

OYU TOLGOI MINES 1,000,000 TPY COPPER CONCENTRATE SMELTING PLANT PROJECT

INVESTOR PRESENTATION
CONFIDENTIAL

Mongolia 2017

OYU TOLGOI MINES

I. Copper Concentrate Smelting Plant Future Location



PROJECT GENERAL INFORMATION

1. Mongolian investment law and government resolution

Mongolia is a country with a market economy and developing the private property and a democratic republic. Mongolia is rich in natural resources such as copper, gold, coking coal, lignite, oil, and others.

In 2016, the Parliament of Mongolia approved the concept of sustainable development of Mongolia until 2030. This concept is defined as the development of heavy industry has an advanced industry in the sustainable development of Mongolia.

On 3 October 2013, the Parliament passed the new Investment Law that provides a comprehensive regulatory regime for foreign and local investments in Mongolia.

This law was last amended on 14 May 2015. Key features of the law include:

- The law grants a land possession right to foreign investors.**
- A foreign investor may be entitled to a tax stabilization if its investment in**

Mongolia is more than MNT 30 Bln.

PROJECT GENERAL INFORMATION

11. Mongolian investment law and government resolution

The maximum period of tax stabilization in the mining sector is 18 years.

The period of an investment agreement may be longer than the period of tax stabilization

- A foreign investor that invests more than MNT 500 Bln may enter into an investment agreement with the Minister in charge of investment matters.

The GOM determines types and codes of “finished mining products.”

Under the VAT Law of Mongolia (2006) and the VAT Law (2015), which becomes effective from 1 January 2016, VAT will be assessed at the rate of 0% (zero percent) for finished mining products.

The Mongolian Government adopt the resolution on March 15, 2017 to build a copper smelting plant near Oyu Tolgoi copper gold mine to process one million tons of copper concentrate per year from Oyu Tolgoi mine.

PROJECT GENERAL INFORMATION

11. Mongolian investment law and government resolution

The maximum period of tax stabilization in the mining sector is 18 years.

The period of an investment agreement may be longer than the period of tax stabilization

- A foreign investor that invests more than MNT 500 Bln may enter into an investment agreement with the Minister in charge of investment matters.

The GOM determines types and codes of “finished mining products.”

Under the VAT Law of Mongolia (2006) and the VAT Law (2015), which becomes effective from 1 January 2016, VAT will be assessed at the rate of 0% (zero percent) for finished mining products.

The Mongolian Government adopt the resolution on March 15, 2017 to build a copper smelting plant near Oyu Tolgoi copper gold mine to process one million tons of copper concentrate per year from Oyu Tolgoi mine.

PROJECT GENERAL INFORMATION

III. Mongolian investment law and government resolution

The Oyu Tolgoi copper and gold project (Oyu Tolgoi) is located in the Southern Gobi region of Mongolia and is being developed by Oyu Tolgoi LLC (OT LLC).

Oyu Tolgoi project consists of a series of deposits containing copper, gold, silver, and molybdenum.

According to the resolution on 15 March 2017, the state will have up to 10 percent of the smelter shares without funding of copper smelting plant.

The Government of Mongolia shall support the copper project to be an investment by private capital. Government shall have a minimum share of the stock of all capital investments and shall provide support in accordance with the law of foreign investment.

PROJECT GENERAL INFORMATION

IV. Mongolian investment law and government resolution

According to the investment agreement between Government and Rio Tinto international holdings: 3.21. The Investor shall in priority supply mineral concentrate to any third party operated copper smelters located in Mongolia in which the Government has a whole or partial ownership interest on agreed commercial terms based on international prices and standards, with a view to increasing the value added to the Products in Mongolia, however, such supply will be made on the following basis:

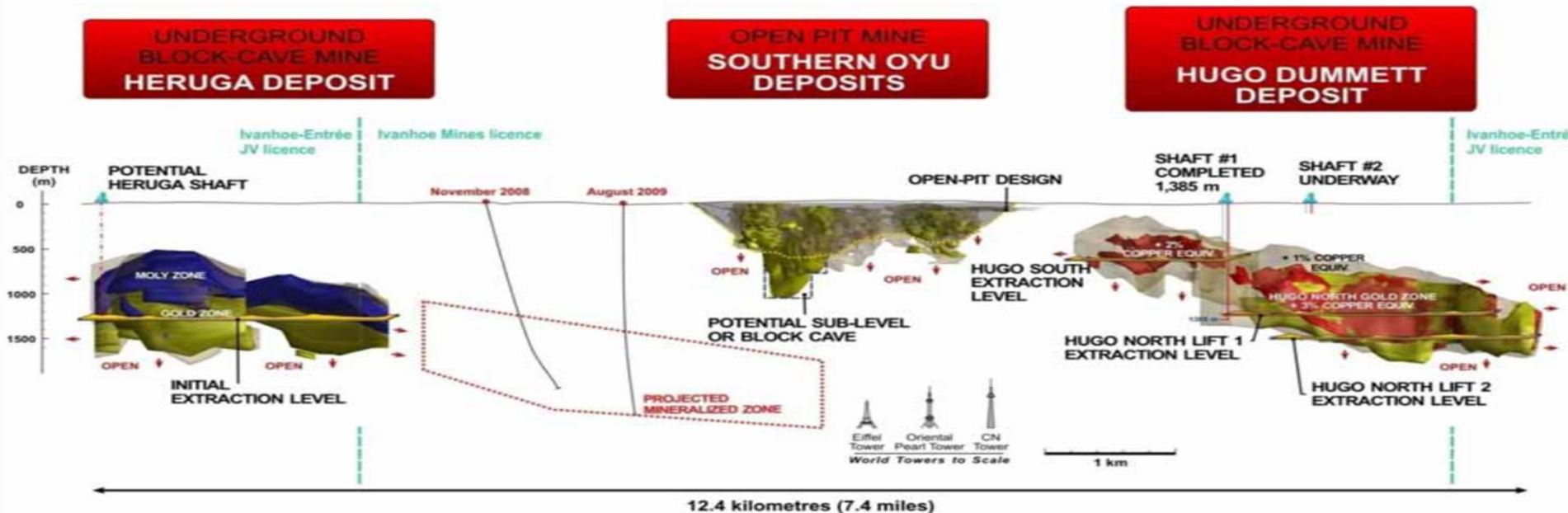
3.21.1. if the Investor has a whole or partial ownership interest in, or operates, a smelter located in Mongolia, it is entitled to first satisfy the mineral concentrate needs of such smelter; and

3.21.2. if such third party operated copper smelters can demonstrate in advance an ability to meet all technical criteria and specifications for effectively accepting and smelting copper concentrate from the OT Project.

