

#### **INVESTMENT HIGHLIGHTS**

- Developing a large new coking coal basin
- Two exceptionally well located coking coal deposits
- Combined Resources of 491 Mt

#### Amaam:

- Amaam: 464 Mt total Resource comprising 386Mt Inferred<sup>B</sup> & 78Mt Indicated<sup>C</sup>
- Project 25km from planned port site and only 8 days shipping to China, Korea and Japan
- High vitrinite content (>90%) coking coal with excellent coking properties
- PFS completed

#### Amaam North:

- Project F: a small portion of the deposit focussed on the Lower Chukchi coals - 26.8 Mt total Resource comprising 7.2Mt Measured<sup>D</sup>, 4.6Mt Indicated<sup>C</sup> & 15Mt Inferred<sup>B</sup>
- Project 35km from existing Beringovsky coal port
- PFS completed
- BFS due for completion Q2 2014
- First production targeted for 2015/2016

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Non-executive chairman

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# **Amaam Projects**

# **Resources and Exploration Targets Update**

Total Resources comprise 491 Mt of coal (including 26.8Mt at Amaam North), with 103 Mt in the Measured and Indicated categories.

## **Amaam**

- Drilling completed in 2013 increased the Total Amaam Coal Resource by 12.6% to 464 Mt. Resources comprise 78 Mt of Indicated Resource and 386 Mt of Inferred Resource (JORC 2012).
- In Area 3, the key area targeted for initial development, Total Resources increased by 31% to 153 Mt. Indicated Resources comprise 52 Mt and Inferred Resources 101 Mt.
- An updated Exploration Target has been estimated.

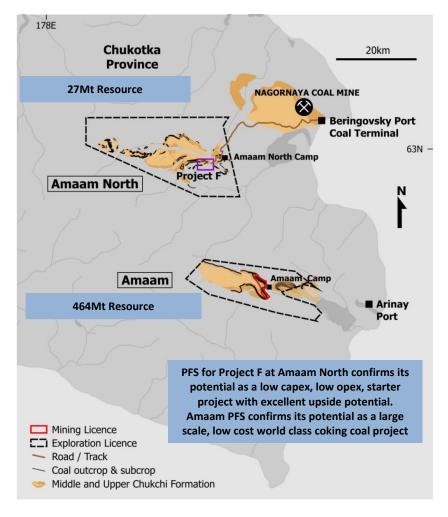
## **Amaam North**

- Field mapping in H2 2013 identified 112 new coal outcrops, doubling the number of previously identified locations.
- The potential strike extent of coal seams at Project F has been extended by over 9.5 km.
- An updated Exploration Target has been estimated.

# AMAAM COKING COAL PROJECT

Tigers Realm Coal (TIG) owns 80%<sup>A</sup> of the Amaam Coking Coal Project which is located in the Chukotka Province of far eastern Russia. The Amaam Coking Coal Project consists of two tenements: Amaam and Amaam North.

# Location map of the Amaam and Amaam North Coking Coal Projects and the location of Project F





# **Amaam Resource Estimate**

Following the 2013 drilling program completed at the Amaam deposit, TIG's Resource consultant, Resolve Geological Pty Ltd, has estimated a total of 464 Mt of Coal Resources at Amaam. This represents a 52 Mt increase over the previous Resource Estimate reported in November 2012. The Resources include 78 Mt of Indicated Resources and 386Mt of Inferred Resources (JORC 2012). In Area 3, the key area targeted for initial production, Total Resources increased to 153 Mt with Indicated Resources increasing by 42% to 52 Mt.

Of the total Resource at Amaam, 343 Mt is in the open pit domain less than 400m from surface. Below 400m, the Inferred Resource totals 121 Mt, providing significant potential upside from future underground operations.

This Resource Estimate uses an additional 5,656m of drilling in Area 3 (see figure below) compared to the Resource Estimate reported in November 2012. As such the resources were re-estimated for Area 3 only. The Resources for Areas 2, 4EC and 4W remain the same as reported in November 2012.

The Resource Estimate is based on 35,267m of drilling completed since 2008. In addition the Resource Estimate uses outcrop mapping completed since 2008 by NPCC and TIG, and historic drilling and outcrop mapping, trenching, shafts and adits completed by Russian geological expeditions undertaken during the Soviet era. Since acquiring the project in 2009, TIG (as manager of the project) has completed 27,789 m of drilling.

Drilling recommenced in November 2013 and will continue until April 2014. 4,000m of drilling has been completed in this season so far and results from this work will provide additional data for the Bankable Feasibility Study (BFS) currently underway and for the conversion of additional areas of the Amaam deposit from Exploration Licence to Extraction and Exploration Licences.

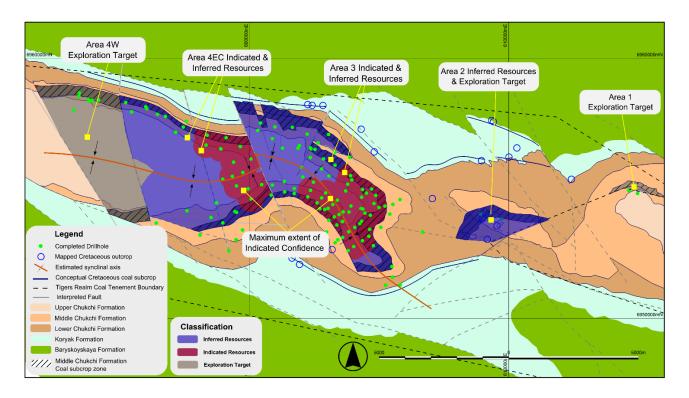
The drilling program continues to confirm TIG's geological interpretation of the deposit as a large scale, high quality, coking coal resource. While the average cumulative thickness of the deposit is estimated to be between 10-11m, drill holes have intersected cumulative coal thicknesses up to 25m.

The confidence in the geological setting and disposition of the coal formation has greatly improved with the 5,656 m of additional drilling used for this Resource Estimate. Large parts of Area 3 are now drilled to a spacing of around 600m by 300m, and a large extent of Area 4EC is drilled to a spacing of around 800m. TIG believes the determination of coal volumes within the Inferred Resource Estimate is at a higher confidence level than the classification implies. However a lower amount of Indicated Resources has been reported because of lower core recovery, particularly in the programs before TIG took over management of the Project, and thinner seams (between 0.3m and 1.0m) which were not sampled in drill programs prior to TIG's involvement in the project.

The following figure show plans of the Amaam deposit illustrating the surface geology and extents of the Resources and Exploration Target.

The following tables detail the Amaam Resource Estimate. Totals below may not sum due to rounding.

Amaam - Plan showing distribution of Indicated, Inferred Resource and Exploration Target



# Indicated Resources for the Amaam Project (100% basis)

Area	Open Pit <sup>1</sup> (Mt)	Underground <sup>2</sup> (Mt)	Total (Mt)
Area 3	51	0.9	52
Area 4EC	26	0.3	26
Total (rounded)	76	1	78

# Inferred Resources for the Amaam Project (100% basis):

Area	Open Pit <sup>1</sup> (Mt)	Underground <sup>2</sup> (Mt)	Total (Mt)
Area 2	8	0	8
Area 3	133	20	153
Area 4EC	124	101	224
Total (rounded)	265	121	386

# Total Resources for the Amaam Project (100% basis):

Area	Open Pit¹ (Mt)	Underground <sup>2</sup> (Mt)	Total (Mt)
Area 2	8	0	8
Area 3	185	20	205
Area 4EC	150	101	251
Total (rounded)	343	121	464

#### **Coal Quality by Area (air dried basis)**

	Area 2	Area 3	Area 4EC	Total
Mt	8	206	250	464
Relative density g/cm3	1.63	1.63	1.59	1.61
Air dried moisture %	1.0	1.0	1.1	1.0
Ash %	34.5	34.5	32.4	33.8
Volatile matter %	22.6	22.6	25.1	23.4
Fixed Carbon %	42.0	42.0	41.3	41.7
Sulphur %	0.9	0.9	1	1.0
Calorific value kcal/kg	5320	5320	5630	5425

#### Coal Quality by Ply (air dried basis)

Depth	Tonnage Mt	RD ad	Moisture %ad	Ash %ad	VM %ad	FC %ad	TS %ad	CV Kcal/kg,
	IVIL		∕oau					au
0-100m	75	1.61	1.0	33.0	23.8	42.3	1.10	5497
100-200m	95	1.60	1.0	32.9	23.8	42.3	1.12	5511
200-300m	90	1.62	1.0	34.0	23.1	41.9	1.02	5406
300-400m	74	1.63	1.0	35.3	22.7	41.0	0.97	5272

- 1. Assumes coal seams greater 0.3m to a depth of 400m
- 2. Assumes coal seams greater than 1.2m deeper than 400m

# **Geology and geological interpretation**

Regionally, Amaam is a tectonic basin of the Cenozoic Anadyr – Koryak fold system. The basin is a symmetrical graben structure with folding and both normal and thrust faulting. Basement sediments of the syncline are the Cretaceous marine and non-marine sediments of the 1.3 to 1.5 km thick Baryskoyskaya and Koryak formations. These sediments were syn-depositional to the tectonic events which shaped the basin structure. The Koryak formation contains minor coal seams.

