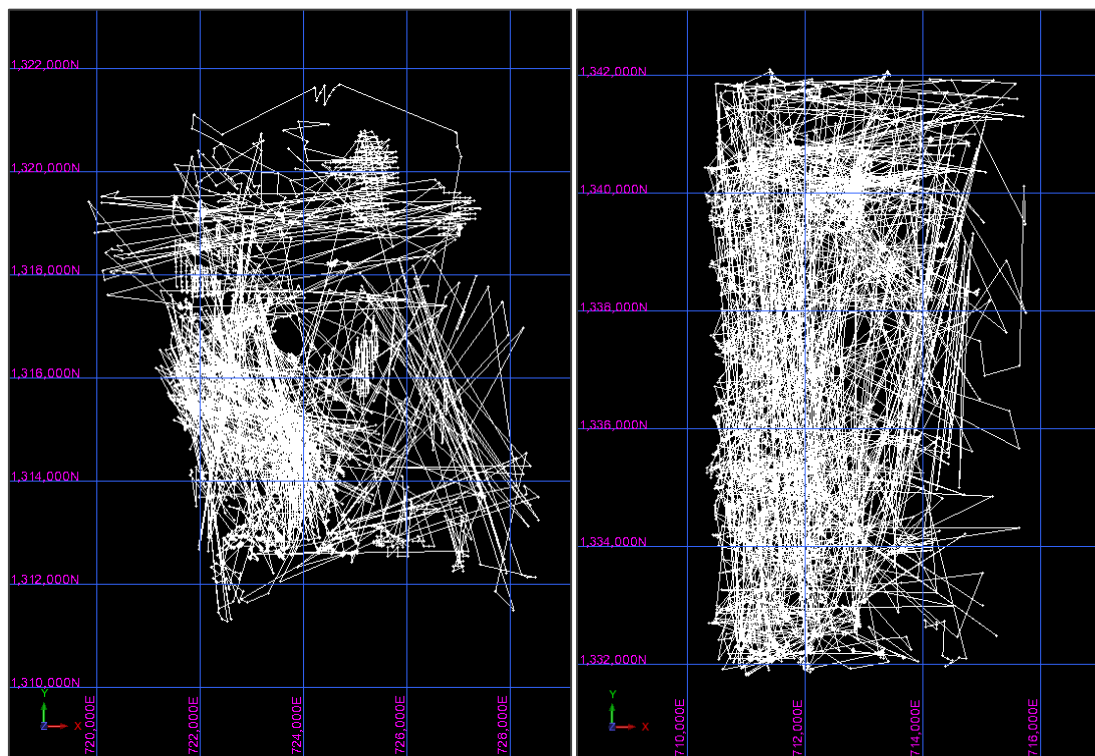


Figure 11-2. (left) AMPI and (right) BARI trace of extracted sample data.

### 11.3.3 Specific Gravity

MMDC used the specific gravity/density data derived from the PAMPC exploration between 2004 and 2008 which was further validated by Asia Pilot in 2013. SRK previously reported that a total of 962 density samples were collected by PAMPC and despatched to Intertek Manila for density and moisture measurement. In the mineral resource estimate, the wet density value of 1.6 g/cm<sup>3</sup> was applied for AMPI and BARI. This density value is consistent to the density of material that was measured by MMDC Exploration Team during its due diligence.

### 11.3.4 Basic Statistics

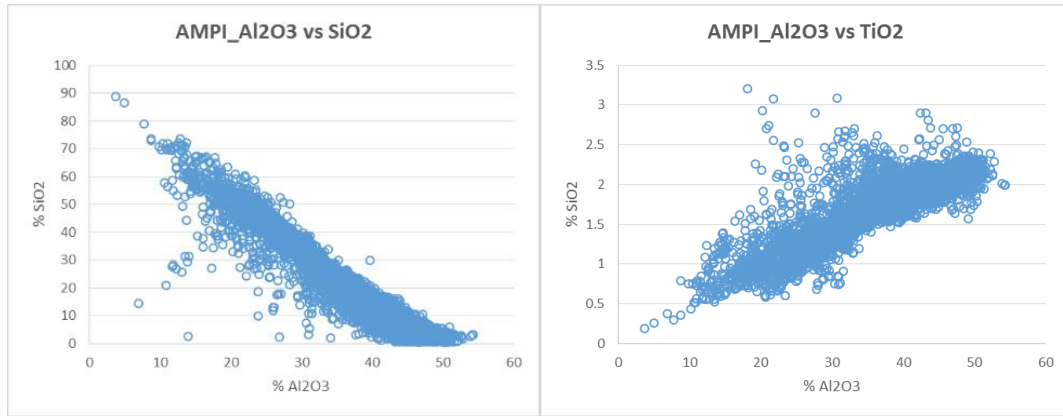
Basic statistics was undertaken to assess extreme grade outliers that may affect the block grades in some parts of the deposit if not omitted. Based on the histogram of sample grades used in the estimation, there were no extreme high grades that need to be eliminated.

