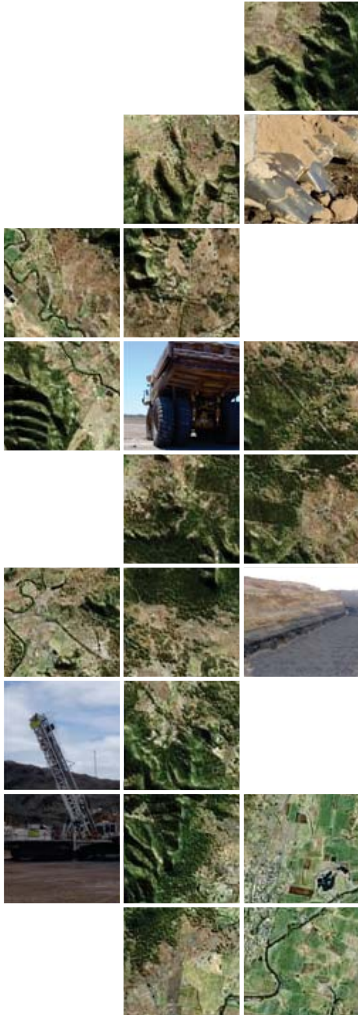


## **Appendix C – Statement of Coal Resources**

# Coal Resource Statement April 2015

Prepared For :  
**PT Rinjani Kartanegara**



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## DISCLAIMER

PT SMG Consultants (SMGC) has prepared this Coal Resource Statement for the exclusive use of PT Rinjani Kartanegara (RJN). The report deals with the RJN coal concession located in the Loa Janan sub-district of the Kutai Kartanegara Regency, East Kalimantan, Indonesia.

The report must be read in light of:

- The report distribution and purposes for which it was intended
- its reliance upon information provided to SMGC by RJN and others
- the limitations and assumptions referred to throughout the report
- the limited scope of the report
- other relevant issues which are not within the scope of the report

Subject to the limitations referred to above, SMGC has exercised all due care in the preparation of the report and believes that the information, conclusions, interpretations and recommendations of the report are both reasonable and reliable based on the assumptions used and the information provided in the preparation of the report.

- SMGC makes no warranty or representation to RJN or third parties (express or implied) in regard to the report, particularly with consideration to any commercial investment decision made on the basis of the report
- use of the report by the client and third parties shall be at their own risk
- the report speaks only as of the date herein and SMGC has no responsibility to update this report
- the report is integral and must be read in its entirety
- this Disclaimer must accompany every copy of this report
- Extracts or summaries of this report or its conclusions may not be made without the consent of SMGC with respect to both the form and context in which they appear.

This document, the included figures, tables, appendices or any other inclusions remains the intellectual property of PT SMGC Consultants. Other than raw data supplied by RJN the data remains the property of SMGC until all fees and charges related to the acquisition, preparation, processing and presentation of the report are paid in full.

No third party may rely on anything in this report unless that third party signs a reliance letter in the form required by SMGC (Appendix A). SMGC may also require that the third party meets and discusses the report with SMGC to ensure that the context and intent is understood. This report and the contained information must not be released for any public reporting purposes without the competent person's consent as to the form and context.

This report has been created using information and data provided by RJN. SMGC accepts no liability for the accuracy or completeness of the information and data provided by RJN or any other third party.

This review is made using various assumptions, conditions, limitations and abbreviations. Assumptions are listed on the following page without prejudice to probable omissions.

## Assumptions

All previous work is accepted as being relevant and accurate where independent checks could not or were not conducted.

All relevant documentation, along with the necessary and available data to make such a review has been supplied.

Key assumptions, some of which were verified by the client, are accepted as described in the relevant sections of the report.

## Conditions

Statements in this document that contain forward looking statements may be identified by the use of forward looking words such as "estimates", "plans", "intends", "expects", "proposes", "may", "will" and include, without limitation, statements regarding RJN's plan of business operations, supply levels and costs, potential contractual arrangements and the delivery of equipment, receipt of working capital, anticipated revenues, mineral Resource and mineral Reserve estimates, and projected expenditures.

It must be noted that the ability to develop infrastructure and bring into operation the proposed mines to achieve the production, cost and revenue targets is dependent on a large number of factors that are not within the control of SMGC and cannot be fully anticipated by SMGC. These factors include but are not limited to site mining and geological conditions, variations in market conditions and costs, performance and capabilities of mining contractors, employees and management and government legislation and regulations. Any of these factors may substantially alter the performance of any mining operation.

The appendices referred to throughout and which are attached to this document are considered to be integral to this report. A copy of the appendices must accompany the report or be provided to all users of the report.

The conclusions presented in this report are professional opinions based solely upon SMGC's interpretations of the information provided by RJN referenced in this report. These conclusions are intended exclusively for the purposes stated herein. For these reasons, prospective estimators must make their own assumptions and their own assessments of the subject matter of this report. Opinions presented in this report apply to the conditions and features as noted in the documentation, and those reasonably foreseeable. These opinions cannot necessarily apply to conditions and features that may arise after the date of this report, about which SMGC has had no prior knowledge nor had the opportunity to evaluate.

## ABBREVIATIONS

AC	Acid Consuming
ad	Air Dried
adb	Air Dried Basis
AF	Acid Forming
AMDAL	Analisis Mengenai Dampak Lingkungan Hidup
ANDAL	Analisis Dampak Lingkungan Hidup
ar	As received
ARD	Acid Rock Drainage
ASTM	American Society for Testing and Materials
bcm	Bank cubic metre
capex	Capital costs
CCoW	Coal Contract of Work
CHPP	Coal Handling and Processing Plant
CSN	Crucible Swell Number
CV	Measure of energy (kilocalorie) per kilogram
Daf	Dry Ash Free Basis
FC	Fixed carbon
g/cc	Grams per Cubic Centimetre
ha	Hectare
HE	Hydraulic Excavator
HGI	Hardgrove Grindability Index
HL	Hutan Lindung
HP	Hutan Produksi
Hr	Hour
IM	Inherent Moisture
IRR	Internal Rate of Return
IUP	"Izin Usaha Pertambangan" which translates to "Authority for Mine Workings"
JORC	The Joint Ore Reserves Committee of The Australian Institute of Mining and Metallurgy, Australian Institute of Geoscientists and Mineral Council of Australia
Kcal/kg	Unit of energy (kilocalorie) per kilogram
kg	Kilogram
Km	Kilometre
KP	"Kuasa Pertambangan" which translates to "Authority for Mine Workings"
Kt	Thousand tonne
kV	Kilovolt
l	Litre
LAS	log ASCII standard
Lcm	Loose cubic metre
LIDAR	Light Detection And Ranging
LOM	Life of Mine
m <sup>3</sup>	Cubic Metre
m	Metre
M	Million
Mbcm	Million bank cubic metres
Mbcm/pta	Million bank cubic metres per annum
m/s	Metres per second
Mt	Million tonne
Mtpa	Million tonnes per annum



MW	Megawatt
NAF	Non Acid Forming
NAR	Nett As Received
NGO	Non-Governmental Organsation
NPV	Net Present Value
Opex	Operating costs
pa	per annum
PAF	Potential Acid Forming
PP	Pinjam Pakai
PPE	personal protective equipment
RD	Relative Density
RJN	PT Rinjani Kartanegara
RKL	Rencana Pengelolaan Lingkungan Hidup
RL	Relative Level (used to reference the height of landforms above a datum level)
ROM	Run-of-Mine
RPL	Rencana Pemantauan Lingkungan Hidup
SCCI	Surveyor Carbon Consulting Indonesia
SE	Specific Energy
SMGC	PT SMG Consultants
SR	Strip ratio (of waste to ROM coal) expressed as bcm per tonne
SOP	Standard operating procedure
ST	Seam Thickness
t	Tonne
tkm	Tonne kilometre
TM	Total Moisture
t/m <sup>3</sup>	Tonne per cubic metre
tph	Tonne per hour
TS	Total Sulphur
VM	Volatile Matter

## RELEVANT REPORTS AND DOCUMENTS

- PT SMG Consultants, "Coal Resource Statement, April 2014, Prepared for PT Rinjani Kartanegara" by SMGC, April 2014.

## EXECUTIVE SUMMARY

PT SMG Consultants (SMGC) was engaged by PT Rinjani Kartanegara (RJN) to complete an updated Coal Resource Statement based on exploration data supplied as of June, 2014 for its RJN Project located within the Lower Kutai basin. The RJN concession covers 1,933 hectares in the Loa Janan sub-district of the Kutai Kartanegara Regency, East Kalimantan, Indonesia (Figure 1.1 and Figure 1.2). Mining of this Resource has continued throughout the period.

This Coal Resource Statement has been prepared for an identified coal deposit located within the RJN concession. This concession is currently being mined by open cast methods.

A total of 184 boreholes have been drilled to date in the RJN Project Area, and the proposed Resource area is characterised by the following features:

A moderate degree of structural complexity:

- a large number of coal seams (25)
- there are reasonably thick parent coal seams
- significant seam splitting
- moderate dips, Average 9°

A total Resource of 22.7 Mt has been calculated for the concession, comprised of 14.0 Mt Measured Category Resources, 4.0 Mt of Indicated Category Resources and 4.7 Mt of Inferred Category Resources (Table 1). This Resource has excluded “mined\_out” coal.

**Table 1 – Resource Estimates by Classification Category**

	MEASURED Mt	INDICATED Mt	INFERRED Mt	TOTAL Mt
<b>TOTAL</b>	<b>14.0</b>	<b>4.0</b>	<b>4.7</b>	<b>22.7</b>

\* There may be minor discrepancies in the above table due to rounding of tonnage, these are not considered material by SMGC.

\* All tonnes shown are calculated using density that has been estimated on an air dried basis.

\* This table must be presented with the entire Coal Resource Statement from which it was obtained

This Resource is 1.2 Mt less than the previous Resource report for this area (“Coal Resource Statement, April, 2014”). The Resource estimation has been limited to 180 m depth. This cut-off has been used as the boreholes in the model have predominantly been drilled to a maximum depth of 180 m. The Resource is also limited by the Concession boundary and by an upper base of weathering (BOW) surface. A 0.3 m seam thickness cut-off has also been used. Reported results are limited by available borehole data, as well as available borehole collar and topographical survey data as of the end of March 2015. The topographic surface used in the modelling process is based upon LIDAR topographical survey data in conjunction with the total station surveyed pit area (May 2015 ‘as mined’) surface. A Total Station ground survey has been completed for all boreholes used in the geological model within the reported Resource area.

Coal located within the RJN concession may be characterised as a moderate total moisture, low ash content, high sulphur and moderate energy coal. Ash content is highly dependent on the seam with ash values ranging from 2.1 % to 18.7 % with a mean of 5.5 % on an air dried basis. This coal is classified as a sub-bituminous class B coal (ASTM – Guidebook of Thermal Coal page 35).

To fit with best practices this report has been prepared in accordance with the 2012 edition of the Australasian Code for Reporting of Exploration Results, Minerals Resources and Ore Reserves (the JORC Code). Estimated Resource figures for this Coal Resource statement are current from the 31<sup>st</sup> of March 2015 and have been reviewed and verified by SMGC's Principal Geologist Mr. Mark Manners, who is a competent person as defined by the 2012 JORC Code. Mr. Manners is a Member of the Australasian Institute of Mining and Metallurgy. He has sufficient experience relevant to the style of mineralisation and the type of deposit being evaluated.

## 1. INTRODUCTION

The PT Rinjani Kartanegara (RJN) coal concession is beneficially controlled and owned 100 % by PT Rinjani Kartanegara. Tenure for the project is held under an Izin Usaha Pertambangan (IUP) Operasi Produksi, and appears on the official clean and clear list of the Ministry of Energy and Mineral Resources of Indonesia.

The concession is located in the Loa Janan sub-district of the Kutai Kartanegara Regency, East Kalimantan Province of Indonesia and covers an area of 1,933 ha (Figure 1.1 and Figure 1.2).

The concession is situated between the major cities of Samarinda and Balikpapan within the East Kalimantan province. Samarinda is the capital city of East Kalimantan and is located about 45 km Northeast of RJN (Figure 1.1). Balikpapan is serviced by regular domestic flights and is located approximately 45 km to the South of RJN. Access to the concession area takes approximately 1.5 hours from Balikpapan driving North on the Samarinda public road.

This report deals exclusively with the Resources contained within the portions of the area that are bounded by the coal measure extents and the concession boundary. A single IUP covers this area (see Appendix D). For provision of this report, both a structural and coal quality model have been generated from validated borehole data and Coal Resources have been estimated and reported according to the 2012 Edition of the Australasian Code for Reporting of Exploration Results, Minerals Resources and Ore Reserves (the JORC Code) as prepared by the Joint Ore Reserves Committee of The Australian Institute of Mining and Metallurgy, Australian Institute of Geoscientists and Mineral Council of Australia. All geological and other relevant factors for this deposit are considered in sufficient detail to serve as a guide to on-going development and possible future mining.

### 1.1 SCOPE OF WORK

PT SMG Consultants (SMGC) were commissioned to prepare a Coal Resource Report for the RJN Project Area.

The scope of work consists of:

Exploration Data:

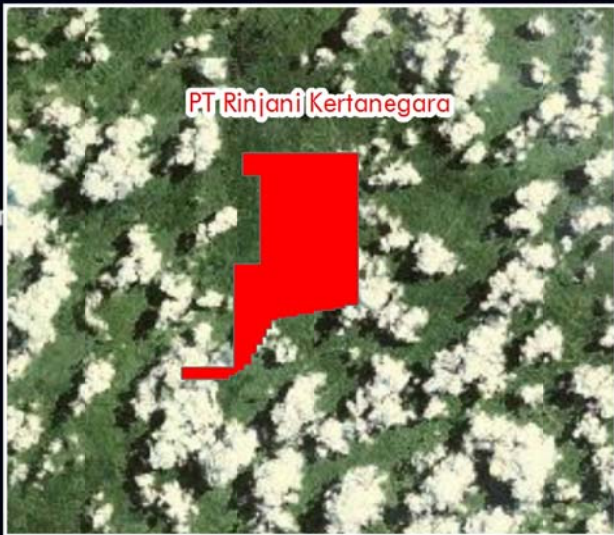
- Review, verify and validate available exploration data provided by RJN in assessing drilling data, sampling techniques, geophysical logs and coal quality analytical results

Geological Model:

- Update the Minex borehole database and geological models with recent borehole data
- Re-correlate the borehole data with the updated ply nomenclature where necessary
- Create the seam structure and quality grids in the RJN geological model
- Create the Resource polygons in the Measured, Indicated and Inferred Resource categories based on actual points of observation

Coal Resources:

- Estimate coal Resources and produce a Resource Report for the RJN deposit which complies with the JORC Code.



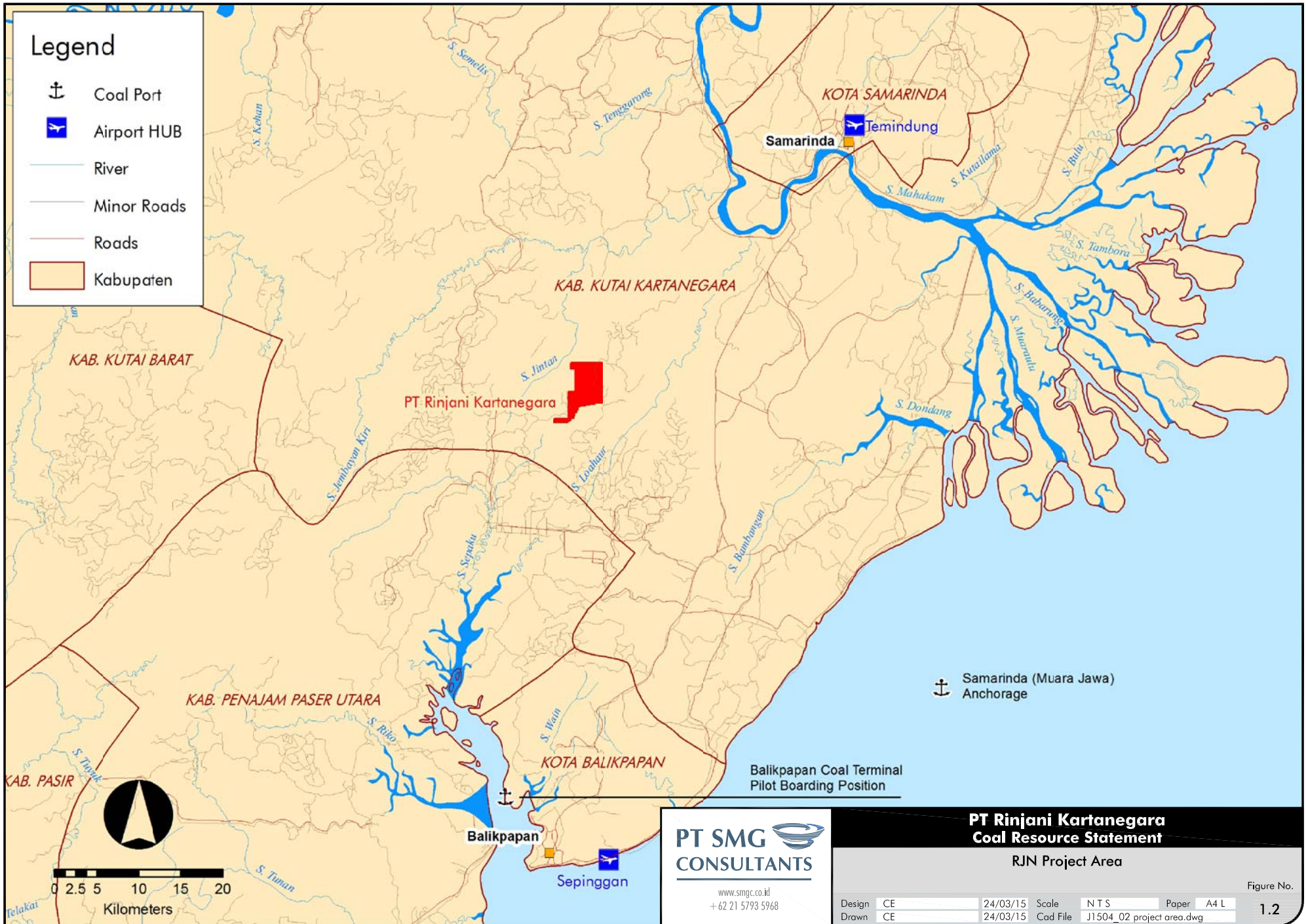
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Coal Resource Statement**

Location Map of the RJN Project

Design	CE	24/03/15	Scale	N T S	Paper	A4 L	Figure No.
Drawn	CE	24/03/15	Cad File	J1504_01 Location Plan.dwg			1.1



## 1.2 LOCATION

The RJN Project concession area is located in the Loa Janan sub-district of the Kutai Kartanegara Regency, East Kalimantan Province of Indonesia between the major cities of Samarinda and Balikpapan within the East Kalimantan Province. Samarinda is located about 45 km Northeast of RJN (Figure 1.1) whilst Balikpapan is located approximately 45 km to the South of RJN. The Concession Area can be accessed by a two hour domestic flight from Jakarta to Balikpapan followed by a 1.5 hour trip by car along the Samarinda public road.

## 1.3 TENURE

Tenure for the RJN project is held under an Izin Usaha Pertambangan (IUP) Operasi Produksi. SMGC has been provided with a copy of the IUP documents for the concession and these are attached in Appendix D.

The details of this concession are shown in Table 1.1 and all Resources reported in this statement are contained within this concession.

**Table 1.1 – Concession Details**

IUP	PT Rinjani Kartanegara
Type	IUP Operasi Produksi
Number	KW KTN 1654 OP
Company Name	PT Rinjani Kartanegara
Kabupaten	Kutai Kartanegara
Province	Timur Kalimantan
Resource	Coal
Area	1,933 Ha
Date Signed	16 April 2010
Expiry	21 November 2021
Validity	12 years

SMGC makes no warranty or representation to either RJN or third parties (express or implied) in regard to the validity of the IUP and documentation. This Resource Report does not constitute a legal due diligence of the concession.

## 1.4 ADDITIONAL WORK

The current exploration data is limited to the area which has “Izin Pinjam Pakai Kawasan Hutan (IPPKH)”. Further exploration will need to be carried out for the Southern and Western portion of the concession to improve knowledge of the structural setting, stratigraphy and coal quality of this area if coal is present. No additional exploration has been undertaken since the last report for this area (March 2014).

## 1.5 RESULTS LIMITATIONS AND STANDARDS

It is important to note when considering this report that geological information usually consists of a series of small points of data on a large blank canvas. The true nature of any body of mineralisation is never known until the last tonne of ore has been mined out, by which time exploration has long since ceased. Exploration information relies on interpretation of a relatively small statistical sample of the deposit being studied; thus a variety of interpretations may be possible from the fragmentary data available. Investors should note that the statements and diagrams in this report are based on the best information available at the time, but may not necessarily be absolutely correct. Such statements and diagrams are subject to change or refinement as new exploration makes new data available, or new research alters prevailing geological concepts. Appraisal of all the information mentioned above forms the basis for this report. The views and conclusions expressed are solely those of SMGC. When conclusions and interpretations credited specifically to other parties are discussed within the report, then these are not necessarily the views of SMGC.

Resource figures in this report deal exclusively with coal contained within the RJN Project concession boundary and have been limited by an upper weathering surface and the lower minable limits determined by the drilling extent up to an average of 180 m below the topographic surface.

The coal sequence in the area contains 25 seams. Coal quality results reported in Table 4.2 have been generated from input values obtained from cored boreholes. These were predominantly HQ-3 (61.1 mm) sized holes. All borehole coal analysis has been performed by an accredited laboratory (PT Geoservices - Samarinda).

Resources have been sub-divided into Measured, Indicated and Inferred categories (Table 6.1) and are intended for the exclusive use of RJN.

### 1.5.1 JORC Table 1

This Coal Resource Report was prepared according to the 2012 Edition of the Australasian Code for Reporting of Exploration Results, Minerals Resources and Ore Reserves (the JORC Code) as prepared by the Joint Ore Reserves Committee of The Australian Institute of Mining and Metallurgy, Australian Institute of Geoscientists and Mineral Council of Australia. Under the report guidelines all geological and other relevant factors for this deposit are considered in sufficient detail to serve as a guide to on-going development and mining.

In the context of complying with the Principles of the Code, Table 1 of the JORC Code (Appendix B) has been used as a checklist by SMGC in the preparation of this report and any comments made on the relevant sections of Table 1 have been provided on an 'if not, why not' basis. This has been done to ensure that it is clear to an investor whether items have been considered and deemed of low consequence or have yet to be addressed or resolved.

The order and grouping of criteria in Table 1 reflects the normal systematic approach to exploration and evaluation. Relevance and Materiality are the overriding principles which determine what information should be publicly reported and SMGC has attempted to provide sufficient comment on all matters that might materially affect a reader's understanding or interpretation of the results or estimates being reported. It is important to note that the relative importance of the criteria will vary with the particular project and the legal and economic conditions pertaining at the time of determination.



In some cases it may be appropriate for a Public Report to exclude some commercially sensitive information. A decision to exclude commercially sensitive information would be a decision for the company issuing the Public Report, and such a decision should be made in accordance with any relevant corporations regulations in that jurisdiction.

In cases where commercially sensitive information is excluded from a Public Report, the report would provide summary information (for example the methodology used to determine economic assumptions where the numerical value of those assumptions is commercially sensitive) and context for the purpose of informing investors or potential investors and their advisers.

## 2. GEOLOGY OF THE RJN PROJECT

### 2.1 REGIONAL GEOLOGY

The Indonesian Archipelago is a complex geological collection of continental blocks, with active and extinct volcanic arc's, young and mature ocean basins and multiple subduction complexes. It is now at the centre of three major tectonic plates, the Eurasia, Pacific and Australian plates. The present day configuration of the Kutai Basin is a good example of extension and inversion tectonic deformation and marks the outcome of a series of tectonic episodes. Extensional tectonics and rifting in the early Tertiary resulted in accommodation space for sedimentary deposition. During this time the Barito, Kutai and Tarakan basins formed as part of a large interconnected area of subsidence and sedimentation linked to the opening of the Makassar Straits and Philippine Sea. The event resulted in the deposition of a vast series of alluvial and deltaic sediments, including the Pamaluan, Pulaubalang, Balikpapan and Kampungbaru formations. Basin fill was supplied from the erosion of sediments along the NW Kalimantan margin (the Kuching High). Sedimentary deposition was fairly continuous since its inception and formations prograde to the East. Deposition occurred both spatially and temporally, syn-depositional facies include lacustrine, fluvial, marginal marine and marine environments. Sediment depocenters were laterally interconnected by intricate narrow connections. Deltaic deposition continues to the present day and is now focused around the Mahakam Delta. The Delta is located to the Northeast of the RJN concession and is frequently targeted for hydrocarbon exploration. Rifting was terminated in the middle Eocene accompanied by a compressional tectonic shift. From the Eocene to the present day the basin has experienced progressive West to East inversion, a result of multiple collisions of microplates with subducting boundaries along the Northwest margin of Kalimantan.

The RJN concession area is located within the lower Kutai Basin of East Kalimantan. The Kutai Basin is a deep Tertiary aged sedimentary basin covering about 165,000 km<sup>2</sup>; it extends to 15 km in depth. The basin can be divided into two separate regions an upper and lower basin segmented by a period of uplift in the early Miocene. The upper basin is located inland and West towards the Kalimantan central ranges and the lower basin is located East, towards the coast of East Kalimantan. The lower Kutai Basin is defined both North and South by contiguous basins and two major North-Northwest trending structural features. The Tarakan Basin and the Sangkulirang fault system exist to the North and the Barito Basin and Adang fault system exist to the South. The basin is bound in the North and South by regions exhibiting thin shallow water complexes of Tertiary carbonates and relatively coarse siliciclastics. Major structural elements show a distinctive North-Northeast trend, swinging Northeast in the areas of Kutai Barat, possibly in response to earlier cretaceous tectonic events that formed the core of Borneo (The Kucing High and Central Kalimantan Ranges). Generally, basin development occurred in two cycles. The first cycle comprised of deep sedimentation, possibly into a fore-arc basin setting during pre-Tertiary to Oligocene time. The source of the sediments is thought to be the Kucing High to the Northwest, North and South (Mangkalit Ridge and Sunda Shelf respectively). The second phase of deposition commenced in the Miocene and continues to this day, at present sedimentation is focused in the Samarinda Delta, located at the mouth of the Mahakam River.

The early second phase of deposition was most importance for coal formation in the Kutai Basin. It comprises a series of Miocene and Pliocene prograding deltaic fans and alluvial deposits with the primary provenance being the Kucing High area to the West of the Kutai Basin. Coal was deposited in lacustrine and marginal marine syn-rift successions, usually a few meters thick although 8-15 m beds do occur in some of Southeast Kalimantan. Approximately 43 regional seams have been identified within Southeast Kalimantan. In the deltaic beds of Samarinda seams range between 1.5 to 13 m in thickness. Formations of this basin which are exposed in and surrounding the RJN, IUP area are the Pulaubalang Formation (Tmpb), Pamaluan Formation (Tomp), Balikpapan (Tmbp) and Kampungbaru Formation (Tpkb). The Pulaubalang Formation is the coal bearing formation within the RJN concession area (Figure 2.1 and Figure 2.2).

### **Kampungbaru Formation (Tpkb)**

This formation is comprised of quartz sandstone with intercalations of claystone, siltstone, polymictic conglomerate, lignite peat and iron oxides. Coal seams occur in the lower parts of the formation. Quartz sandstones are well sorted, friable and are fine to medium grained with feldspar and fine carbon flake impurities. Claystones are tuffaceous and occur in thin layers that contain small clay nodules up to 1 cm across. Siltstones are greenish grey, locally alternating with 3 cm thick beds of peat. Polymictic conglomerate beds occur in the lower part of the sequence and are comprised of basalt and quartz clasts alternating upward and fining into poorly sorted sandstones. The unit is interpreted to have been deposited in a fluvial and terrestrial depositional environment. Microfossils in limestones indicate deposition occurred during the late Miocene and Pliocene. Thickness ranges between 250 - 280 m but in parts can be up to 800 m thick. This formation is overlain unconformably by alluvium.

### **Balikpapan Formation (Tmbp)**

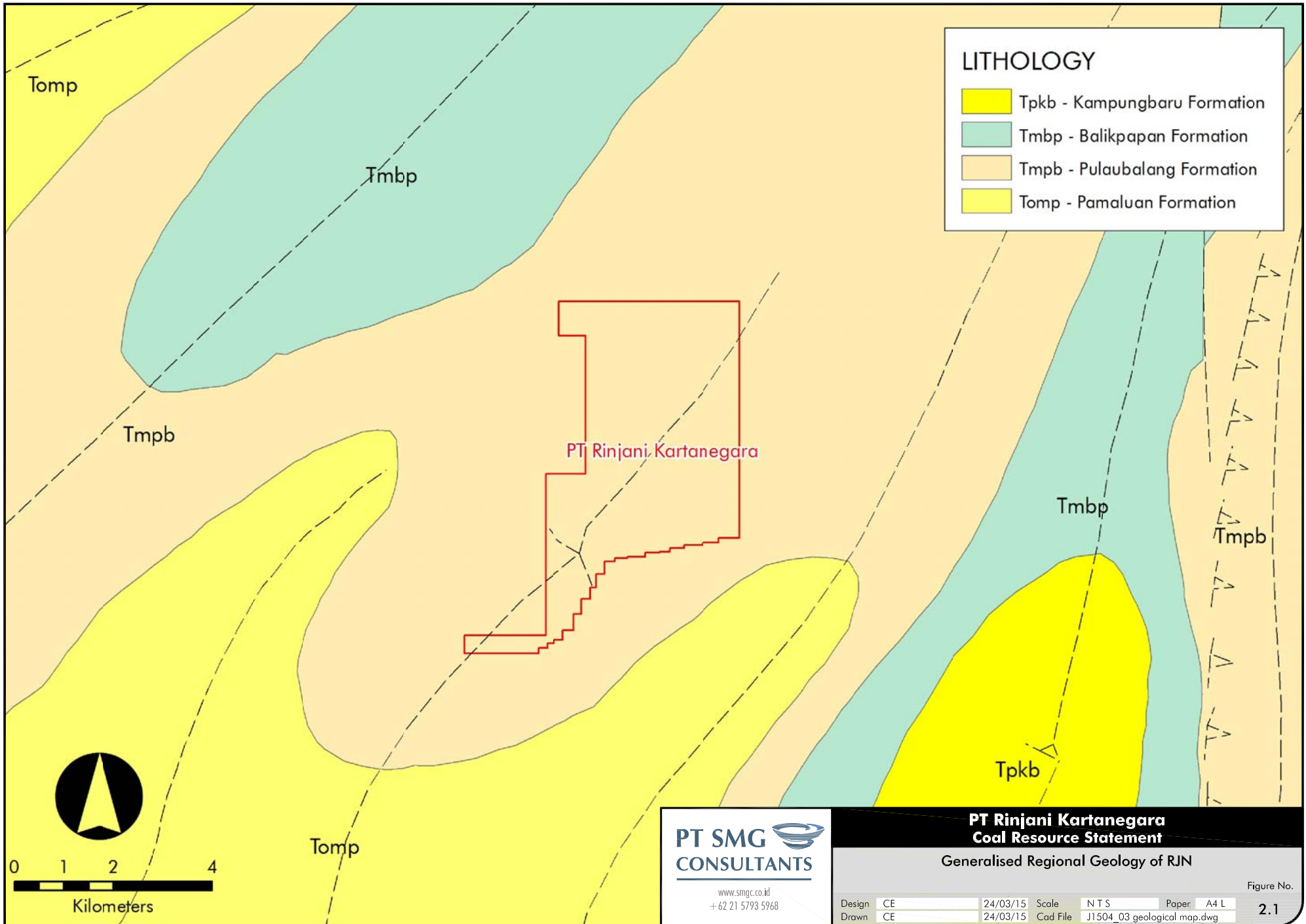
This formation is composed of alternating sandstone and clay intercalations with silt, shale, limestone and coal. Quartz sandstone is white to yellowish, bedding thickness is about 1 - 3 m and contains coaly beds between 5 and 10 cm thick. Calcareous sandstones are brown, with graded bedding, cross bedding and are 20 - 40 cm thick. Sandstones contain small foraminifera, intercalated by thin layer of carbonaceous material. Clays are grey-blackish and locally contain plant remains. Iron oxides have permeated the cracks of vadose layers. Sandy limestones contain large foraminifera and molluscs which point to a lower or middle Miocene age. The depositional environment is interpreted as a regressional delta front to delta plain. The formation is between 1.0 and 1.5 km thick.