Tectonic uplift was followed by the deposition of sediments of the target Palaeogene Chukchi formation (28 – 65ma). These are split into 3 members, comprising the Upper, Middle and Lower Chukchi members. The two lower members are characterised by marine regression. The Lower Chukchi member comprises predominantly lithified marine sandstones, siltstones and conglomerates. The Middle Chukchi member hosts terrestrial sands, silts, mudstones and coal of economic thicknesses (including the Amaam North and Amaam deposits). The Upper Chukchi member is a unit of terrestrial sandstones and includes no coal units. Quaternary deposits are typically glacial sediments and fluvial gravels and sands.

Locally, the Amaam coal deposits are within a synclinal basin structure. A number of significant faults transect the basin offsetting the syncline, this likely includes modelled graben structures, normal and reverse faulting, and some block rotation. Dips at subcrop within the basin range between 15° and >60°, however are typically within the range of 25°-35°. The Amaam syncline is bounded to the north and south by major regional thrust faults, to the east by a normal fault. To the west, coal is identified to the tenement boundary in depositionally and structurally controlled domains.

Geological interpretation of the local seam geology and the faulting varies across the deposit and is based on both the density of drilling and the quality of geological mapping. Geological mapping serves an important role for geological interpretation as large structures are typically defined by the formation of ridges and scarps created by resistant sandstones within the coal bearing sequence of sediments.

Seam correlation is completed based on geophysical logs. Density, Natural Gamma, Microlithology (bed resolution density), caliper and a range of resistivity logs are interpreted to identify and correct depths and recoveries within seams. Seams vary in their depositional characteristics. A number of seams maintain a strong geophysical signature and are readily correlative in isolation, whereas other seams tend to vary in their appearance, and are more challenging to correlate. A moderate density of smaller scale faults are also present.

# **Drilling and sampling**

Drilling within Amaam has typically been HQ cored (61.1mm core diameter) from surface. Some PQ cored holes were completed during the 2011/12 drill season without an apparent improvement in core recovery. Drill holes are all vertical, with downhole survey completed on all drill holes over 200m depth. Samples were taken for coal quality based upon lithological boundaries, and were collected after downhole geophysical logging, seam identification and depth correction. Sampling protocols are in place and are applied by geologists with a good observed level of technical competency.

## Criteria used for classification

Classification within Amaam is currently separated into Inferred and Indicated Resources. No Measured resources are reported at this time. The nature of the Amaam coal seams, both in their variable thickness, structural setting and coal composition, mean that challenges surrounding coal seam core recovery and continuity on a ply basis persist. Infill drilling continues to raise the confidence in the Resource and allows the identification of smaller structures within the densely drilled areas, however higher confidence classifications are impeded by a significant amount of seams which do not meet core recovery criteria.

Drill hole spacing within the area of Amaam containing Indicated Resources is generally 250m down-dip, and 400-500m along strike within Area 3. Within Area 4EC indicated Resources have a typical drill hole spacing of 400-600m. Area 4 shows a less complicated seam splitting relationship than Area 3.

Points of observation within Amaam are abundant in terms of identification of geological continuity. The regions of the deposit classified as Indicated have, in spite of challenging seam correlations, been drilled to the point where positive correlations have been made throughout, and confidence in the continuity of the seams is good. Seam recovery and the mechanical condition of the core in a significant number of intersected seams requires a method of determining the coal quality of the deposit. A coal quality point of observation is determined as any hole exceeding 95% linear recovery (where the core was determined to be solid) or 85% recovery as determined by mass reconciliation (when the core was broken and linear measurements are not considered accurate). Resolve has also utilised a number of seams with a mass recovery of between 75% and 85% as support in bridging >85% points of observation, when positive seam continuity was demonstrated, and the laboratory results displayed Ash and density values which reflected expectations from the geophysical seam signature. Resolve concede that this method of determining a representative sample is subjective, however are confident that potential errors are minimal.

# Sample analysis method

Coal core samples from Amaam are transported to Anadyr overland from the exploration camps, and flown to SGS laboratory in Novokuznetsk. Typical time between sample dispatch and delivery to the laboratory is approximately 3 weeks. Given the logistics of travel and the typical timeframes of working within Chukotka, Resolve is satisfied that sample dispatch timeframes are appropriate. Samples are maintained in a stable cold environment, and are stored in secure facilities throughout.

Samples are analysed according to international Standards (ISO). Coal quality is managed and validated by A&B Mylec, with independent laboratory audits completed prior to the commencement of work.

# **Estimation methodology**

The methods of estimation for Amaam involved the following steps:

- Validation of drill hole data and a review of seam nomenclature, and a validation of the drill hole location.
- Modelling of a faulted reference floor (Seam 3M2B), and seam/interburden thicknesses. Thickness grids were modelled using an inverse distance (4th Power), selected after a comparison of other interpolation algorithms for suitability.
- Generation of a gridded seam model, incorporating base of weathering, topography and relevant structural boundaries (Area domain faults).
- Determination of ply by ply coal quality models, incorporating laboratory data where available and deemed representative. Where valid laboratory coal quality was not available for a geophysically logged seam an estimate of the seam density was made by Resolve, and Proximate coal quality was estimated by statistical regression formulae.
- Determination of parent seams. This utilises a SQL database function to identify parent seams based on thickness. This ensures that the estimate includes a robust and representative raw coal quality, incorporating the correct amount of non-coal parting.
- Generate resource polygons based on the continuity of structure and coal quality.

# **Cut off grades including basis for selection**

Resolve utilised a universal cut off ash value for reporting resources of 50%. Resolve considers this to be the point at which the yields of marketable coal are sufficiently low that prospects of eventual economic extraction become unlikely. Resolve concede that it is possible that limited high ash material may be processed through a washing facility on the basis of the selective/bulk mining techniques applied, however these tonnes are not accounted for within the Resource model.

# Mining and metallurgical methods and parameters

Based on TIG's Amaam Prefeasibility Study, the primary mining method is likely to be selective open pit operations. For open pit mining a 30cm seam cut-off has been applied to parent seams to 400m depth, inclusive of partings as applicable and their associated impact on raw coal quality. Below 400m there is potential for underground mining. The nearby Nagornaya Mine (at Beringovsky – 35 km distance) mines seam greater than 1.2m in a similar geological setting using longwall mining methods. Resolve have used this thickness cut off for Amaam underground Resources.

# **Amaam Exploration Target**

The table below outlines the additional Exploration Target (exclusive of Resources) by area for Amaam. The potential quantity and grade of the Exploration Target is conceptual in nature, and there has been insufficient exploration to estimate a Coal Resource. and it is uncertain if further exploration will result in the estimation of a Coal Resource. Drilling in 2012/2013 in Area 3 has converted all the November 2012 Exploration Target in that Area to Resources. Totals below may not sum due to rounding.

#### **Amaam Exploration Target**

Amaam Middle Chukchi	Open Pit <sup>1</sup> (Mt)	Underground <sup>2</sup> (Mt)	Total (Mt)
Area 1	2 to 3	0	2 to 3
Area 2	21 to 33	0	21 to 33
Area 4EC	1 to 5	1 to 5	2 to 10
Area 4W	50 to 79	36 to 56	86 to 135
Cretaceous <sup>3 &amp; 4</sup>	2 to 6	8 to 19	10 to 25
Total (rounded)	75 - 125	45 - 80	120 - 205
Target Ash%	10-40	10-40	10-40

- 1. Assumes coal seams greater 0.3m to a depth of 400m
- 2. Assumes coal seams greater than 1.2m below 400m depth
- 3. Assumes coal seams of 1.5m to a depth of 50m
- 4. Assumes coal seams of 1.5m from 50 to 200m depth

The exploration targets from the different Areas are expected to intersect variable quality of coal seams. The exploration target coal quality is essentially based on the drill hole database used to determine Coal Resources. A 10% to 40% Ash grade is considered a reasonable estimate for the exploration target within the Middle Chukchi.

At Amaam, continued open hole and diamond drilling over a two to three year timeframe is required to convert the majority of the Exploration Target to Coal Resources.

# **Amaam Coal Quality**

At Amaam, RoMax (Mean Maximum Vitrinite Reflectance) values range from a minimum of 0.65 in Area 4E to 1.25 in Area 3.

As reported in the Pre-Feasibility Study (PFS), because of their higher rank and excellent plasticity properties, Mining Areas 2, 3, 4C and 4W coals will be blended to produce an Amaam Premium Coking Coal. Area 4E coal will produce a separate, lower rank Amaam High-Vol Coking Coal.

The PFS estimated the Amaam project will produce 92 Mt of Premium Coking Coal and 16 Mt of High Vol Coking Coal. TIG's coal quality work to date suggests the Amaam product coals will be an attractive blend for the Asian Steel market. The coals have high vitrinite and superior carbonisation properties (CSN, Grey King and Fluidity). Very high demand is expected from China, where the coals will likely be classified as Fat (Fm) Coking Coal. The preliminary specification for the two coal types are summarised below.