**Table 11-1.** Summary of AMPI basic statistics.

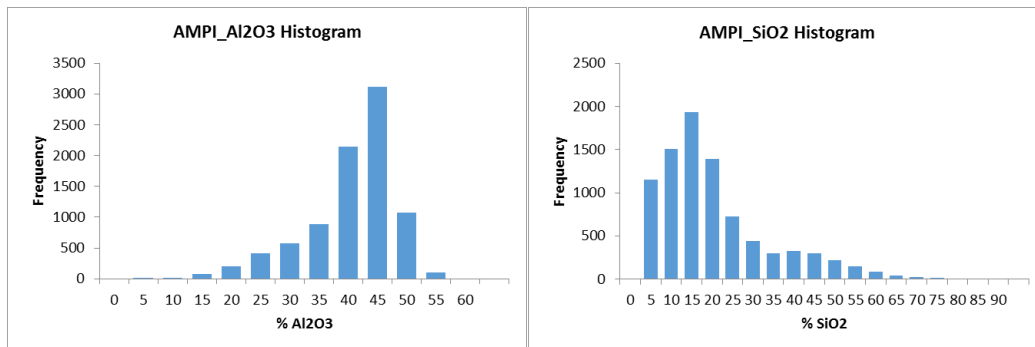
	<b>samples</b>	<b>Al<sub>2</sub>O<sub>3</sub></b>	<b>SiO<sub>2</sub></b>	<b>TiO<sub>2</sub></b>
N of cases	8,598	8,598	8,598	8,598
Sum	16,015.91	327,854.48	153,903.53	15,354.60
Minimum	0.04	3.74	0.36	0.19
Maximum	5.50	54.30	88.75	3.21
Range	5.46	50.56	88.39	3.02
Median	2.00	40.00	14.20	1.88
<b>Arithmetic Mean</b>	<b>1.86</b>	<b>38.13</b>	<b>17.90</b>	<b>1.79</b>
<b>Standard deviation</b>	<b>0.66</b>	<b>7.62</b>	<b>13.63</b>	<b>0.34</b>
Mode	2.00	40.40	12.20	1.94
Variance	0.44	58.05	185.84	0.12
Coefficient of variation	0.36	0.20	0.76	0.19

**Table 11-2.** Summary of BARI basic statistics.

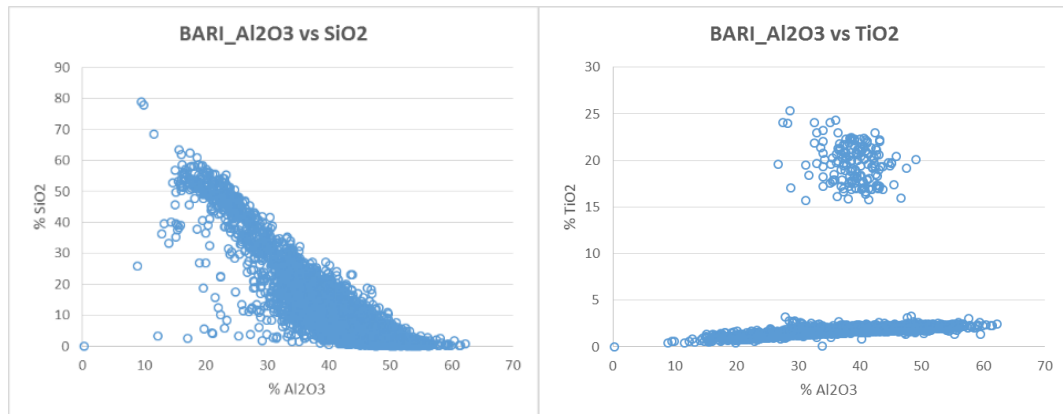
	<b>samples</b>	<b>Al<sub>2</sub>O<sub>3</sub></b>	<b>SiO<sub>2</sub></b>	<b>TiO<sub>2</sub></b>
N of cases	6,971	6,971	6,971	6,971
Sum	13,457.14	295,454.24	70,385.17	16,145.86
Minimum	0.05	0.27	0.06	0.01
Maximum	6.00	62.28	78.83	25.30
Range	5.95	62.01	78.77	25.29
Median	2.00	43.60	7.04	1.95
<b>Arithmetic Mean</b>	<b>1.93</b>	<b>42.38</b>	<b>10.10</b>	<b>2.32</b>
<b>Standard deviation</b>	<b>0.82</b>	<b>7.23</b>	<b>11.16</b>	<b>2.75</b>
Mode	2.00	48.00	10.50	1.93
Variance	0.68	52.28	124.53	7.55
Coefficient of variation	0.43	0.17	1.11	1.19



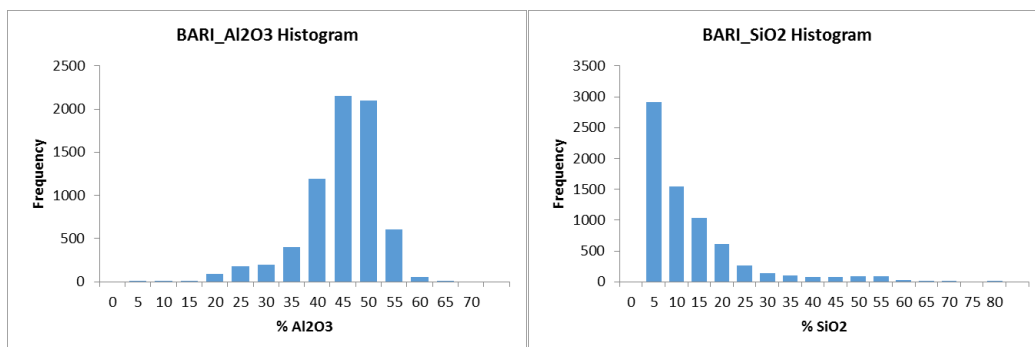
**Figure 11-3.** AMPI  $\text{Al}_2\text{O}_3$  vs  $\text{SiO}_2$  and  $\text{Al}_2\text{O}_3$  vs  $\text{TiO}_2$  scatter plot.



**Figure 11-4.** AMPI  $\text{Al}_2\text{O}_3$  and  $\text{SiO}_2$  histogram which shows which grade range were mostly intercepted.



**Figure 11-5.** BARI  $\text{Al}_2\text{O}_3$  vs  $\text{SiO}_2$  and  $\text{Al}_2\text{O}_3$  vs  $\text{TiO}_2$  scatter plot.