### **Pulaubalang Formation (Tmpb)**

This formation comprises alternating greywacke and quartz sandstone intercalations with limestone, claystone, coal and dacitic tuff. Greywacke, greenish grey, compact, beds 50 - 100 cm thick. Quartz sandstone are reddish grey, locally tuffaceous and calcareous with bedding thicknesses between 15 - 60 cm. Limestone, yellowish to light brown, contains large foraminifera, either as intercalation or as lenses in quartz sandstone, thickness of beds between 10 - 40 cm. Limestone exposed in the Loa Haur River contains abundant large foraminifera, such as *Austrorillina howchini*, *Borelis* sp., *Lepidocyclina* sp., *Miogypsina* sp., which indicates a middle Miocene age and terrestrial to shallow marine depositional environment. Claystone, blackish grey thickness of beds (1 - 2 cm) locally intercalates with coal, some of them to 4 m thick. Dacitic tuff (white) occurs as thin intercalations in quartz sandstones.

**Pamaluan Formation (Tomp)**

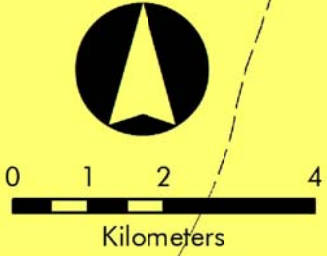
This formation is composed of well bedded quartz sandstone intercalated with claystone, shale, limestone and siltstone. Quartz sandstone is the major constituent of the formation and is blackish grey to brownish in colour, fine to medium grained well sorted, sub rounded, compact, carbonaceous and or calcareous. Locally sandstones are cross bedded and laminated. Beds are 1 - 2 m thick. Shales are brownish grey to dark grey; bedding is about 10 - 20 cm thick. Grey limestones are massive, medium to coarse-grained and are locally bedded. Limestones contain large foraminifera. Siltstone is blackish to dark grey.



### LITHOLOGY

- Tpkb - Kampungbaru Formation
- Tmbp - Balikpapan Formation
- Tmpb - Pulaubalang Formation
- Tomp - Pamalu Formation

PT Rinjani Kartanegara



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**PT Rinjani Kartanegara**  
**Coal Resource Statement**

Generalised Regional Geology of RJN

Design	CE	24/03/15	Scale	N T S	Paper	A4 L
Drawn	CE	24/03/15	Cad File	J1504_03 geological map.dwg		

Figure No. **2.1**

Figure 2.2 – Generalised Stratigraphic Column of the RJN Area

KORELASI SATUAN BATUAN  
CORRELATION OF ROCKS UNITS

MASA ERA	ZAMAN PERIOD	K A L A E P O C H	ENDAPAN PERMUKAAN SURFICIAL DEPOSITS	BATUAN SEDIMEN SEDIMENTARY ROCKS		
K E N O Z O I K U M C E N O Z O I C	K U A R T E R Q U A T E R N A R Y	HOLOSEN HOLOCENE	Qa			
		PLISTOSEN PLEISTOCENE				
	K U A R T E R Q U A T E R N A R Y	PLIOSEN PLIOCENE			Tpkb	
		M I O S E N M I O C E N E	AKHIR LATE		Tmpb Tmb	
			TENGAH MIDDLE			
			AWAL EARLY			Tomp Tmb
		OLIGOSEN OLIGOCENE				

## 2.2 STRUCTURAL GEOLOGY

The area is characterised by relatively flat lying strata. On average the stratigraphy dips 9 degrees to the North-Northeast. The RJN concession is positioned on the Eastern flank of a regional syncline and is confined between two parallel and adjacent anticline structures. There is no evidence of major faulting in the concession area. The basin age suggests that the presence of faults, lineaments and folds are intimately associated with the tectonic activity which took place during deposition.

## 2.3 LOCAL GEOLOGY

The coal bearing lithology within the RJN concession area is the Pulaubalang Formation (Figure 2.1). Coal seams strike in a roughly East-West direction at RJN with an average dip of 9°. Coal in this formation shows seam splitting. There are 25 named seams intersected within the Project Area, several of these are characterised by 1st phase seam splitting, an example of the seam split sequence is referred to in Table 2.1. The developed geological model for the area contains all 25 named seam plies as shown in Table 2.2. The splitting sequence is relatively straightforward and raw and split models were produced to achieve a conventional model of the supplied data. Splitting of the seams was undertaken in stages to ensure that all the named plies from RJN geological personnel were included in the final geological database. A thickness summary of coal seam splits can be seen in Table 2.2. The table only reports input and estimated (split) seam picks from the borehole database, not interpolated seam thicknesses. Cross sections of the model can be seen in Figure 5.1 and Figure 5.2.

**Table 2.1 – RJN Local Seam Split Sequence**

Seam	Seam Split	Thickness	Percentage
S10	S10U	0.64	49
	S10L	0.66	51
S15	S15U	0.15	54
	S15L	0.13	46
S30	S30U	1.22	64
	S30L	0.68	36

**Table 2.2 – RJN Seam Thickness Summary**

Seam	Thickness (m)			Number of Records
	Mean	Maximum	Minimum	
S5	2.0	2.8	1.2	20
S10U	0.4	0.7	0.1	7
S10L	0.3	0.7	0.1	7
S15U	0.2	0.3	0.1	10
S15L	0.2	0.3	0.1	10
S20	0.4	0.9	0.0	14
S30U	1.2	1.7	0.1	22
S30L	0.7	1.4	0.3	22
S40	0.5	1.0	0.1	45
S40L	0.1	0.3	0.0	45
S50U	0.1	0.8	0.0	45
S50	0.5	1.3	0.1	45
S50L	0.3	0.4	0.2	8
S100	0.3	0.7	0.1	54
S200	1.2	2.2	0.1	115
S300	1.5	3.3	0.1	141
S400	0.6	1.1	0.2	130
S500	1.9	2.7	0.1	147
S600	0.6	1.0	0.2	142
S700	1.2	2.3	0.1	119
S790	0.3	0.5	0.1	31
S800	0.5	0.9	0.1	34
S900	0.4	0.9	0.1	24
S1000	0.4	0.5	0.2	15
S1050	0.3	0.5	0.1	13



### **3. EXPLORATION DATA AND SAMPLING TECHNIQUES**

#### **3.1 EXPLORATION HISTORY**

RJN commenced initial coal exploration on their concession in 2009. This first stage exploration programme included limited coal outcrop mapping, general borehole drilling and coal quality analysis comprised of 171 boreholes including 76 cored holes and 95 open holes. The favourable results obtained from this, led to a second, in-fill drilling program being conducted during the period of September 2012 to March 2013, whereby another 13 core holes were drilled to improve confidence in both geological structure and coal quality data. The program was implemented and managed by RJN. A channel sampling programme was also implemented during this later period during which 293 samples were taken. The exploration activities included detailed drilling, down-hole geophysical logging, channel sampling and coal quality analysis. All exploration data from both programmes has been considered for modelling and Resource Estimation purposes.

#### **3.2 EXPLORATION DATA TYPES**

RJN provided SMGC with all exploration data that has been used to calculate estimated Resources figures for this report. Data sets supplied to SMGC include the following:

1. Borehole collar surveys
2. Borehole lithology logs
3. Borehole geophysical logs
4. Coal quality data from sampled boreholes
5. Core Photographs
6. Light Detecting and Ranging (LIDAR) topographical survey data
7. Channel Sample lithology depths
8. Channel Sample Analysis results

#### **3.3 SURVEY**

##### **3.3.1 Benchmarks and Borehole Pick Ups**

Borehole collars, mining surfaces and channel sample locations to date have been surveyed using standard Total Station techniques employed by PT Karvak during the course of successive drilling and sampling campaigns. Surveys have been reviewed by SMGC. The surveyed locations generally match well with the topographic data provided. Where there is a discrepancy the surveyed borehole collar or channel sample elevations have been considered most accurate and used for modelling purposes. Where discrepancies between channel samples and boreholes occur, the borehole location has been deemed to be correct.

##### **3.3.2 Topographic Survey**

The topography used in the current RJN Geological Model is derived from Light Detecting and Ranging (LIDAR) remote sensing data in conjunction with the mined out surface survey as of the end of March 2015. The original Lidar topography was generated by PT Karvak across the RJN Project Area in July 2011. Topographic contour data was generated from the LIDAR survey as XYZ co-ordinates points and imported into the database in ASCII format.

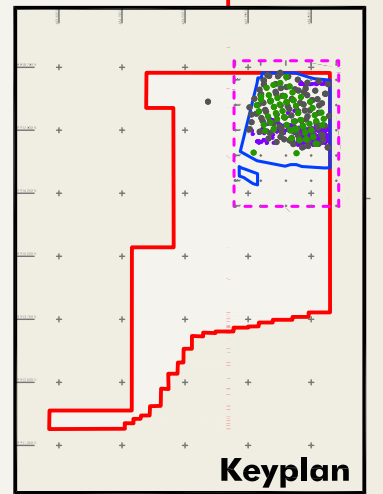
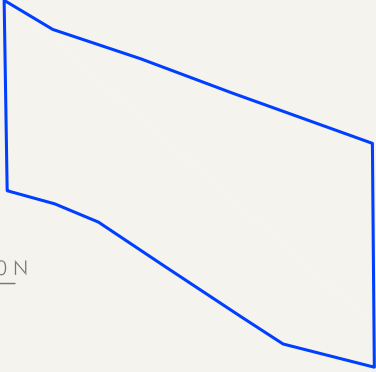
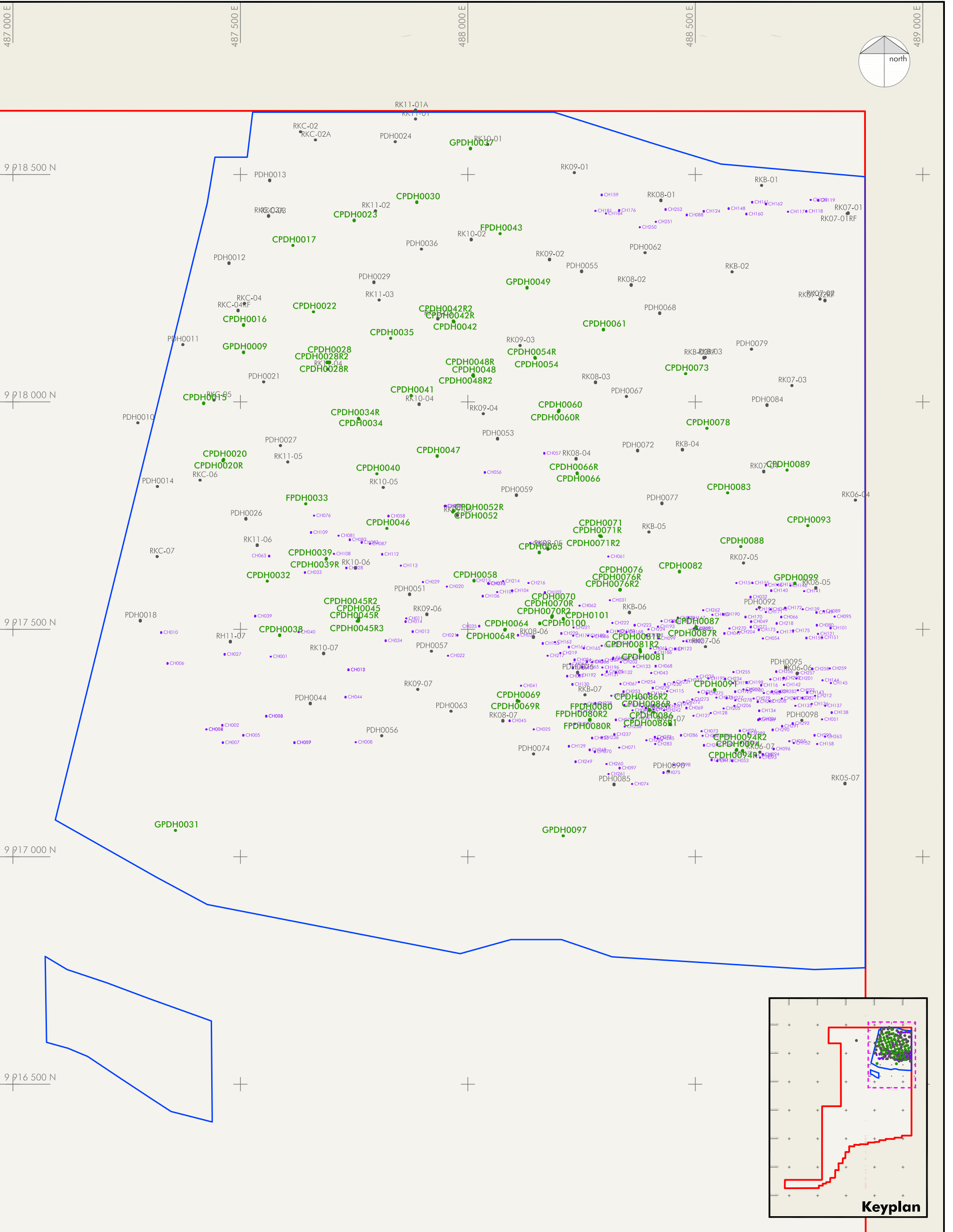
### 3.4 BOREHOLE DATA AND DRILLING TECHNIQUES

The drilling programme was carried out using six man-portable top-drive hydraulic drill rigs contracted from CV Duta Jaya Persada (DJP). The rigs used were three Jakro 200 and three Jakro 300 units which are capable of HQ3 coring up to 130 m and 170 m in depth respectively. All drills were operated by experienced personal. All boreholes were collared vertically.

All drills were manned by fully qualified geologists (working in shifts); core logging was completed in the drill splits before being removed to core trays. Core was also checked in the splits for optimal recovery (90 % or above). For open holes, chips were collected at 1 m intervals for lithology logging. Photographing of core in the splits and the trays was performed on a routine basis. Boreholes were geophysically logged at the completion of drilling and cored sections were checked to ensure coal seam recovery was as required ( $\geq 90\%$ ). If recovery was found to be less than 90 % within the coal seam section, the hole was re-drilled to collect a sample with greater than 90 % recovery. Geophysical logging was employed on the completion of drilling to gain a full understanding of the down-hole stratigraphic properties. All coal intervals were corrected to down-hole geophysical logs after being verified and validated by SMGC.

A total of 184 boreholes have been completed in the Project Area (Figure 3.1). RJN has 89 cored boreholes, and according to records all of these reported core recoveries greater than 90 %. Only 86 of those boreholes with valid down-hole logs and surveyed collar locations were considered in the geological modelling. All lithology and geophysical data recorded for the boreholes was verified and validated by SMGC.

No additional drilling has been completed for the Rinjani area since the last reported Resource for this area (April 2014).



LEGEND	IUP Boundary	Cored Hole	Horizontal Scale 1 : 8,000 @ A3 80 m 0 160 m	<b>PT SMG CONSULTANTS</b> www.smgc.co.id +62 21 5793 5968	<b>PT Rinjani Kartanegara</b> <b>Coal Resource Statement</b> <b>Borehole Location Plan</b>	Design AD 24/03/15 Scale 1 : 7,500 Paper A3 P Drawn GN 24/03/15 Cad File J1504_04 bh loc.dwg	Figure No. <b>3.1</b>
	Existing IPPKH Boundary	Channel Sample					

### 3.5 BOREHOLE SAMPLING TECHNIQUES

Borehole sampling has been carried out initially on a ply by ply basis with later sampling on a full seam basis. The ply by ply sampling established minimal differences in quality parameters throughout the seam thickness and therefore seam sampling was adopted. Sampling of the coal seams and other material followed the standard sampling procedure and is described as follows:

- Open core barrel inner split tube and remove sample from the barrel
- Transfer the core to the PVC split or core box
- Determine the core depth (“From” and “To”) from the drill depth
- Reconstruct the core in the split to allow for any gaps
- Determine the core recovery
- Wash down using water and a cloth and/or brush prior to logging if covered by mud or oil
- Complete geological logging and take requisite photographs. Only needed photographs of structure or any abnormal features. The photograph should show information of borehole ID, From, To, and Depth
- The division of samples follows the simple scheme of sample all coal, sample separately any contained bands and take 10 cm of coal roof and floor samples (Table 3.1)
- The plastic bag should be doubled to again minimise moisture loss. Inserting one bag in another so that they are doubled
- Label the sample by ID card, the label should give information about the Sample Number, Hole Number, From/To depth, and Project Code. Placing the label ID card inside the small re-sealable plastic bag before putting it into the sample bag
- Seal the sample bag with tape and write the sample number; on the plastic bag
- Dispatch sample to accredited laboratory

The current sampling technique is considered sufficient to represent that part of the deposit that has been sampled. All correlations have been made to ensure that sample intervals match seam intervals and that these intervals are in agreement with down-hole geophysical logs.

**Table 3.1 – The Scheme of Coal Sample**

DESCRIPTION	INTERVAL THICKNESS	SAMPLING PROCEDURE USED
Sediment Roof	-	-
<b>Coal Roof</b>	0.10 m	Sampling 0.10 m of ply top material as a single sample
<b>Coal body</b>	***	If parting thickness is less then 0.10 m then sample with the coal body
	<0.10 m	
	***	
<b>Coal Floor</b>	0.10 m	Sampling 0.10 m of ply bottom material as a single sample
Sediment Floor	-	-
Interburden	?	
Sediment Roof	-	-
<b>Coal Roof</b>	0.10 m	Sampling 0.10 m of ply top material as a single sample
<b>Coal body</b>	***	If parting thickness is greater than 0.10 m then exclude from the coal sample and analyse separately.
	>0.10 m	
	***	
<b>Coal Floor</b>	0.10 m	Sampling 0.10 m of ply bottom material as a single sample
Sediment Floor	-	-

\*\*\* Note that the coal body is sampled in 1.0 m plys

### 3.6 DOWN-HOLE GEOPHYSICS

Down-hole geophysical logs were completed during both drilling programmes by PT Surtech Indonesia (PTSI). Geophysical logging provides information on the coal seams intersected and helps better define horizon boundaries and marker horizons used to correlate the subsurface geology. The presence or absence of geophysical logging is one of the criteria used in the determination of whether or not the borehole is valid as a point of observation for Resource calculations.

Logging was performed on 171 of the 184 boreholes (including cored and open holes) which equates to approximately 93 % of all holes having geophysical data. Seam picks and lithologies have all been corrected for geophysics.

The logging equipment used by the logging contractors includes the following:

- Digital Logging System
- Probe: Dual Density Gamma/Calliper
- Winch: Motorised 4 conductor winch system
- Portable generator, laptop computer, printer and spares

Under normal conditions, coal-bearing sections for each borehole are logged at the completion of drilling. On some occasions, poor ground conditions have led to collapsed borehole sections restricting the ability to log the entire hole upon completion in the usual manner. In these cases collapsed portions have been re-drilled, with density and gamma logging then being accomplished by lowering the geophysical probe through the drill string. Measurements are then taken by pulling the drill string up slightly so that the hole remains stable but the probe is sufficiently exposed to take acceptable readings of the rock mass.

After the completion of logging, logs were compiled and plotted in Acrobat pdf format and digital data has been stored as LAS files.

Data is backed up on site and a copy is kept off site at the operations office in Jakarta. A review of the lithological seam picks showed that these matched the geophysical logs indicating that the depth corrections of the original lithology logs have been done correctly. This data was used for validation and verification of the coal seam correlations made by SMGC.

### 3.7 COAL ANALYSIS

Coal quality sampling undertaken by RJN geologists, with the analysis testing for the borehole samples being completed by PT Geoservices Coal Laboratories in Samarinda.

PT Geoservices reports that its Samarinda laboratory is accredited to ISO 17025 standards and that quality control is maintained by daily analysis of standard samples and by participation in regular "round robin" testing programs. No duplicates from core samples were analysed for quality assurance and quality control purposes. As far as SMGC are aware, PT Geoservices is independent of SMGC, RJN and all related companies.

A range of international standard methods have been used by PT Geoservice's in their coal analysis tests. Reporting of quality variables has been done on an air-dried, as received and dry ash free basis. American Society for Testing and Materials (ASTM) methods has been used for all quality variables with the exception of Relative Density. Australian Standards (AS) has been used for determination of Relative Density.

Whilst no inspection of the facility was carried out, the following has been assumed based on reviews of other PT Geoservices laboratories in Indonesia and their ISO17025 accreditation:

- The laboratory is well set up for basic processing of exploration drilling samples
- It is also suited to process production and barging samples
- Sample preparation and analytical equipment is fit for purpose
- Staff are suitably qualified and experienced in typical coal laboratory procedures
- Analysis is carried out in compliance with procedures that are routinely subjected to checks and balances, both internally and with other laboratories

The following tests were undertaken as standard on all coal samples:

- Total Moisture (TM)
- Inherent Moisture (IM)
- Ash Content (AS)
- Volatile Matter (VM)
- Fixed Carbon (FC)
- Total Sulphur (TS)
- Calorific Value-air dried basis (CV adb)
- Calorific Value-gross as received, CV (gar)
- Hardgrove Grindability Index (HGI)

Of the boreholes that have been sampled in the RJN area, 89 of the total 184 contain quality data (Table 3.2). All 89 of these holes have associated geophysical data logs, however only 86 have appropriate collar surveys and only these 86 holes have been used in the quality modelling process. From these boreholes a total of 299 valid samples were collected based on samples containing Ash and In-situ Moisture records.

The proximate analysis results from the samples taken in the 86 cored holes in the area (Table 3.3) show the coals to have moderate total moisture ranging from 14.5 % to 21.8 % with a low average ash content of 5.5 %. On a "Seam-Basis" the coal has high total sulphur ranging between 0.84 % and 5.02 % and the average of air dried Calorific Value (ad) is 6,111 Kcal/kg. This coal is classified as a class B Sub-bituminous coal, (ASTM – Guidebook of Thermal Coal page 35).

A channel sampling programme was also conducted by RJN geologists in conjunction with consultants from PT Surveyor Carbon Consulting Indonesia (SCCI). During this programme 293 samples were taken with the analysis testing being completed by SCCI Laboratories in Samarinda. This laboratory is nationally (IKAN) accredited but doesn't have current international accreditation and SMGC is unsure whether quality control is maintained by daily analysis of standard samples and by participation in regular "round robin" testing programs. No duplicates were analysed for quality assurance and quality control purposes. As far as SMGC are aware, SCCI is independent of SMGC, RJN and all related companies. These samples were not used in the quality modelling process due to queries SMGC have around the validity of the analysis results based upon comparison to borehole samples taken in the same area and tested at PT Geoservices.

### **3.8 CHANNEL SAMPLING PROGRAMME**

As previously mentioned a channel sampling programme was also conducted by RJN geologists during 2013 in conjunction with consultants from PT Surveyor Carbon Consulting Indonesia (SCCI). During this programme 293 samples were taken, logged and surveyed with the analysis testing being completed by SCCI Laboratories in Samarinda. All channel samples were used in creation of the structural model, but no analysis results were used in the generation of the quality model due to variations between these and validated borehole results in close proximity.

### **3.9 OTHER EXPLORATION ACTIVITIES WITHIN THE CONCESSION**

Further exploration is on-going to improve knowledge of the structural setting, stratigraphy and coal quality of the concession area. Seam S5 has only limited Resources currently stated due to the lack of validated boreholes intersecting this seam. It is however currently being actively mined by RJN in parts of the concession.

**Table 3.2 – Boreholes with Quality Data**

CPDH0015	CPDH0016	CPDH0017
CPDH0020	CPDH0020R	CPDH0022
CPDH0023	CPDH0028	CPDH0028R
CPDH0028R2	CPDH0030	CPDH0032
CPDH0034	CPDH0034R	CPDH0035
CPDH0038	CPDH0039	CPDH0039R
CPDH0040	CPDH0041	CPDH0042
CPDH0042R	CPDH0042R2	CPDH0045
CPDH0045R	CPDH0045R2	CPDH0046
CPDH0047	CPDH0048	CPDH0048R
CPDH0048R2	CPDH0052	CPDH0052R
CPDH0054	CPDH0054R	CPDH0058
CPDH0060	CPDH0060R	CPDH0061
CPDH0064	CPDH0064R	CPDH0065
CPDH0066	CPDH0066R	CPDH0069
CPDH0069R	CPDH0070	CPDH0070R
CPDH0070R2	CPDH0071	CPDH0071R
CPDH0071R2	CPDH0073	CPDH0076
CPDH0076R	CPDH0076R2	CPDH0078
CPDH0081	CPDH0081R	CPDH0081R2
CPDH0082	CPDH0083	CPDH0086
CPDH0086R	CPDH0086R2	CPDH0087
CPDH0087R	CPDH0088	CPDH0089
CPDH0091	CPDH0093	CPDH0094
CPDH0094R	CPDH0100	CPDH0101
FPDH0033	FPDH0043	FPDH0080
FPDH0080R	FPDH0080R2	GPDH0009
GPDH0031	GPDH0037	GPDH0049
GPDH0097	GPDH0099	



Table 3.3 – Coal Quality Summary (Boreholes)

Seam	ST	TM	IM	ASH	VM	FC	TS	RD	CV	CV	NO.RECS
	mean	ar	ad	ad	ad	ad	ad	gm/cc	ad	ar	
S5	2.02	20.2	14.5	2.1	41.7	41.8	1.61	1.34	5,988	5,588	1
S10U	0.38	20.8	13.0	7.8	40.0	39.2	2.64	1.38	5,686	5,182	2
S10L	0.34	20.0	12.5	7.1	-	-	2.13	-	5,729	5,239	1
S15U	0.18	19.6	13.6	10.2	37.8	38.4	5.02	1.41	5,427	5,053	3
S15L	0.16	19.6	13.6	10.2	37.8	38.4	5.02	1.41	5,427	5,053	3
S20	0.35	19.5	13.2	4.6	41.6	40.6	3.32	1.34	5,961	5,527	4
S30U	1.18	21.8	14.3	4.2	40.3	40.3	0.84	-	5,908	5,384	5
S30L	0.66	21.1	14.6	5.5	39.6	40.9	1.65	1.32	5,763	5,303	6
S40	0.46	18.0	12.6	7.2	39.9	39.4	2.41	1.33	5,932	5,546	11
S40L	0.11	18.6	12.9	9.9	37.7	39.5	3.12	-	5,616	5,102	6
S50U	0.11	16.8	12.9	5.7	41.6	39.8	3.07	-	5,945	5,683	2
S50	0.53	16.9	12.0	6.0	42.3	39.7	3.02	-	6,041	5,740	13
S50L	0.25	-	-	-	-	-	-	-	-	-	-
S100	0.29	19.9	12.4	8.9	37.5	41.2	2.48	-	5,703	5,198	7
S200	1.21	16.9	11.9	5.1	41.9	43.0	1.98	-	6,159	5,842	30
S300	1.53	15.5	11.3	4.9	41.8	42.8	1.8	1.31	6,161	5,846	32
S400	0.56	17.4	12.0	6.5	38.9	42.9	1.98	1.35	5,981	5,607	32
S500	1.88	16.3	11.4	3.5	41.9	44.3	1.53	1.25	6,262	5,947	37
S600	0.55	15.3	10.7	7.4	42.0	40.3	2.82	1.36	6,126	5,759	28
S700	1.21	17.1	12.2	5.3	39.1	44.1	0.98	-	6,116	5,679	32
S790	0.27	14.9	10.1	13.3	39.7	38.2	3.32	1.39	5,835	-	9
S800	0.47	16.0	11.7	8.8	38.2	42.6	2.19	1.36	5,973	-	13
S900	0.41	14.5	9.7	18.7	34.6	35.8	3.55	-	5,164	3,557	12
S1000	0.35	16.1	11.2	8.3	37.4	42.4	2.71	-	5,987	-	8
S1050	0.32	15.3	10.4	6.7	39.1	43.8	2.23	-	6,213	-	2
<b>AVERAGE</b>		16.7	11.7	5.5	40.6	42.5	1.83	1.33	6,111		299

## 4. GEOLOGICAL MODEL

### 4.1 GENERAL

A geological model for the RJN Project Area was generated using Minex Geologic Modelling Software. The Minex General or Growth method was used for all modelling. The model is composed of information from several datasets that were supplied to SMGC including topographical and collar survey data, borehole lithology data, geophysical records and coal quality data that was entered into a geological database. The borehole database is called (J1205\_RJN.B31\*) and it exists in split and un-split (raw) format. It includes all RJN drilling data provided up to the end March 2015.

The model generated exists in a ply format. It includes topography and base of weathering surfaces as well as seam structure, coal quality and distance grids. A review of data was undertaken to ensure its validity prior to use in the modelling process.

In order to generate a model using the Minex seam modelling software, information such as the deposit stratigraphy (including the weathering surface), interpolator for seam thickness, surface, trend and interpolation for the various surfaces must all be understood and defined.

### 4.2 BOREHOLE DATA IN MODELS

Validated collar surveys, lithology data and geophysical logs are required as a minimum for a borehole to be used in the modelling process. A total of 137 validated boreholes (see Table 4.1) have been drilled across the deposit and included in the RJN Structural Geological Model. The lithological data from an additional 293 surveyed channel samples have also been included and used to assist with the Structural Geological Model.