# **Amaam Coking Coal - Specification Sheet**

Parameters		Premium Coking Coal	High Vol Coking Coal	Basis/Units	
Product Moisture		10%	10%	As Received	
Proximate Analysis	Inherent Moisture	0.7	1.0		
	Ash	10.0	10.0	0/ Air Dried	
	Volatile Matter	28.6	34.2	% Air Dried	
	Fixed Carbon	60.7	54.8		
Total Sulphur		0.72%	1.0%	As Received	
Phosphorus		0.12%	0.1%		
Crucible Swelling Number (CSN )		8.5	8.0		
Gray-King Coke Type		G9 – G12			
G Index		96			
Sapozhnikov Plastometer	Plastic Layer thickness (Y)	26		Mm	
Gieseler Plastometer	Maximum Fluidity	50-18,500	50-50,000	Ddpm	
Dilatation	Maximum Dilatation	20-328	33-140	%	
Petrographic	Vitrinite	92	90.2	%	
Vitrinite Reflectance		1.09	0.86	% MMR	

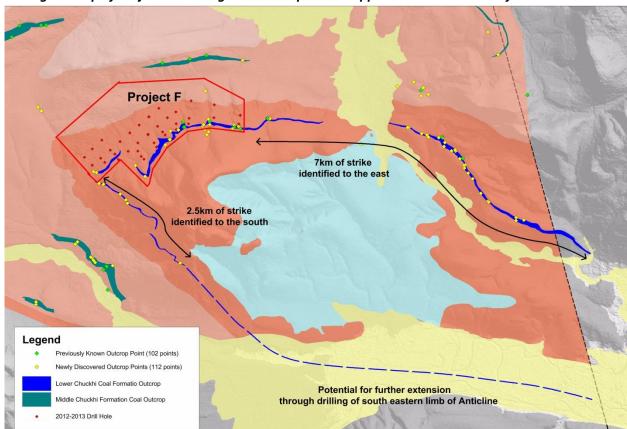
# **Amaam North Exploration Target**

TIG's resource consultant Resolve Geological has completed an update of the Amaam North Exploration Target. The potential quantity and grade of the Exploration Target is conceptual in nature, and there has been insufficient exploration to estimate a Coal Resource, and it is uncertain if further exploration will result in the estimation of a Coal Resource. The previous estimate of the Exploration Target was publicly released in November 2012.

Between July and October 2013, TIG completed summer field works comprised of geological mapping, topographic surveying, geotechnical drilling, surface hydrology and environmental base line studies.

At Amaam North, geological mapping concentrated on the south east part of the Licence near Project F, with a lesser focus on the north eastern and central areas of the Licence. The exploration team identified an additional 112 new coal outcrop locations. Work completed in the Project F area demonstrates continuation of the target Lower Chukchi coal seams over an additional 9.5km of strike extent to the east and south east.

This new information is providing an excellent basis for the planning and execution of the winter drilling season currently underway.



# Geological map of Project F showing coal outcrops and mapped strike extensions of coal seams

The Exploration Target update incorporates information acquired during Q1 2013 drilling in the project F area, a re-interpretation of the structural geology using new imagery, and exploration field mapping carried out through the Russian summer of 2013.

The following table summarises the updated Exploration Target for Amaam North (exclusive of Resources). The Exploration Target for Middle Chukchi coals compared to November 2013 is largely unchanged. The Exploration Target for Lower Chukchi has increased due the extensive field mapping undertaken to identify extensions to the Project F Resource. Compared to the November 2012 estimate, the Exploration Target has increased by 25 Mt to 60 Mt. Totals below may not sum due to rounding.

#### **Amaam North Exploration Target (100% basis)**

	Lower Chukchi Coal		Middle (	Total	
	Target (Mt)	Target Ash (%)	Target (Mt)	Target Ash (%)	(Mt)
Open Pit <sup>1</sup>	25 - 140	5 - 30	20 - 210	10 - 40	45 - 350
Underground <sup>2</sup>	10 -75	5 - 30	0 - 65	10 - 40	10 - 140
Total	35 - 215	5 - 30	20 - 275	10 - 40	55 - 490

- 1. Assumes coal seams greater than 0.3m to a depth of 250m
- 2. Assumes coal seams greater than 1.5m from 250m to 400m

The exploration targets from the different formations are expected to intersect variable quality of coal seams. The exploration target coal quality for the Lower and Middle Formation coals are as follows:

Lower Chukchi – The Project F coals are well understood, and Resolve considers that they provide
the expected best case scenario for the other regions identified as potentially hosting the lower

- Chukchi coal seams (seams 5, 4, 3, 2 and 1). A 5% to 30% Ash grade is considered a reasonable estimate for the exploration target within the Lower Chukchi.
- Middle Chukchi These coal seams are not expected to have similar characteristics as the Lower Chukchi coals at Project F. The exploration target coal quality is based on a number of outcrop samples collected across the deposit and analysed. This data indicates the Middle Chukchi coals at Amaam North display a significantly higher vitrinite content and are more similar in quality to the Middle Chukchi coals at Amaam. A 10% to 40% Ash grade is considered a reasonable estimate for the exploration target within the Middle Chukchi.

At Amaam, continued open hole and diamond drilling over a two to three year timeframe is required to convert the majority of the Exploration Target to Coal Resources.

# Sample 2 3 6 7 8 9 10 11 12 13 Thickness (m) 1.0 0.3 1.8 1.7 1.2 1.4 1.0 1.6 1.0 2.1 2.7 3.4 7.3 4.8 ft/Sad) 1.7 7.8 10.1 4.6 2.3 2.3 2.7 5.5 49.8 4.4 VM (%ad) 31.4 35.1 32.2 37.2 31.7 31.1 41.2 37.8 19.9 32.6 Total Suffur 1.04 1.32 0.39 0.43 1.21 1.00 0.05 1.16 0.34 1.03 (CV (kcal/kg) 75.97 57.0 133 77.25 797.2 7597 5533 5942 3337 6476 Phosphorus 0.00 0.13 0.07 0.02 0.01 0.01 0.02 0.06 0.05 0.05

Geological map of Amaam North showing coal outcrops and Middle Chukchi coal analysis results

# **Project F Resource Estimate**

For completeness, the Project F Resource Estimate released in July 2013 is summarised below.

# Coal Resources for the Amaam North - Project F (100% basis)

Resource Category	Open Pit <sup>1</sup> (Mt)	Underground <sup>2</sup> (Mt)	Total (Mt)
Measured - coking	7.16	0	7.16
Indicated- coking	3.29	1.27	4.56
Inferred - coking	8.69	4.58	13.27
Inferred - thermal	1.79	0	1.79
Total	20.93	5.85	26.78

#### Coal Resources for the Amaam North - Project F (100% basis)

By Depth	Coking (Mt)	Thermal (Mt)	Total (Mt)
Surface to 50m	5.46	1.76	7.22
50 to 100m	7.46	-	7.46
100 to 150m	6.22	-	6.22
Greater than 150m	5.85	-	5.85
Total	24.99	1.76	26.75

# Coal Quality by Ply for Project F (air dried basis)

DI	8.44	ISD	ADM	Ash	VM	FC	S	CV
Ply	Ply Mt	g/cm3	%	%	%	%	%	kcal/kg
422	1.33	1.33	1.01	10.64	28.03	60.31	1.22	7444
421	2.04	1.34	1.1	11.07	27.87	59.96	0.32	7353
402	0.15	1.47	1.26	27.34	22.63	48.76	0.25	5802
41	7.56	1.32	1.19	8.2	26.86	63.8	0.26	7608
35	1.8	1.49	1.14	27.38	23.35	48.1	0.23	5835
34	1.05	1.46	1.1	25.86	24.66	48.4	0.24	5976
33	0.6	1.57	1.18	34.7	24.44	39.68	0.14	4947
32	0.48	1.48	1.01	24.72	24.21	50.1	0.2	6107
31	0.48	1.43	1.03	20.69	24.58	53.75	0.21	6460
22	0.85	1.46	1	22.67	23.69	52.64	0.23	6307
21	1.49	1.43	1.08	18.62	23.29	56.99	0.24	6597
12	2.07	1.45	0.98	18.13	22.73	58.16	0.27	6701
11	1.01	1.59	0.96	34.07	20.41	44.59	0.21	5363
WS4 <sup>3</sup>	5.85	1.34	1.17	10.92	26.49	61.5	0.26	7359
Total	26.76	1.39	1.12	15.56	25.46	57.89	0.3	6932

- 1. Assumes coal seams greater than 0.3m to a depth of 250m
- 2. Assumes coal seams greater than 1.5m from 250m to 400m
- 3. Underground working section

# **Geology and geological interpretation**

Regionally, Amaam North is a tectonic basin of the Cenozoic Anadyr – Koryak fold system similar to Amaam (see description on page 5).

All Resources are contained within the Lower Chuckchi formation, in the South East corner of the Amaam North tenement. The local geology of Project F comprises three formations. The three formations in stratigraphic descending order are: the Middle Chukchi, the Lower Chukchi and the Koryak formation. The Koryak formation is barren of coal. The Middle Chukchi is known to contain significant economic deposits of coal, however the subcrop of this formation is understood to lie down dip of the Project F area and was not intercepted. The Lower Chukchi formation contains the thick coal seams named seam 1, 2, 3, 4 and 5. Various ply splits are apparent, and only the thickest and lowest Ash seam 4 extends across the entire region.

All exploration drilling within the Project F area has taken place in the Lower Chuckhi formation. The strata within these formations dip at  $>10^{\circ}$  to  $<30^{\circ}$  to the north and northwest. Northern extrapolation of the coal seams is controlled by bounding faults.

# **Drilling and sampling**

All drilling within Project F has been HQ cored (61.1mm core diameter) from surface. Drill holes are all vertical. Samples have been taken for coal quality based upon lithological boundaries. Samples are collected after downhole geophysical logs have been collected and seams have been identified and depth corrected as required. Sampling protocols are in place and are applied by geologists with a good observed level of technical competency.