**Figure 11-6.** BARI  $\text{Al}_2\text{O}_3$  and  $\text{SiO}_2$  histogram which shows which grade range were mostly intercepted.

### **11.3.5 Block Modelling and Grade Estimation**

The wireframe of bauxite mineralization is bound to the sinkholes as outlined by PAMPC in 2007. This information was provided to MMDC in Mapinfo tab file and was revised as deemed necessary by MMDC geologists. The file was exported to dxf and was also inputted into Microlynx to check if the boundaries coincide with the drilling/test pitting data. The surface topography is used as the top boundary of the solid body and the drill hole/test pit bottom as the bottom boundary of the solid body. These data were exported from Microlynx as dxf file and entered to Surpac 6.7 to create surfaces.

Block models were created to encompass all drill hole/test pit data that are within AMPI and BARI MPSA boundary. This is to avoid inclusion of resources outside the MPSAs that were also drilled by the companies. Block model size of 25m x 25m x 3m was used for AMPI and BARI.

Interpolation was constrained within the delineated depression boundaries. Mineralized zones/resource bodies were further constrained by selecting all blocks with  $\text{Al}_2\text{O}_3$  values greater than zero.

### **11.3.6 Mineral Resource Classification**

Industry best practise in mineral resource classification suggest that resource classification should consider the confidence in the geological continuity of the mineralized structures, the quality and quantity of exploration data supporting the estimate, and the geostatistical confidence in the tonnage and grade estimates.

The CP finds the sampling information acquired primarily by drilling and test pitting as well as the geologic model presented in this report are sufficiently reliable to support resource evaluation. For its resource classification, MMDC followed the guidelines below:

- Measured Mineral Resource is defined by drill holes separated by nearest distance of less than 25 meters, therefore maximum search distance is 35.25 meters.
- Indicated Mineral Resource is defined by drill holes separated by nearest distance of less than 50 meters but more than 25 meters, therefore maximum search distance is 70.5 meters.
- Inferred Mineral Resource is defined by drill holes separated by nearest distance of less than 100 meters but less than 50 meters, therefore maximum search distance is 141 meters.

In this resource estimation, Measured and Indicated Mineral Resource have been interpolated and estimated simultaneously. Blocks of Inferred Mineral Resource was constrained to within the bauxite blocks of AMPI and BARI but outside the blocks of the Measured and Indicated Resources.

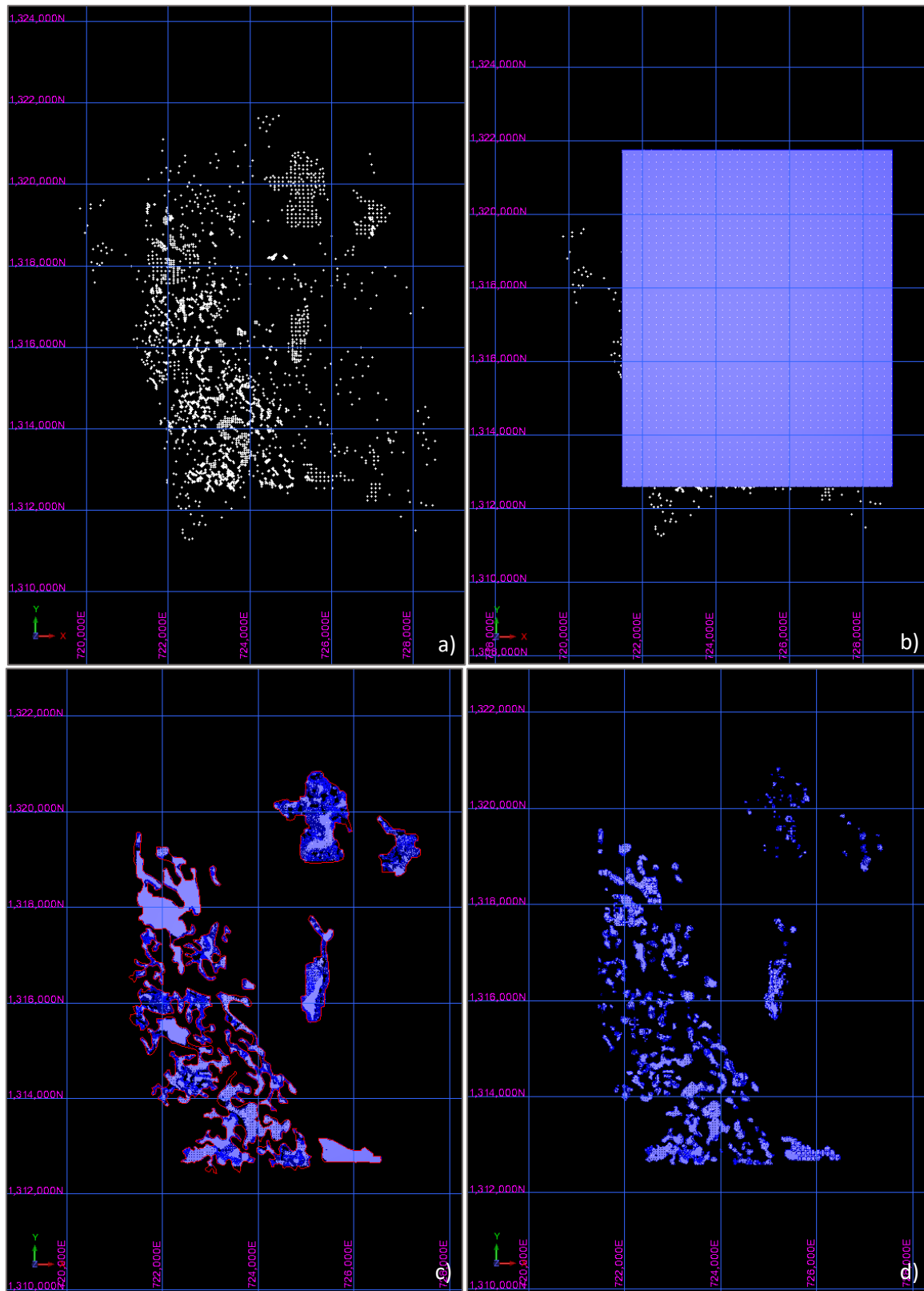
Block Model			
Name	ampi_bmodel.mdl		
Description	projection = utm51		
Block Model Geometry			
Min Coordinates	Y 1312590	X 721440	Z 48
Max Coordinates	Y 1321765	X 728790	Z 321
User block Size	Y 25	X 25	Z 3
Min. block Size	Y 12.5	X 12.5	Z 1.5
Rotation	Bearing 0	Dip 0	Plunge 0
Block Summary			
Total No. Blocks	591766		
Storage Efficiency %	99.24		