A total of 86 of these validated boreholes have sufficient coal quality analyses to act as significant Points of Observation for the Resource estimation. A valid point has been defined as a seam intersection that is surveyed and cored, where quality analysis has been acquired, sample recovery is  $\geq 90\%$  and the hole is accompanied by valid survey and geophysics.

Validation of the points of observation to this standard helps to honour the exploration data for the deposit and enhances integrity of the Resource Model.

- The total number of boreholes drilled was 184
- The number of open holes was 95
- The number of cored holes was 89
- The number of boreholes with valid collar survey's recorded using total station survey equipment was 143
- The number of boreholes with geophysical logs was 171
- Total number of valid boreholes and channel samples included in the Structural Geological Model is 430; consist of 137 valid boreholes and 293 channels samples
- Total Number of Points of Observation for the Coal Resource Estimate is 86

**Table 4.1 – Boreholes Status**

<b>Borehole Status</b>	<b>Cored Borehole</b>	<b>Open Borehole</b>	<b>Total</b>
<b>Total Boreholes Drilled</b>	<b>89</b>	<b>95</b>	<b>184</b>
Boreholes that have no geophysics	3	3	6
Boreholes that have no survey		34	34
Boreholes that have no survey AND no geophysics		7	7
<b>Total Boreholes not used</b>	<b>3</b>	<b>44</b>	<b>47</b>
<b>Total Boreholes Used for Modelling</b>	<b>86</b>	<b>51</b>	<b>137</b>

It should be noted that the open holes were drilled to confirm structural continuity of the seams both along strike and down-dip to improve confidence in the validity of the structural model and the seam correlations made. Open holes were only considered if surveyed using total station techniques. Borehole surveys were reconciled against topographic data and were found on the whole to match within a +/- 3.0 m tolerance.

### 4.3 MODELLED TOPOGRAPHY

The X, Y and Z coordinate data obtained from the LIDAR topographical survey was used to create the topographic surface used in the modelling process in conjunction with the total station surveyed pit area (end of March 2015 'as mined') surface. The data was provided in an ASCII data file format by RJN and was imported into a Minex seam modelling software database. It was then used to generate a 20 m x 20 m mesh topographical surface named "MOMAR15.grid". This grid covers the entire Project Area.

### 4.4 BASE OF WEATHERING AND UNCONFORMABLE SURFACES

A "non-conformable" base of weathering surface for the RJN model was generated using a default depth of weathering of 3 m below topography. This was due to the limited logging of the weathered material in the lithological log. The topography was cut to honour the mined-out portions of the area (31<sup>st</sup> March 2015). All grids in the final model are cut to this surface that also includes a weathering surface 3 m below the topography in un-mined areas. No other unconformities have been identified in the RJN Project Area.

### 4.5 SEAM MODELLING PROCEDURE

A structural model of the coal sequence was constructed. This work involved the following stages:

- Stratigraphic sequence was established
- Seam picks were extracted and reformatted from output ASCII files
- Seam nomenclature was set up in the new Minex database to allow loading of the seam picks
- Floor and seam thickness data was gridded at a 20 m mesh. This data was then formed into a model of the seam geology
- Checks of seam data validity were undertaken on the model

The seam model is generated following the establishment of a stratigraphic sequence. Minex modelling completes the stratigraphic sequence in each borehole for missing seams. All “added” borehole-picks or alterations of picks are tagged as estimated (E) or interpolated (I). These “added” seam intervals can be selected or de-selected as required for the model building process. The complete sequence is then gridded and truncated by a base of weathering surface (BOW). The base of weathering surface was used to limit the upper projection of seam grid extents. The lower limit is defined by a depth 180 metres below the original topography surface as the boreholes in the model have predominantly been drilled to a maximum depth of 180 m. The Minex growth interpolation technique was used with grids being extrapolated beyond the last data points to the model boundary. The model boundary is the limit for which suitable topographical data exists.

#### 4.6 QUALITY MODEL

Coal quality grids were generated for all seams with available quality data. Relative density results for individual boreholes were limited and a default density of 1.33 g/cc was applied to the modelling process when RD data was not available. Coal quality data was sufficient to model 25 seams across the RJN coal sequence. The Minex Growth Technique Interpolation Method was used with data extrapolated to 2000 m from the last data point.

The following quality parameters were modelled:

- TM (Total Moisture-as received basis)
- IM (Inherent Moisture-air dried basis)
- AS (Ash Content-air dried basis)
- VM (Volatile Matter-air dried basis)
- FC (Fixed Carbon-air dried basis)
- TS (Total Sulphur-air dried basis)
- CVA (Calorific Value-air dried basis)
- RD (Relative Density)
- HGI (Hardgrove Grindability Index-air dried basis)

86 of the 184 RJN boreholes contain quality data and associated geophysical logs and are considered valid for quality modelling. From the 86 boreholes a total of 299 valid samples were collected based on samples containing Ash and In-situ Moisture.

The modelled coal quality data is summarised on a seam by seam basis in Table 4.2. Coal quality in the area can be summarised as moderate total moisture, low ash content, high sulphur and moderate energy coal. Distribution of ASH (adb), TS (adb) and CV (adb) (ar) can be seen in the histograms of coal quality (Figure 4.1 to Figure 4.4).

The cross correlation of ash and calorific value on an air dried basis for all seams (Figure 4.5) shows a general consistency at RJN with only a small number of samples (15) occurring outside 2 standard deviations. This infers a general consistency in coal quality at RJN. Samples above 2 standard deviations typically indicate laboratory errors; however the limited number of discrepancies of this type from the large sample population, mean they are considered insignificant in their effect on overall quality. Samples with fairly high ash values may also be indicative of contaminated samples.

**Table 4.2 – Model Coal Quality Data (Grid)**

Grid Name	Minimum Value	Maximum Value	Average Value	Median Value	Standard Deviation	Skewness
S5AC	1.4	9.8	3.1	3.0	0.96	1.21
S5CVA	5,556	6,146	5,974	5,988	49.89	0.44
S5TS	1.61	3.16	1.84	1.75	0.22	1.82
S20AC	3.6	6.1	4.2	4.2	0.44	0.20
S20CVA	5,823	6,047	6,000	6,003	33.56	0.59
S20TS	2.82	3.84	3.10	3.04	0.24	0.08
S30UAC	3.7	5.3	4.1	3.9	0.44	1.31
S30UCVA	5,783	6,153	5,983	5,941	125.62	0.03
S30UTS	0.55	1.44	0.78	0.63	0.28	1.85
S30LAC	4.6	7.7	5.4	4.9	0.75	1.02
S30LCVA	5,647	5,827	5,752	5,752	32.19	0.01
S30LTS	0.35	3.20	1.53	1.64	0.95	0.01
S40AC	4.2	15.4	8.9	8.1	2.89	0.83
S40CVA	5,162	6,189	5,686	5,707	254.05	0.35
S40LTS	2.90	3.70	3.20	3.18	0.19	0.50
S40LAC	6.9	12.3	10.2	10.2	1.51	0.00
S40LCVA	5,351	5,934	5,586	5,593	165.68	0.00
S40TS	1.82	3.39	2.52	2.55	0.31	0.04
S50AC	3.0	11.6	6.8	7.3	2.21	0.08
S50CVA	5,619	6,386	5,958	5,984	227.01	0.00
S50TS	2.25	3.82	3.03	2.97	0.33	0.01
S100AC	4.7	41.4	22.2	16.3	12.26	0.34
S100CVA	3,110	6,004	4,585	4,957	960.75	0.28
S100TS	1.19	5.44	3.40	3.28	1.33	0.06
S200AC	1.4	18.4	4.4	4.4	1.53	0.57
S200CVA	5,551	6,579	6,192	6,211	110.49	1.35
S200TS	1.12	3.48	2.12	1.95	0.44	0.80
S300AC	1.5	14.9	4.9	3.9	2.26	1.00
S300CVA	5,421	6,628	6,138	6,136	172.82	0.00
S300TS	0.60	3.06	1.95	1.99	0.40	0.03
S400AC	2.1	16.3	8.7	7.6	3.88	0.18
S400CVA	5,093	6,403	5,794	5,879	375.64	0.09
S400TS	1.13	3.85	1.85	1.85	0.52	0.13
S500AC	1.3	9.8	3.3	3.5	0.99	0.02
S500CVA	5,741	6,530	6,252	6,237	118.71	0.01
S500TS	0.67	2.81	1.88	1.86	0.49	0.00

**Table 4.2 (continued) – Model Coal Quality Data (Grid)**

Grid Name	Minimum Value	Maximum Value	Average Value	Median Value	Standard Deviation	Skewness
S600AC	2.4	14.6	6.5	5.6	3.19	0.82
S600CVA	5,470	6,822	6,232	6,246	282.60	0.06
S600TS	1.77	7.26	3.56	3.22	1.07	0.12
S700AC	1.6	14.0	4.9	4.5	2.66	1.84
S700CVA	5,473	6,561	6,189	6,205	187.47	2.39
S700TS	0.25	2.66	1.31	1.35	0.75	0.00
S790AC	5.9	21.4	13.4	13.3	3.74	0.09
S790CVA	5,074	6,285	5,684	5,610	325.51	0.11
S790TS	1.75	5.38	3.59	3.52	0.90	0.05
S800AC	4.0	42.3	10.6	8.4	6.41	1.06
S800CVA	5637	6315	6047	6,126	204.69	0.42
S800TS	1.61	3.64	2.46	2.42	0.27	0.03
S900AC	9.9	40.8	23.0	20.4	10.36	0.32
S900CVA	3794	5959	4956	5,135	680.05	0.28
S900TS	2.02	6.64	3.60	3.00	1.48	0.86
S1000AC	4.4	12.2	9.3	9.3	1.76	0.00
S1000CVA	5,636	6,294	5,899	5,846	159.13	0.13
S1000TS	1.85	5.02	3.02	2.79	0.91	1.18

AC suffix     Ash content ( %)

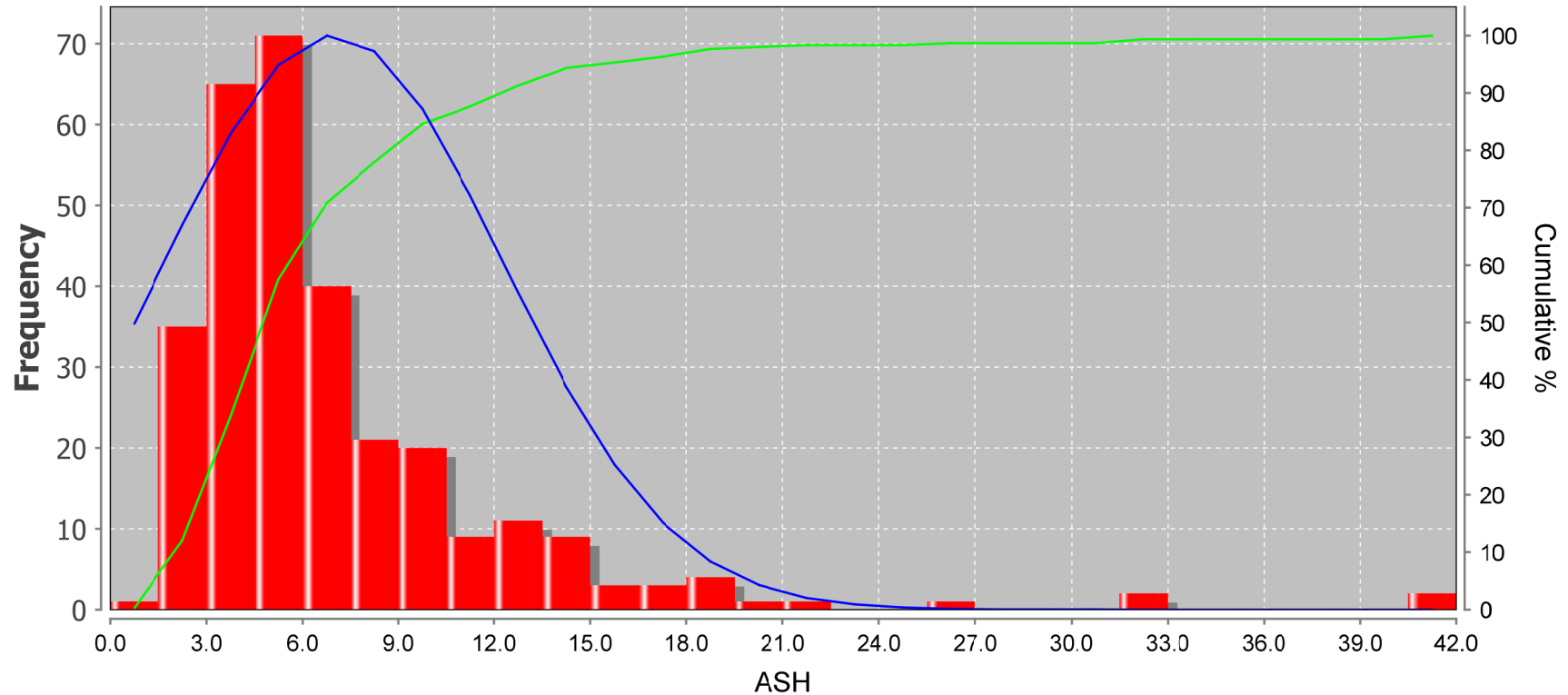
CVA suffix    Calorific Value (Kcals/kg\_adb)

TS suffix     Sulphur content ( %)

Through this review of quality it became apparent that insufficient quality testing had been undertaken. In particular insufficient Relative Density (RD) testing. A program to remedy this problem is currently underway. It is unlikely that the RD value for any seam would make a material change to Resource calculations that are based in part on the average RD of 1.33 gm/cc. Magnitude of any change is indicated to be positive but less than 2.0 % ( $0.02/1.33 = 1.5$  %). Twelve channel samples have been tested for RD. These show a weighted (by length) RD of 1.33 gm/cc which is equal to the default value that has been used.

# Statistics for: ASH

For Seams: S5 S10U S10L S15U S15L S20 S30U S30L S40 S40L S50U S50 S50L S100  
S200 S300 S400 S500 S600 S700 S790 S800 S900 S1000 S1050

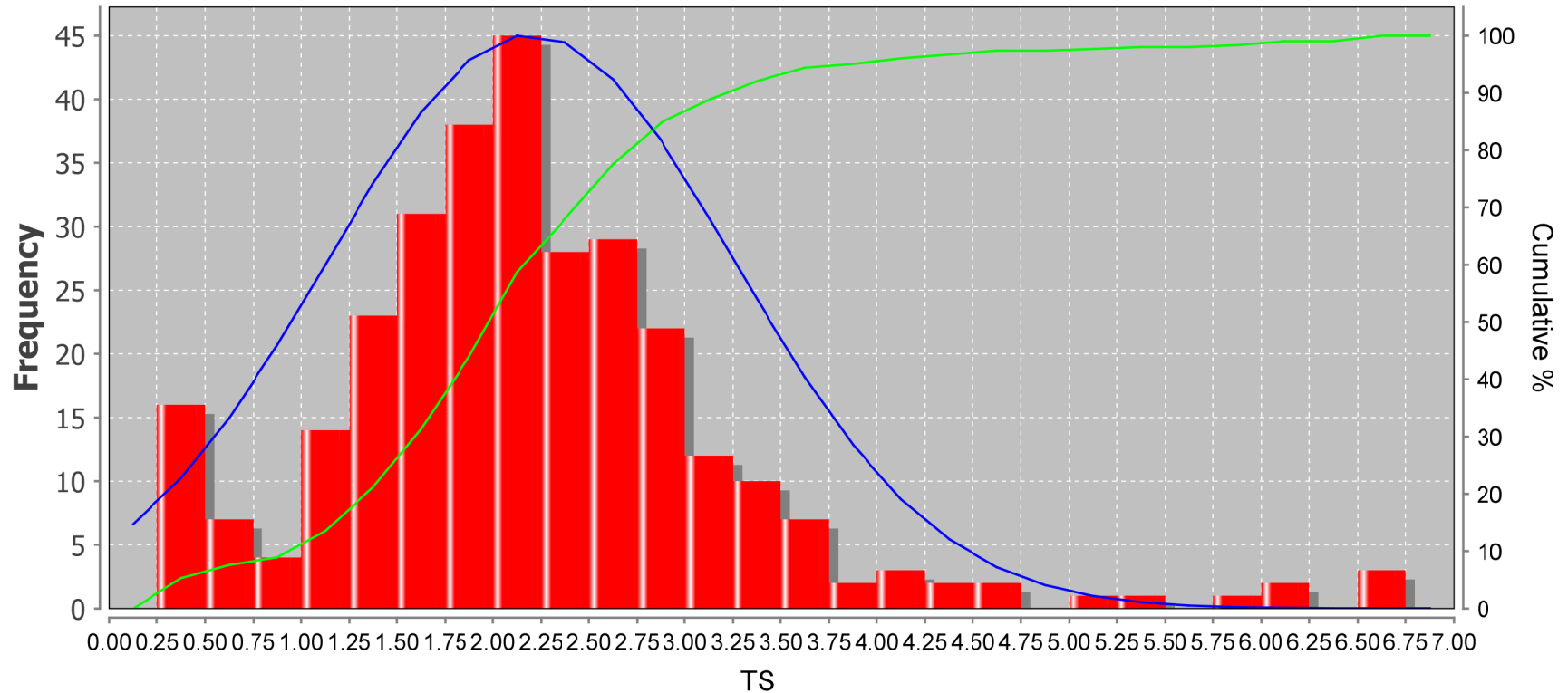


Standard Dev: 5.3  
Kurtosis: 17.2  
Median: 5.4  
% Coeff var: 75.6  
Maximum: 42.0

Skewness: 3.1  
Average: 7.0  
Variance: 27.9  
No Values: 299  
Minimum: 1.4

# Statistics for: TS

For Seams: S5 S10U S10L S15U S15L S20 S30U S30L S40 S40L S50U S50 S50L S100  
S200 S300 S400 S500 S600 S700 S790 S800 S900 S1000 S1050



Standard Dev: 1.06  
Kurtosis: 6.71  
Median: 2.10  
% Coeff var: 48.16  
Maximum: 6.74

Skewness: 1.26  
Average: 2.20  
Variance: 1.12  
No Values: 303  
Minimum: 0.25

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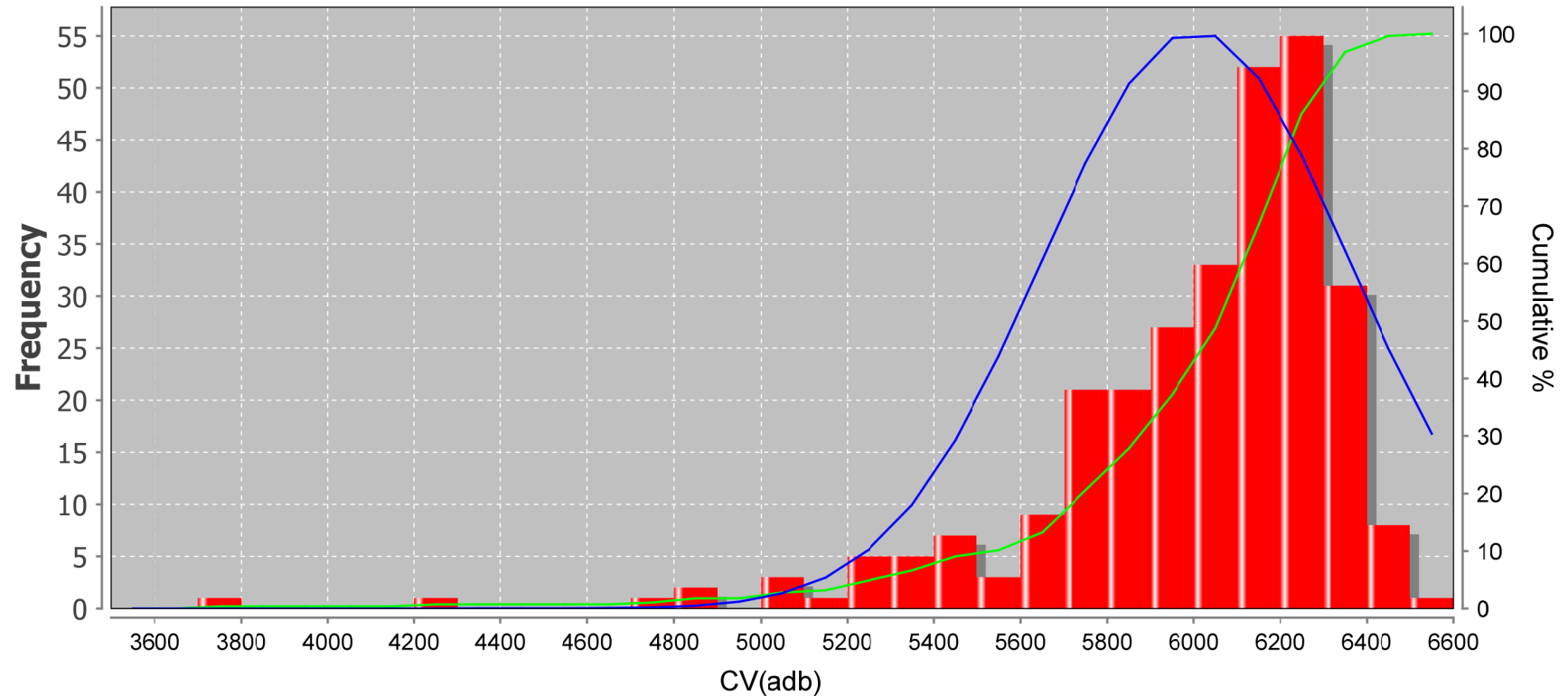
**PT Rinjani Kartanegara Coal Resource Statement**  
Coal Quality Histogram of Total Sulphur (ADB) - All Seams

Design	AD	24/03/15	Scale	N T S	Paper	A4 L
Drawn	GN	24/03/15	Cad File	J1504_05 histogram.dwg	Figure No. <b>4.2</b>	



# Statistics for: CV(adb)

For Seams: S5 S10U S10L S15U S15L S20 S30U S30L S40 S40L S50U S50 S50L S100  
S200 S300 S400 S500 S600 S700 S790 S800 S900 S1000 S1050

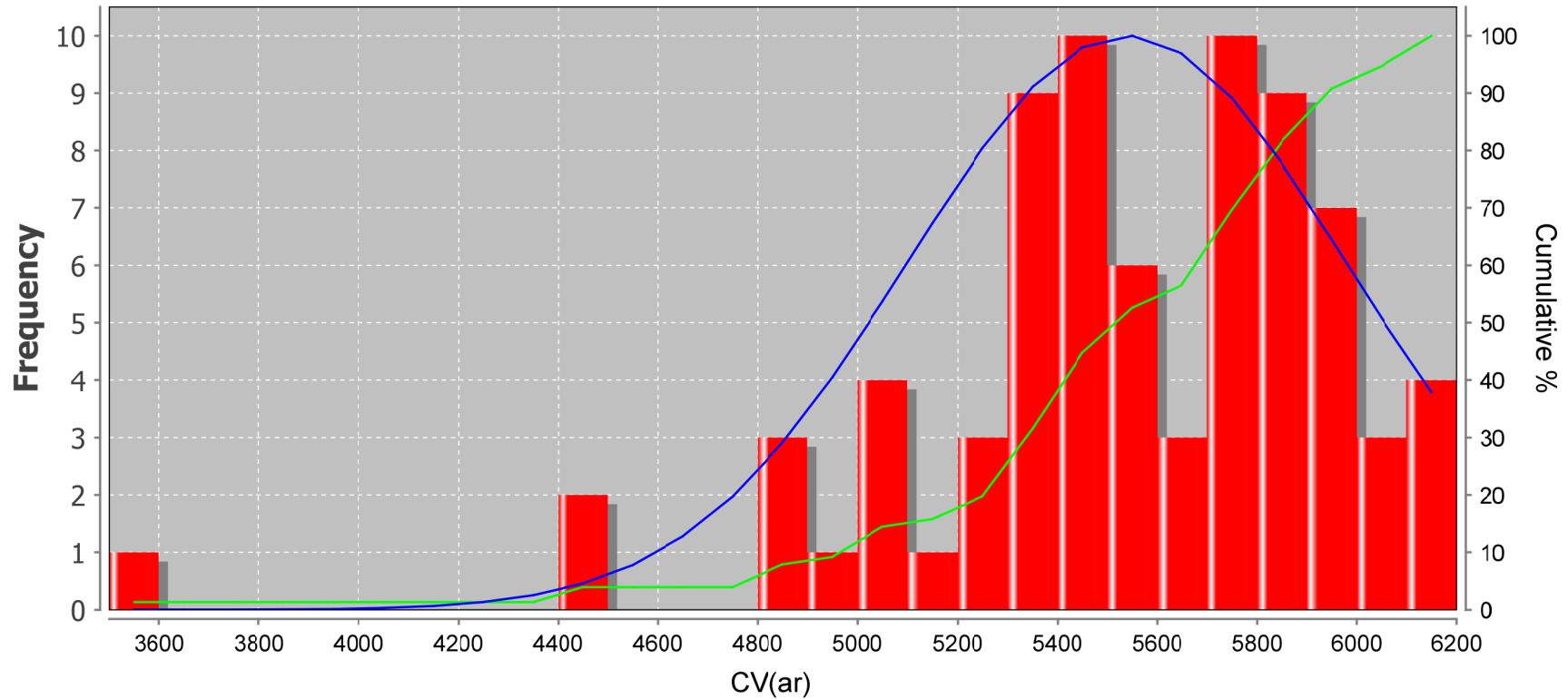


Standard Dev: 353  
Kurtosis: 10  
Median: 6109  
% Coeff var: 6  
Maximum: 6501

Skewness: -2  
Average: 6004  
Variance: 124605  
No Values: 287  
Minimum: 3794

# Statistics for: CV(ar)

For Seams: S5 S10U S10L S15U S15L S20 S30U S30L S40 S40L S50U S50 S50L S100  
S200 S300 S400 S500 S600 S700 S790 S800 S900 S1000 S1050

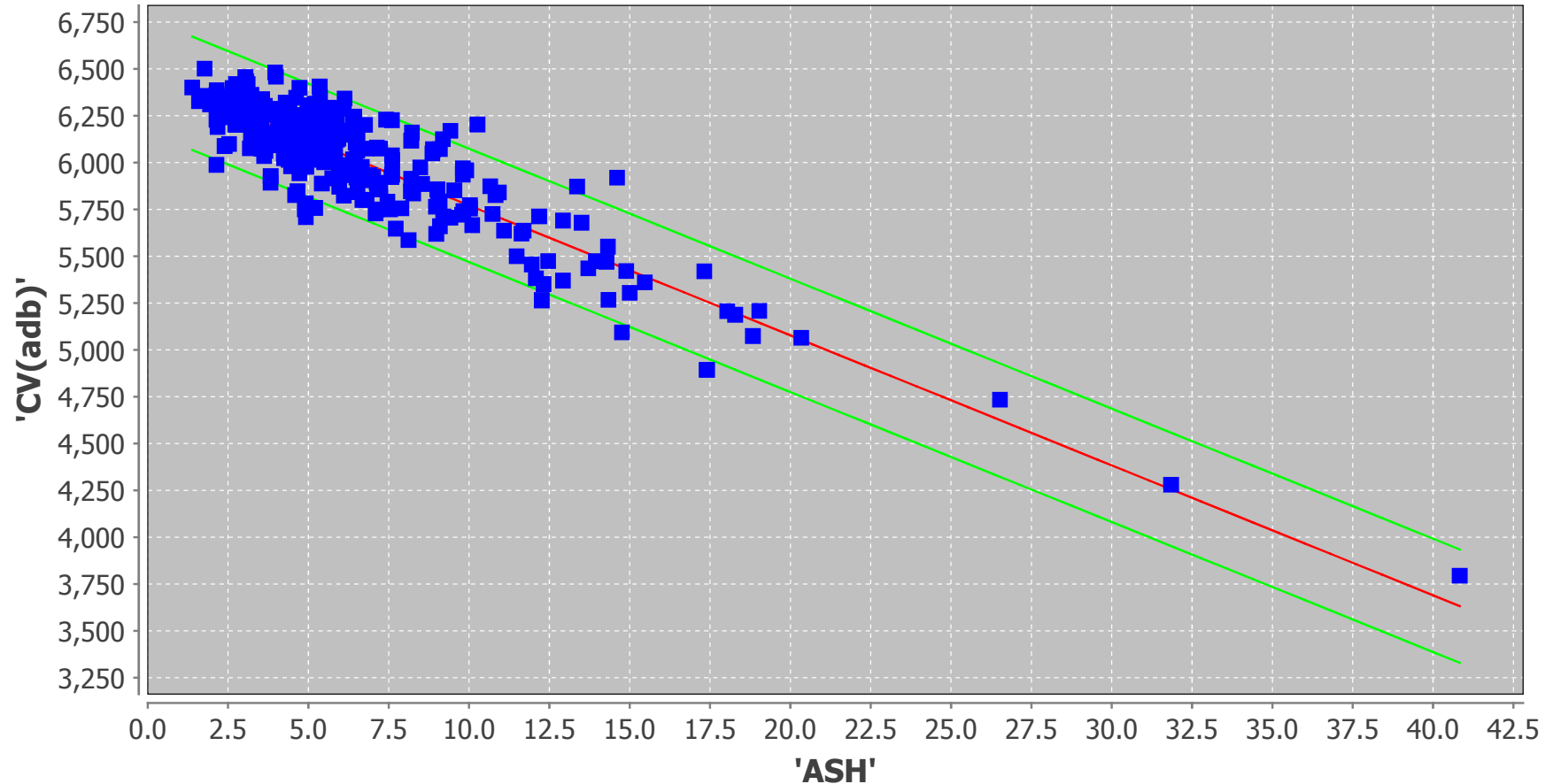


Standard Dev: 438  
Kurtosis: 7  
Median: 5568  
% Coeff var: 8  
Maximum: 6186

Skewness: -2  
Average: 5539  
Variance: 191968  
No Values: 76  
Minimum: 3557

## Correlation between 'CV(adb)' + 'ASH'

For Seams: S5 S10U S10L S15U S15L S20 S30U S30L S40 S40L S50U S50 S50L S100 S200 S300 S400 S500  
S600 S700 S790 S800 S900 S1000 S1050



Correlation Coefficient: -0.9034358

$$CVa = 6465.573 + -69.4019 * AC$$

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Cross Correlation Ash vs Calorific Value (adb)

Design	AD	24/03/15	Scale	NTS	Paper	A4 L
Drawn	GN	24/03/15	Cad File	J1504_05 histogram.dwg		

Figure No.

**4.5**

## 5. ESTIMATION OF RESOURCES FOR THE RJN PROJECT

### 5.1 DATABASE INTEGRITY

To perform a complete review of the geological database and ensure that data can be classified as a Resource, certain criteria must be met.