#### Criteria used for classification

Typically within Project F, a maximum inferred extrapolation of 2km would apply, given the relatively benign structural setting and consistent dips. However in all cases surrounding the drillholes, resource polygons have been truncated by mapped structural boundaries closer than 2km to the nearest borehole.

Inferred classification applies to the thermal coal component of the resource which lies above the base of weathering and below the 2m (assumed) base of quaternary cover. Resolve have provided a cautious classification in this regard as limited information is available regarding the coal quality of individual seams within this zone, and the depth and consistency of the base of weathering.

The spacing of the valid points of observation within Project F exceed the required spacing for Indicated resources given the perceived lack of complexity of the deposit. Extrapolation of Indicated resources varies along the down-dip areas of the deposit in line with Resolve's confidence in extrapolated dip and small scale structures. A linear recovery of 95% or above was required for inclusion within the coal quality and tonnage estimation. If this recovery was not supported then the hole was not incorporated into the Indicated polygon.

Resolve suggest that within the drilled areas of the Indicated resource polygons, confidence is high enough for nearly all seams within the coal packet to estimate to indicated resources or higher. The exception being the area either side of an interpreted major fault. This is most likely a graben structure within the estimated boundaries of which, resources are estimated only with Inferred confidence level.

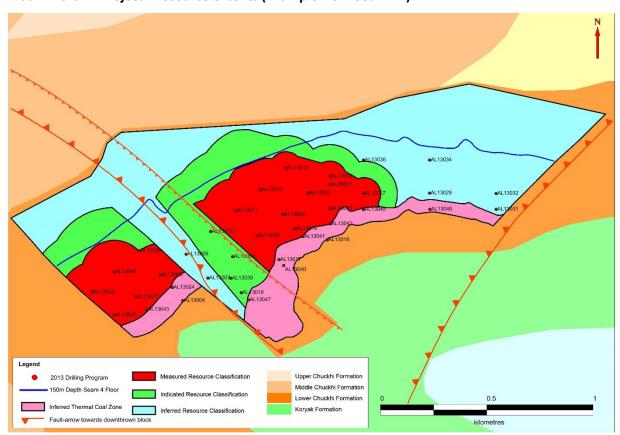
Extrapolated resources beyond (down-dip of) the drilled area varies. On the western side of the deposit, seams show consistent dips in cross section and interpreted structure from aerial imagery suggests a

consistency of dip. Extrapolation here under the Indicated category is 500m. This is the maximum suggested width as per the coal guidelines. Resolve have no statistical basis for increasing this, and see no justification for reducing the extrapolated resource. On the eastern side the drilling data suggests a steepening of the dips. This steepening is supported by aerial imagery and independent interpretation, as well as with (non-definitive) sedimentary correlation within the overburden of drillholes where coal was not intersected. Resolve cannot support these dips in cross section and therefore Indicated Resource extrapolation has been halved to 250m.

The drill hole spacing within Project F is considered sufficient for widespread coverage of Measured Resources. A linear recovery of 95% or above was required for inclusion within the coal quality and tonnage estimation. If this recovery was not supported then the hole was not incorporated into the measured polygon. For Measured Resources a maximum extrapolation is 250m where there was strong support for a continuing shallow dip. Where ambiguity exists to the east of the deposit (limited data suggesting a steeper dip) the extrapolation distance for Measured Resources was halved to 125m, based on a radius from valid points of observation.

Within the area of drilled resources, a 500m spacing is considered adequate for the determination of Measured Resources, the exception being the central region adjacent to the modelled fault zone (reported as inferred). This area incorporating approximately 300m of strike length has been classified as Indicated, due to the ambiguity surrounding the presence of small graben faults in the area. Resolve suggest this area has a good confidence level in terms of both coal tonnage and coal quality, however the potential offsets are in the region of 20-30m, potentially accommodated between one or several faults. Measured Resources have not been reported on underground working sections.

## Amaam North - Project F resource extents (Example from Seam 41)



# Sample analysis method

Coal core samples from Amaam North are transported to Anadyr overland from the exploration camps, and flown to SGS laboratory in Novokuznetsk. Typical time between sample dispatch and delivery to the laboratory is approximately 3 weeks. Given the logistics of travel and the typical timeframes of working within Chukotka, Resolve is satisfied that sample dispatch timeframes are appropriate. Samples are maintained in a stable cold environment, and are stored in secure facilities throughout.

Samples are analysed according to international Standards (ISO). Coal quality is managed and validated by A&B Mylec, with independent laboratory audits completed prior to the commencement of work.

# **Estimation methodology**

Resolves reported resources for Project F incorporate tonnages from three JORC confidence classifications: Measured, Indicated and Inferred. Coal Resource tonnages are based on in-situ density. Although Resource models were built externally by MBGS, these were fully validated and reviewed by Resolve, who then applied the appropriate extents for the Resource polygons for the individual confidence categories on a ply by ply basis. The exception to this is the underground reportable component of the resources, which are reported on a working section basis.

Coal and interburden thickness models were built using an inverse distance squared interpolation method. Thickness models were stacked onto a faulted reference surface, and a block model format built. Blocks were built with a 50m (east) x 50m (north) block size with a variable (seam) block thickness. Blocks were split at the base of weathering and also cut and deleted above topography. Blocks were also limited by the northern fault extension.

Resolve has utilised a universal cut off ash value for reporting resources of 50%. Resolve considers this to be the point at which the yields of marketable coal are sufficiently low that prospects of eventual economic extraction become unlikely. Resolve concede that it is possible that limited high ash material may be processed through a washing facility on the basis of the selective/bulk mining techniques applied, however these tonnes are not accounted for within the Resource model.

# Mining and metallurgical methods and parameters

As determined in the Amaam North PFS, the primary mining methods is most likely selective open pit operations. For open pit mining a 30cm seam cut-off has been applied to a 250m depth. Below 250m to 400m depth there is potential for underground mining, and a 1.2m thickness cut-off for seam 4 has been applied.

The coal quality and ash values of seam 42 and 41 are sufficient to anticipate a bypass raw coal product, whereas the remaining seams will require washing. Selective mining techniques are considered the likely optimal method to reduce the ROM product delivered to a washing facility.

# **Amaam North Coal Quality**

The Project F PFS reported two products will be produced from the operation. The majority of the Resource will be extracted to produce a coking coal product, with some seams within the resource of sufficient quality to meet the product specifications without beneficiation. These bypass coals (from plies 42 and 41) will supply approximately 55% of the coking coal product over the life-of-mine. The remaining coking coal will be produced by beneficiating the higher-ash coal through a Coal Preparation Plant (CPP).

The nearer-to-surface (to ~12m depth from surface) oxidised coals have potential to be sold to domestic and foreign customers as a thermal coal. Calorific values, which have remained high despite the oxidation, indicate that the thermal coal will be an attractive product for potential customers.

An indicative specification sheet for initial Deposit F Coking Coal is shown in the following Table. This specification is based upon samples from the bypass plies only, which will be mined as a sole source during the initial years of operation.

**Project F Coking Coal – Preliminary Specification Sheet** 

Parameters		Specification	Basis/Units	
Product Moisture		8%	As Received	
Proximate Analysis	Inherent Moisture	1.2		
	Ash	10.5	0/ Ain Duind	
	Volatile Matter	26.8	% Air Dried	
	Fixed Carbon	61.4		
Total Sulphur		0.36%	0/ Air Driad	
Phosphorus		0.059%	% Air Dried	
Crucible Swelling Number (CSN / FSI)		6-7		
G Index		60-65		
Sapozhnikov	Shrinkage (X)	30	mm	
	Plastic Layer (Y)	13	mm	
Maximum Fluidity		20-80	ddpm	
Total Dilatation		45 -50	%	
Petrographics	Vitrinite	55	%	
Vitrinite Reflectance		1.02	% MMR	

# TIG Geology Team and Support Crew preparing to mobilise for the 2013/14 field season



Tigers Realm Coal can be found at <a href="https://www.tigersrealmcoal.com">www.tigersrealmcoal.com</a>. For further information, contact:

Craig Parry, Managing Director & Chief Executive Officer +61 3 8644 1326

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#### About Tigers Realm Coal Limited (ASX: TIG)

Tigers Realm Coal Limited ("TIG", "Tigers Realm Coal" or "the Company") is an Australian based resources company. The Company's vision is to build a global coking coal company by rapidly advancing its projects through resource delineation, feasibility studies and mine development to establish profitable operations.

#### **Competent Persons Statement**

The information compiled in this announcement relating to exploration results, exploration targets or Coal Resources at Amaam and Amaam North is based on information provided by TIG and compiled by Neil Biggs, who is a member of the Australasian Institute of Mining and Metallurgy and who is employed by Resolve Coal Pty Ltd, and has sufficient experience which is relevant to the style of mineralization and type of deposit under consideration and to the activity he is undertaking to qualify as a Competent Person as defined in the JORC Code. Neil Biggs consents to the inclusion in the announcement of the matters based on his information in the form and context which it appears.

#### Note A - Tigers Realm Coal's interests in the Amaam Coking Coal Project

Amaam tenement: TIG's current beneficial ownership is 80%. TIG will fund all project expenditure until the completion of a bankable feasibility study. After completion of a bankable feasibility study each joint venture party is required to contribute to further project expenditure on a pro-rata basis. TIG's 20% partner, Siberian Tigers International Corporation, is also entitled to receive a royalty of 3% gross sales revenue from coal produced from within the Amaam licence.