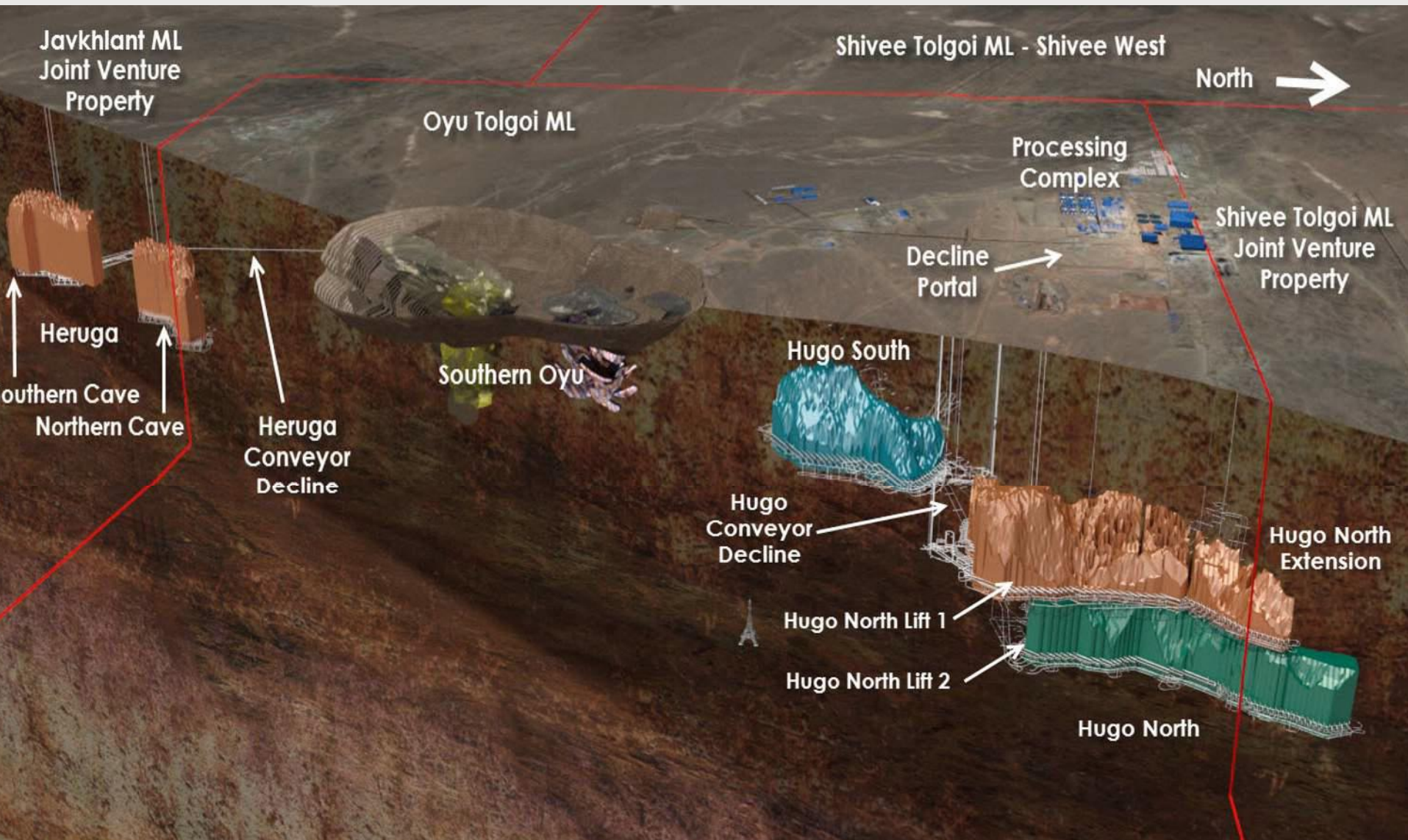
Construction conditions: Oyu Tolgoi Mines resources

Oyu Tolgoi copper project proponent - OT LLC owns 34% of share based on the Investment Contract with the Government of Mongolia and state owned Erdenes Mongol LLC, and the remaining 66% of share owned by Turquoise Hill and Rio Tinto LLC.

Oyu Tolgoi copper-gold deposits consist of the following three main sections. They are as follows: 1. Oyu group of deposits (Southern Oyu, Southwestern Oyu, Central Oyu and Link) 2. Hugo Dummet group of deposits (South Hugo, North Hugo) 3. Heruga deposit



Construction conditions: Location copper smelting plant near the Oyu Tolgoi mine and Concentrator facility