To be able to estimate a Resource, there must be a sufficient number of valid points of observation, and these points must be suitably spaced in order to accurately represent the deposit being modelled. Seam continuity and seam characteristics must be completely understood to allow confirmation of the Resource. Points of observation can be seam outcrops, exploration trenches or boreholes. Valid points of observation require the following information:

- Correct survey location data
- Geological logs detailing the various lithologies and geological structures present at a given location
- Boreholes must be geophysically logged i.e. Gamma, Density and Calliper logs are used to identify seam roof and floor, faults, washouts, cave-ins etc. These logs must be used to adjust the geological log and sample depths
- Representative coal quality samples must be collected and submitted to an accredited laboratory for analysis

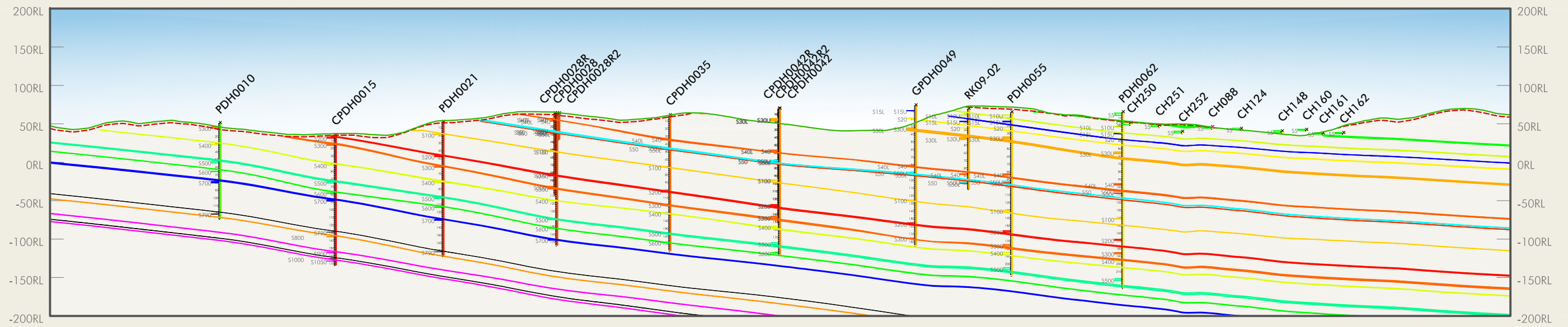
The database is considered by SMGC to be of an acceptable standard to estimate and report Resources. All seam picks have been checked and correlated.

### 5.2 GEOLOGICAL INTERPRETATION

The RJN Geological Model created by SMGC is interpreted as being geologically competent and considered to accurately represent the RJN deposit. Coal bearing sequences at RJN exhibit splitting up to the 1st phase. The area is characterised by relatively flat lying strata, on average the stratigraphy dips 9 degrees to the North-Northeast.

Large scale faulting has not been identified by current field exploration however minor faulting cannot be ruled out based on the current borehole spacing.

Representative cross sections of the Project Area stratigraphy are illustrated in Figure 5.1 to Figure 5.4.

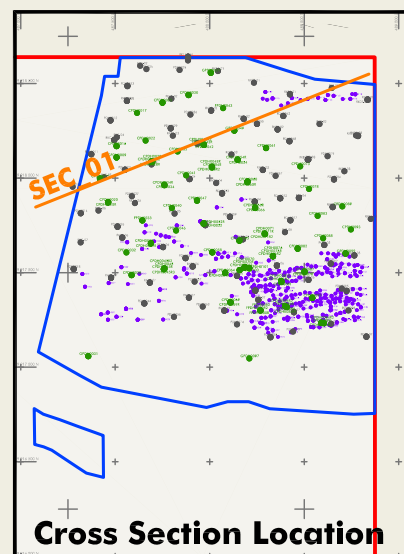


**LEGEND :**

- LIDAR Topography
- - - Base of Weathering
- █ Seam S5
- █ Seam S10U
- █ Seam S10L
- █ Seam S15U
- █ Seam S15L
- █ Seam S20
- █ Seam S30U
- █ Seam S30L
- █ Seam S40U
- █ Seam S40L
- █ Seam S50U
- █ Seam S50L
- █ Seam S100
- █ Seam S200
- █ Seam S300
- █ Seam S400
- █ Seam S500
- █ Seam S600
- █ Seam S700
- █ Seam S790
- █ Seam S800
- █ Seam S900
- █ Seam S1000
- █ Seam S1050

## Cross Section 1

H : V = 1 : 1  
 Vertical Scale 1 : 5,500 @ A3  
 55 m 0 110 m



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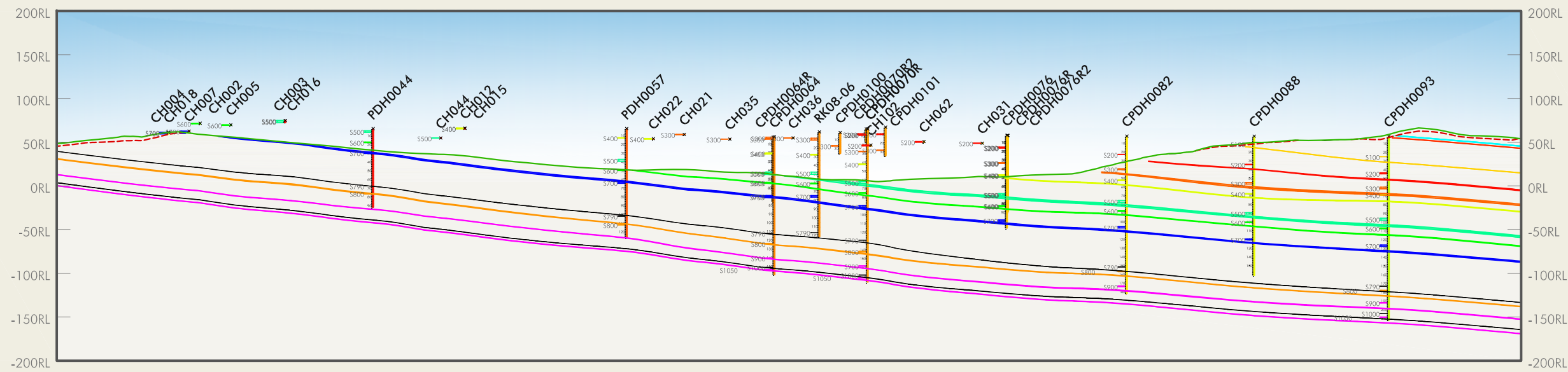
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Cross Section 1

Design	AD	23/03/15	Scale	1 : 5,500	Paper	A3 L
Drawn	GN	23/03/15	Cad File	J1504_06 cross section.dwg		

Figure No.

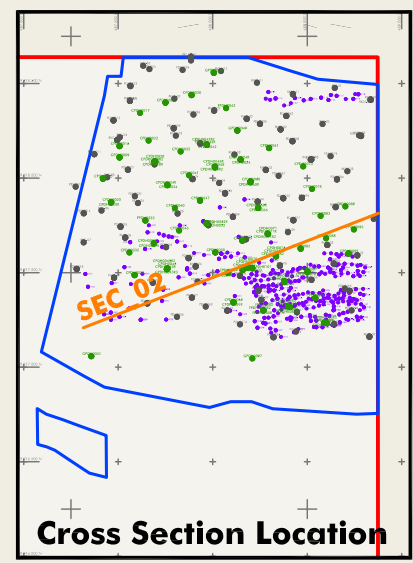
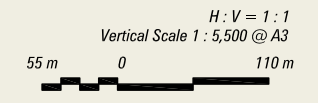
5.1

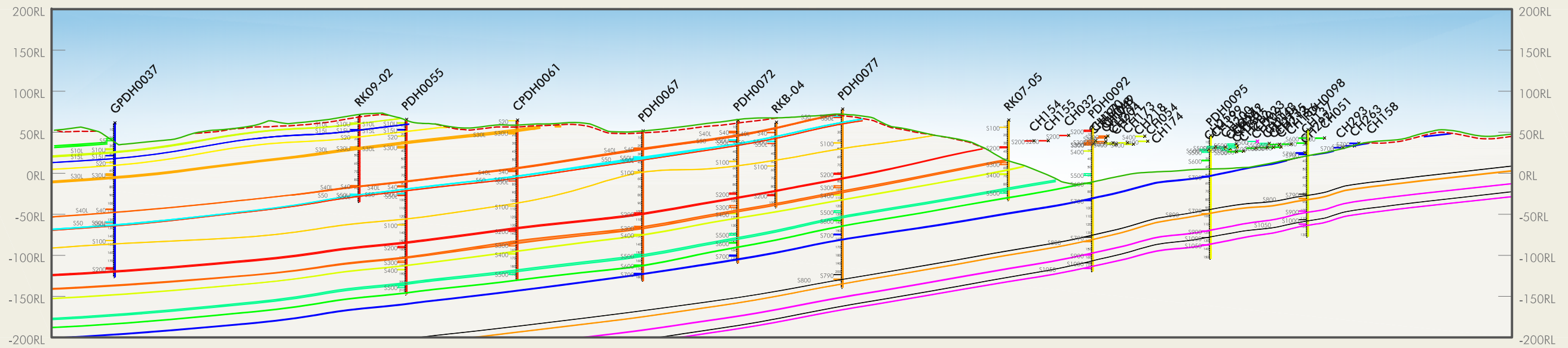


LEGEND :

- |                          |             |             |             |             |              |
|--------------------------|-------------|-------------|-------------|-------------|--------------|
| — LIDAR Topography       | █ Seam S15U | █ Seam S40U | █ Seam S100 | █ Seam S600 | █ Seam S1000 |
| - - - Base of Weathering | █ Seam S15L | █ Seam S40L | █ Seam S200 | █ Seam S700 | █ Seam S1050 |
| █ Seam S5                | █ Seam S20  | █ Seam S50U | █ Seam S300 | █ Seam S790 |              |
| █ Seam S10U              | █ Seam S30U | █ Seam S50  | █ Seam S400 | █ Seam S800 |              |
| █ Seam S10L              | █ Seam S30L | █ Seam S50L | █ Seam S500 | █ Seam S900 |              |

## Cross Section 2

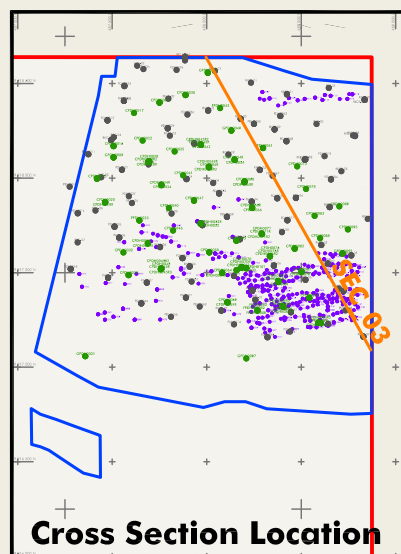
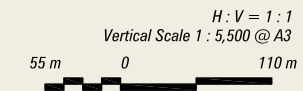




LEGEND :

- LIDAR Topography
- - - Base of Weathering
- Seam S5
- Seam S10U
- Seam S10L
- Seam S15U
- Seam S15L
- Seam S20
- Seam S30U
- Seam S30L
- Seam S40U
- Seam S40L
- Seam S50U
- Seam S50L
- Seam S100
- Seam S200
- Seam S300
- Seam S400
- Seam S500
- Seam S600
- Seam S700
- Seam S790
- Seam S800
- Seam S900
- Seam S1000
- Seam S1050

### Cross Section 3



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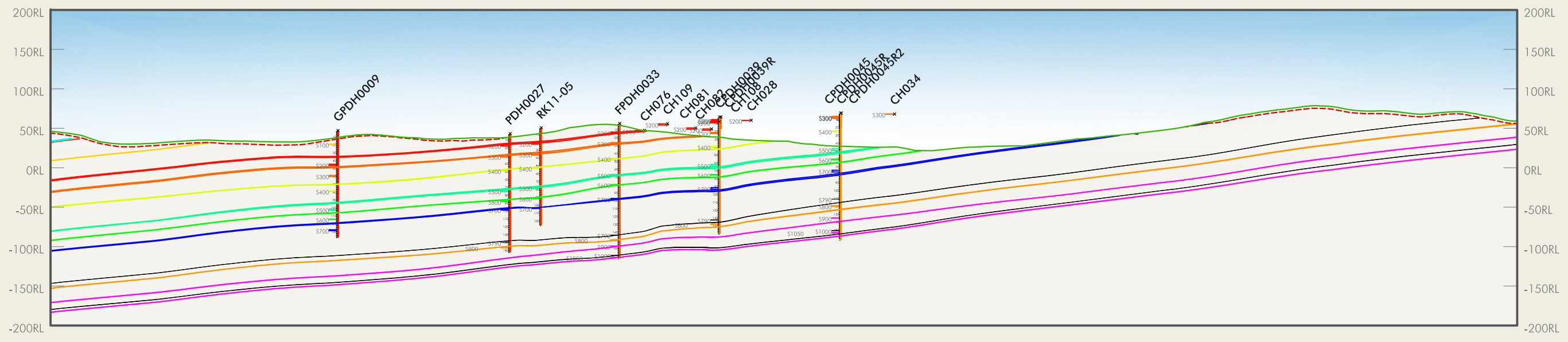
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Cross Section 3

Design	AD	23/03/15	Scale	1 : 5,500	Paper	A3 L
Drawn	GN	23/03/15	Cad File	J1504_06 cross section.dwg		

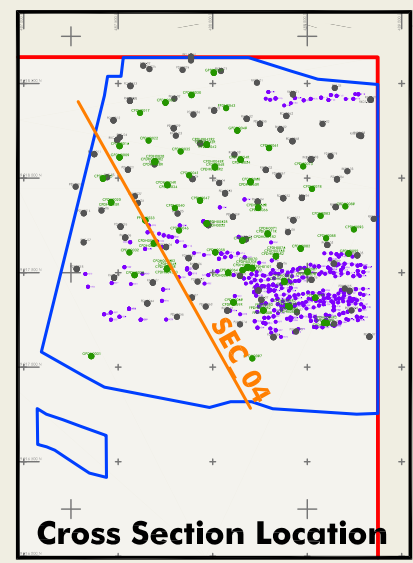
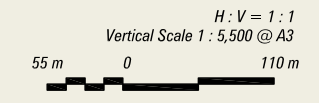
Figure No.  
**5.3**



**LEGEND :**

- LIDAR Topography
- - - Base of Weathering
- █ Seam S5
- █ Seam S10U
- █ Seam S10L
- █ Seam S15U
- █ Seam S20
- █ Seam S30U
- █ Seam S30L
- █ Seam S40U
- █ Seam S40L
- █ Seam S50U
- █ Seam S50
- █ Seam S50L
- █ Seam S100
- █ Seam S200
- █ Seam S300
- █ Seam S400
- █ Seam S500
- █ Seam S600
- █ Seam S700
- █ Seam S790
- █ Seam S800
- █ Seam S900
- █ Seam S1000
- █ Seam S1050

## Cross Section 4





### 5.3 RESOURCE DIMENSIONS

Drilling to date has identified a multi-seam coal Resource approximately 1.6 km long and 1.5 km wide within the RJN concession area. The geometry of this deposit is restricted by the IUP boundaries to the North and East and is limited by exploration drilling data to the South and West. The geological model indicates that potentially the deposit extends further South and West beyond the limits of the current drilling program.

### 5.4 MOISTURE BASIS

The Resource is reported on an air dried moisture basis. No corrections have been made.

### 5.5 CUT OFF PARAMETERS

The Resource was limited to a 180 m depth cut-off. This cut-off has been used as the boreholes in the model have predominantly been drilled to a maximum depth of 180 m. An upper cut-off 3 m below topography and representing the base of weathering has been used to limit the Resource. This surface was also merged with the March 2015 “mined-out” surface to limit the upper extent of the Resource. A minimum thickness cut-off 0.30 metres was also set for the area, as it is considered unlikely than any seam thinner than this would be extracted during future mining.

### 5.6 COAL BENEFICIATION

Coal beneficiation has not been considered in the reporting of the RJN Resource.

### 5.7 REASONABLE PROSPECTS OF ECONOMIC EXTRACTION

All reports of Mineral Resources must satisfy the requirement that there are reasonable prospects for eventual economic extraction (i.e. more likely than not) regardless of the classification of Resource. Mining has been undertaken on the deposit area since 2012.

Portions of a deposit that do not have reasonable prospects for eventual economic extraction must not be included in a Mineral Resource. The basis for the reasonable prospects assumption is always a material matter, and must be explicitly disclosed and discussed. This has been done by SMGC using Table 1 (Appendix B) from The 2012 JORC Code as guidance.

It is SMGC’s opinion that based on current and emergent mining technologies, the current understanding of the nature and quality of the ore body and the prevailing economic, social and political conditions that the Resources stated within this report for RJN currently meet this requirement and have reasonable prospects of economic extraction within the short to medium term time frame.

As previously stated, the true nature of any body of mineralisation is never known until the last tonne of ore has been mined out. Exploration information relies on interpretation of a relatively small statistical sample of the deposit being studied; thus a variety of interpretations may be possible from the fragmentary data available.

Investors should note that the statements and diagrams in this report are based on the best information available at the time, but may not necessarily be absolutely correct. Such statements and diagrams are subject to change or refinement as new exploration makes new data available, or new research alters prevailing geological concepts.

It should be noted that these statements are made at a point in time, and that coal prices, mining costs, legislative, environmental and socio-economic factors can all change dramatically based on both foreseen and unforeseen events and as such any prediction of economic potential should be treated with an appropriate degree of concern with this in mind.

### 5.7.1 Environmental and Permitting Issues

Existing forest in Indonesia is generally classified as either Hutan Produksi (HP), which is forest that may be felled for industry purposes (generally timber), Hutan Lindung (HL) which is protected forest or Kawasan Suaka Alam Dan Pelestarian which is a conservation area. Through negotiation with stakeholders it is possible to obtain a permit to “borrow” land which is classified as HP for use in mining activities. The permit is referred to as “Izin Pinjam Pakai Kawasan Hutan” (IPPKH). In the case of RJN the lease completely covers a production forest (HP) area, and all resource tonnages stated in this report fall within this area as shown in Figure 5.5.

In the opinion of SMGC, the presence of land classified as HP which is overlying a mineral Resource has no material impact upon the classification of the said Resource under the the JORC Code, provided that the cost of obtaining a IPPKH for HP forest does not exclude the Resource from ‘eventual economic extraction’.

PT Rinjani Kartanegara have an existing Izin Pinjam Pakai Kawasan Hutan over a portion of the lease and are actively mining within this permitted area. The concession area is located adjacent to a conservation area but this is not forecast to be a hindrance to mining activities. No other environmental or permitting issues that would influence the estimation of this Resource have been identified.

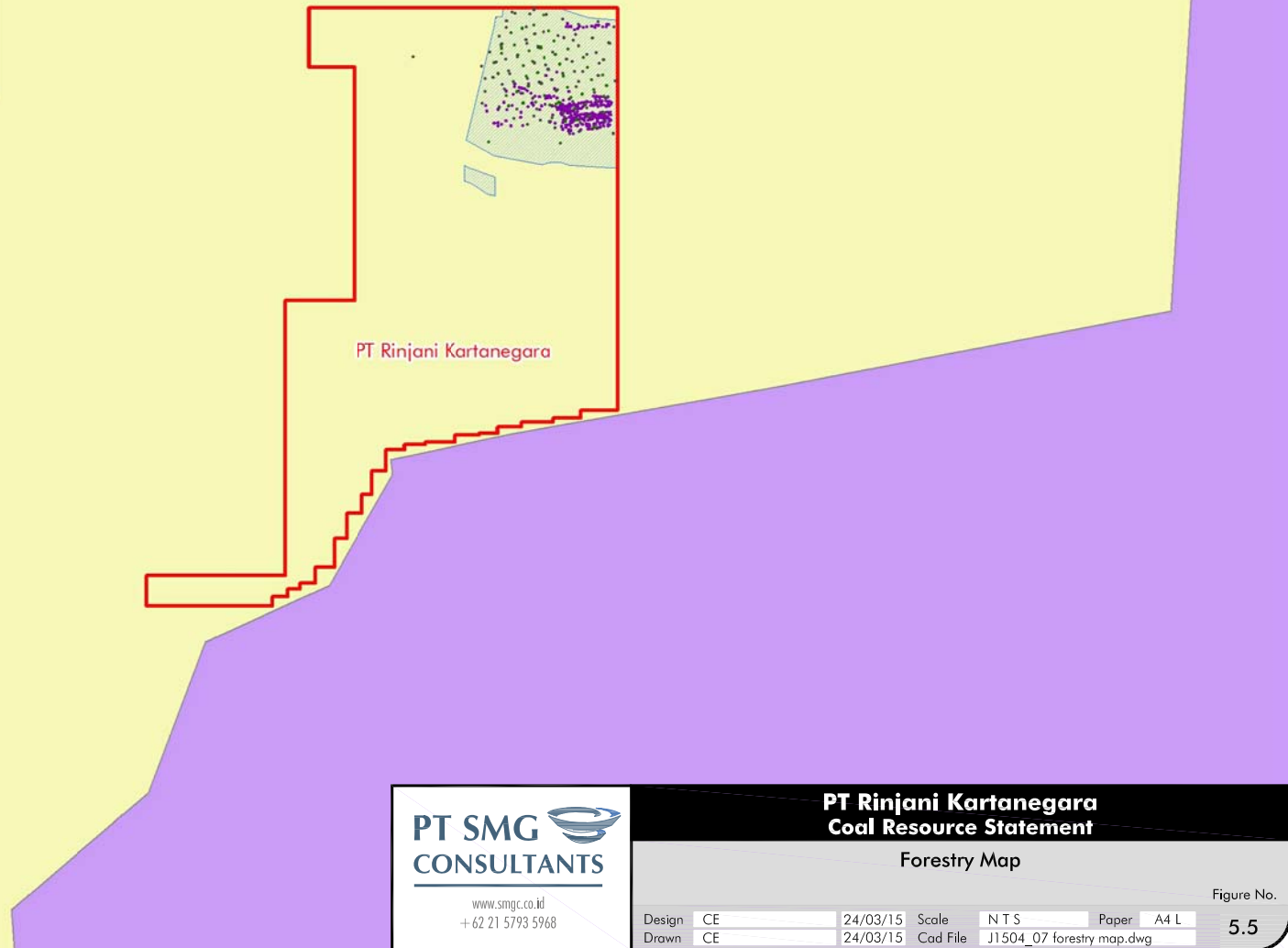
LEGEND

Borehole

- Boreholes - Cored
- Boreholes - Open
- Borehole - Channel Sampling

Forest Classification

- Hutan Produksi
- Kawasan Suaka Alam Dan Pelestarian Alam
- IPPKH - Pinjam Pakai
- Existing



PT Rinjani Kartanegara

**PT SMG**  
CONSULTANTS

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**PT Rinjani Kartanegara**  
**Coal Resource Statement**

Forestry Map

Design	CE	24/03/15	Scale	N T S	Paper	A4 L
Drawn	CE	24/03/15	Cad File	J1504_07 forestry map.dwg		

Figure No.

5.5

## 5.7.2 Social and Government Factors

There were no identified social or government factor issues that would influence the estimation of this Resource.

## 5.7.3 Marketing Factors

There were no identified marketing factor issues that would influence the estimation of this Resource.

## 5.8 RESOURCE CLASSIFICATION

A division of the Resources into Measured, Indicated and Inferred status was undertaken for the geological model.

The following Resource dimensions were used:

- Measured – 250 m radius circular polygon around points of observation
- Indicated – between 250-500 m radius circular polygon around points of observation
- Inferred – between 500-1,000 m radius circular polygons around points of observation

Points of Observation for the model in the RJN Project Area were defined using the following criteria:

- Only cored boreholes that had valid survey collars (not GPS-survey) were used, i.e. those boreholes not surveyed have not been considered
- Cored boreholes had to be geophysically logged and sampled to be considered as valid points of observation for Resource calculations
- Coal seam recovery had to be greater than 90 % and samples analysed by an accredited laboratory
- Relative density results were limited and where necessary a default density of 1.33 g/cc was applied to Resource calculations

The extent of the various Resource categories for each of the seams in the RJN Project Area can be seen in Figure C.1 to Figure C.16 (Appendix C).

## 5.9 RESOURCE TONNAGE BY CLASSIFICATION CATEGORY

A total Resource of 22.7 Mt was derived for the concession from the RJN Geological Model. This was calculated by SMGC using Minex Modelling and Resource estimation tools and is comprised of 14.0 Mt of Measured Category Resources, 4.1 Mt of Indicated Category Resources and 4.7 Mt of Inferred Category Resources as shown in Table 5.1. The Resources have been calculated using density that has been estimated on an air dried basis.

Resource tonnages reported have been based upon relative density grids that have been derived from the PT Geoservices Laboratory data where available. A default density of 1.33 g/cc has been applied when RD grids were not available. The Resource was limited to a depth of 180 m below topography.

Appendix C contains the RJN Resource polygons based around points of observation which have sufficient core recovery, geophysics and quality to be considered valid.

**Table 5.1 – Total Resource Tonnage by Seam**

SEAM	MEASURED (Mt)	INDICATED (Mt)	INFERRED (Mt)	By seam (Mt)
S5	0.0	0.0	0.4	0.4
S10U	0.0	0.0	0.1	0.1
S10L	0.0	0.0	0.0	0.0
S15U	0.0	0.0	0.0	0.0
S15L	0.0	0.0	0.0	0.0
S20	0.0	0.1	0.1	0.2
S30U	0.3	0.2	0.1	0.6
S30L	0.3	0.2	0.1	0.5
S40	0.4	0.1	0.0	0.5
S40L	0.0	0.0	0.0	0.0
S50U	0.0	0.0	0.0	0.0
S50	0.4	0.1	0.0	0.5
S50L	0.0	0.0	0.0	0.0
S100	0.1	0.1	0.1	0.3
S200	2.0	0.4	0.3	2.8
S300	2.5	0.5	0.4	3.3
S400	0.9	0.1	0.2	1.1
S500	2.8	0.5	0.5	3.8
S600	0.9	0.2	0.2	1.2
S700	2.2	0.7	0.9	3.8
S790	0.1	0.1	0.0	0.1
S800	0.7	0.5	0.3	1.5
S900	0.3	0.2	0.3	0.7
S1000	0.2	0.2	0.5	0.9
S1050	0.0	0.0	0.2	0.2
<b>TOTAL</b>	<b>14.0</b>	<b>4.0</b>	<b>4.7</b>	<b>22.7</b>

\* There may be minor discrepancies in the above table due to rounding of tonnage, these are not considered material by SMGC.

\* All tonnes shown are calculated using density that has been estimated on an air dried basis.

\* This table must be presented with the entire Coal Resource Statement from which it was obtained

## 6. RESOURCE SUMMARY

Table 6.1 summarises the Coal Resource estimates computed by SMGC within the RJN concession area.

**Table 6.1 – Resource Estimates by Classification Category**

	<b>MEASURED Mt</b>	<b>INDICATED Mt</b>	<b>INFERRED Mt</b>	<b>TOTAL Mt</b>
<b>TOTAL</b>	<b>14.0</b>	<b>4.0</b>	<b>4.7</b>	<b>22.7</b>

\* There may be minor discrepancies in the above table due to rounding of tonnage, these are not considered material by SMGC

\* All tonnes shown are calculated using density that has been estimated on an air dried basis.

\* This table must be presented with the entire Coal Resource Statement from which it was obtained

Resource estimates for RJN were based upon relative densities extrapolated from the data supplied by RJN with a default of 1.33 g/cc set. The Resource was limited to 180 m depth below topography (as discussed in Section 5.5) with a minimum seam thickness set to 0.30. All Resources were limited to the concession boundary.

Seam S5 has only limited Resources currently stated due to the lack of validated boreholes intersecting this seam. It is however currently being actively mined by RJN in parts of the concession.

The reported Resources are 1.2 Mt less than the previously reported Resources for this area (Coal Resource Statement, April 2014). This tonnage is approximately equal to the coal that has been mined from the area.

## 7. COMPETENT PERSON STATEMENT

The Resource estimate for the RJN Project Area has been calculated, reviewed and verified by SMGC's Principal Geologist Mr. Mark Manners, a Competent Person in accordance with the requirements of the 2012 Edition of the Australasian Code for Reporting of Exploration Results, Minerals Resources and Ore Reserves (the JORC Code), as prepared by the Joint Ore Reserves Committee of The Australian Institute of Mining and Metallurgy, Australian Institute of Geoscientists and Mineral Council of Australia. The information about the deposit and the total Resources for the RJN area represent a comprehensive study of the deposit in which all geological and other relevant factors are considered in sufficient detail to serve as a guide to its development.

The Resources Estimate is considered to be reasonable, with the following qualifications:

- Resources are current as of the 31<sup>st</sup> of March, 2015.
- The Resource models and estimations were developed using the MINEX geological and mine planning software system, a worldwide industry proven system used primarily for coal mining operations.
- The modelling algorithms available for generating the geological models in the MINEX system, includes the growth technique. The grid mesh size used for modelling the geology is 20 X 20 metres.
- The Resources were calculated using the Resource Estimation tools in the MINEX software system. This system has been used extensively and proven to be reasonably accurate when compared to manual estimations of Resources.
- Acquisition of geological data from drilling activities has been conducted professionally and accurately. The sampling and logging procedures during the drilling program have been conducted under supervision.
- Resources are based upon estimated relative density values. The tonnage reported is based on a default air dried relative density (RD) of 1.33 g/cc, where density values were not available. This is the average density of all seams in the relevant deposit area.

Mr. Manners is a Member of the Australasian Institute of Mining and Metallurgy. He is employed by PT SMG Consultants and has sufficient experience which is relevant to the style of mineralisation and type of deposit situated in this concession to qualify as a Competent Person as defined in the JORC Code. Mr. Manners has over 30 years' experience in exploration and mining of coal deposits.

Mr. Manners and SMGC consent to the inclusion of this Resource Report in reports disclosed by the Company to third parties in the form in which it appears. This Resource Report may only be presented in its entirety. Extraction of selected text from this report is only permitted with the written consent of PT SMG Consultants.

Yours sincerely

PT SMG Consultants



Mark Manners

BSc (Geology), MAusImm, Principal Geologist

## Appendix A – Consent Template



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*[Letterhead of Competent Person or Competent Person's employer]*

### **Competent Person's Consent Form**

Pursuant to the requirements of ASX Listing Rules 5.6, 5.22 and 5.24 and  
Clause 9 of the JORC Code 2012 Edition (Written Consent Statement)

#### **Report name**

---

*(Insert name or heading of Report to be publicly released) ('Report')*

---

*(Insert name of company releasing the Report)*

---

*(Insert name of the deposit to which the Report refers)*

If there is insufficient space, complete the following sheet and sign it in the same manner as this original sheet.