**Figure 11-7. AMPI block model summary.**

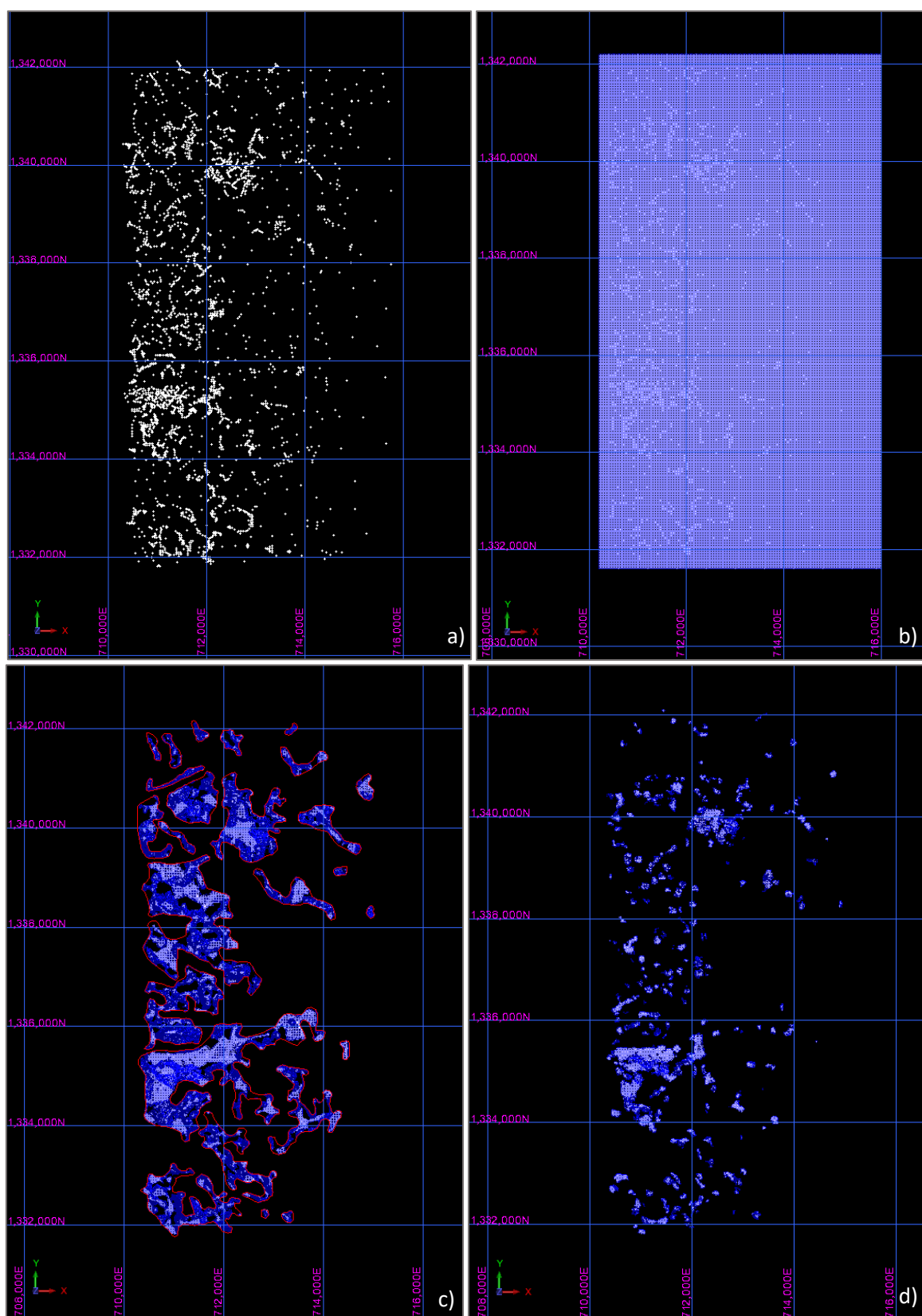
Block Model			
Name	bari_bmodel_utm51_25m.m		
Description	utm51 projection		
Block Model Geometry			
Min Coordinates	Y 1331600	X 710200	Z 162
Max Coordinates	Y 1342200	X 716000	Z 663
User block Size	Y 25	X 25	Z 3
Min. block Size	Y 12.5	X 12.5	Z 1.5
Rotation	Bearing 0	Dip 0	Plunge 0
Block Summary			
Total No. Blocks	766496		
Storage Efficiency %	99.41		

**Figure 11-8. BARI block model summary.**





**Figure 11-9.** a) AMPI drill holes and test pits from 2004-2014, b) AMPI block model with 25m x 25m x 3m size, c) AMPI blocks as constrained using top and bottom surfaces as well as resource extent, d) AMPI resource blocks as constrained by setting  $\text{Al}_2\text{O}_3$  greater than zero.