Amaam North tenement: TIG has 80% beneficial ownership of the Russian company which owns the Amaam North exploration licence, Beringpromugol LLC. TIG will fund all project expenditure until the completion of a bankable feasibility study. After completion of a bankable feasibility study each joint venture party is required to contribute to further project expenditure on a pro-rata basis. BS Chukchi Investments LLC (BSCI) is also entitled to receive a royalty of 3% gross sales revenue from coal produced from within the Amaam North licence.

#### Note B - Inferred Resources

According to the commentary accompanying the JORC Code an 'Inferred Mineral Resource' is that part of a Mineral Resource for which quantity and grade (or quality) are estimated on the basis of limited geological evidence and sampling. Geological evidence is sufficient to imply but not verify geological and grade (or quality) continuity. It is based on exploration, sampling and testing information gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill holes. An Inferred Mineral Resource has a lower level of confidence than that applying to an Indicated Mineral Resource and must not be converted to an Ore Reserve. It is reasonably expected that the majority of Inferred Mineral Resources could be upgraded to Indicated Mineral Resources with continued exploration

#### Note C - Indicated Resources

According to the commentary accompanying the JORC Code an 'Indicated Mineral Resource' is that part of a Mineral Resource for which quantity, grade (or quality), densities, shape and physical characteristics are estimated with sufficient confidence to allow the application of modifying factors in sufficient detail to support mine planning and evaluation of the economic viability of the deposit. Geological evidence is derived from adequately detailed and reliable exploration, sampling and testing gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill holes, and is sufficient to assume geological and grade (or quality) continuity between points of observation where data and samples are gathered.

#### Note D - Measured Resources

According to the commentary accompanying the JORC Code a 'Measured Mineral Resource' is that part of a Mineral Resource for which quantity, grade (or quality), densities, shape, and physical characteristics are estimated with confidence sufficient to allow the application of Modifying Factors to support detailed mine planning and final evaluation of the economic viability of the deposit. Geological evidence is derived from detailed and reliable exploration, sampling and testing gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill holes, and is sufficient to confirm geological and grade (or quality) continuity between points of observation where data and samples are gathered. A Measured Mineral Resource has a higher level of confidence than that applying to either an Indicated Mineral Resource or an Inferred Mineral Resource. It may be converted to a Proved Ore Reserve or under certain circumstances to a Probable Ore Reserve.

## Note E – Exploration Target

According to the commentary accompanying the JORC Code An Exploration Target is a statement or estimate of the exploration potential of a mineral deposit in a defined geological setting where the statement or estimate, quoted as a range of tonnes and a range of grade (or quality), relates to mineralisation for which there has been insufficient exploration to estimate a Mineral Resource. Any such information relating to an Exploration Target must be expressed so that it cannot be misrepresented or misconstrued as an estimate of a Mineral Resource or Ore Reserve. The terms Resource or Reserve must not be used in this context.

#### **APPENDIX A**

# JORC Code, 2012 Edition – Table 1 Amaam and Amaam North Projects

# **PROJECT Key**



Section applicable to both Amaam and Amaam North / Project F

Section applicable to Amaam only

Section applicable to Amaam North Project F only

# **Section 1 Sampling Techniques and Data**

(Criteria in this section apply to all succeeding sections.)

Sampling techniques

- Nature and quality of sampling (eg cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.
- Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.
- Aspects of the determination of mineralisation that are Material to the Public Report.
- In cases where 'industry standard' work has been done this would be relatively simple (eg 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (eg submarine nodules) may warrant disclosure of detailed information.

Amaam & Amaam Nth

- HQ core was used to obtain coal samples of seams and plies for raw and proximate analysis.
- All holes were geophysically logged using down hole wireline tools. Calibration and quality appear to be in line with industry standards and seam correlation and characteristics are readily discernible.
- Sampling and sub-sampling of core for analysis provides accurate and reliable adherence to lithological boundaries and provides sufficient information to determine seam and ply quality.

Tigers Realm
Drilling techniques
Drill sample recovery

- Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).
- Amaam & Amaam Nth
- All coal quality holes were cored using a HQ3 size barrel, 61.1 mm core diameter. Drill holes are cored from surface

Method of recording and assessing core and chip sample recoveries and results assessed.

Measures taken to maximise sample recovery and ensure representative nature of the samples.

Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.

Amaam & Amaam

Nth

- Drill sample recoveries are assessed both on a linear core measurement and a mass recovery basis (dispatch mass/lab mass/calculated expected mass)
- Loss intervals were determined after reconciliation to geophysical logs and lab determined mass recovery.

# Amaam Only

• A linear/mass recovery cutoff of 85% applies to points of observation. 95% was deemed inappropriate as the broken nature of the core was such that the majority of seam recoveries were determined by mass recovery. Resolve deemed that laboratory RD's were not sufficient to work within a 95% cutoff given many seams are thin. Seams with a 75% - 85% recovery were considered as supporting points of observation to bridge between >85% POB's when geophysical seam continuity was strong. This typically applies to areas where drill holes are closely spaced and recovery is problematic.

## Amaam Nth / Project F

- A linear/mass recovery cutoff of 95% applies to points of observation.
- Loss intervals were determined after reconciliation to geophysical logs and lab determined mass recovery.

# Logging

- Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.
- Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.
- The total length and percentage of the relevant intersections logged.

Amaam & Amaam

Nth

- Geological logging is available for all drill holes used within the model build and resource estimate. Quality is of a good standard and depths have been reconciled to geophysics.
- Only fully cored holes have been drilled no open holes have been drilled at Amaam or Amaam North

Amaam Only

- The total length of logged drill core is 36,570m (137 drill holes)
- This resource estimate involved 5650m of new drilling (24 drill holes) All contained within Area 3

Amaam Nth / Project  The total length of logged drill core on which these estimates are based is 2262m (30 drill holes)

# Sub-sampling techniques

- If core, whether cut or sawn and whether quarter, half or all core taken.
- Amaam &
- Core is split into lithological boundaries as per an accepted and documented sampling protocol. Coal seams are not sampled in increments thicker than 1m,

# and sample preparation

- If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.
- For all sample types, the nature, quality and appropriateness of the sample preparation technique.
- Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.
- Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second-half sampling.
- Whether sample sizes are appropriate to the grain size of the material being sampled.

Amaam Nth

Amaam & Amaam

Nth

ım ım and seams are also sampled at any lithological changes or notable differences in coal brightness. Sampling is completed after geophysical logs have been obtained, and the hole depth data has been corrected and seam correlations made. Any stone partings in the seam in excess of 5cm are typically sampled separately. Roof, Floor and thicker partings are sampled (typically 20cm) for dilution.

## Quality of assay data and laboratory tests

- The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.
- For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.
- Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.

Amaam & Amaam

Nth

- Coal quality testing is carried out within the SGS laboratories in Novokuznetsk under the direct supervision of A & B Mylec. The laboratory has been subjected to independent audit prior to the commencement of work for TRC. Coal quality is checked and collated by A & B Mylec before inclusion in the geological/coal quality models.
- Assessments of the coals petrographic properties and vitrinite reflectance tests to determine rank were carried out by Pearson Petrographics, Victoria, Canada, and SGS, Novokuznetsk, Russia,

Verification of sampling and assaying

- The verification of significant intersections by either independent or alternative company personnel.
- The use of twinned holes.
- Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.
- · Discuss any adjustment to assay data.

Location of data points

- Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.
- Specification of the grid system used.
- Quality and adequacy of topographic control.

Amaam & Amaam

Nth

- The primary method for verification of the sampling intervals is through wireline geophysical logs. Corrected depths are supplied to the laboratories.
- Seam correlations are completed and independently checked and amended as required by Resolve from their Brisbane office, prior to the commencement of resource estimation. Corrected data is then delivered electronically back to TRC representatives on site

Amaam & Amaam Nth

- The survey equipment used was a GNSSJAVAD Triumph-1. Survey included removal of snow to ground surface, and location of the collar. (UTM60 north – WGS84)
- Four pairs of 80cm IKONOS stereo imagery were used to create the 2m DTM and 5m contours covering 437 km2 over Amaam and Amaam North. This is considered adequate for the purposes of reporting resources at the current classification. Reconciliation of topographic height to surveyed collar height was completed and showed some errors in reconciliation, though these errors were generally <3m</li>

Data spacing
and
distribution

- Data spacing for reporting of Exploration Results.
- Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.
- Whether sample compositing has been applied.

# Orientation of data in relation to geological structure

- Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.
- If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.

Sample security

• The measures taken to ensure sample security.

#### Amaam Only

Drill holes within Area 3 have been drilled at approximately 400 – 500m apart along strike and 200-300m down-dip in the shallower regions of the deposit. Elsewhere in the deposit drilling is spaced typically at 400 – 600m, focused in the shallow areas of the synclinal limbs. Structural and grade continuity is demonstrated across the majority of the deposit, however small scale faulting is apparent in several drill holes and has been taken into account when reviewing confidence classification.

Amaam Nth / Project  Drill holes within Project F have been drilled at approximately 250m apart along strike and down dip. Given the strong degree of correlation within the drill holes (in the majority of seams and all key economic seams), Resolve are satisfied that the continuity of structure and grade is strongly supported.