---

*(Date of Report)*

---

## Statement

I/We,

---

*(Insert full name(s))*

confirm that I am the Competent Person for the Report and:

- I have read and understood the requirements of the 2012 Edition of the Australasian Code for Reporting of Exploration Results, Minerals Resources and Ore Reserves (the JORC Code, 2012 Edition).
- I am a Competent Person as defined by the JORC Code, 2012 Edition, having five years experience that is relevant to the style of mineralisation and type of deposit described in the Report, and to the activity for which I am accepting responsibility.
- I am a Member or Fellow of *The Australasian Institute of Mining and Metallurgy* or the *Australian Institute of Geoscientists* or a 'Recognised Professional Organisation' (RPO) included in a list promulgated by ASX from time to time.
- I have reviewed the Report to which this Consent Statement applies.

I am a full time employee of

---

*(Insert company name)*

Or

I/We am a consultant working for

---

*(Insert company name)*

and have been engaged by

---

*(Insert company name)*

to prepare the documentation for

---

*(Insert deposit name)*

on which the Report is based, for the period ended

---

*(Insert date of Resource/Reserve statement)*

I have disclosed to the reporting company the full nature of the relationship between myself and the company, including any issue that could be perceived by investors as a conflict of interest.

I verify that the Report is based on and fairly and accurately reflects in the form and context in which it appears, the information in my supporting documentation relating to Exploration Targets, Exploration Results, Mineral Resources and/or Ore Reserves *(select as appropriate)*.

---

## Consent

I consent to the release of the Report and this Consent Statement by the directors of:

---

*(Insert reporting company name)*

---

Signature of Competent Person:

---

Date:

---

Professional Membership:  
*(insert organisation name)*

---

Membership Number:

---

Signature of Witness:

---

Print Witness Name and Residence:  
(eg town/suburb)

Additional deposits covered by the Report for which the Competent Person signing this form is accepting responsibility:

---

---

---

---

Additional Reports related to the deposit for which the Competent Person signing this form is accepting responsibility:

---

---

---

---

Signature of Competent Person:

Date:

Professional Membership:  
*(insert organisation name)*

Membership Number:

Signature of Witness:

Print Witness Name and Residence:  
*(eg town/suburb)*

## Appendix B – JORC Table 1

## Table 1 Checklist of Assessment and Reporting Criteria

### JORC TABLE 1 Section 1 Sampling Techniques and Data (Criteria in this section apply to all succeeding sections)

Criteria	Explanation
Sampling techniques	<ul style="list-style-type: none"> <li>As discussed in Section 3.5 of this report.</li> </ul>
Drilling techniques	<ul style="list-style-type: none"> <li>As discussed in Section 3.4 of this report.</li> </ul>
Drill sample recovery	<ul style="list-style-type: none"> <li>As discussed in Sections 3.4 of this report.</li> </ul>
Logging	<ul style="list-style-type: none"> <li>As discussed in Sections 3.6 of this report.</li> </ul>
Sub-sampling techniques and sample preparation	<ul style="list-style-type: none"> <li>As discussed in Section 3.5 of this report and Table 3.1 and Figure 3.1.</li> </ul>
Quality of assay data and laboratory tests	<ul style="list-style-type: none"> <li>As discussed in Section 3.7 of this report and Table 3.2 and Table 3.3.</li> </ul>
Verification of sampling and assaying	<ul style="list-style-type: none"> <li>As discussed in Section 3.5 and section 3.7 of this report.</li> <li>Visual inspection on site.</li> </ul>
Location of data points	<ul style="list-style-type: none"> <li>As discussed in Section 3.3 and 3.4 of this report and Figure 3.1.</li> </ul>
Data spacing and distribution	<ul style="list-style-type: none"> <li>As discussed in Section 3.4. Borehole locations identified in Figure 3.1 as well as those used for estimation purposes in Appendix A.</li> </ul>
Orientation of data in relation to geological structure	<ul style="list-style-type: none"> <li>All holes have been drilled vertically. Geological structure and local geology inclusive of seam dip is described in Section 2.2 and 2.3 of this report.</li> </ul>
Sample security	<ul style="list-style-type: none"> <li>Visual inspection of sample collection and batch creation. Samples were transported to the laboratory by RJN personnel/contractors.</li> </ul>
Audits or reviews	<ul style="list-style-type: none"> <li>A review of the borehole database was made before modelling was undertaken (See Section 5.1 of this report).</li> </ul>

**Section 2 Reporting of Exploration Results**  
**(Criteria listed in the preceding section also apply to this section)**

<b>Criteria</b>	<b>Explanation</b>
Mineral tenement and land tenure status	<ul style="list-style-type: none"> <li>As discussed in Section 1.3 of this report.</li> </ul>
Exploration done by other parties	<ul style="list-style-type: none"> <li>As discussed in Section 3.1 of this report.</li> </ul>
Geology	<ul style="list-style-type: none"> <li>As discussed in Section 2 of this report.</li> </ul>
Drill hole Information	<ul style="list-style-type: none"> <li>As discussed in Section 3 of this report. All boreholes exist in a validated Minex database which includes lithological, quality and hole survey information as discussed in section 4.6</li> </ul>
Data aggregation methods	<ul style="list-style-type: none"> <li>Sample methodology is discussed in section 3.5 of this report. All samples have been composited over the full seam thickness and reported using Minex software tools.</li> </ul>
Relationship between mineralisation widths and intercept lengths	<ul style="list-style-type: none"> <li>Down-hole lengths have been used in the modelling of the seams in Minex.</li> </ul>
Diagrams	<ul style="list-style-type: none"> <li>All maps, tables and diagrams are identified in the Table of Contents of this report under the headings "Tables", "Figures" and "Appendices".</li> </ul>
Balanced reporting	<ul style="list-style-type: none"> <li>All reporting has been done in a balanced and measured way and is discussed in Section 1.5, 4 and 5.7 of this report.</li> </ul>
Other substantive exploration data	<ul style="list-style-type: none"> <li>As discussed in Section 3.1 and Section 3.8 in this report.</li> </ul>
Further work	<ul style="list-style-type: none"> <li>As discussed in Section 3.8. Further work will be necessary to improve the confidence levels of the deposits and understanding of the full seam stratigraphy. No proposed exploration plan has been proposed in this report.</li> </ul>

**Section 3 Estimation and Reporting of Mineral Resources**  
**(Criteria listed in section 1, and where relevant in section 2, also apply to this section)**

<b>Criteria</b>	<b>Explanation</b>
Database integrity	<ul style="list-style-type: none"> <li>As discussed in Section 5.1 of this report.</li> </ul>
Site visits	<ul style="list-style-type: none"> <li>A Site visit was undertaken by an SMGC employee in October 2013.</li> </ul>
Geological interpretation	<ul style="list-style-type: none"> <li>As discussed in Section 4 and Section 5.2 of this report. The RJN 3D geological models have been created in Minex software and are considered to be an appropriate interpretation of the dataset.</li> </ul>
Dimensions	<ul style="list-style-type: none"> <li>As discussed in Section 5.3 of this report.</li> </ul>
Estimation and modelling techniques	<ul style="list-style-type: none"> <li>As discussed in Section 5 of this report.</li> </ul>
Moisture	<ul style="list-style-type: none"> <li>As discussed in Section 5.4 of this report.</li> </ul>
Cut-off parameters	<ul style="list-style-type: none"> <li>As discussed in Section 5.5 of this report.</li> </ul>
Mining factors or assumptions	<ul style="list-style-type: none"> <li>The RJN area is expected to be mined as an open pit excavation by truck and shovel methods based on current intersected coal seam depths.</li> </ul>
Marketing factors or assumptions	<ul style="list-style-type: none"> <li>As discussed in Section 5.7.3 of this report</li> </ul>
Environmental factors or assumptions	<ul style="list-style-type: none"> <li>As discussed in Section 5.7.1 of this report.</li> </ul>
Relative density	<ul style="list-style-type: none"> <li>As discussed in Section 5.8 and Section 5.9 of this report.</li> </ul>
Classification	<ul style="list-style-type: none"> <li>As discussed in Section 5 and particularly Section 5.8 of this report.</li> </ul>
Audits or reviews	<ul style="list-style-type: none"> <li>A review of the borehole data has been made as discussed in Section 5.1. No reconciliations have been done to date.</li> </ul>
Discussion of relative accuracy/ confidence	<ul style="list-style-type: none"> <li>As discussed in Section 1.5 and 5.7 of this report.</li> </ul>



**Section 4 Estimation and Reporting of Ore Reserves**  
**(Criteria listed in section 1, and where relevant in sections 2 and 3, also apply to this section)**

Criteria	Explanation
Mineral Resource estimate for conversion to Ore Reserves	<ul style="list-style-type: none"> <li>Not Applicable to this Resource Estimate as it relates to estimation and reporting of Reserves.</li> </ul>
Site visits	<ul style="list-style-type: none"> <li>Not Applicable to this Resource Estimate as it relates to estimation and reporting of Reserves.</li> </ul>
Study status	<ul style="list-style-type: none"> <li>Not Applicable to this Resource Estimate as it relates to estimation and reporting of Reserves.</li> </ul>
Cut-off parameters	<ul style="list-style-type: none"> <li>Not Applicable to this Resource Estimate as it relates to estimation and reporting of Reserves.</li> </ul>
Mining factors or assumptions	<ul style="list-style-type: none"> <li>Not Applicable to this Resource Estimate as it relates to estimation and reporting of Reserves.</li> </ul>
Metallurgical factors or assumptions	<ul style="list-style-type: none"> <li>Not Applicable to this Resource Estimate as it relates to estimation and reporting of Reserves.</li> </ul>
Environmental	<ul style="list-style-type: none"> <li>Not Applicable to this Resource Estimate as it relates to estimation and reporting of Reserves.</li> </ul>
Infrastructure	<ul style="list-style-type: none"> <li>Not Applicable to this Resource Estimate as it relates to estimation and reporting of Reserves.</li> </ul>
Costs	<ul style="list-style-type: none"> <li>Not Applicable to this Resource Estimate as it relates to estimation and reporting of Reserves.</li> </ul>
Revenue factors	<ul style="list-style-type: none"> <li>Not Applicable to this Resource Estimate as it relates to estimation and reporting of Reserves.</li> </ul>
Market assessment	<ul style="list-style-type: none"> <li>Not Applicable to this Resource Estimate as it relates to estimation and reporting of Reserves.</li> </ul>
Economic	<ul style="list-style-type: none"> <li>Not Applicable to this Resource Estimate as it relates to estimation and reporting of Reserves.</li> </ul>
Social	<ul style="list-style-type: none"> <li>Not Applicable to this Resource Estimate as it relates to estimation and reporting of Reserves.</li> </ul>
Other	<ul style="list-style-type: none"> <li>Not Applicable to this Resource Estimate as it relates to estimation and reporting of Reserves.</li> </ul>
Classification	<ul style="list-style-type: none"> <li>Not Applicable to this Resource Estimate as it relates to estimation and reporting of Reserves.</li> </ul>
Audits or reviews	<ul style="list-style-type: none"> <li>Not Applicable to this Resource Estimate as it relates to estimation and reporting of Reserves.</li> </ul>
Discussion of relative accuracy/ confidence	<ul style="list-style-type: none"> <li>Not Applicable to this Resource Estimate as it relates to estimation and reporting of Reserves.</li> </ul>

**Section 5 Estimation and Reporting of Diamonds and Other Gemstones**  
**(Criteria listed in other relevant sections also apply to this section. Additional guidelines are available in the 'Guidelines for the Reporting of Diamond Exploration Results' issued by the Diamond Exploration Best Practices Committee established by the Canadian Institute of Mining, Metallurgy and Petroleum)**

<b>Criteria</b>	<b>Explanation</b>
Indicator minerals	<ul style="list-style-type: none"> <li>Not Applicable to this Coal Resource Estimate.</li> </ul>
Source of diamonds	<ul style="list-style-type: none"> <li>Not Applicable to this Coal Resource Estimate.</li> </ul>
Sample collection	<ul style="list-style-type: none"> <li>Not Applicable to this Coal Resource Estimate.</li> </ul>
Sample treatment	<ul style="list-style-type: none"> <li>Not Applicable to this Coal Resource Estimate.</li> </ul>
Carat	<ul style="list-style-type: none"> <li>Not Applicable to this Coal Resource Estimate.</li> </ul>
Sample grade	<ul style="list-style-type: none"> <li>Not Applicable to this Coal Resource Estimate.</li> </ul>
Reporting of Exploration Results	<ul style="list-style-type: none"> <li>Not Applicable to this Coal Resource Estimate.</li> </ul>
Grade estimation for reporting Mineral Resources and Ore Reserves	<ul style="list-style-type: none"> <li>Not Applicable to this Coal Resource Estimate.</li> </ul>
Value estimation	<ul style="list-style-type: none"> <li>Not Applicable to this Coal Resource Estimate.</li> </ul>
Security and integrity	<ul style="list-style-type: none"> <li>Not Applicable to this Coal Resource Estimate.</li> </ul>
Classification	<ul style="list-style-type: none"> <li>Not Applicable to this Coal Resource Estimate.</li> </ul>

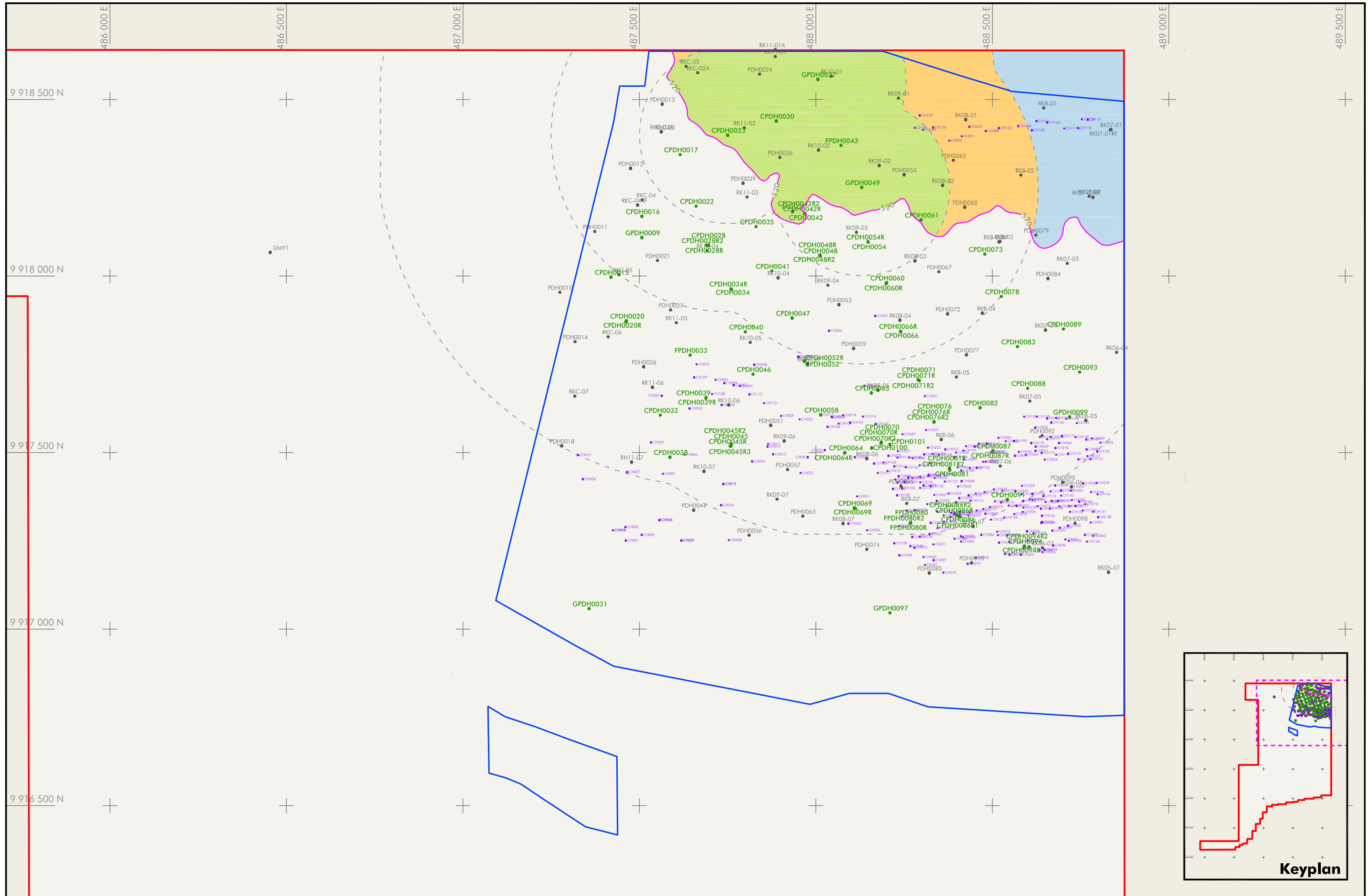
## Appendix 1 Generic Terms and Equivalent

Throughout the Code, certain words are used in a general sense when a more specific meaning might be attached to them by particular commodity groups within the industry. In order to avoid unnecessary duplication, a non-exclusive list of generic terms is tabulated below together with other terms that may be regarded as synonymous for the purposes of this document.

Generic Term	Synonyms and similar terms	Intended generalised meaning
Assumption	Value judgments	The Competent Person in general makes value judgments when making assumptions regarding information not fully supported by test work.
Competent Person	Qualified Person (Canada), Qualified Competent Person (Chile)	Refer to the Clause 11 of the Code for the definition of a Competent Person. Any reference in the Code to the singular (a Competent Person) includes a reference to the plural (Competent Persons). It is noted that reporting in accordance with the Code is commonly a team effort.
Cut-off grade	Product specifications	The lowest grade, or quality, of mineralised material that qualifies as economically mineable and available in a given deposit. May be defined on the basis of economic evaluation, or on physical or chemical attributes that define an acceptable product specification.
Grade	Quality, assay, analysis (that is value returned by the analysis)	Any physical or chemical measurement of the characteristics of the material of interest in samples or product. Note that the term quality has special meaning for diamonds and other gemstones. The units of measurement should be stated when figures are reported.
Metallurgy	Processing, beneficiation, preparation, concentration	Physical and/or chemical separation of constituents of interest from a larger mass of material. Methods employed to prepare a final marketable product from material as mined. Examples include screening, flotation, magnetic separation, leaching, washing, roasting, etc. Processing is generally regarded as broader than metallurgy and may apply to non-metallic materials where the term metallurgy would be inappropriate.
Mineralisation	Type of deposit, ore body, style of mineralisation.	Any single mineral or combination of minerals occurring in a mass, or deposit, of economic interest. The term is intended to cover all forms in which mineralisation might occur, whether by class of deposit, mode of occurrence, genesis or composition.
Mining	Quarrying	All activities related to extraction of metals, minerals and gemstones from the earth whether surface or underground, and by any method (e.g. quarries, open cast, open cut, solution mining, dredging, etc.).
Ore Reserves	Mineral Reserves	'Ore Reserves' is preferred under the JORC Code but 'Mineral Reserves' is in common use in other countries and is generally accepted. Other descriptors can be used to clarify the meaning (e.g. Coal Reserves, Diamond Reserves, etc.).
Recovery	Yield	The percentage of material of interest that is extracted during mining and/or processing. A measure of mining or processing efficiency.

Significant project	Material project	An exploration or mineral development project that has or could have a significant influence on the market value or operations of the listed company, and/or has specific prominence in Public Reports and announcements.
Tonnage	Quantity, volume	An expression of the amount of material of interest irrespective of the units of measurement (which should be stated when figures are reported).

## Appendix C – RJN Resource Polygons

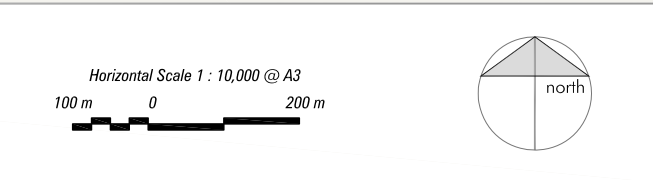


**LEGEND**

	IUP Boundary
	Existing IPPKH Boundary
	Outcrop Line

	Open Hole
	Cored Hole
	Channel Sample

	Measured Resource
	Indicated Resource
	Inferred Resource



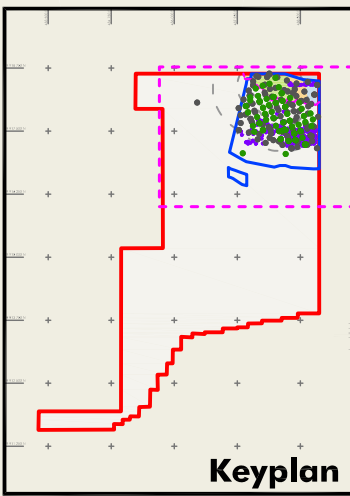
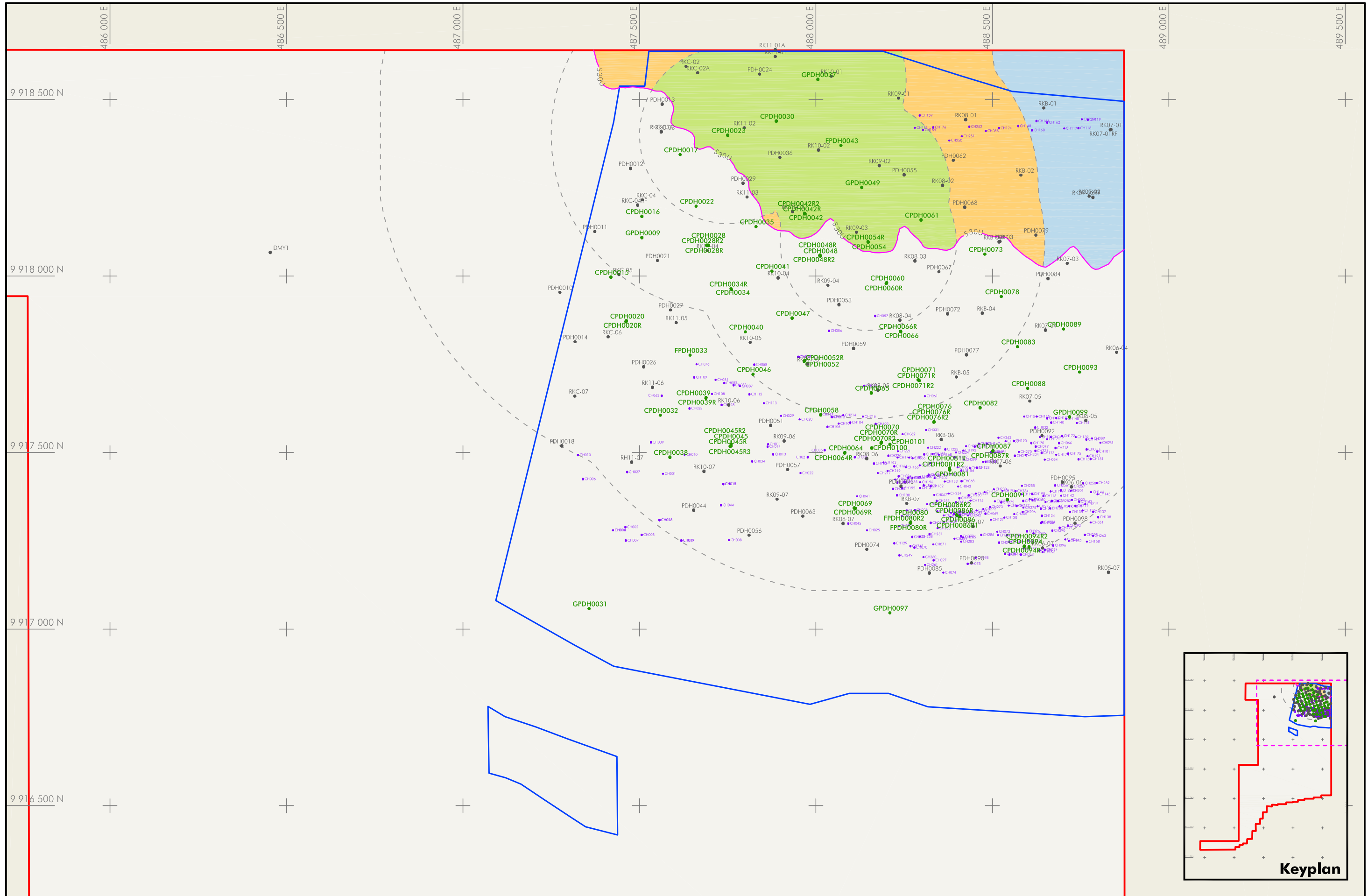
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Seam S20 Resource Polygons

Design	AD	24/03/15	Scale	1 : 10,000	Paper	A3 L
Drawn	GN	24/03/15	Cad File	J1504_08 res S20.dwg	Figure No.	C.1

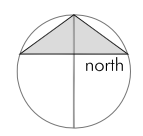
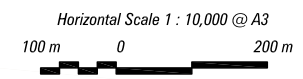


**LEGEND**

	IUP Boundary
	Existing IPPKH Boundary
	Outcrop Line

	Open Hole
	Cored Hole
	Channel Sample

	Measured Resource
	Indicated Resource
	Inferred Resource

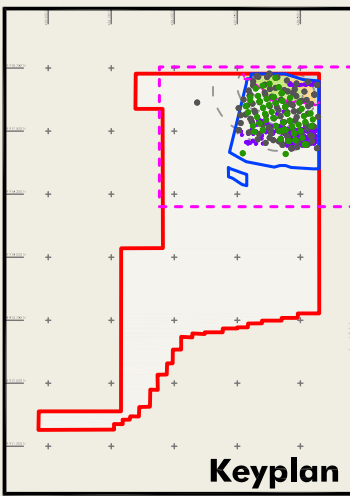
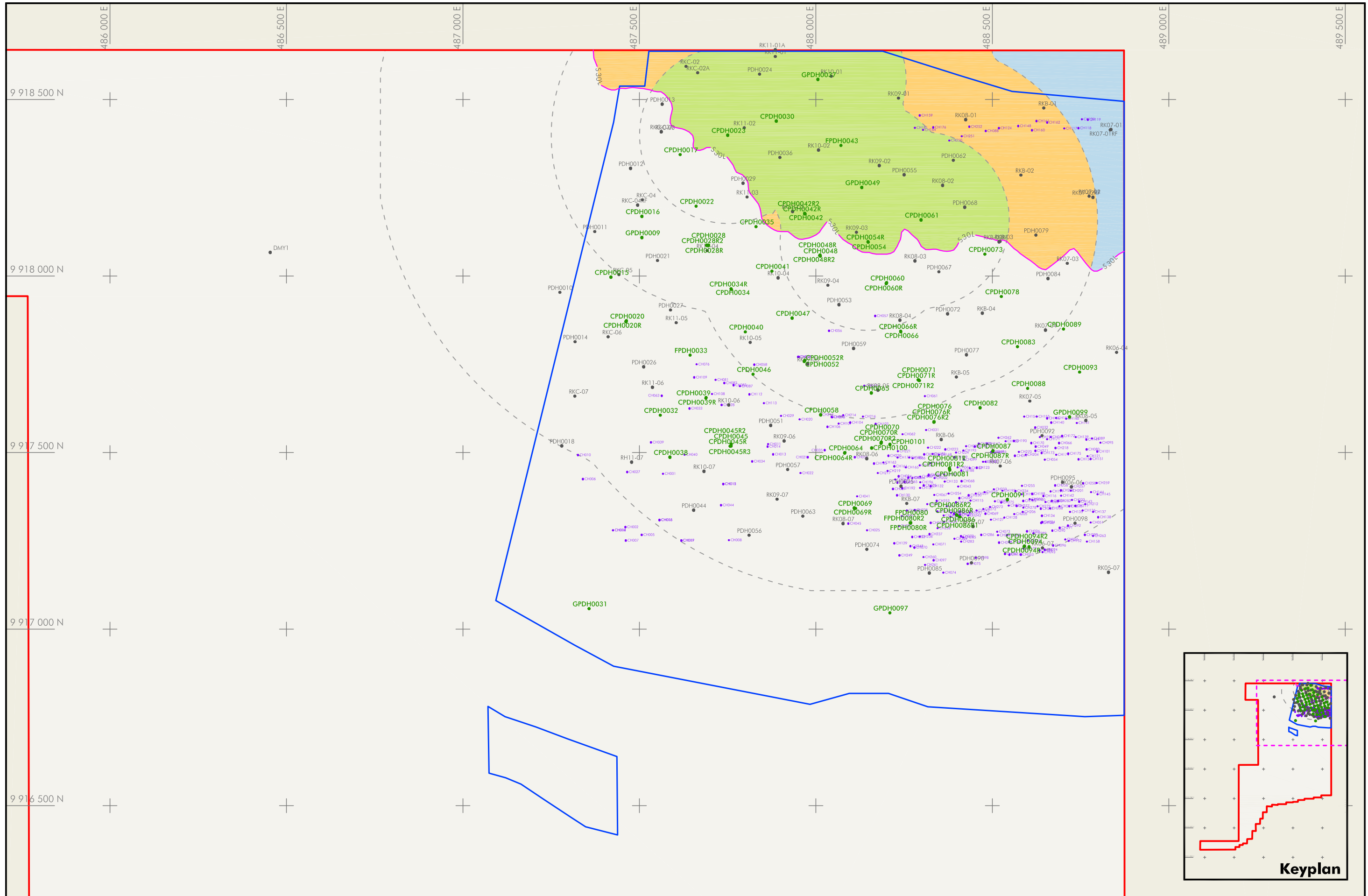


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 Seam S30U Resource Polygons

Design	AD	24/03/15	Scale	1 : 10,000	Paper	A3 L
Drawn	GN	24/03/15	Cad File	J1504_09 res S30U.dwg		

Figure No.  
**C.2**

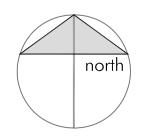
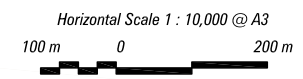