**Figure 11-10.** a) BARI drill holes and test pits from 2004-2014, b) BARI block model with 25m x 25m x 3m size, c) BARI blocks as constrained using top and bottom surfaces as well as resource extent, d) BARI resource blocks as constrained by setting  $\text{Al}_2\text{O}_3$  greater than zero.

### 11.3.7 Mineral Resource Statement

The “reasonable prospects for economic extraction” requirement as stated in PMRC Code (2007 Edition) generally implies that the quantity and grade estimates meet certain thresholds and that the mineral resources are reported at an appropriate cut-off grade, taking into account extraction scenarios and processing recovery rates.

To define the economic portion of the Mineral Resource of AMPI and BARI, SRK’s cut-off grade of 28% Al<sub>2</sub>O<sub>3</sub> was used, which is based on the data collected for the project and assumptions of the mining and processing parameters.

Presented in the following tables are the tabulated summary of Measured and Indicated Mineral Resources of AMPI and BARI project areas. At a cut-off grade of 28% Al<sub>2</sub>O<sub>3</sub>, AMPI contains 41.7 Million tonnes of Measured and Indicated Mineral Resource at an average grade of 40.06% Al<sub>2</sub>O<sub>3</sub> and 14.50% SiO<sub>2</sub>. BARI contains about 31.5 Million tonnes of Measured and Indicated Mineral Resource at an average grade of 43.78% Al<sub>2</sub>O<sub>3</sub> and 7.96% SiO<sub>2</sub>.

**Table 11-3.** Summary of AMPI Mineral Resources estimated by Inverse Distance Weighting.

<i>AMPI_Measured and Indicated Resource</i>							
<i>Cut-off grade</i>	<i>Volume</i>	<i>WMT</i>	<i>Al2O3</i>	<i>SiO2*</i>	<i>Al/Si</i>	<i>Rx SiO2**</i>	<i>Al/RxSi</i>
> 50% Al2O3	155,000	249,000	50.67	2.29	22.13	1.26	40.21
45-50% Al2O3	3,763,000	6,021,000	47.09	4.29	10.98	2.36	19.95
40-45% Al2O3	10,460,000	16,737,000	42.17	10.6	3.98	5.83	7.23
35-40% Al2O3	7,643,000	12,229,000	37.87	17.21	2.2	9.47	4.00
28-35% Al2O3	4,048,000	6,477,000	31.83	29.44	1.08	16.19	1.97
	<b>26,069,000</b>	<b>41,713,000</b>	<b>40.06</b>	<b>14.5</b>	<b>2.76</b>	<b>7.98</b>	<b>5.02</b>

<i>AMPI_Inferred Resource</i>							
<i>Cut-off grade</i>	<i>Volume</i>	<i>WMT</i>	<i>Al2O3</i>	<i>SiO2*</i>	<i>Al/Si</i>	<i>Rx SiO2**</i>	<i>Al/RxSi</i>
> 50% Al2O3	17,000	27,000	50.73	2.45	20.71	1.35	37.58
45-50% Al2O3	1,700,000	2,720,000	46.83	4.04	11.59	2.22	21.09
40-45% Al2O3	3,412,000	5,460,000	42.31	10.33	4.1	5.68	7.45
35-40% Al2O3	2,778,000	4,444,000	37.57	18.16	2.07	9.99	3.76
28-35% Al2O3	2,890,000	4,624,000	31.64	29.94	1.06	16.47	1.92
	<b>10,797,000</b>	<b>17,275,000</b>	<b>38.96</b>	<b>16.59</b>	<b>2.35</b>	<b>9.12</b>	<b>4.27</b>

**Table 11-4.** Summary of BARI Mineral Resources estimated by Inverse Distance Weighting.

<i>BARI_Measured and Indicated Resource</i>							
<i>Cut-off grade</i>	<i>Volume</i>	<i>WMT</i>	<i>Al2O3</i>	<i>SiO2*</i>	<i>Al/Si</i>	<i>Rx SiO2**</i>	<i>Al/RxSi</i>
> 50% Al2O3	1,572,000	2,516,000	51.72	1.45	35.67	0.80	64.65
45-50% Al2O3	7,062,000	11,299,000	47.33	3.11	15.22	1.71	27.68
40-45% Al2O3	6,815,000	10,904,000	42.64	8.92	4.78	4.91	8.68
35-40% Al2O3	3,227,000	5,163,000	37.98	14.91	2.55	8.20	4.63
28-35% Al2O3	992,000	1,587,000	32.69	23.58	1.38	13.68	2.39
	<b>19,668,000</b>	<b>31,469,000</b>	<b>43.78</b>	<b>7.96</b>	<b>5.5</b>	<b>4.38</b>	<b>10.0</b>

<b>BARI_Inferred Resource</b>							
<b>Cut-off grade</b>	<b>Volume</b>	<b>WMT</b>	<b>Al<sub>2</sub>O<sub>3</sub></b>	<b>SiO<sub>2</sub>*</b>	<b>Al/Si</b>	<b>Rx SiO<sub>2</sub>**</b>	<b>Al/RxSi</b>
> 50% Al <sub>2</sub> O <sub>3</sub>	1,341,000	2,145,000	51.9	1.39	37.39	0.76	68.29
45-50% Al <sub>2</sub> O <sub>3</sub>	6,711,000	10,738,000	47.28	3.31	14.28	1.82	25.98
40-45% Al <sub>2</sub> O <sub>3</sub>	5,822,000	9,315,000	42.76	8.71	4.91	4.81	8.89
35-40% Al <sub>2</sub> O <sub>3</sub>	2,754,000	4,407,000	37.87	15.32	2.47	8.43	4.49
28-35% Al <sub>2</sub> O <sub>3</sub>	1,145,000	1,831,000	32.69	23.4	1.4	12.87	2.54
	<b>17,773,000</b>	<b>28,436,000</b>	<b>43.75</b>	<b>8.09</b>	<b>5.41</b>	<b>4.45</b>	<b>9.83</b>