#### Amaam Only

All drill holes are vertically drilled. Dip is estimated to be approximately 15 - 60 degrees and coal is modeled using these apparent dips. Holes over 200m include downhole survey. All seam and parting thicknesses referred to are apparent thicknesses. This data concludes that drill hole deviation is minimal. For the purpose of the resource estimate all holes can be considered to be vertical holes. Regional structure is determined through cross sectional analysis and drill core review. Resource polygons are truncated by major faults as appropriate for its classification.

Amaam Nth / Project F

- All drill holes are vertically drilled. Dip is estimated to be approximately 8-10 degrees and coal is modelled using these apparent dips. Regional structure is determined through cross sectional analysis and appropriate buffers around known faults apply, within which resources are reported within the inferred category.
- All seam and parting thicknesses referred to are apparent thicknesses.
- Amaam & Amaam Nth
- Resolve has undertaken a site visit to review drilling, logging and sampling operations. While full chain of custody through to Moscow has not been observed, Resolve has reviewed and are broadly satisfied that samples are transported and delivered securely from both Amaam and Amaam North drill sites, through to dispatch to Beringovsky. Secure facilities where samples are held during transport are considered of a good standard within the generally challenging operating environment of Chukotka.
- In an ideal environment, Resolve would wish to see the Geological teams at both sites accept ownership of the core after it is extracted from the core barrel, However after viewing the typical drilling conditions and legitimate safety concerns of operating in extreme cold weather, Resolve concede that delivery of boxed core to the geologists is likely the best practical solution in the collection of geological data and samples.

Audits	or
review	s

 The results of any audits or reviews of sampling techniques and data. Amaam & Amaam Nth  Resolve have completed a review of data collection techniques in February 2014, Field data capture techniques are generally of a high quality. The practicalities of working in the Chukotka environment mean that the documentation and recovery of the data by geologists at the drill rig is impractical and raises safety concerns, Resolve considers this the only main outcome from the audit which results in a loss of data quality, as core is being reviewed and logged after core retrieval and transport have contributed to a degradation in the geomechanical state.

# **Section 2 Reporting of Exploration Results**

(Criteria listed in the preceding section also apply to this section.)

Mineral tenement and land tenure status	<ul> <li>Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.</li> <li>The security of the tenure held at the time of reporting along with any known impediments to obtaining a</li> </ul>	Amaam Only	<ul> <li>TIG's Group Company in Russia, North Pacific Coal Company, is the holder of the Geological Exploration Licence AND 13867 TP and Extraction and Exploration Licence - AND 01225 TE</li> </ul>
	licence to operate in the area.	Amaam Nth / Project F	<ul> <li>TIG's Group Company in Russia, Beringpromugol, is the holder of the Geological Exploration Licence - AND 01203 TP</li> </ul>
Exploration done by other parties	<ul> <li>Acknowledgment and appraisal of exploration by other parties.</li> </ul>	Amaam & Amaam Nth	<ul> <li>A series of exploration drilling and outcrop sampling was completed by BHP billiton, in addition to regional mapping. Exploration completed by BHP Billiton was used for initial scout drilling at Project F by TRC, however significant surface structural and outcrop mapping has produced a significantly larger body of information that that of the BHP work, which is now largely superceded.</li> </ul>
Geology	<ul> <li>Deposit type, geological setting and style of mineralisation.</li> </ul>	Amaam & Amaam Nth	<ul> <li>The regional geology of the Amaam and Amaam North deposit is located within the appropriate sections within this document.</li> </ul>

#### Drill hole Information

- A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes:
  - o easting and northing of the drill hole collar
  - o elevation or RL (Reduced Level elevation above sea level in metres) of the drill hole collar
  - o dip and azimuth of the hole
  - down hole length and interception depth
  - o hole length.
- If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.

Data aggregation methods

- In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg cutting of high grades) and cut-off grades are usually Material and should be stated.
- Where aggregate intercepts incorporate short lengths
  of high grade results and longer lengths of low grade
  results, the procedure used for such aggregation
  should be stated and some typical examples of such
  aggregations should be shown in detail.
- The assumptions used for any reporting of metal equivalent values should be clearly stated.

Relationship between mineralisation widths and intercept lengths

- These relationships are particularly important in the reporting of Exploration Results.
- If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.
- If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (eg 'down hole length, true width not known').

# Amaam & Amaam Nth

- No drill hole data are reported within the current update of exploration results.
   Drill holes have been completed at the time of reporting however collation and interpretation of these drill holes is still incomplete.
- The update of the exploration target is based on regional mapping which suggests the east and western extensions of Project F coal seams and other structural occurrences of coal seams in the south eastern region of the Amaam North tenement

#### Amaam & Amaam Nth

- Outcrop sampling across the Amaam tenement has resulted in a number of coal quality analysis. Coal seams not reported for coal quality were deemed to have insufficient prospects (dull or inferior coals) to warrant analysis.
- Coal qualities reported are based on observed outcrop sampling only and must not be considered as necessarily representative of a larger coal seam. No correlation of coal seams have been attempted in this instance for any mapped and/or sampled seams.
- Where variable coal quality was evident (coal/stone banding) in outcrop samples, a number of samples were taken. Resolve has aggregated these values using a unit length and density weighting. Rock units interpreted in the field as roof and floor of the coal seams have been excluded from both thickness and quality determination of the outcrop by Resolve.

## Amaam & Amaam Nth

- Within the Middle Chukchi coals, Resolve consider that the outcrop samples
  and seams mapped in the field do not confer any accurate seam thicknesses.
  Nor should they, given the observed nature of the Middle Chukchi coal seams
  drilled extensively at Amaam, be assumed to be correlative. The frequency of
  seams mapped should not infer a thickness of any coal bearing sediment
  sequences, as the region is known to be affected by structural complexities.
- For the mapped extensions of the Lower Chukchi coals, exploration target tonnage range provides a scope for the continuation or otherwise of the seams logged in Project F. A dense occurrence of outcrop points from Project F to the tenement boundary indicate that while a continuation of seam thickness cannot be assumed, it is likely that the coal seams will remain economic for mining.
- For remaining Lower Chukchi coal seams (up dip of mapped Middle Chukchi coals) there are limited mapping obsevations of coal to confirm the presence of

#### Page 24 of 32

the seams. There is no inference of the continuity of seam thicknesses in these zones as have been observed in Project F, and this is reflected within the exploration target tonnages for these zones (the lower case tonnages being zero)

#### **Diagrams**

 Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.

# Amaam & Amaam Nth

Resolve have not reported cross sections across the deposit at this stage. The
reason being that based upon the regional structural interpretation there is a
strong possibility of regional faulting present. Resolve considers that presenting
a cross sectional view, particularly of the Middle Chukchi coal in Amaam North,
would likely be incorrect and therefore potentially misleading in its interpretation
of seam extension from surface or lack thereof

# Balanced reporting

 Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.

# Amaam & Amaam Nth

A table is provided in the body of the report providing (with text commentary)
the appropriate ranges of coal quality which the exploration targets within
Amaam North expect to achieve. Upper coal quality ranges are based upon the
outcrop samples collected and expectations from the same formation drilled in
Amaam (for the Middle Chukchi coals), and from the drilling completed in
Project F (For the lower chukchi coals)

## Other substantive exploration data

Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.

# Amaam & Amaam Nth

 A large body of geological mapping data has been collected. It is impractical to collate and present this body of data in this report, however the rock observations, including dips and strikes, has been used when developing the geological formation boundaries and exploration target locations and extents.

#### Further work

- The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or largescale step-out drilling).
- Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.

## Amaam & Amaam Nth

- TRC are currently completing further drilling to determine the thicknesses and extents of the project F extensions to the east and west.
- Key areas of the Middle Chukchi coal seams at Amaam North will be drilled and assessed before the end of the current drill season, weather permitting. TRC are targeting areas where geological mapping of dips and outcrop, suggest that coal seams of economic thickness are present at the shallowest likely depths.

# **Section 3 Estimation and Reporting of Mineral Resources**

(Criteria listed in section 1, and where relevant in section 2, also apply to this section.)

Database
integrity

- Measures taken to ensure that data has not been corrupted by, for example, transcription or keying errors, between its initial collection and its use for Mineral Resource estimation purposes.
- Data validation procedures used.

#### Site visits

- Comment on any site visits undertaken by the Competent Person and the outcome of those visits.
- If no site visits have been undertaken indicate why this is the case.

# Geological interpretation

- Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.
- Nature of the data used and of any assumptions made.
- The effect, if any, of alternative interpretations on Mineral Resource estimation.
- The use of geology in guiding and controlling Mineral Resource estimation.
- The factors affecting continuity both of grade and geology.

# Amaam & Amaam Nth

Amaam &

Amaam Nth

- All coal seam depths and sample numbers have been independently verified and corrected from geophysics. Any remaining transcription errors may have no bearing on the process of resource estimation.
- Data validation procedures included the use of industry accepted software, with raw data and database validation systems, examples include removal of depth gaps and overlaps, seam repetitions or seams out of stratigraphic sequence, sample numbers out of numerical order, checking for duplicate borehole collar coordinates, and validation of the borehole collars against topography.
- At various stages during the modelling process, checks were made to ensure that seam depths and qualities were adhering to drill hole data.
- The competent person undertook a field visit to Beringovsky in the summer of 2010. Time was spent verifying the location and quality of outcrop at Amaam North and reviewing nearby historical drill hole data. It was not possible to visit Amaam during this visit
- The competent person conducted a site visit in February of 2014, Spending approximately 1 week on site in both Amaam and Amaam North. The visit included a full review of geological data acquisition, data management and integrity and sampling protocols. Geologists on site are deemed to be competent in their technical field. Minor amendments to data acquisition procedures are suggested, however have no bearing on the integrity or potential error within this estimate.