**LEGEND**

	IUP Boundary
	Existing IPPKH Boundary
	Outcrop Line

	Open Hole
	Cored Hole
	Channel Sample

	Measured Resource
	Indicated Resource
	Inferred Resource



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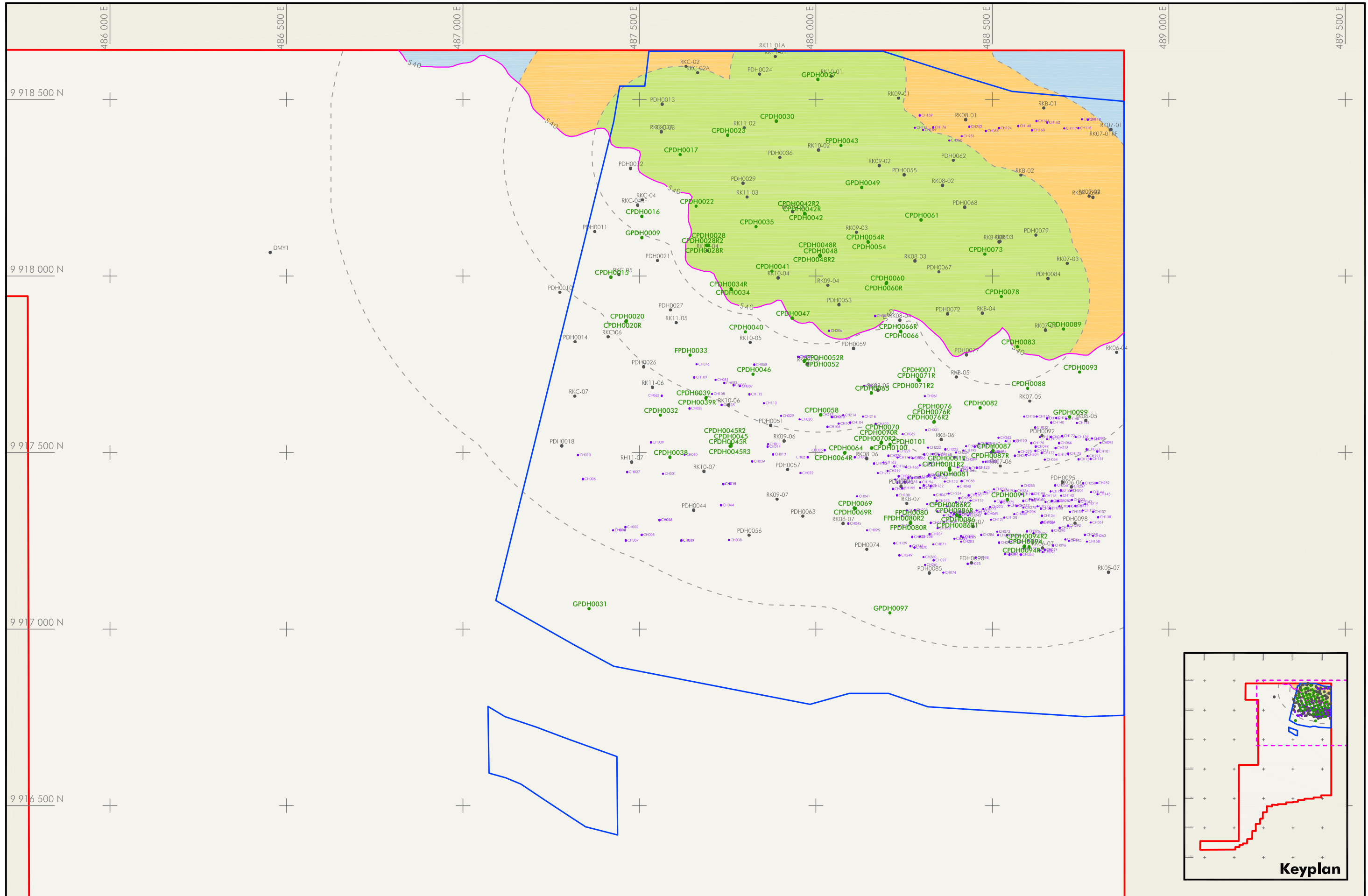
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**Coal Resource Statement**  
Seam S30L Resource Polygons

Design	AD	24/03/15	Scale	1 : 10,000	Paper	A3 L
Drawn	GN	24/03/15	Cad File	J1504_10 res S30L.dwg		

Figure No.  
**C.3**





<b>LEGEND</b>	IUP Boundary	Open Hole	Measured Resource
	Existing IPPKH Boundary	Cored Hole	Indicated Resource
	Outcrop Line	Channel Sample	Inferred Resource

Horizontal Scale 1 : 10,000 @ A3

north

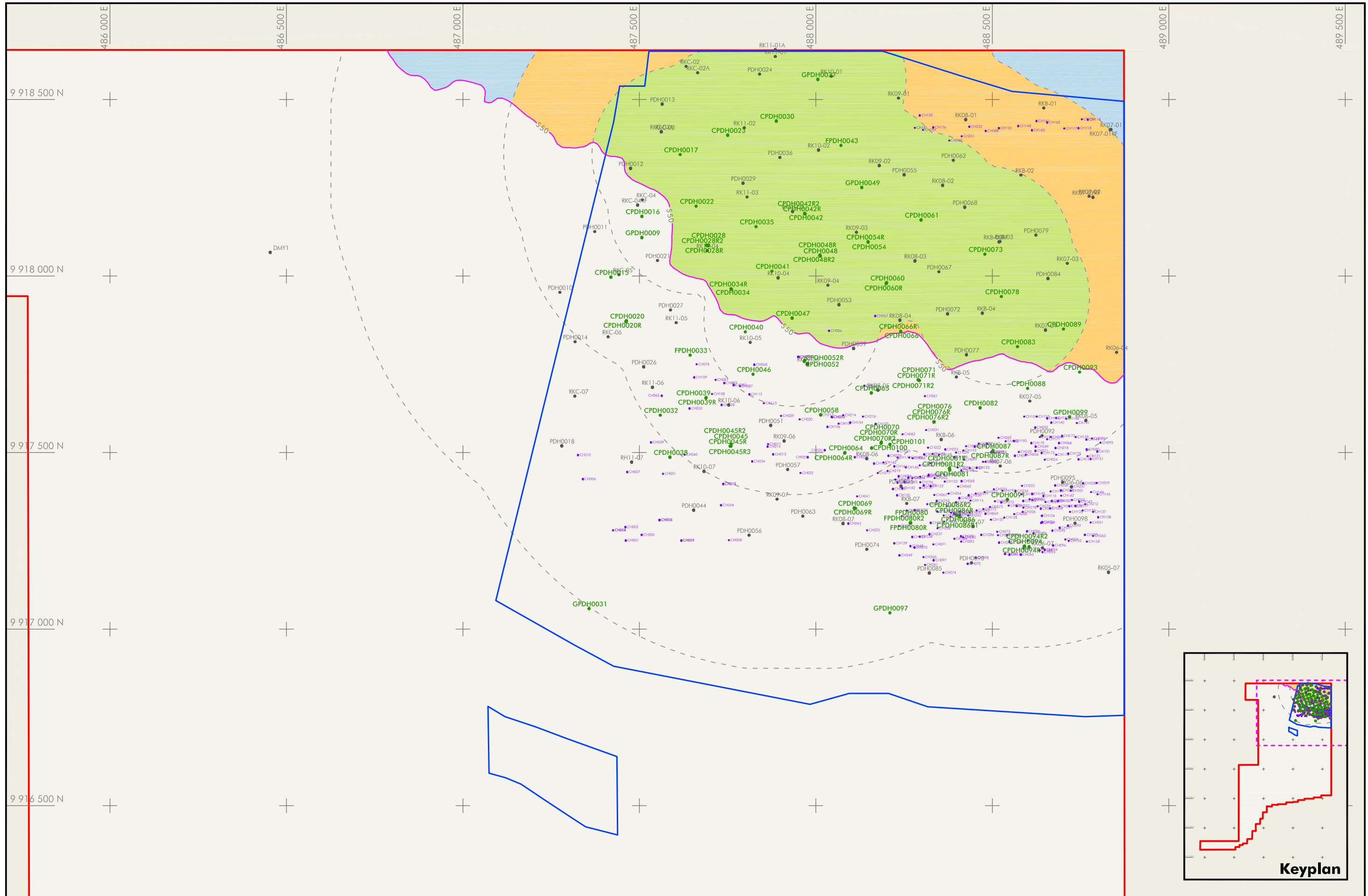
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Coal Resource Statement

Seam S40 Resource Polygons

Figure No. **C.4**

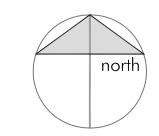
Design	AD	24/03/15	Scale	1 : 10,000	Paper	A3 L
Drawn	GN	24/03/15	Cad File	J1504_11 res S40.dwg		



LEGEND

- IUP Boundary
- Existing IPPKH Boundary
- Outcrop Line
- Open Hole
- Cored Hole
- Channel Sample
- Measured Resource
- Indicated Resource
- Inferred Resource

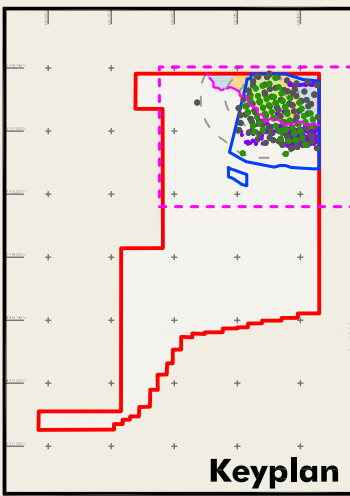
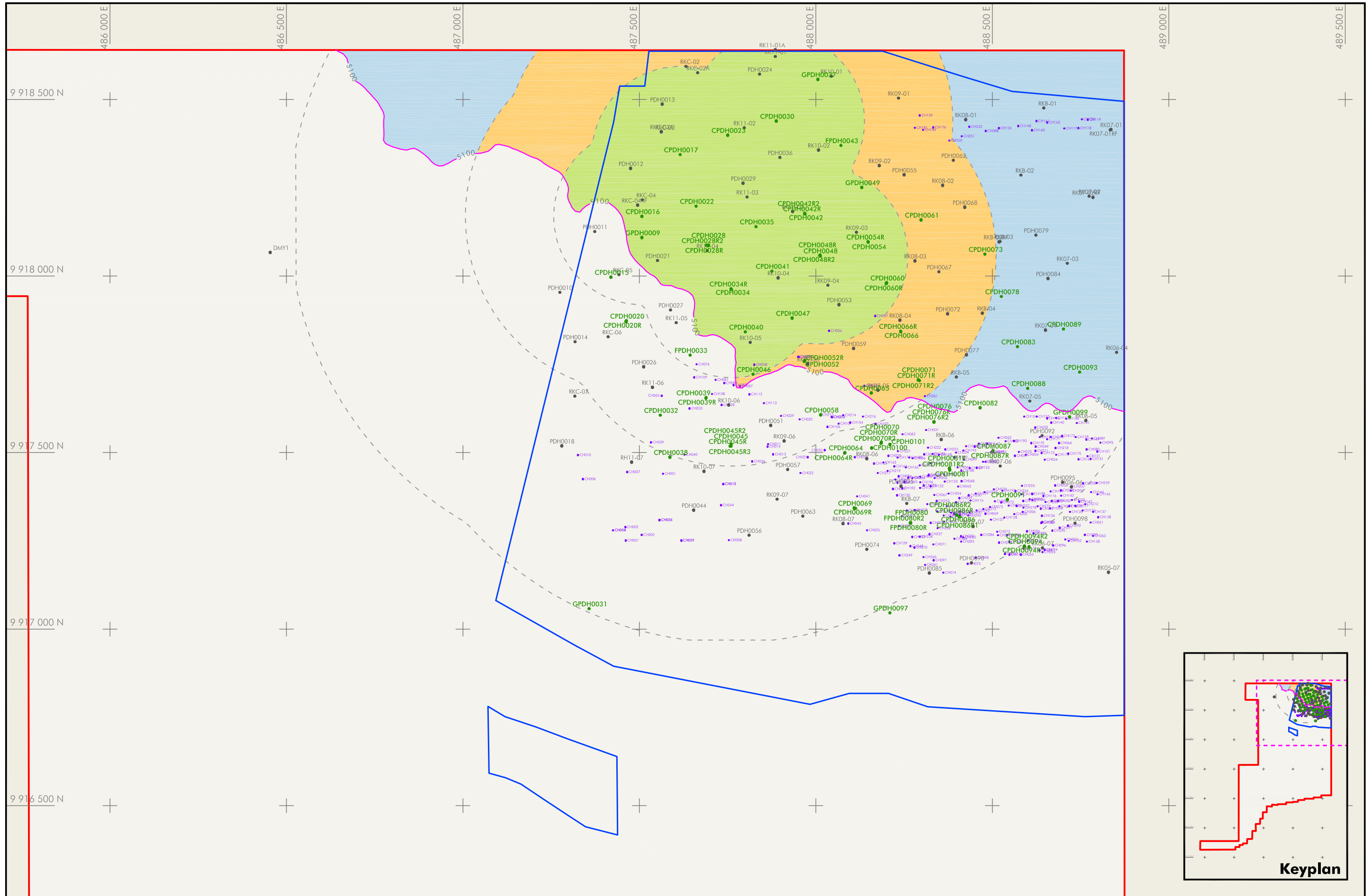
Horizontal Scale 1 : 10,000 @ A3  
 100 m 0 200 m



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**PT Rinjani Kartanegara Coal Resource Statement**  
**Seam S50 Resource Polygons**

Design	AD	24/03/15	Scale	1 : 10,000	Paper	A3 L
Drawn	GN	24/03/15	Cad File	J1504_12 res S50.dwg	Figure No.	C.5



<b>LEGEND</b>	<span style="color: red; font-weight: bold;">—</span> IUP Boundary	<span style="color: magenta; font-size: small;">YYxxx</span> Open Hole	<span style="background-color: #90EE90; border: 1px solid black; width: 15px; height: 10px; display: inline-block;"></span> Measured Resource
	<span style="color: blue; font-weight: bold;">—</span> Existing IPPKH Boundary	<span style="color: green; font-size: small;">YYxxx</span> Cored Hole	<span style="background-color: #FFD700; border: 1px solid black; width: 15px; height: 10px; display: inline-block;"></span> Indicated Resource
<span style="color: magenta; font-weight: bold;">~</span> Outcrop Line	<span style="color: purple; font-size: small;">YYxxx</span> Channel Sample	<span style="background-color: #ADD8E6; border: 1px solid black; width: 15px; height: 10px; display: inline-block;"></span> Inferred Resource	

Horizontal Scale 1 : 10,000 @ A3

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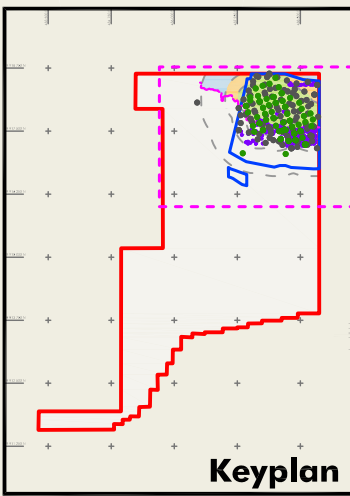
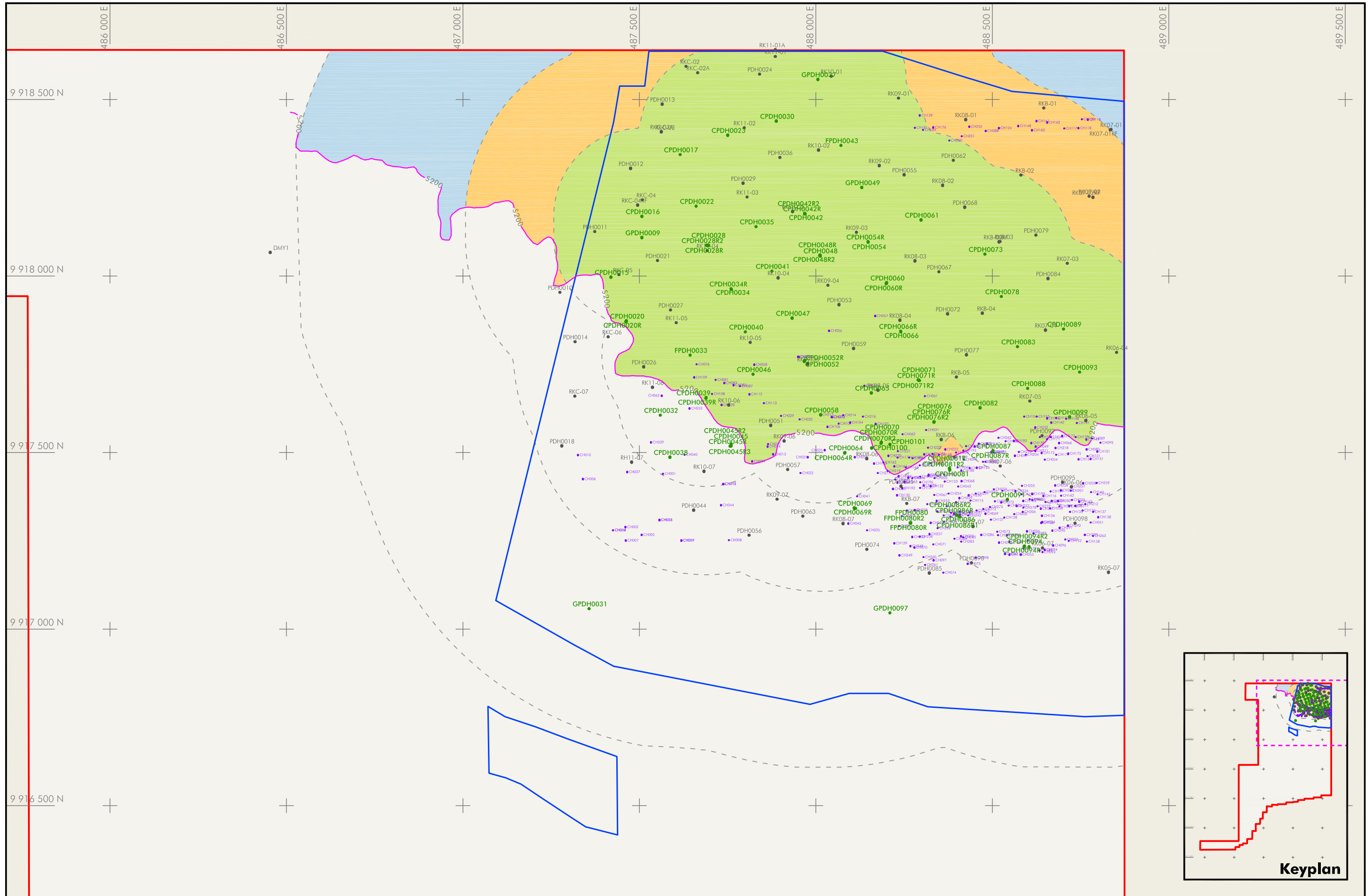
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Coal Resource Statement

Seam S100 Resource Polygons

Design AD 24/03/15 Scale 1 : 10,000 Paper A3 L  
 Drawn GN 24/03/15 Cad File J1504\_13 res S100.dwg

Figure No. **C.6**

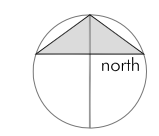
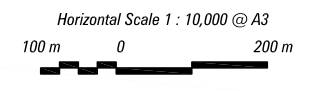


**LEGEND**

	IUP Boundary
	Existing IPPKH Boundary
	Outcrop Line

	Open Hole
	Cored Hole
	Channel Sample

	Measured Resource
	Indicated Resource
	Inferred Resource



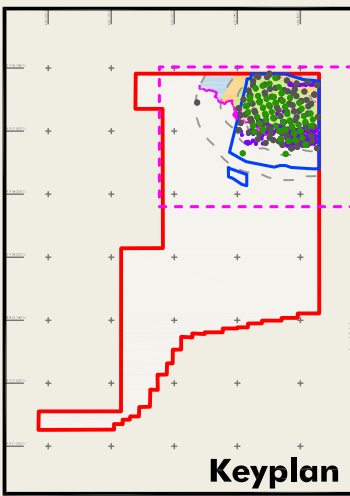
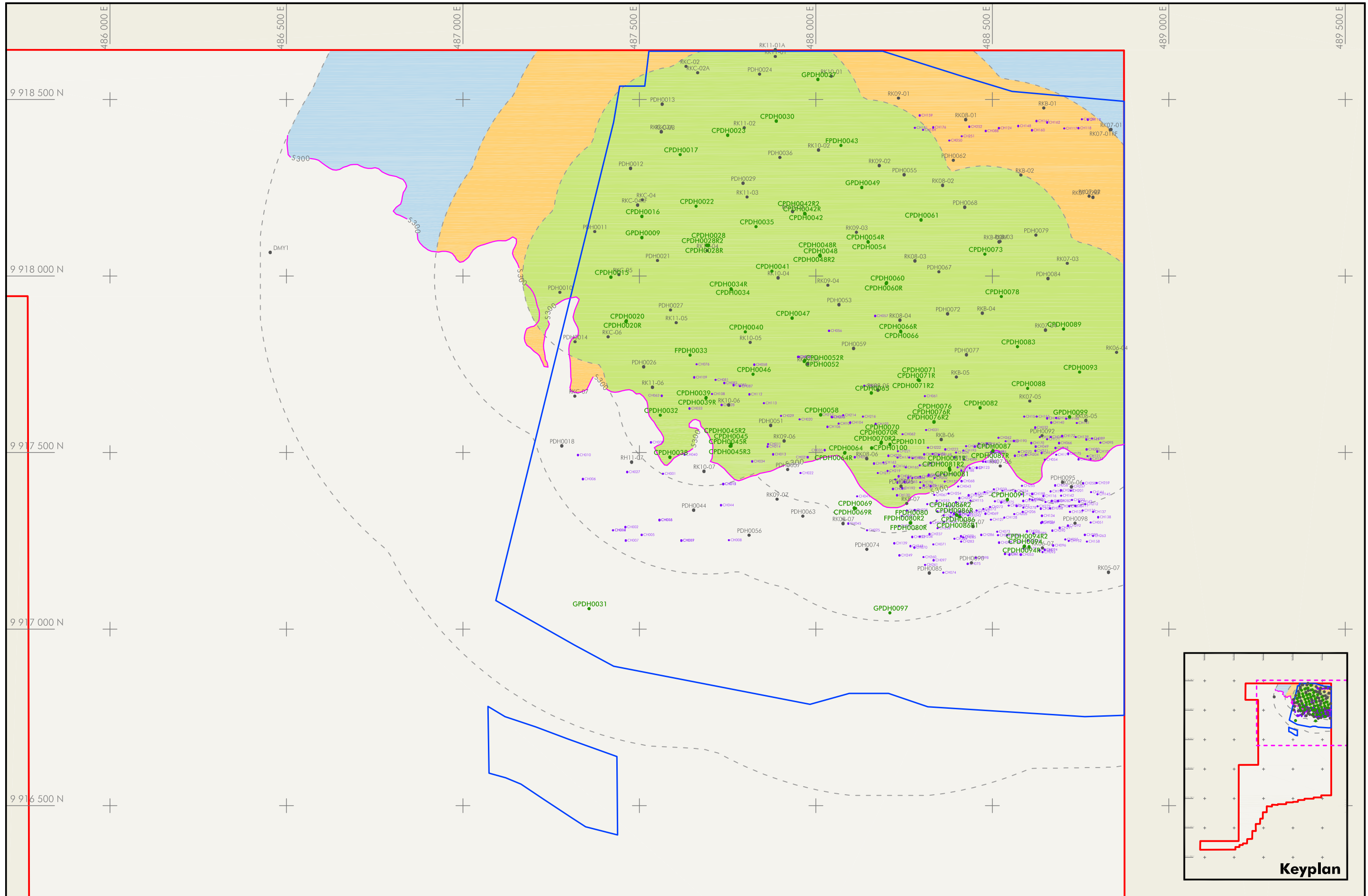
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**Seam S200 Resource Polygons**

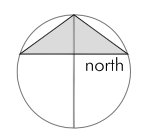
Design	AD	24/03/15	Scale	1 : 10,000	Paper	A3 L
Drawn	GN	24/03/15	Cad File	J1504_14 res S200.dwg	Figure No.	C.7



LEGEND

- IUP Boundary
- Existing IPPKH Boundary
- ~ Outcrop Line
- Open Hole
- Cored Hole
- Channel Sample
- Measured Resource
- Indicated Resource
- Inferred Resource

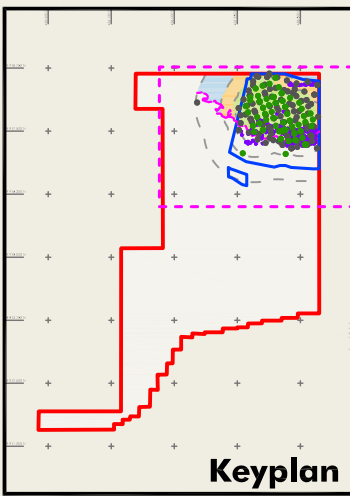
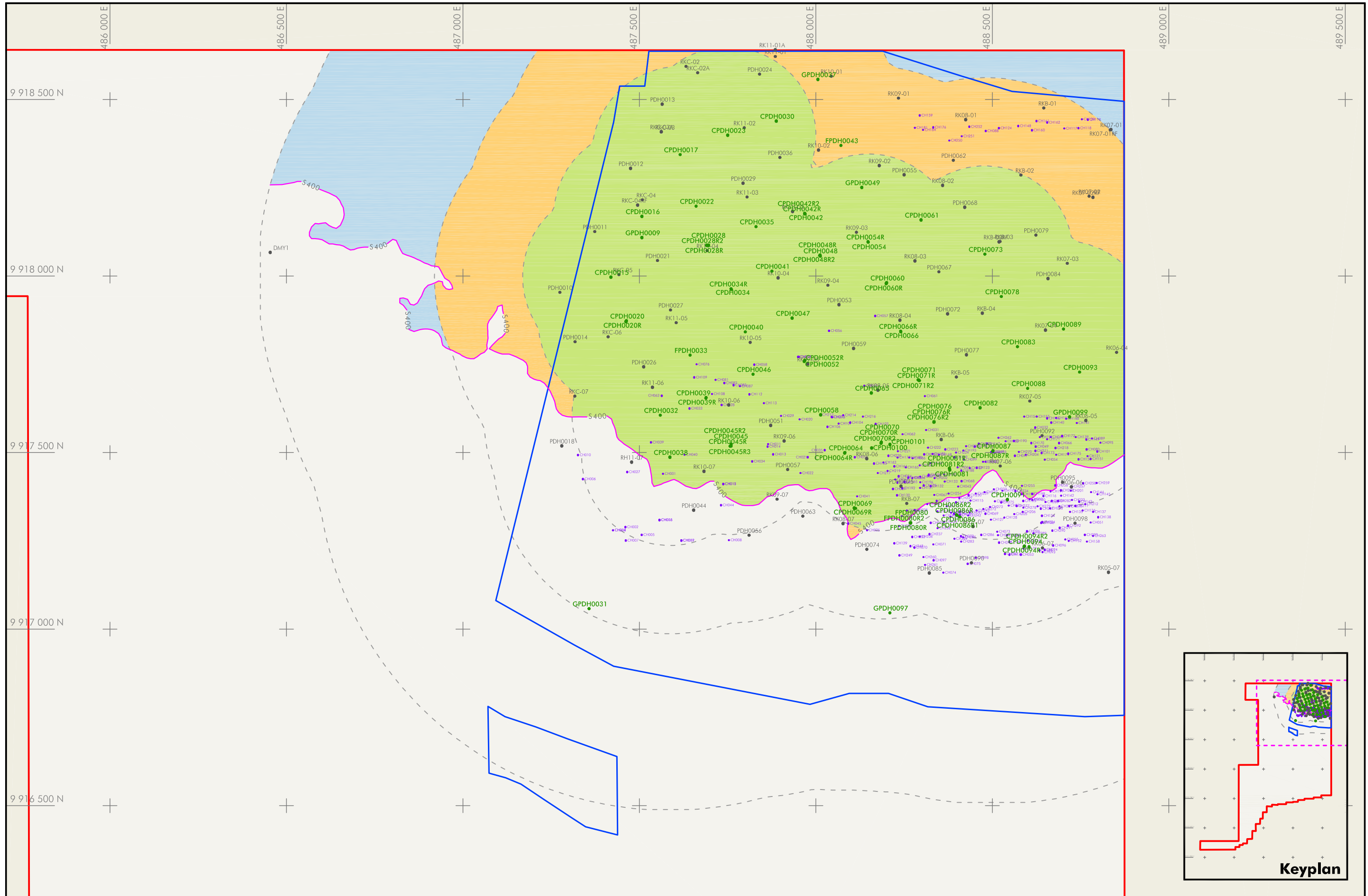
Horizontal Scale 1 : 10,000 @ A3  
 100 m 0 200 m



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 Seam S300 Resource Polygons

Design	AD	24/03/15	Scale	1 : 10,000	Paper	A3 L
Drawn	GN	24/03/15	Cad File	J1504_15 res S300.dwg	Figure No.	C.8

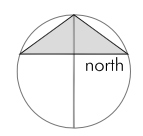
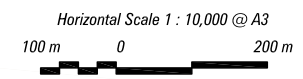


**LEGEND**

	IUP Boundary
	Existing IPPKH Boundary
	Outcrop Line

	Open Hole
	Cored Hole
	Channel Sample

	Measured Resource
	Indicated Resource
	Inferred Resource



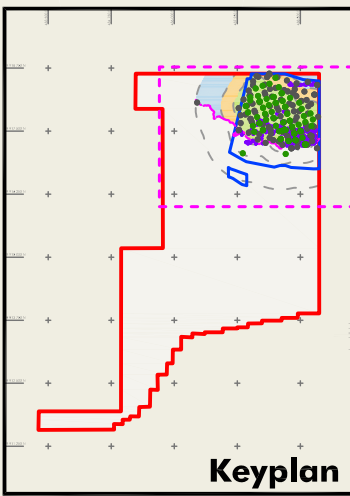
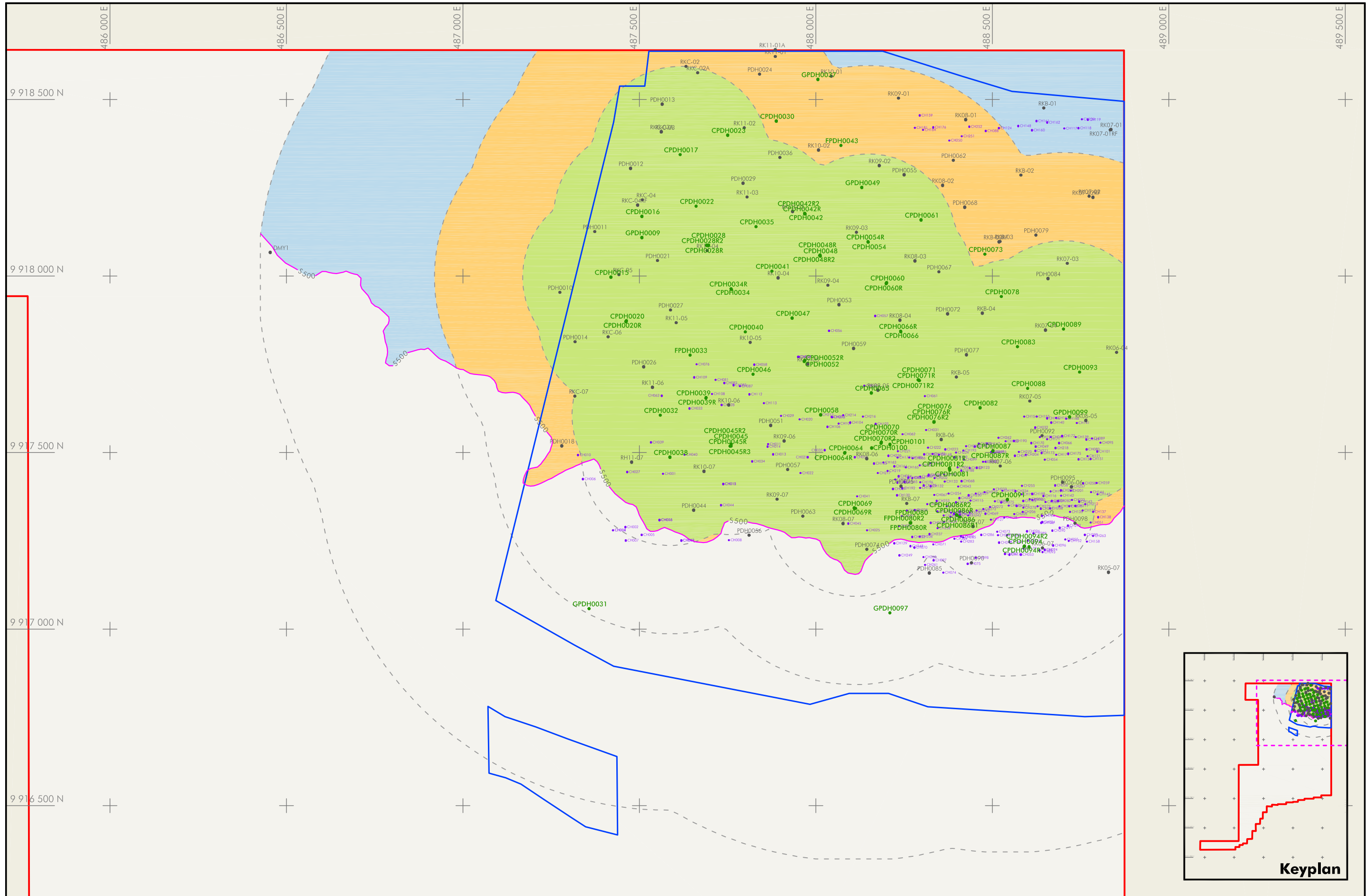
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Seam S400 Resource Polygons