**Table 11-5.** Total AMPI and BARI Mineral Resources estimated by Inverse Distance Weighting.

<b>AMPI and BARI Total Measured and Indicated Resource</b>							
<b>Cut-off grade</b>	<b>Volume</b>	<b>WMT</b>	<b>Al<sub>2</sub>O<sub>3</sub></b>	<b>SiO<sub>2</sub>*</b>	<b>Al/Si</b>	<b>Rx SiO<sub>2</sub>**</b>	<b>Al/RxSi</b>
> 50% Al <sub>2</sub> O <sub>3</sub>	1,727,000	2,765,000	51.63	1.53	33.75	0.84	61.46
45-50% Al <sub>2</sub> O <sub>3</sub>	10,825,000	17,320,000	47.25	3.52	13.42	1.94	24.36
40-45% Al <sub>2</sub> O <sub>3</sub>	17,275,000	27,641,000	42.36	9.94	4.26	5.47	7.74
35-40% Al <sub>2</sub> O <sub>3</sub>	10,870,000	17,392,000	37.9	16.53	2.29	9.09	4.17
28-35% Al <sub>2</sub> O <sub>3</sub>	5,040,000	8,064,000	32.0	28.29	1.31	15.56	2.06
	<b>45,737,000</b>	<b>73,182,000</b>	<b>41.66</b>	<b>11.69</b>	<b>3.56</b>	<b>6.43</b>	<b>6.48</b>

<b>AMPI and BARI Total Inferred Resource</b>							
<b>Cut-off grade</b>	<b>Volume</b>	<b>WMT</b>	<b>Al<sub>2</sub>O<sub>3</sub></b>	<b>SiO<sub>2</sub>*</b>	<b>Al/Si</b>	<b>Rx SiO<sub>2</sub>**</b>	<b>Al/RxSi</b>
> 50% Al <sub>2</sub> O <sub>3</sub>	1,358,000	2,172,000	51.89	1.4	37.06	0.77	67.39
45-50% Al <sub>2</sub> O <sub>3</sub>	8,411,000	13,458,000	47.19	3.46	13.64	1.90	24.84
40-45% Al <sub>2</sub> O <sub>3</sub>	9,234,000	14,775,000	42.59	9.31	4.57	5.12	8.32
35-40% Al <sub>2</sub> O <sub>3</sub>	5,532,000	8,851,000	37.72	16.75	2.25	9.21	4.10
28-35% Al <sub>2</sub> O <sub>3</sub>	4,035,000	6,455,000	31.94	28.08	1.14	15.44	2.07
	<b>28,570,000</b>	<b>45,711,000</b>	<b>41.94</b>	<b>11.3</b>	<b>3.71</b>	<b>6.22</b>	<b>6.74</b>

**\*Total Silica (SiO<sub>2</sub>) – XRF analysis of random bauxite samples from the properties demonstrated that Reactive Silica is about 55-60% of the Total Silica, therefore Reactive Silica is about 6.42-7.04%**

**\*\*Reactive Silica (RxSiO<sub>2</sub>) – estimated to be from 55 to 60% of the Total Silica, is tabulated in column 7 for the various Al<sub>2</sub>O<sub>3</sub> cut-off grades and the corresponding ration of Alumina/Reactive Silica (Al/RxSi) shown in Column 8. The inclusion of these columns in the Resource table is considered relevant in the Technical Report as the reactive silica to a certain concentration, could affect the economics of the metallurgical treatment of the bauxite ore. The estimated reactive silica percentages used in these estimates which are based on historical data, appear largely favorable in terms of its ratio with Al<sub>2</sub>O<sub>3</sub>, however, this might need further checking.**

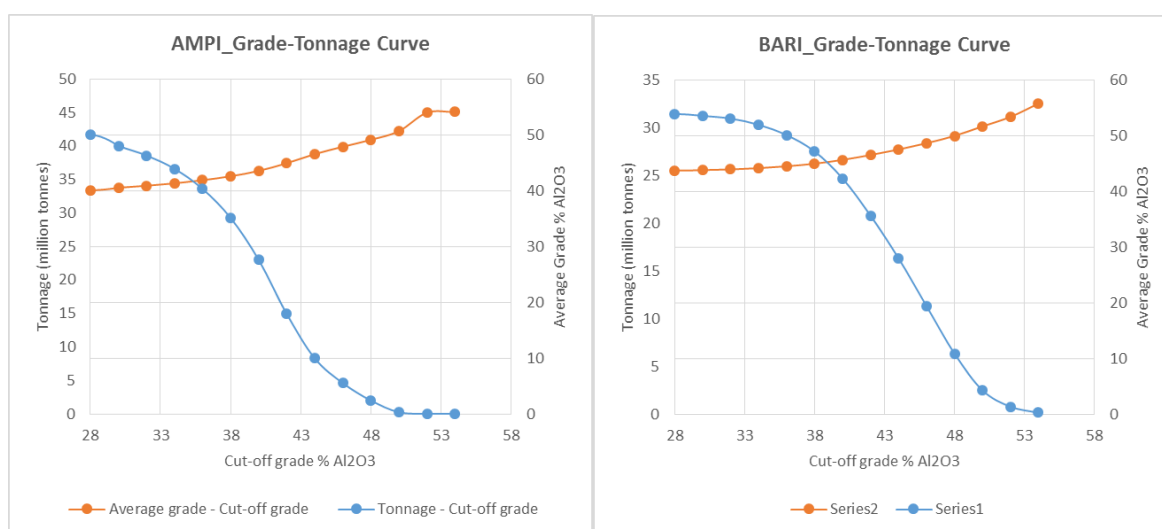
### 11.3.8 Grade Sensitivity Analysis

Global model quantities and grade estimates at various cut-off grades are presented in Table 11-5 and Figure 11-11 to illustrate the sensitivity of the AMPI and BARI mineral resource tonnage to the selection of the reporting cut-off grade. It should be noted however that these figures are presented to show sensitivity of the block model