## Amaam Only

Resolve considers the interpretation at Amaam to be generally sound. Small scale faults are apparent in the majority of core observed. The results in ongoing difficulties in retrieving competent coal core from the drill holes. Faulting, the friability of the high vitrinite coal, along with the generally thin nature of the seams also adds some risk to the interpretation within broken core. Resolve is however satisfied that the quality of geophysical wireline logging, and the close spacing of drill holes, results in an interpretation befitting the classifications applied.

# Amaam Nth / Project F

- Resolve consider the interpretation of the geology at Amaam North to be accurate. Precise location, orientation and density of modelled faults requires additional infill drilling to determine, however the geology is tightly controlled in the context of the JORC classification in which it is estimated.
- Deterioration of the lower (3/2/1) coal seams is well documented within the drill holes moving from east to west. Modelled quality within these seams reflects

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#### **Dimensions**

 The extent and variability of the Mineral Resource expressed as length (along strike or otherwise), plan width, and depth below surface to the upper and lower limits of the Mineral Resource.

#### Amaam Only

 Coal resources with Amaam are domained into 4 broad areas, separated by faults with significant offset. Approximately 30km of strike is estimated within the areas considered for Resource estimation. Amaam is a gently overarching synclinal structure trending east to west. The depth of the axis of the synclinal structure ranges from <50m to >800m. Depths of the syncline in Area 3 and 4 are currently understood to be influenced by faulting.

the deteriorating quality from east to west and appropriate thickness and ash

(%) cutoff has been applied.

# Project I

Amaam Nth / Project F • The coal resources reported extend along strike approximately 3km. Inferred resources are extrapolated to a maximum of approximately 1.2km from the coal sub crop. The coal seams appear to steepen in dip on the north eastern region of the reported resource area.

# Estimation and modelling techniques

- The nature and appropriateness of the estimation technique(s) applied and key assumptions, including treatment of extreme grade values, domaining, interpolation parameters and maximum distance of extrapolation from data points. If a computer assisted estimation method was chosen include a description of computer software and parameters used.
- The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.
- The assumptions made regarding recovery of byproducts.
- Estimation of deleterious elements or other non-grade variables of economic significance (eg sulphur for acid mine drainage characterisation).
- In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.
- Any assumptions behind modelling of selective mining units.
- Any assumptions about correlation between variables.
- Description of how the geological interpretation was used to control the resource estimates.
- Discussion of basis for using or not using grade cutting or capping.
- The process of validation, the checking process used, the comparison of model data to drill hole data, and use

#### Amaam Only

- Coal seam models were completed on a ply basis (daughter seams) and stacked according to lithological sequence on a faulted structural reference surface. Structural, erosional and oxidization boundaries were applied, and Resources were estimated from a block model with a plan area block size of 50m x 50m. 50m is generally fitting to the drill hole spacing of cored holes, however in areas of sparser drilling a larger block size of 100m may be optimal.
- Coal/Parting thickness models, and coal quality was estimated using inverse
  distance to the power of 4. This was selected after a comparison between
  various interpolation methods and which best honored the variable hole pacing
  across the deposit.
- Resources have been extracted from models similar in nature since 2011. The
  key difference between the models has been the review of the coal seam depth
  on the basis of new drilling.
- Seam classification polygons of an indicated and inferred classification were generally not truncated against smaller faults (10-25m throw) within the open pit domain. Faults of a larger throw (domain faults) were used to truncate polygons and resource extents as appropriate. Drill hole support in available in these instances.
- Densities for non-sampled seams or seams of low (<75%) recovery were estimated, and incorporated into the modelled RD. Proximate coal quality variables were estimated for these intersections by regression. Resources were reported using a 50% ash cutoff, incorporating both lab derived and estimated ash values into the models.

# Amaam Nth / Project F

 The estimation was undertaken using the computer model generated in Minex modelling software. The estimation was also undertaken using Minex software. Seam thickness grids and in situ density grids were limited by resource polygon areas by the software. Resources were limited below the gridded base of weathering surface. 'Thermal' coal was also estimated in the of reconciliation data if available.

zone below the estimated base of quaternary (2m below topography) and the base of weathering. A minimum seam thickness of 0.3m was applied to the 'open cut' resources and 1.2m to potential 'underground' resources. Underground resources were estimated for a working section of Seam 4 only at depth greater than 150m.

- All coal plies were included in the resource estimate except Plies 5 and 401 which were too thin for the minimum seam cut off limit.
- Approximately 50% of the 'open cut' resources were estimated in areas of extrapolated grids, down dip from drill hole data (0.1-0.5km from drill hole data).
- All underground resources are estimated in areas of extrapolated grids, down dip from drill hole data (0.1-1km from drill hole data).
- No previous resource estimate or data for reconciliation was available for this project.

Moisture

 Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content. Amaam Only
Amaam Nth /

· Coal tonnages are estimated on an Air dry basis

Cut-off parameters

• The basis of the adopted cut-off grade(s) or quality parameters applied.

Amaam & Amaam Nth

Project F

 Coal tonnages are estimated on an In situ moisture basis. Moisture calculations were developed by AB Mylec using formulae based on ACARP Project C10042

·h

• A 50% ash cutoff applies on a seam/ply composite basis.

Mining factors or assumptions Assumptions made regarding possible mining methods, minimum mining dimensions and internal (or, if applicable, external) mining dilution. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential mining methods, but the assumptions made regarding mining methods and parameters when estimating Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the mining assumptions made.

Amaam & Amaam Nth

- A 30cm seam cut off was used for open pit mining, assuming selective mining techniques. Seams below 30cm thickness are not considered practical to mine by this method.
- A 1.2m cutoff has been applied to underground resources. This required the
  modeling of an underground working section (seam 4 in Amaam North), or any
  modelled parent seam in the case of Amaam. 1.2m is the minimum working
  height within a neighboring mine (Nagornaya) and has been implemented in
  this case.

Metallurgical factors or assumptions

The basis for assumptions or predictions regarding metallurgical amenability. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential metallurgical methods, but the assumptions regarding metallurgical treatment processes and parameters made when reporting Mineral Resources may not

Amaam & Amaam Nth

Amaam and Amaam North are both assumed to have metallurgical properties.
 Resolve do not yet have coke strength data for either project

Amaam Only

• Predictive methods show that Amaam has a vitrinite content too high to produce a standalone coking product, however the same properties would lend the Amaam coals to a valuable blending coal.

always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the metallurgical assumptions made.

## Amaam Nth / Project F

- Predictive methods show that Amaam North (Middle Chukchi) has a vitrinite content too high to produce a standalone coking product, however the same properties would potentially lend the Middle Chukchi coals to a valuable blending coal for metallurgical application.
- Predictive methods show that Amaam North (Middle Chukchi) has a vitrinite content and rank amenable to producing a standalone coking product.

# Environment al factors or assumptions

Assumptions made regarding possible waste and process residue disposal options. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider the potential environmental impacts of the mining and processing operation. While at this stage the determination of potential environmental impacts, particularly for a greenfields project, may not always be well advanced, the status of early consideration of these potential environmental impacts should be reported. Where these aspects have not been considered this should be reported with an explanation of the environmental assumptions made.

#### Amaam & Amaam Nth

- Based on available data and an understanding of the deposit region, environmental factors will not impact the likelihood of economic extraction within Amaam.
- Resolves understanding and experience is that Tigers Realms's relationships with local and indigenous peoples are. Beringovsky has relied on mining for essential income for many years and It is not foreseen at this juncture that opposition to mining in the region will impact either projects

#### Bulk density

- Whether assumed or determined. If assumed, the basis for the assumptions. If determined, the method used, whether wet or dry, the frequency of the measurements, the nature, size and representativeness of the samples.
- The bulk density for bulk material must have been measured by methods that adequately account for void spaces (vugs, porosity, etc), moisture and differences between rock and alteration zones within the deposit.
- Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.

## Amaam Only

- Both laboratory RD, and Apparent RD (ARD) were determined by SGS on an air dry basis.
- Densities for non-sampled seams or seams of low (<75%) recovery were estimated, and incorporated into the modelled RD. Proximate coal quality variables were estimated for these intersections by regression. Resolve therefore concedes that these estimated densities incorporated into the models present a source of risk to the overall tonnages reported.

# Amaam Nth / Project F

- Both laboratory RD, and Apparent RD (ARD) were determined by SGS on an air dry basis.
- A Preston Sanders equation was then applied using in-situ moisture (calculations provided on a sample basis by AB Mylec). This provides an industry accepted In situ density for reporting of tonnages. In situ RD should reconcile well with ARD. This is the case with these samples.

- Classification The basis for the classification of the Mineral Resources into varying confidence categories.
  - Whether appropriate account has been taken of all relevant factors (ie relative confidence in tonnage/grade estimations, reliability of input data, confidence in continuity of geology and metal values, quality, quantity and distribution of the data).