Design	AD	24/03/15	Scale	1 : 10,000	Paper	A3 L
Drawn	GN	24/03/15	Cad File	J1504_16 res S400.dwg		

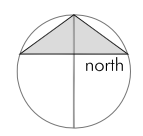
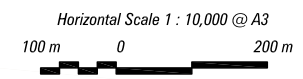
Figure No.  
**C.9**



- LEGEND**
- IUP Boundary
  - Existing IPPKH Boundary
  - ~ Outcrop Line

- Open Hole
- Cored Hole
- Channel Sample

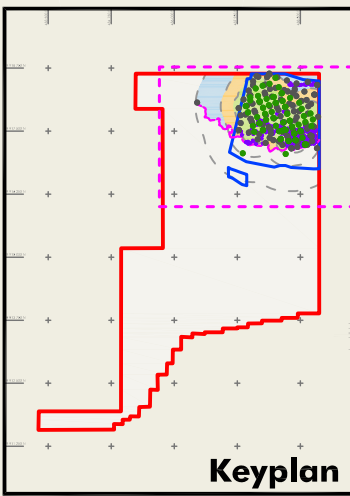
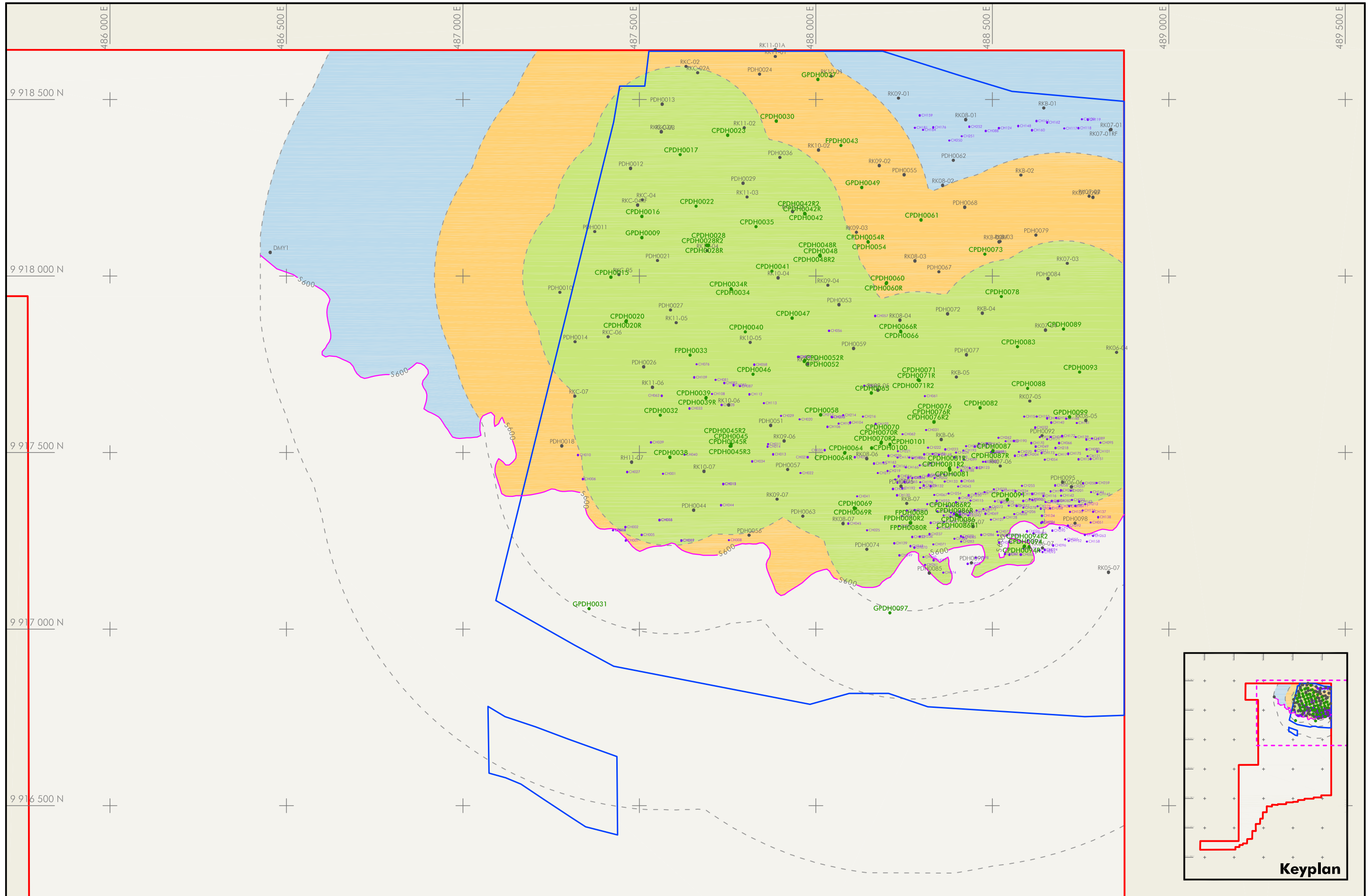
- Measured Resource
- Indicated Resource
- Inferred Resource



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 Seam S500 Resource Polygons

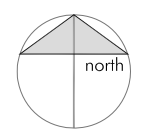
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Drawn	GN	24/03/15	Cad File	J1504_17 res S500.dwg		



LEGEND

- IUP Boundary
- Existing IPPKH Boundary
- ~ Outcrop Line
- Open Hole
- Cored Hole
- Channel Sample
- Measured Resource
- Indicated Resource
- Inferred Resource

Horizontal Scale 1 : 10,000 @ A3  
 100 m 0 200 m



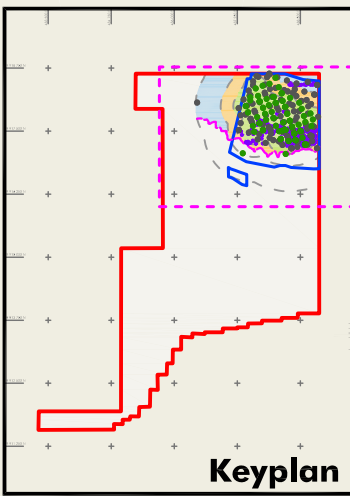
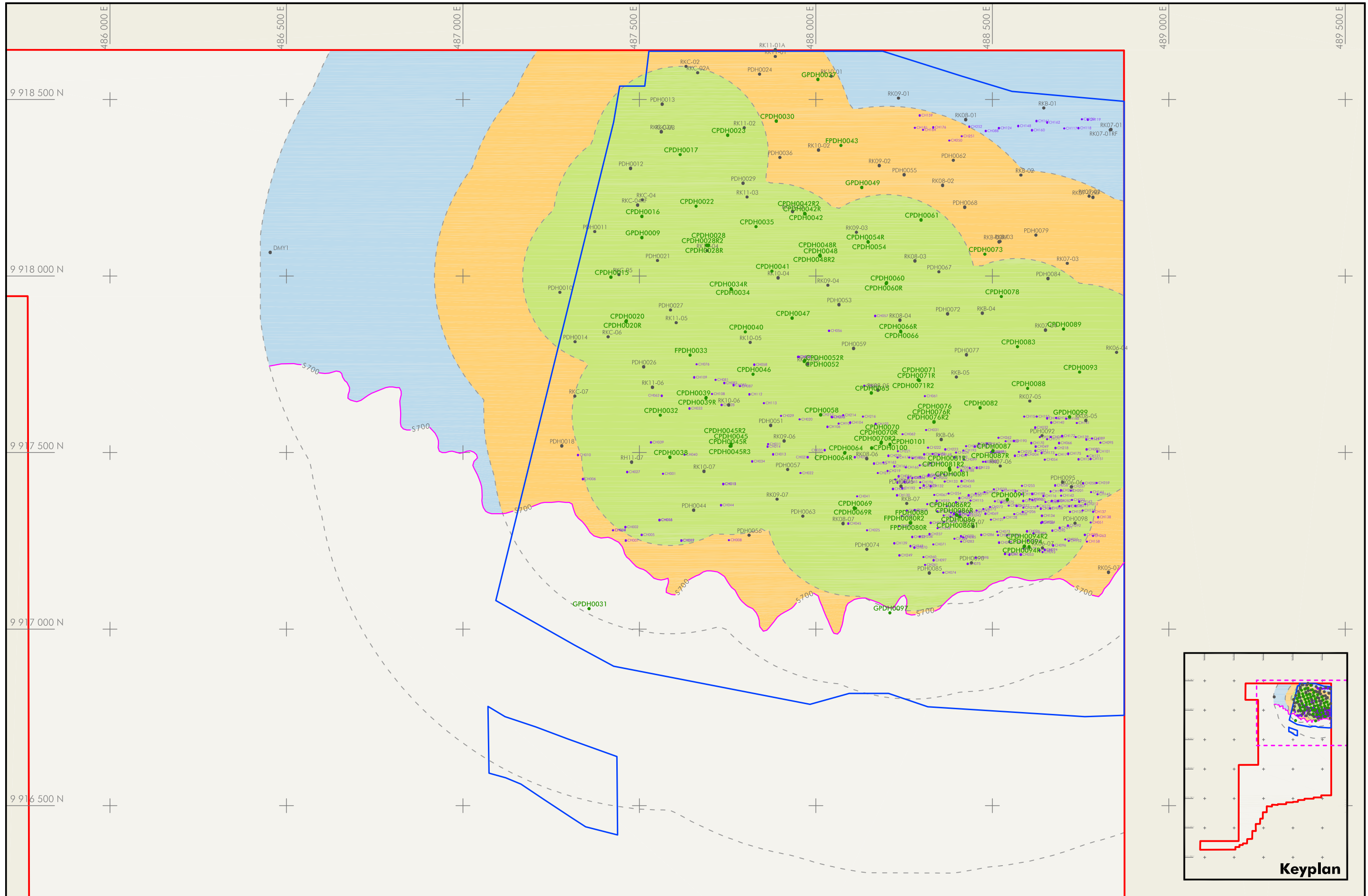
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**Seam S600 Resource Polygons**

Design	AD	24/03/15	Scale	1 : 10,000	Paper	A3 L
Drawn	GN	24/03/15	Cad File	J1504_18 res S600.dwg		

Figure No.  
**C.11**

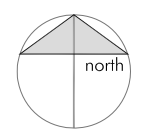




LEGEND

- IUP Boundary
- Existing IPPKH Boundary
- ~ Outcrop Line
- Open Hole
- Cored Hole
- Channel Sample
- Measured Resource
- Indicated Resource
- Inferred Resource

Horizontal Scale 1 : 10,000 @ A3  
 100 m 0 200 m

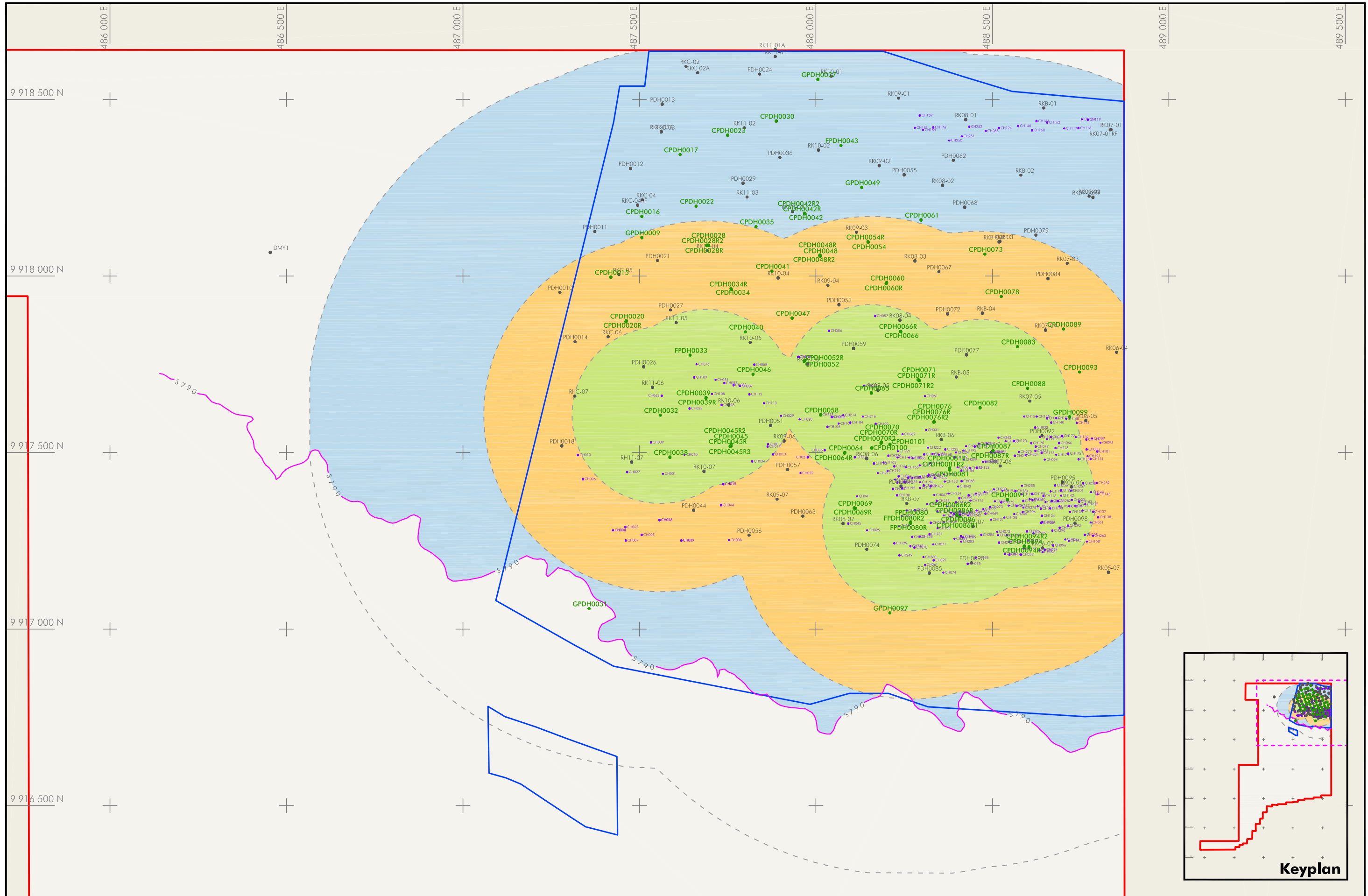


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**PT Rinjani Kartanegara**  
**Coal Resource Statement**  
 Seam S700 Resource Polygons

Design	AD	24/03/15	Scale	1 : 10,000	Paper	A3 L
Drawn	GN	24/03/15	Cad File	J1504_19 res S700.dwg		

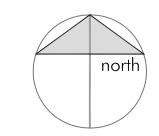
Figure No.  
**C.12**



LEGEND

- IUP Boundary
- Existing IPPKH Boundary
- Outcrop Line
- Open Hole
- Cored Hole
- Channel Sample
- Measured Resource
- Indicated Resource
- Inferred Resource

Horizontal Scale 1 : 10,000 @ A3  
 100 m 0 200 m

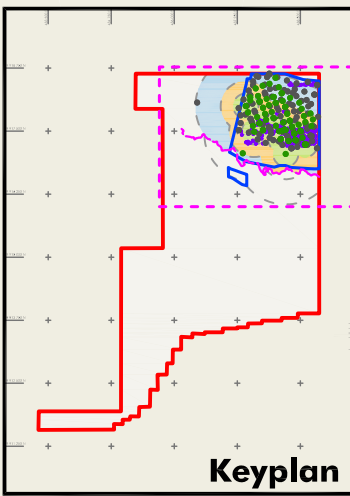
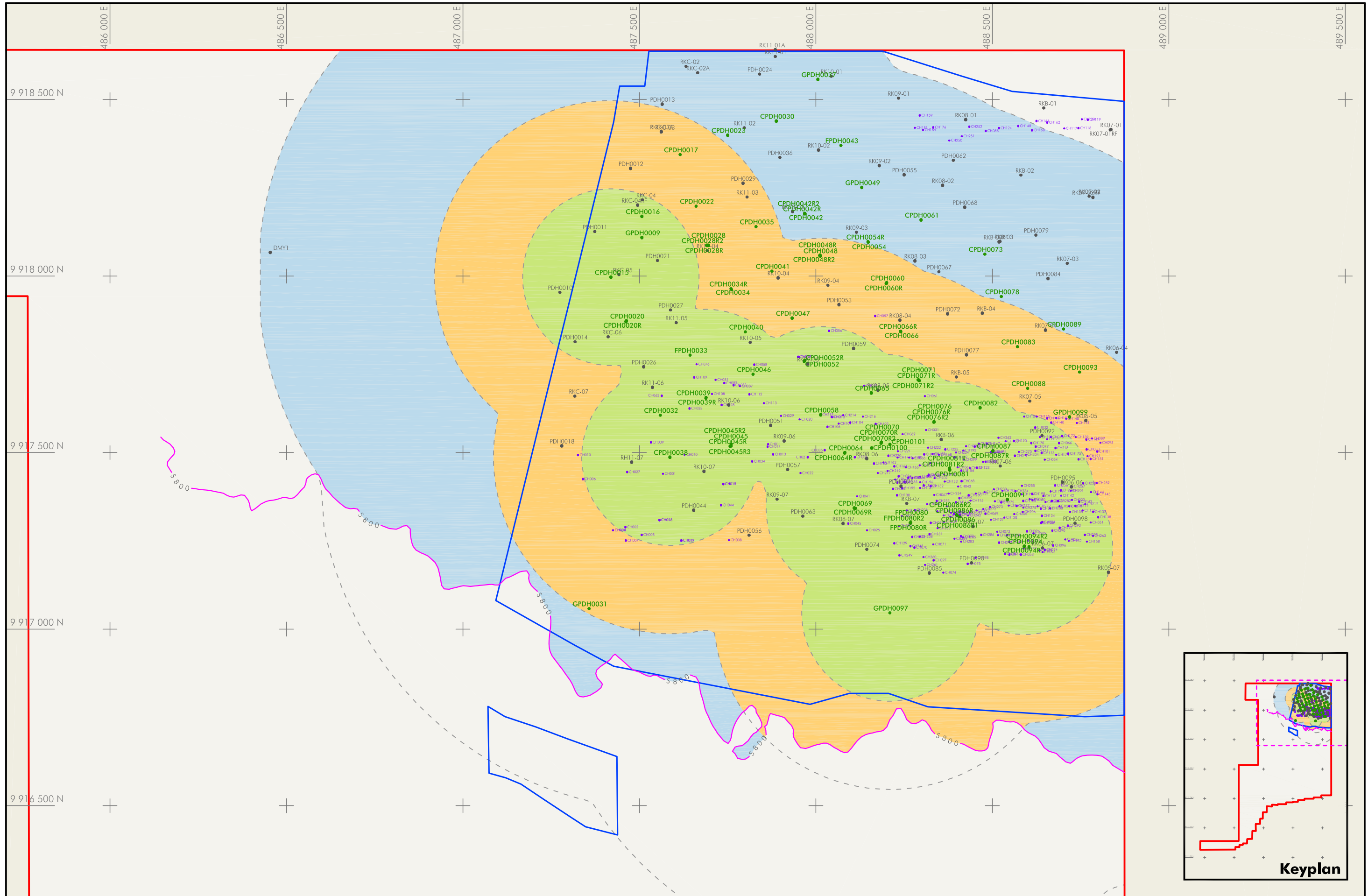


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**PT Rinjani Kartanegara Coal Resource Statement**  
 Seam S790 Resource Polygons

Design	AD	24/03/15	Scale	1 : 10,000	Paper	A3 L
Drawn	GN	24/03/15	Cad File	J1504_20_res S790.dwg		

Figure No. **C.13**



<b>LEGEND</b>	IUP Boundary	Open Hole	Measured Resource
	Existing IPPKH Boundary	Cored Hole	Indicated Resource
	Outcrop Line	Channel Sample	Inferred Resource

Horizontal Scale 1 : 10,000 @ A3

north

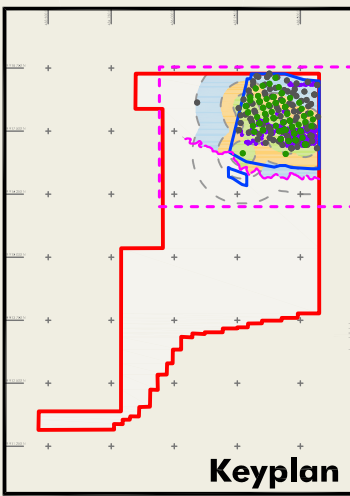
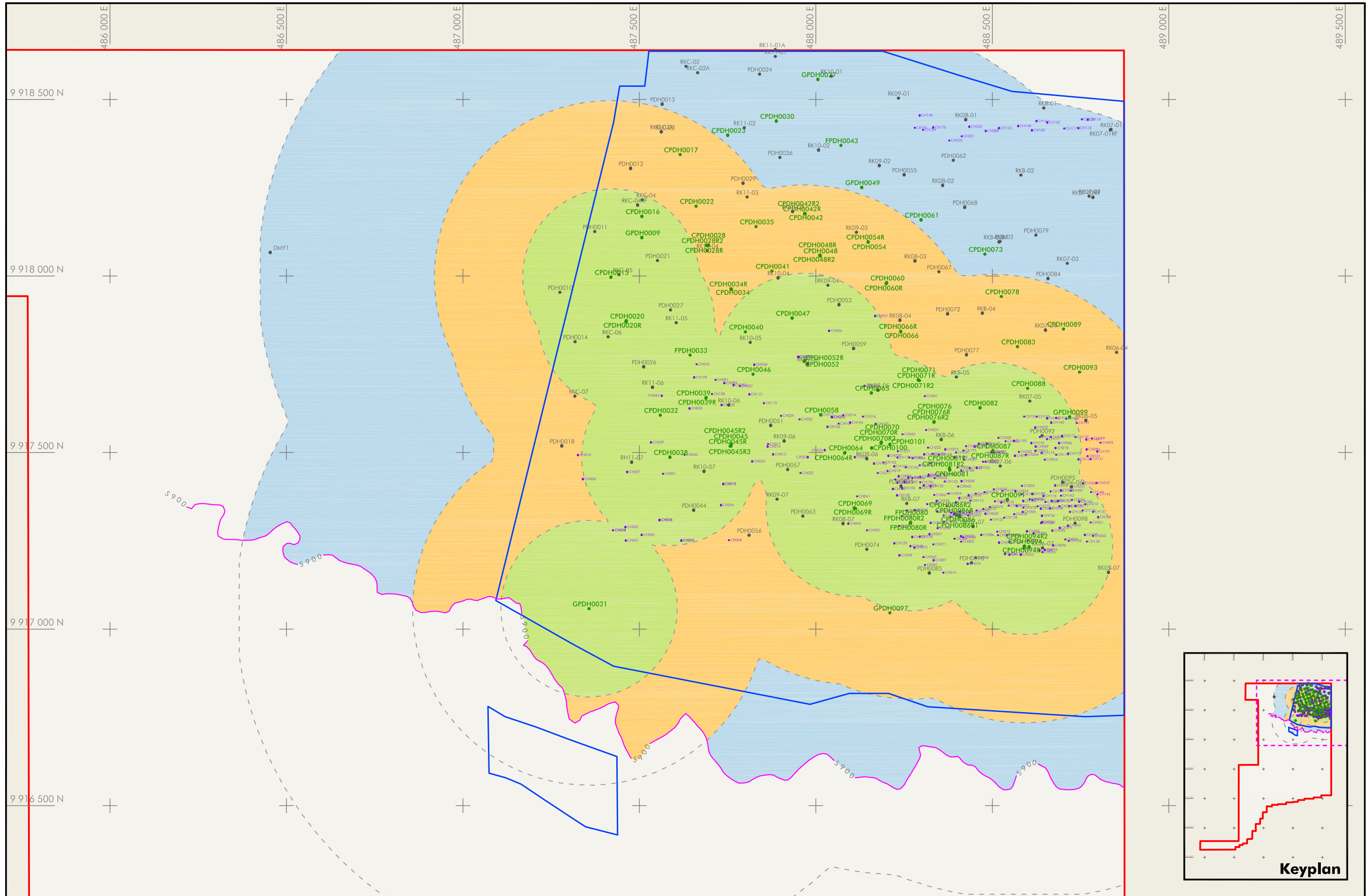
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**PT Rinjani Kartanegara**  
Coal Resource Statement

Seam S800 Resource Polygons

Figure No. **C.14**

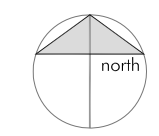
Design	AD	24/03/15	Scale	1 : 10,000	Paper	A3 L
Drawn	GN	24/03/15	Cad File	J1504_21_res S800.dwg		



LEGEND

- IUP Boundary
- Existing IPPKH Boundary
- Outcrop Line
- YYxxx Open Hole
- YYxxx Cored Hole
- YYxxx Channel Sample
- Measured Resource
- Indicated Resource
- Inferred Resource

Horizontal Scale 1 : 10,000 @ A3  
 100 m 0 200 m

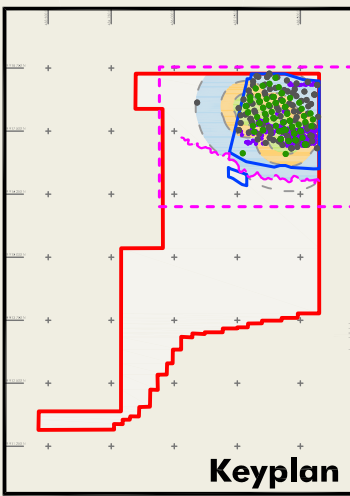
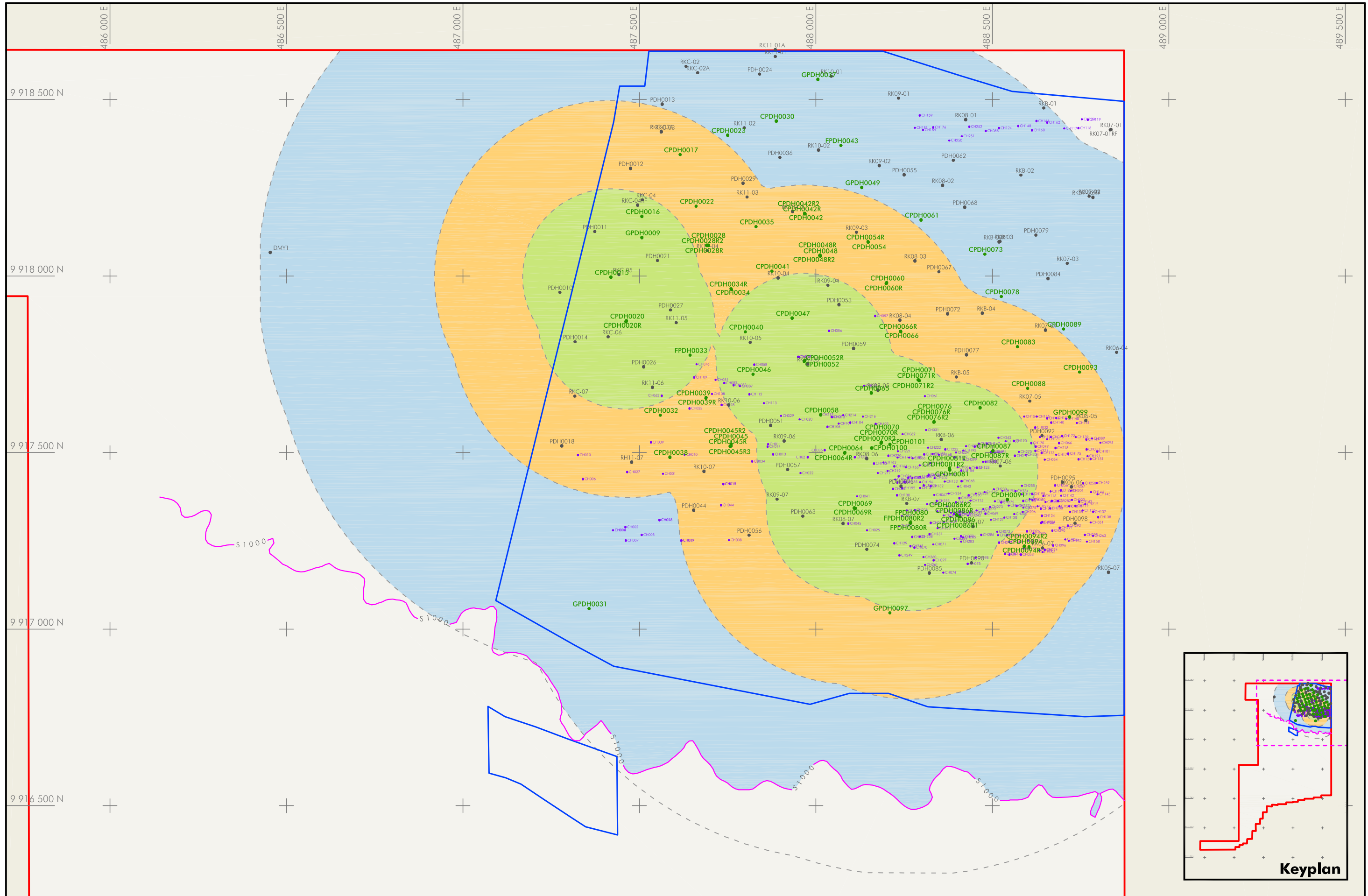