estimates and should not be misinterpreted at representing a Mineral Resource Statement.

**Table 11-6.** AMPI and BARI Grade and Tonnage estimates at various cut-off grade.

% Al <sub>2</sub> O <sub>3</sub> Cut-off grade	AMPI			BARI		
	Tonnage	Ave. % Al <sub>2</sub> O <sub>3</sub>	Ave. % SiO <sub>2</sub>	Tonnage	Ave. % Al <sub>2</sub> O <sub>3</sub>	Ave. % SiO <sub>2</sub>
0	45,426,750	38.83	16.69	32,019,375	43.44	8.55
28	41,712,750	40.06	14.50	31,467,750	43.78	7.96
30	40,021,875	40.53	13.61	31,271,250	43.87	7.81
32	38,587,500	40.89	12.94	30,994,500	43.99	7.64
34	36,598,125	41.32	12.20	30,340,125	44.22	7.32
36	33,582,750	41.88	11.29	29,255,250	44.56	6.89
38	29,262,750	42.59	10.22	27,552,375	45.02	6.31
40	23,006,625	43.55	8.86	24,718,125	45.71	5.5
42	14,911,125	44.93	6.90	20,821,875	46.58	4.47
44	8,293,500	46.56	4.94	16,361,250	47.56	3.31
46	4,590,750	47.88	3.66	11,346,000	48.7	2.4
48	2,001,750	49.12	2.83	6,373,500	50.01	1.89
50	248,625	50.67	2.29	2,515,500	51.72	1.45
52	27,375	53.99	2.93	811,500	53.43	1.1
54	18,000	54.10	2.95	169,875	55.82	1.04



**Figure 11-11.** AMPI and BARI grade-tonnage curve.

## 11.4 Mineral Resource Estimation: Polygon Method

To validate the results of the IDW resource estimation, conventional polygon method was also done with the assumption that all drill hole and test pit data are regularly spaced at 50-meter interval. The volume of each block is the product of the area of influence, in this case 2,500 sq. m., and the combined thickness of samples that fall within the set cut-off grades. To determine the equivalent Wet Metric Tonnage (WMT), the total in-situ volume is multiplied by the density value of 1.6 g/cm<sup>3</sup>.

Based on these parameters and assumptions, resource estimates for AMPI and BARI using polygon method yielded the following Indicated Resources.



**Table 11-7.** Summary of AMPI Indicated Resources estimated using conventional polygon method.

AMPI MEASURED + INDICATED MINERAL RESOURCE ESTIMATE								
Ore Class	Cut-off Grade	BCM	WMT	%Al <sub>2</sub> O <sub>3</sub>	%SiO <sub>2</sub>	Al/Si	%H <sub>2</sub> O	DMT
Bx1	> 50 Al <sub>2</sub> O <sub>3</sub>	421,000	673,000	50.74	2.01	28.58	30.00	471,100
Bx2	45-50 Al <sub>2</sub> O <sub>3</sub>	4,447,000	7,115,000	46.96	4.18	12.70	30.00	4,980,500
Bx3	40-45 Al <sub>2</sub> O <sub>3</sub> , ≤ 8 SiO <sub>2</sub>	13,017,000	20,827,000	42.26	10.33	4.63	30.00	14,578,900
Bx4a	35-40 Al <sub>2</sub> O <sub>3</sub> , ≤ 7 SiO <sub>2</sub>	397,000	635,000	38.57	8.18	5.34	30.00	444,500
Bx4b	35-40 Al <sub>2</sub> O <sub>3</sub> , > 7 SiO <sub>2</sub>	8,210,000	13,137,000	37.79	18.04	2.37	30.00	9,195,900
Bx5a	28-35 Al <sub>2</sub> O <sub>3</sub> , ≤ 6 SiO <sub>2</sub>	67,000	106,000	32.86	10.11	3.68	30.00	74,200
Bx5b	28-35 Al <sub>2</sub> O <sub>4</sub> , > 6 SiO <sub>2</sub>	3,003,000	4,805,000	32.40	27.62	1.33	30.00	3,363,500
<b>Total/Ave.</b>		<b>29,562,000</b>	<b>47,298,000</b>	<b>40.78</b>	<b>13.16</b>	<b>3.51</b>		<b>20,475,000</b>