#### Amaam & Amaam Nth

- Drill hole data spacing is adequate for Inferred and Indicated resources to be reported across the drilled area.
- Indicated resources applied on a 500m radius from a valid point of Observation (coal quality and continuity)
- Inferred resources applied on a 2km radius from a valid point of observation (coal quality inferred for holes without coal quality)
- The competent person considers that the view of the deposit is accurately

 Whether the result appropriately reflects the Competent Person's view of the deposit.

Audits or reviews

 The results of any audits or reviews of Mineral Resource estimates.

Discussion of relative accuracy/ confidence

- Where appropriate a statement of the relative accuracy and confidence level in the Mineral Resource estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the resource within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors that could affect the relative accuracy and confidence of the estimate.
- The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.
- These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.

reflected in the current classifications.

Amaam Only  The style and integrity of Resolve's Resource Estimation at Amaam was reviewed by MBGS in 2012.

Amaam Nth / Project F • The model build for the current Amaam North resource estimate was completed by Minex and was reviewed by Resolve prior in conjunction with the raw data and assuming the role of Competent Person for the deposit.

Amaam Only

- Resolve considers that Amaam is not suitable for a geostatistical review of the coal seams. The faulted nature of the deposit and the depositional (seam splitting) characteristics of the seams would likely result in a poorly domained study.
- A Qualitative review of geological structure and seam continuity is appropriate
  in the context of the anticipated mining methodology. Resolve consider that the
  frequency of small scale structure apparent will always present some minor risk
  in an open pit environment.

Amaam Nth / Project F

- Insufficient data points exist to support a geostatistical study within Project F at this time. Resolve suggest that the close spacing of drill holes, coupled with the relative simplicity of the correlations on a broad scale, make such a study of limited use in this environment, where ambiguity is low. However due to the lack of appropriate methods to quantify the relative accuracy in relation to confidence, Resolve have employed a conservative approach, downgrading classification within structural domains where uncertainty is a factor. This downgrading also refers to individual thin seams (seam 33) which displays a poorer correlation and varied appearance/quality within boreholes.
- No production data is available to provide reconciliation with tonnes and grade to coal quality reported within individual JORC classifications.

APPENDIX B - Drill Holes used in February 2014 Amaam Resource Estimate of Area 3

Hole ID	UTM Easting	UTM Northing	Elevation	Total Depth	Azi	lc	Year
AM09001	603708.34	6954899.55	159.16	425.00	0	-90	2009
AM09002	602345.78	6956185.48	137.54	272.32	0	-90	2009
AM09003	604774.20	6952791.30	97.91	226.30	0	-90	2009
AM09004	605486.95	6951991.78	123.53	143.00	0	-90	2009
AM10008	604452.03	6954045.45	112.64	245.00	0	-90	2010
AM10009	603060.85	6955474.46	170.50	450.00	0	-90	2010
AM10010	601268.26	6956545.50	127.88	450.00	0	-90	2010
AM10011	600317.13	6957222.64	165.27	450.00	0	-90	2010
AM10012	600974.69	6957361.69	156.14	325.00	0	-90	2010
AM10013	602000.76	6955809.34	116.80	350.00	0	-90	2010
AM10014	603835.00	6954087.00	89.00	320.00	0	-90	2010
AM10015	604634.32	6953418.29	68.74	151.00	0	-90	2010
AM10016	604991.93	6954261.00	121.51	175.00	0	-90	2010
AM10017	604866.88	6954728.06	142.62	284.00	0	-90	2010
AM10018	603943.43	6955323.69	99.62	214.00	0	-90	2010
AM10019	604356.19	6954954.34	135.33	243.00	0	-90	2010
AM10020	603296.99	6955889.12	108.81	150.00	0	-90	2010
AM10021	602849.93	6956133.20	116.60	184.00	0	-90	2010
AM10022	602645.77	6956750.86	131.74	150.00	0	-90	2010
AM10023	601865.52	6956544.34	154.98	193.00	0	-90	2010
AM11L13	602369.96	6956518.48	128.53	43.00	0	-90	2011
AM11L15	602345.14	6956556.27	127.98	41.75	0	-90	2011
AM11013	601724.07	6954993.15	184.54	333.50	0	-90	2011
AM11014	602712.49	6954221.28	147.11	136.50	0	-90	2011
AM11012	603028.90	6954227.41	139.08	256.50	0	-90	2011
AM11011	603826.51	6953329.95	71.15	247.50	0	-90	2011
AM12026	604599.21	6953151.40	68.07	111.00	0	-90	2012
AM12031	604060.87	6953498.25	72.28	268.50	0	-90	2012
AM12029	603301.12	6952906.35	82.50	40.20	0	-90	2012
AM12028	604016.55	6952759.54	118.61	319.50	0	-90	2012
AM12025	605064.24	6953498.12	67.53	40.03	0	-90	2012
AM12032	604325.27	6953731.90	74.43	204.10	0	-90	2012
AM12035	605802.98	6954568.55	79.15	40.30	0	-90	2012
AM12030	603592.50	6953109.63	73.88	205.50	0	-90	2012
AM12027	604351.56	6952984.35	79.07	196.60	0	-90	2012
AM12033	605412.34	6954007.26	96.90	91.50	0	-90	2012
AM12034	605528.57	6954382.93	94.25	61.50	0	-90	2012
AM12014	605810.09	6951280.31	74.28	57.10	0	-90	2012
AM12016	605249.94	6951267.04	107.98	70.60	0	-90	2012
AM12017	605515.03	6951583.49	109.54	139.50	0	-90	2012
AM12048	604710.11	6954968.66	109.76	161.35	0	-90	2012
AM12046	604323.78	6954660.93	151.53	292.50	0	-90	2012
AM12039	603587.75	6953725.92	111.34	158.50	0	-90	2012
AM12037	604796.25	6954414.73	134.95	242.73	0	-90	2012

Hole ID	UTM Easting	UTM Northing	Elevation	Total Depth	Azi	Ic	Year
AM12055	603784.19	6955159.14	134.46	301.50	0	-90	2012
AM12038	604367.75	6954205.82	143.58	96.00	0	-90	2012
AM12040	603267.23	6953901.45	137.10	210.00	0	-90	2012
AM12044	603911.46	6954318.75	127.87	401.00	0	-90	2012
AM12038A	604296.86	6954221.86	142.43	337.60	0	-90	2012
AM12042	603611.24	6954097.31	84.45	310.50	0	-90	2012
AM12061	602935.08	6954823.02	93.90	416.70	0	-90	2012
AM12062	602604.24	6954440.45	151.37	148.00	0	-90	2012
AM12076	601343.46	6955265.64	149.09	434.00	0	-90	2012
AM12064	602463.81	6955234.96	91.33	408.75	0	-90	2012
AM12063	602242.40	6954671.47	158.51	232.80	0	-90	2012
AM12073	602052.34	6955436.51	96.36	433.00	0	-90	2012
AM12075	601354.87	6954861.17	176.58	182.80	0	-90	2012
AM12067	603278.09	6956382.07	132.30	201.00	0	-90	2012
AM12079	602222.96	6957083.66	142.63	355.00	0	-90	2012
AM12056	603897.52	6955485.19	93.90	193.50	0	-90	2012
AM12059	603850.05	6956193.99	117.95	88.50	0	-90	2012
AM12070	603048.57	6957071.94	137.57	70.50	0	-90	2012
AM12082	601650.65	6957348.34	154.07	229.60	0	-90	2012
AM12088	600421.31	6957514.48	166.44	135.20	0	-90	2012
AM13001	604509.31	6954816.31	137.38	226.40	0	-90	2013
AM13002	604255.15	6953642.30	61.11	166.50	0	-90	2013
AM13003	603405.47	6953016.06	73.43	194.20	0	-90	2013
AM13004	603807.50	6952608.56	140.09	256.50	0	-90	2013
AM13005	604660.60	6953963.04	86.72	124.10	0	-90	2013
AM13006	605223.40	6954314.04	98.03	58.40	0	-90	2013
AM13007	603571.32	6953720.98	106.00	301.40	0	-90	2013
AM13008	603365.56	6953587.84	103.92	141.00	0	-90	2013
AM13009	603055.13	6953772.75	114.65	82.50	0	-90	2013
AM13010	601724.40	6954799.51	181.86	178.50	0	-90	2013
AM13011	600878.36	6955124.94	136.36	431.00	0	-90	2013
AM13012	600833.46	6954740.99	124.22	76.40	0	-90	2013
AM13013	600880.38	6956908.75	145.27	400.40	0	-90	2013
AM13014	602972.13	6953322.92	82.29	70.50	0	-90	2013
AM13016	603452.28	6953990.82	111.77	301.00	0	-90	2013
AM13017	602898.75	6954185.81	147.26	147.40	0	-90	2013
AM13018	603389.77	6954543.99	84.10	433.20	0	-90	2013
AM13019	603212.66	6954377.77	122.85	352.50	0	-90	2013
AM13066	602773.49	6955747.58	185.51	421.50	0	-90	2013
AM13066A	602779.72	6955742.66	185.29	1.00	0	-90	2013
AM13020	602351.79	6954922.25	134.88	373.50	0	-90	2013
AM13021	602781.14	6954632.97	133.38	404.50	0	-90	2013
AM13022	601919.91	6956647.92	164.93	404.50	0	-90	2013
AM13023	602524.39	6956498.65	122.63	109.40	0	-90	2013