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**PT Rinjani Kartanegara**  
**Coal Resource Statement**  
 Seam S900 Resource Polygons

Design	AD	24/03/15	Scale	1 : 10,000	Paper	A3 L
Drawn	GN	24/03/15	Cad File	J1504_22_res S900.dwg		

Figure No.  
**C.15**



<b>LEGEND</b>	<span style="color: red; font-weight: bold;">—</span> IUP Boundary	<span style="color: magenta; font-weight: bold;">~</span> Outcrop Line	<span style="color: magenta; font-weight: bold;">○</span> Open Hole	<span style="color: magenta; font-weight: bold;">○</span> Cored Hole	<span style="color: magenta; font-weight: bold;">○</span> Channel Sample	<span style="background-color: #90EE90; border: 1px dashed black; display: inline-block; width: 15px; height: 10px;"></span> Measured Resource	<span style="background-color: #FFD700; border: 1px dashed black; display: inline-block; width: 15px; height: 10px;"></span> Indicated Resource	<span style="background-color: #ADD8E6; border: 1px dashed black; display: inline-block; width: 15px; height: 10px;"></span> Inferred Resource
	<span style="color: blue; font-weight: bold;">—</span> Existing IPPKH Boundary							

Horizontal Scale 1 : 10,000 @ A3

north

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**PT Rinjani Kartanegara**  
Coal Resource Statement

Seam S1000 Resource Polygons

Figure No. **C.16**

Design	AD	24/03/15	Scale	1 : 10,000	Paper	A3 L
Drawn	GN	24/03/15	Cad File	J1504_23_res S1000.dwg		

## Appendix D – Tenure Document



## BUPATI KUTAI KARTANEGARA

### TENTANG PERSETUJUAN IZIN USAHA PERTAMBANGAN OPERASI PRODUKSI KEPADA PT. RINJANI KARTANEGARA 540/1654/IUP-OP/MB-PBAT/XI/2009

#### BUPATI KUTAI KARTANEGARA

- Membaca** : Surat Direktur PT. RINJANI KARTANEGARA Nomor : 55/RK-SMD/ XI/2009 tanggal 04 Nopember 2009 Perihal Permohonan Penyesuaian Status KP untuk menjadi IUP
- Menimbang** : Bahwa Berdasarkan hasil evaluasi kegiatan Izin Usaha Pertambangan (IUP) Operasi Produksi PT. RINJANI KARTANEGARA telah memenuhi syarat untuk diberikan persetujuan IUP Operasi Produksi.
- Mengingat** :
1. Undang - Undang Nomor 23 Tahun 1997 tentang Pengelolaan Lingkungan Hidup (LN Tahun 1997 Nomor 68, TLN 3699);
  2. Undang - Undang Nomor 32 Tahun 2004 tentang Pemerintahan Daerah (LN Tahun 2004 Nomor 125, TLN 4437) sebagaimana telah diubah dengan Undang - Undang Nomor 8 Tahun 2005 tentang Penetapan Peraturan Pemerintah Pengganti Undang - Undang Nomor 3 Tahun 2005 tentang Perubahan atas Undang - Undang Nomor 32 Tahun 2004 tentang Pemerintahan Daerah menjadi Undang - Undang (LN Tahun 2005 Nomor 108, TLN 4585);
  3. Undang - Undang Nomor 25 Tahun 2007 Tentang Penanaman Modal (LN Tahun 2004 Nomor 67, TLN 4724);
  4. Undang - Undang Nomor 6 tahun 2007 Tentang Penataan Ruang (LN Tahun 2007 Nomor 68, TLN 4725);
  5. Undang - Undang Nomor 4 Tahun 2009 Tentang Pertambangan Mineral dan Batubara ( LN Tahun 2009 Nomor 4, TLN 4959);
  6. Peraturan Pemerintah Nomor 27 Tahun 1999 Tentang Analisis Mengenai Dampak Lingkungan Hidup (LN Tahun 1999 Nomor 59, TLN 3838);
  7. Peraturan Pemerintah Nomor 38 Tahun 2007 Tentang Pembagian Urusan Antara Pemerintah Pusat Pemerintah Daerah Propinsi, Pemerintah Daerah Kabupaten atau Kota (LN Tahun 2007 Nomor 82, TLN 4737);
  8. Peraturan Pemerintah Nomor 26 Tahun 2008 Tentang Rencana Tata Ruang Wilayah Nasional (LN Tahun 2008 Nomor 48, TLN 4833);
  9. Sesuai Edaran Direktorat Jenderal Mineral, Batubara dan Panas Bumi Nomor : 03.E/31/DJB/2009 Tanggal 30 Januari 2009 tentang Perizinan Pertambangan dan Batubara Sebelum Terbitnya Peraturan Pemerintah Sebagai Pelaksana Undang-Undang Nomor 4 Tahun 2009.
  10. Surat Edaran Direktorat Jenderal Mineral, Batubara dan Panas Bumi Nomor : 1053/30/DJB/2009 Tanggal 24 Maret 2009 Perihal Izin Usaha Jasa Pertambangan.

MEMUTUSKAN :

Menetapkan : **KEPUTUSAN BUPATI KUTAI KARTANEGARA  
TENTANG PERSETUJUAN IUP OPERASI PRODUKSI KEPADA  
PT. RINJANI KARTANEGARA**

KESATU : Memberikan Izin Usaha Pertambangan Operasi Produksi kepada :

Nama Perusahaan : **PT. RINJANI KARTANEGARA**  
Nama Direktur : **NORDIANSYAH NASRIE**  
Pemegang saham perusahaan dengan mencantumkan  
Nilai/Persentase saham : -----  
Nama Pemegang saham : **NORDIANSYAH NASRIE**  
Pekerjaan pemegang saham : **Swasta**  
Alamat : **Taman Laguna Blok H2/39 RT.004 RW.002  
Kel. Jati Karya, Kec. Jati Sampurna, Bekasi**

Kewarganegaraan  
Pemegang Saham/Negara  
Asal Perusahaan : **Indonesia**  
Alamat : **Jl. Cendana Gg. Jamarud 678 No. 5  
Samarinda**

Komoditas : **Batubara**  
Lokasi Pertambangan : **Loa Janan dan Loa Kulu**  
Desa : **Bakungan dan Jembayan**  
Kecamatan : **Loa Janan dan Loa Kulu**  
Kabupaten/Kota : **Kutai Kartanegara**  
Provinsi : **Kalimantan Timur**  
Kode Wilayah : **KW KTN 2009 1654 OP**  
Luas : **1.933 Ha**

Dengan Peta dan daftar koordinat WIUP yang diterbitkan oleh Bupati Kutai Kartanegara sebagaimana tercantum dalam lampiran I dan Lampiran II keputusan ini

Lokasi Pengolahan dan pemurnian.  
Pengangkutan dan penjualan.  
Jangka waktu berlaku IUP OP: **12 (Duabelas) Tahun**  
Jangka waktu Tahap Kegiatan (sesuai komoditas tambang):  
a. Konstruksi Selama 2 Tahun  
b. Produksi Selama 10 Tahun

KEDUA : Pemegang IUP Operasi Produksi mempunyai hak untuk melakukan kegiatan konstruksi, produksi, pengangkutan dan penjualan serta pengolahan pemurnian dalam WIUP untuk jangka waktu 12 (Duabelas) tahun dan dapat diperpanjang 2 (dua) kali ( sesuai dengan komoditas tambang sesuai Undang – Undang Nomor 4 Tahun 2009) Terhitung mulai tanggal ditetapkannya keputusan ini sampai dengan tanggal **24 Nopember 2021**

KETIGA : IUP Operasi Produksi ini dilarang dipindahtangan kan kepada pihak lain tanpa persetujuan Bupati Kutai Kartanegara.

KEEMPAT : **PT. RINJANI KARTANEGARA** sebagai pemegang IUP Operasi Produksi dalam melaksanakan kegiatan mempunyai hak dan kewajiban sebagaimana tercantum dalam Lampiran III Keputusan ini.

KELIMA : Selambat-lambatnya 60 (enam puluh) hari kerja setelah diterbitkannya Keputusan ini sudah harus menyampaikan rencana kerja dan anggaran biaya kepada Bupati Kutai Kartanegara .



- KEENAM** : Terhitung sejak 90 (sembilan puluh) hari kerja persetujuan rencana kerja dan anggaran Biaya sebagaimana dimaksud dalam diktum kelima Pemegang IUP Operasi Produksi sudah harus memulai aktifitas dilapangan
- KETUJUH** : Tanpa Mengurangi ketentuan peraturan perundang-undangan maka IUP dapat diberhentikan sementara, dicabut, atau dibatalkan, apabila pemegang IUP Operasi Produksi tidak memenuhi kewajiban dan larangan sebagaimana dimaksud dalam diktum Ketiga, Keempat dan Kelima dalam Keputusan ini.
- KEDELAPAN** : Keputusan Bupati Kutai Kartanegara ini mulai berlaku pada tanggal ditetapkan dan apabila terdapat kekeliruan akan diperbaiki sebagaimana mestinya.

Ditetapkan di **TENGGARONG**  
 Pada Tanggal **14 November 2009**



**Tembusan :**

1. Menteri Energi dan Sumber Daya Mineral
2. Menteri Keuangan
3. Sekretaris Jenderal Departemen Energi dan Sumber Daya Mineral
4. Inspektur Jenderal Departemen Energi dan Sumber Daya Mineral
5. Direktur Jenderal Pajak Departemen Keuangan
6. Direktur Jenderal Perbendaharaan Departemen Keuangan
7. Direktur Jenderal Perdagangan Luar Negeri, Departemen Dalam Negeri
8. Gubernur Kalimantan Timur.
9. Bupati Kutai Kartanegara
10. Kepala Biro Hukum dan Humas/Kepala Biro Keuangan/Kepala Biro Perencanaan dan Kerjasama Luar Negeri, Setjen Departemen Energi dan Sumber Daya Mineral.
11. Sekretaris Direktorat Jenderal Mineral, Batubara dan Panas Bumi.
12. Direktur Teknik dan Lingkungan Mineral, Batubara dan Panas Bumi.
13. Direktur Pembinaan Bangunan Mineral, Batubara dan Panas Bumi.
14. Direktur Pembinaan Pengusahaan Mineral dan Batubara.
15. Direktur Pajak Bumi dan Bangunan Departemen Keuangan.
16. Kepala Dinas Pertambangan dan Sumber Daya Mineral Propinsi Kalimantan Timur.
17. Kepala Dinas Pertambangan dan Energi Kabupaten Kutai Kartanegara
18. Direksi PT. RINJANI KARTANEGARA

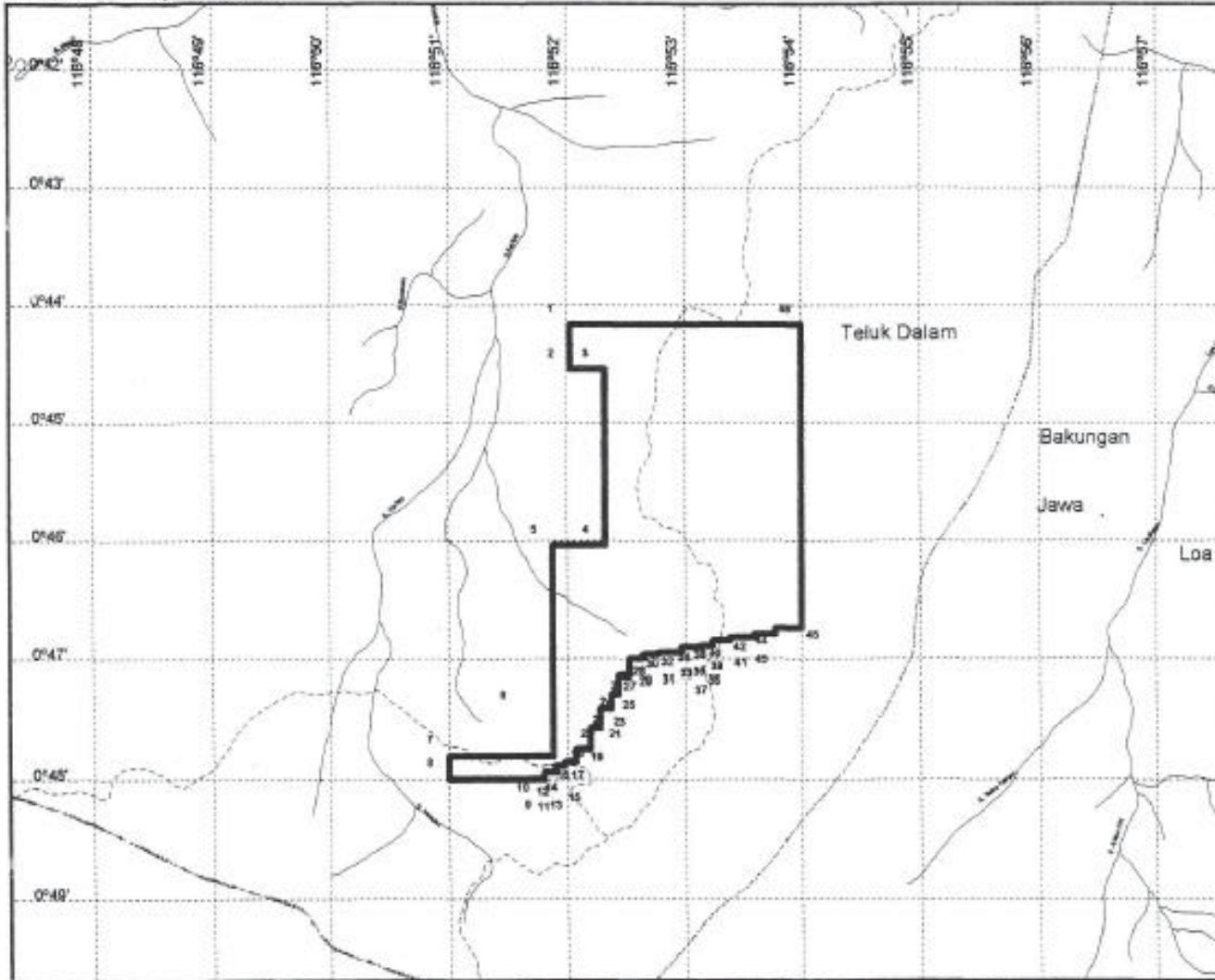


HONOR: 540/24/MB-PBAT/W/2010

PENGESAHAN  
 TELAH DIPERIKSA KEBENARANNYA DAN  
 SESUAI DENGAN ASLINYA  
 TENGGARONG, 16 APRIL 2010  
 DIRUMAH SAKIT PERTAMBANGAN DAN ENERGI  
 KABUPATEN KUTAI KARTANEGARA  
 SEKRETARIS,

DR. H. ABD. RAHMAN K, S.Sos, I.MM  
 NIP. 19570317. 198001. 1. 001

Lampiran I  
 Surat Keputusan Bupati Kutai Kartanegara  
 Nomor : 540/1664/IUP-OP/MB-PBAT/XI/2009  
 Tanggal : 24 Nopember 2009



**PETA WILAYAH IZIN USAHA PERTAMBANGAN  
 DI DAERAH LOA JANAN DAN LOA KULU  
 KABUPATEN KUTAI KARTANEGARA  
 PROVINSI KALIMANTAN TIMUR**

N  
 Skala 1 : 100.000

Nomor Lokasi	KETERANGAN
<i>KW.KTN 2009 1654 OP</i>	LUAS : 1.933 Ha

DINAS PERTAMBANGAN DAN ENERGI KABUPATEN KUTAI KARTANEGARA  
 UNIT PELAYANAN INFORMASI DAN PENCAKANGAN WILAYAH PERTAMBANGAN (UPIPPW)

Keterangan:

Lokasi IUP	Jalan
Sungai	Batas Wilayah

Sumber Peta:  
 Peta Rupabumi, Bakosurtanal 1991  
 Datum Horizontal (Datum Geodesi Nasional (DGN 85), WGS 84

PETA INDEKS  
 KABUPATEN KUTAI KARTANEGARA

PT. Rinjani Kartanegara

Pemohon : PT. RINJANI KARTANEGARA  
 Hari dan Tanggal Proses : 24 Nopember 2009  
 Jam Proses : 10.13  
 Operator : Mei Chidayanto, ST  
 Catatan : Persetujuan IUP Operasi Produksi

Bekeluarkan di Tenggarong  
 Pada Tanggal 24 Nopember 2009  
 Pj. Bupati Kutai Kartanegara

Drs. H. SJACHRUDDIN, MS. MM

LAMPIRAN II  
 KOORDINAT WILAYAH IZIN USAHA PERTAMBANGAN OPERASI PRODUKSI

Nama Perusahaan : PT. RINJANI KARTANEGARA

Lokasi

- Provinsi : Kalimantan Timur
- Kabupaten : Kutai Kartanegara
- Kecamatan : Loa Janan dan Loa Kulu
- Komoditas : Batubara
- Luas : 1.933 Ha
- Kode Wilayah : KTN 2009 1654 OP

No. Titik Koord.	Bujur Timur			Lintang (LU/LS)			
	°	'	"	°	'	"	
1.	116	52	02.13	0	44	10.00	LS
2.	116	52	02.13	0	44	32.63	LS
3.	116	52	19.36	0	44	32.63	LS
4.	116	52	19.36	0	46	02.65	LS
5.	116	51	53.04	0	46	02.65	LS
6.	116	51	53.04	0	47	48.18	LS
7.	116	51	00.00	0	47	48.18	LS
8.	116	51	00.00	0	48	00.00	LS
9.	116	51	48.20	0	48	00.00	LS
10.	116	51	48.20	0	47	56.40	LS
11.	116	51	54.00	0	47	56.40	LS
12.	116	51	54.00	0	47	53.43	LS
13.	116	51	58.61	0	47	53.43	LS
14.	116	51	58.61	0	47	51.20	LS
15.	116	52	04.40	0	47	51.20	LS
16.	116	52	04.40	0	47	45.11	LS
17.	116	52	11.69	0	47	45.11	LS
18.	116	52	11.69	0	47	34.26	LS
19.	116	52	16.44	0	47	34.26	LS
20.	116	52	16.44	0	47	24.45	LS
21.	116	52	22.39	0	47	24.45	LS
22.	116	52	22.39	0	47	17.17	LS
23.	116	52	26.10	0	47	17.17	LS
24.	116	52	26.10	0	47	08.25	LS
25.	116	52	31.60	0	47	08.25	LS
26.	116	52	31.60	0	47	00.08	LS
27.	116	52	38.59	0	47	00.08	LS
28.	116	52	38.59	0	46	57.85	LS
29.	116	52	46.46	0	46	57.85	LS
30.	116	52	46.46	0	46	56.96	LS
31.	116	52	58.21	0	46	56.96	LS
32.	116	52	58.21	0	46	54.43	LS
33.	116	53	07.42	0	46	54.43	LS
34.	116	53	07.42	0	46	53.69	LS
35.	116	53	14.26	0	46	53.69	LS
36.	116	53	14.26	..	dst..		

No. Titik Koord.	Bujur Timur			Lintang (LU/LS)			
	°	'	"	°	'	"	
36.	116	53	14.26	0	46	52.97	LS
37.	116	53	14.41	0	46	52.97	LS
38.	116	53	14.41	0	46	51.16	LS
39.	116	53	23.32	0	46	51.16	LS
40.	116	53	23.32	0	46	49.38	LS
41.	116	53	35.66	0	46	49.38	LS
42.	116	53	35.66	0	46	47.74	LS
43.	116	53	46.36	0	46	47.74	LS
44.	116	53	46.36	0	46	44.77	LS
45.	116	54	00.00	0	46	44.77	LS
46.	116	54	00.00	0	44	10.00	LS

### **Lampiran III**

#### **Hak dan Kewajiban**

##### **A. Hak**

1. Memasuki WIUP sesuai dengan peta dan daftar koordinat.
2. Melaksanakan kegiatan IUP Operasi Produksi ( Konstruksi, Produksi, Pengolahan Pemurnian dan Pengangkutan Penjualan ) sesuai dengan ketentuan peraturan perundang-undangan
3. Membangun fasilitas penunjang kegiatan IUP Operasi Produksi ( Konstruksi, Produksi, Pengolahan Pemurnian dan Pengangkutan Penjualan ) didalam maupun diluar WIUP.
4. Dapat menghentikan sewaktu waktu kegiatan IUP Operasi Produksi ( Konstruksi, Produksi, Pengolahan Pemurnian dan Pengangkutan Penjualan ) disetiap bagian atau beberapa bagian dengan alasan bahwa kelanjutan dari kegiatan IUP Operasi Produksi ( Konstruksi, Produksi, Pengolahan Pemurnian dan Pengangkutan Penjualan ) tersebut tidak layak atau praktis secara komersial maupun karena keadaan kahar, keadaan yang menghalangi sehingga menimbulkan penghentian sebagian atau seluruh kegiatan usaha pertambangan.
5. Mengajukan permohonan pengusahaan mineral lain yang bukan merupakan asosiasi mineral utama yang diketemukan dalam WIUP.
6. Mengajukan pernyataan tidak berminat terhadap pengusahaan mineral lain yang bukan merupakan asosiasi mineral utama yang diketemukan dalam WIUP.
7. Memanfaatkan sarana dan prasarana umum untuk keperluan kegiatan IUP Operasi Produksi ( Konstruksi, Produksi, Pengolahan Pemurnian dan Pengangkutan Penjualan ) setelah memenuhi ketentuan peraturan perundang-undangan.
8. Dapat melakukan kerjasama dengan perusahaan lain dalam rangka penggunaan setiap fasilitas yang dimiliki oleh perusahaan lain baik yang berafiliasi dengan perusahaan atau tidak sesuai dengan ketentuan peraturan perundang-undangan.
9. Dapat membangun sarana dan prasarana pada WIUP lain setelah mendapat izin dari pemegang IUP yang bersangkutan.

##### **B. Kewajiban**

1. Memilih yuridiksi pada Pengadilan Negeri tempat dimana lokasi WIUP berada.
2. Selambat – lambatnya 6 bulan setelah ditetapkannya keputusan ini pemegang IUP Operasi Produksi harus sudah Melaksanakan dan menyampaikan laporan pematokan batas wilayah IUP Operasi Produksi kepada Bupati Kutai Kartanegara.
3. Hubungan antara pemegang IUP Operasi Produksi dengan pihak ketiga menjadi tanggung jawab pemegang IUP Sesuai ketentuan perundang-undangan.
4. Melaporkan Rencana investasi.
5. Menyampaikan rencana reklamasi.
6. Menyampaikan rencana pasca tambang.
7. Menempatkan jaminan penutupan tambang (sesuai umur tambang).
8. Menyampaikan RKAB selambat lambatnya pada bulan Nopember yang meliputi rencana tahun depan dan realisasi kegiatan setiap tahun berjalan kepada Bupati dengan tembusan kepada :  
\*) Menteri dan Gubernur apabila IUP diterbitkan Bupati/Walikota.
9. Menyampaikan laporan kegiatan triwulanan yang harus diserahkan dalam jangka waktu 30 (tiga puluh) hari setelah Akhir dari Triwulan takwim secara berkala kepada Bupati dengan tembusan kepada:  
\*) Menteri dan Gubernur apabila IUP diterbitkan Bupati/Walikota
10. Apabila ketentuan batas waktu Penyampaian RKAB dan pelaporan sebagaimana dimaksud pada angka 8 (delapan) dan 9 (Sembilan) tersebut di atas terlampaui, maka kepada pemegang IUP Operasi Produksi akan diberikan peringatan tertulis.
11. Menyampaikan laporan produksi dan pemasaran sesuai ketentuan peraturan perundang undangan.
12. Menyampaikan Rencana Pengembangan dan Pemberdayaan Masyarakat sekitar wilayah pertambangan kepada Bupati Kutai Kartanegara.
13. Menyampaikan RTKL setiap tahun sebelum penyampaian RKAB kepada Bupati Kutai Kartanegara.
14. Memenuhi ketentuan perpajakan sesuai ketentuan peraturan perundang-undangan.
15. Membayar iuran tetap setiap tahun dan membayar royalty sesuai ketentuan peraturan perundang-undangan.
16. Menempatkan jaminan reklamasi sebelum melakukan kegiatan produksi dan Rencana Penutupan Tambang sesuai ketentuan peraturan perundang-undangan.
17. Menyampaikan RPT (Rencana Penutupan Tambang) 2 tahun sebelum kegiatan produksi berakhir.
18. Mengangkat seorang Kepala Teknik Tambang yang bertanggung jawab atas IUP Operasi Produksi ( Konstruksi, Produksi, Pengolahan Pemurnian dan Pengangkutan Penjualan ), Keselamatan dan Kesehatan Kerja Pertambangan serta pengelolaan Lingkungan Pertambangan
19. Kegiatan produksi dimulai apabila kapasitas produksi terpasang mencapai 70% yang direncanakan.

20. Permohonan perpanjangan IUP untuk kegiatan produksi harus diajukan 2 (dua) tahun sebelum berakhirnya masa izin ini dengan disertai pemenuhan persyaratan.
21. Kelalaian atas ketentuan tersebut pada butir 20, mengakibatkan IUP Operasi Produksi berakhir menurut hukum dan segala usaha pertambangan dihentikan. Dalam jangka waktu paling lama 6 (enam) bulan sejak berakhirnya Keputusan ini Pemegang IUP Operasi Produksi harus mengangkat keluar segala sesuatu yang menjadi miliknya, Kecuali benda-benda bangunan-bangunan yang dipergunakan untuk kepentingan umum.
22. Apabila dalam jangka waktu sebagaimana dimaksud dalam butir 21, pemegang IUP Operasi Produksi tidak melaksanakan maka barang /asset pemegang IUP menjadi milik pemerintah.
23. Pemegang IUP Operasi Produksi harus menyediakan data dan keterangan sewaktu waktu apabila dikehendaki oleh Pemerintah.
24. Pemegang IUP Operasi Produksi membolehkan dan menerima apabila pemerintah sewaktu waktu melakukan pemeriksaan.
25. Pemegang IUP Operasi Produksi tidak boleh melakukan segala kegiatan pertambangan bila lokasi IUP Operasi Produksi masuk dalam Kawasan Budidaya Kehutanan (KBK) dan atau Hutan Produksi (HP) sebelum memiliki izin Pinjam Pakai kawasan dari Menteri Kehutanan RI.
26. Menerapkan kaldah pertambangan yang baik.
27. Mengelola keuangan sesuai dengan system akuntansi Indonesia.
28. Melaporkan pelaksanaan pengembangan dan pemberdayaan masyarakat secara berkala.
29. Mengutamakan pemanfaatan tenaga kerja setempat, barang dan jasa dalam negeri sesuai ketentuan peraturan Peraturan perundangan.
30. Mengutamakan pembelian dalam negeri dari pengusaha lokal yang ada di daerah tersebut sesuai ketentuan peraturan perundang undangan.
31. Mengutamakan s optimal mungkin penggunaan perusahaan jasa pertambangan lokal dan/atau nasional.
32. Dilarang melibatkan anak perusahaan dan/atau afiliasinya dalam bidang usaha pertambangan di WIUP yang diusahakannya kecuali dengan izin Menteri.
33. Melaporkan data dan pelaksanaan penggunaan jasa penunjang.
34. Menyerahkan seluruh data hasil kegiatan IUP kepada Bupati.\* dengan tembusan kepada:  
\*) Menteri dan Gubernur apabila IUP diterbitkan bupati/walikota
35. Menyampaikan proposal sekurang kurangnya menggambarkan aspek teknis, keuangan, produksi dan Pemasaran serta lingkungan sebagai persyaratan pengajuan permohonan perpanjangan IUP Operasi Produksi.
36. Memberi ganti rugi kepada pemegang hak atas tanah dan tegakan yang terganggu akibat kegiatan IUP Operasi Produksi.
37. Mengutamakan pemenuhan kebutuhan dalam negeri (DMO) sesuai ketentuan peraturan perundang undangan
38. Penjualan produksi kepada afiliasi harus mengacu pada harga pasar.
39. Kontrak penjualan jangka panjang (minimal 3 tahun) harus mendapat persetujuan terlebih dahulu dari Menteri
40. Perusahaan wajib mengolah produksinya di dalam negeri.
41. Pembangunan sarana dan prasarana pada kegiatan konstruksi antara lain meliputi :
  - a. Fasilitas – fasilitas dan peralatan pertambangan.
  - b. Instalasi dan peralatan peningkatan mutu mineral/batubara.
  - c. Fasilitas – fasilitas Bandar yang dapat meliputi dok-dok, pelabuhan-pelabuhan, dermaga-dermaga, jembatan-jembatan, tongkang-tongkang, pemecah-pemecah air, fasilitas-fasilitas terminal, bengkel-bengkel, daerah-daerah penimbunan, gudang-gudang, dan peralatan bongkar muat.
  - d. Fasilitas-fasilitas transportasi dan komunikasi yang dapat meliputi jalan-jalan, jembatan-jembatan, kapal-kapal, feri-feri, tempat-tempat pendaratan pesawat, hangar-hangar, garasi-garasi, pompa-pompa BBM, fasilitas-fasilitas radio dan telekomunikasi, serta fasilitas-fasilitas jaringan telegraph dan telepon.
  - e. Perkotaan yang dapat meliputi rumah-rumah tinggal, toko-toko, sekolah-sekolah, rumah sakit, teater-teater dan bangunan lain, fasilitas-fasilitas dan peralatan pegawai kontraktor termasuk tanggungan pegawai tersebut.
  - f. Listrik, fasilitas-fasilitas air dan buangan dan dapat meliputi pembangkit-pembangkit tenaga listrik (yang dapat berupa tenaga air, uap, gas atau diesel), jaringan-jaringan listrik, dam-dam, saluran-saluran air, sistem-sistem penyediaan air dan sistem-sistem pembuangan limbah (tailing), air buangan pabrik dan air buangan rumah tangga.
  - g. Fasilitas-fasilitas lain, yang dapat meliputi namun tidak terbatas, bengkel-bengkel mesin, bengkel-bengkel pengecoran dan reparasi.
  - h. Semua fasilitas tambahan atau fasilitas lain, Pabrik dan peralatan yang dianggap perlu atau cocok untuk operasi perusahaan yang berkaitan dengan WIUP atau untuk menyediakan pelayanan atau melaksanakan aktifitas-aktifitas pendukung atau aktifitas yang sifatnya insidental.