**Table 11-8.** Summary of BARI Indicated Resources estimated using conventional polygon method.

BARI MEASURED + INDICATED MINERAL RESOURCE ESTIMATE								
Ore Class	Cut-off Grade	BCM	WMT	%Al <sub>2</sub> O <sub>3</sub>	%SiO <sub>2</sub>	Al/Si	%H <sub>2</sub> O	DMT
Bx1	> 50 Al <sub>2</sub> O <sub>3</sub>	2,840,000	4,544,000	52.13	1.36	43.25	30.00	3,180,800
Bx2	45-50 Al <sub>2</sub> O <sub>3</sub>	8,244,000	13,190,400	47.40	2.89	18.57	30.00	9,233,280
Bx3	40-45 Al <sub>2</sub> O <sub>3</sub>	5,629,000	9,006,400	42.57	8.73	5.52	30.00	6,304,480
Bx4a	37-40 Al <sub>2</sub> O <sub>3</sub> , ≤ 7 SiO <sub>2</sub>	506,000	809,600	38.89	6.74	6.54	30.00	566,720
Bx4b	37-40 Al <sub>2</sub> O <sub>3</sub> , > 7 SiO <sub>2</sub>	2,117,000	3,387,200	38.54	15.47	2.82	30.00	2,371,040
Bx5a	28-37 Al <sub>2</sub> O <sub>3</sub> , ≤ 6 SiO <sub>2</sub>	543,000	868,800	34.47	10.53	3.71	30.00	608,160
Bx5b	28-37 Al <sub>2</sub> O <sub>4</sub> , > 6 SiO <sub>2</sub>	2,085,000	3,336,000	33.42	23.95	1.58	30.00	2,335,200
<b>Total/Ave.</b>		<b>21,964,000</b>	<b>35,142,400</b>	<b>44.08</b>	<b>7.68</b>	<b>6.50</b>		<b>19,285,280</b>

Note that although the resources estimated using polygon method is generally higher in tonnage than the resources estimated using IDW, the resulting grades of the two resources are within acceptable range from one another.

## 12. CONCLUSIONS and RECOMMENDATIONS

### Conclusions

Based on the due diligence activity that was conducted by the MMDC Exploration Team, the information contained in the database are deemed adequate to support the estimate of the mineral resources delimited within the explored portions of the AMPI and BARI tenement areas.

The resource estimates documented in the reports of the various entities who, at one time or another, evaluated the resource potentials of AMPI and BARI employed various methodologies to arrive at the figures presented. Of these estimates, the works of SRK Australia (CP Jankowski) and SRK China (CP Yiefei) are considered JORC Code-compliant. The latest resource estimates done by MMDC's using Inverse Distance Weighing (IDW) with Polygon Method check, may also be considered JORC/PMRC Code-compliant as the mineral resources are in conformity with the generally accepted guidelines of the PMRC Code. The lower tonnage arrived at is an indication that the MMDC Team opted to be on the conservative side.

At a cut-off grade of 28% Al<sub>2</sub>O<sub>3</sub>, AMPI contains 41.7 Million tonnes of Measured and Indicated Mineral Resource at an average grade of 40.06% Al<sub>2</sub>O<sub>3</sub> and 14.50% SiO<sub>2</sub>. BARI contains about 31.5 Million tonnes of Measured and Indicated Mineral Resource at an average grade of 43.78% Al<sub>2</sub>O<sub>3</sub> and 7.96% SiO<sub>2</sub>. This is equivalent to a total

Measured and Indicated Resource of some 73.2Mwmt with grades averaging 41.66% Al<sub>2</sub>O<sub>3</sub> and 11.69% SiO<sub>2</sub>.

Inferred resources of AMPI and BARI were also estimated using IDW wherein some 17.3Mwmt was computed for AMPI with grades averaging 38.96% Al<sub>2</sub>O<sub>3</sub> and 16.59% SiO<sub>2</sub> while about 28.4Mwmt was estimated for BARI at 43.75% Al<sub>2</sub>O<sub>3</sub> and 8.09% SiO<sub>2</sub>. Additional drilling and test pitting works need to be done to upgrade these Inferred resources to Measured and Indicated resources. Assuming that 25% of these Inferred resources will be upgraded to Measured and Indicated resources once the additional drilling and test pitting works are completed, this will translate to additional Measured and Indicated resources of some 11.4Mwmt at 41.94% Al<sub>2</sub>O<sub>3</sub> and 11.30% SiO<sub>2</sub>. The projected total Measured and Indicated resources will now be 84.6Mwmt averaging 41.70% Al<sub>2</sub>O<sub>3</sub> and 11.64% SiO<sub>2</sub>.

## Recommendations

The AMPI and BARI mineral resource presented in this report may need to be further refined and updated should new exploration data become available from the two projects. It should be noted that mineral resources are not mineral reserves and do not have demonstrated economic viability. A definitive feasibility study will be required for the mineral resource to be converted into ore reserve. This should be pursued by the company.

One upside of the project is that the exploration done in AMPI and BARI tenement areas is still partially complete such that the potential to block additional bauxite resources with additional drilling and test pitting works remains wide open. This could be pursued simultaneous with the resource development and exploitation if ever the project will move forward and these prospects become a mine.

## 13. REFERENCES

Jankowski P., Samar Island Bauxite - Independent Competent Person's Report, CP Report Prepared for Pacific Aluminium Holdings Ltd, January 2005

Jankowski P., DRAFT Samar Island Bauxite AMPI Resource May 2007, Report to Pacific Aluminium Holdings, Ltd., May 2007

PAGASA, Climate Map of the Philippines, Modified Corona System ([www.pagasa.dost.gov.ph](http://www.pagasa.dost.gov.ph))

Villano H.T., Samar Bauxite Project - Initial Due Diligence Results, Internal Company Report, March 2017

Wikipedia, Batag Island and Samar Province

Jia Y., Preliminary Resource Estimation for AMPI and BARI Bauxite Projects in West Samar Island, Republic of the Philippines, Report of SRK Consulting China, Ltd. to Asia Pilot Mining, Philippines Corporation, December 2016

## **14. ACKNOWLEDGEMENT**

We wish to thank the Management of Marcventures Mining and Development Corporation for giving us the opportunity to be involved in this rather unique and quite interesting bauxite project which, we believe, not too many Filipino geologists and mining engineers are familiar with.