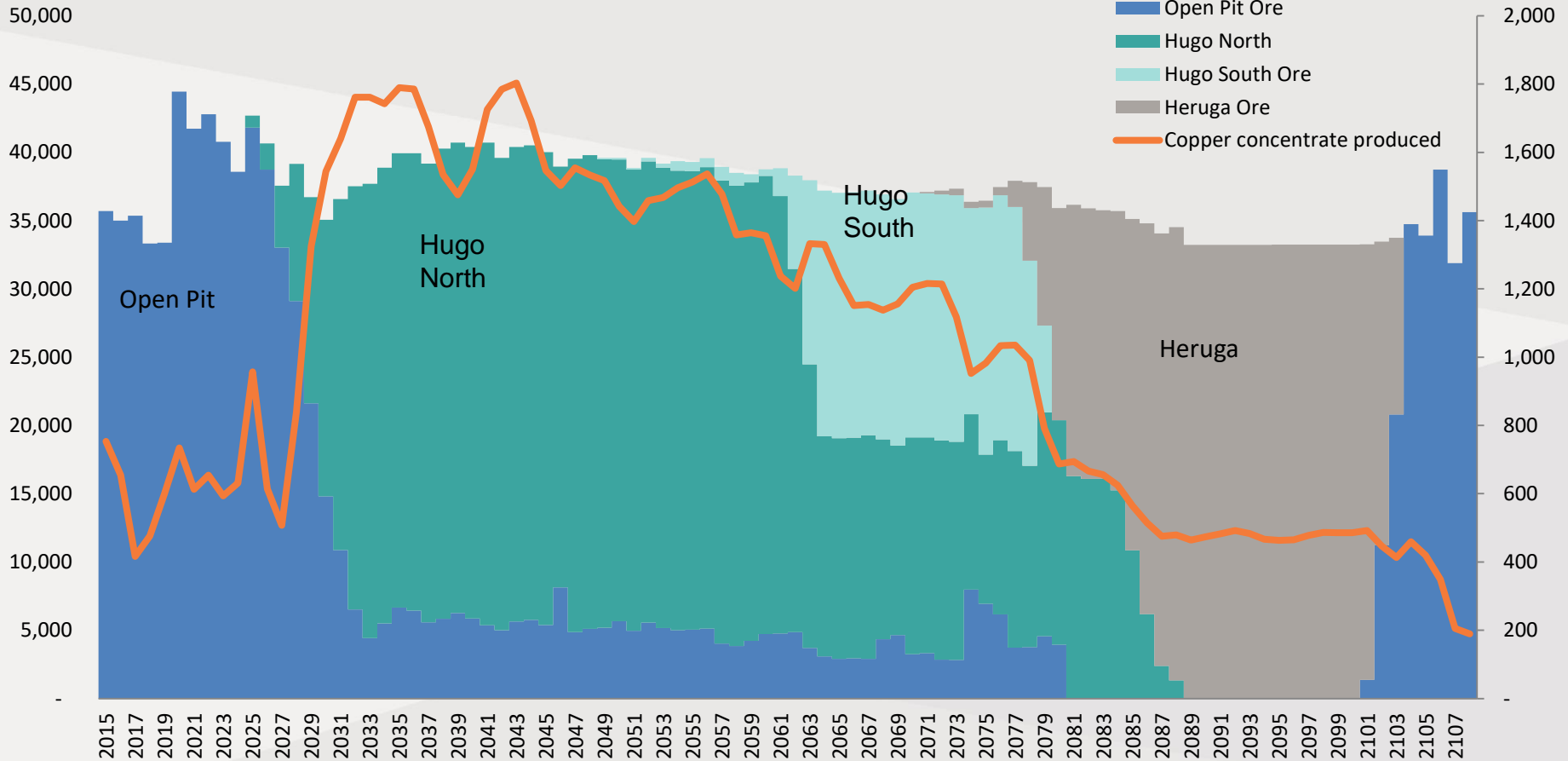


RESOURCE CASE

Ore Mined And Concentrate Produced

Ore mined, Ktonne

Concentrate production, Ktonne



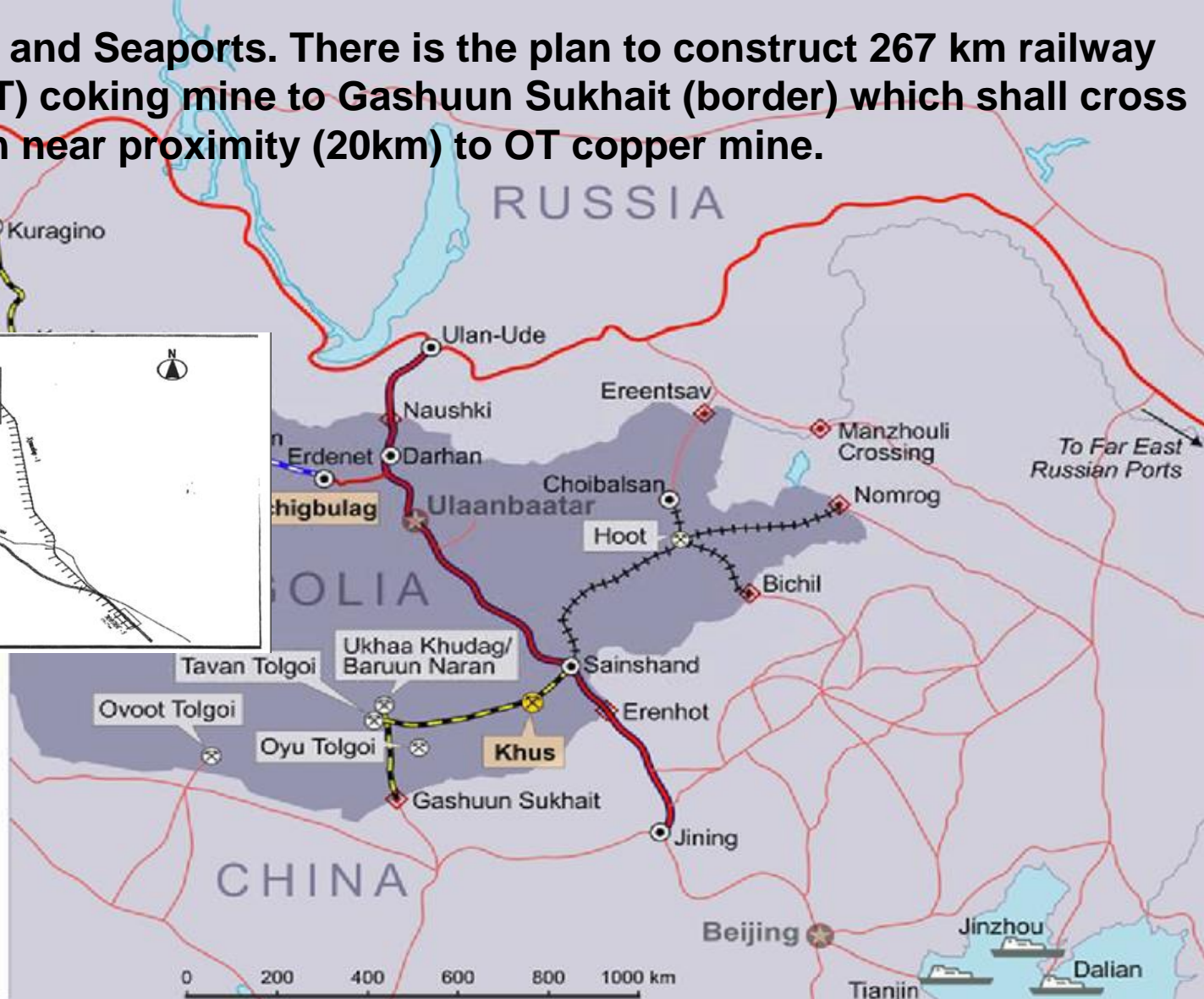
CONSTRUCTION CONDITIONS

I. Railway Existing and Planning to Sea Ports

Regional Railways and Seaports. There is the plan to construct 267 km railway from Tavantolgoi (TT) coking mine to Gashuun Sukhait (border) which shall cross in near proximity (20km) to OT copper mine.



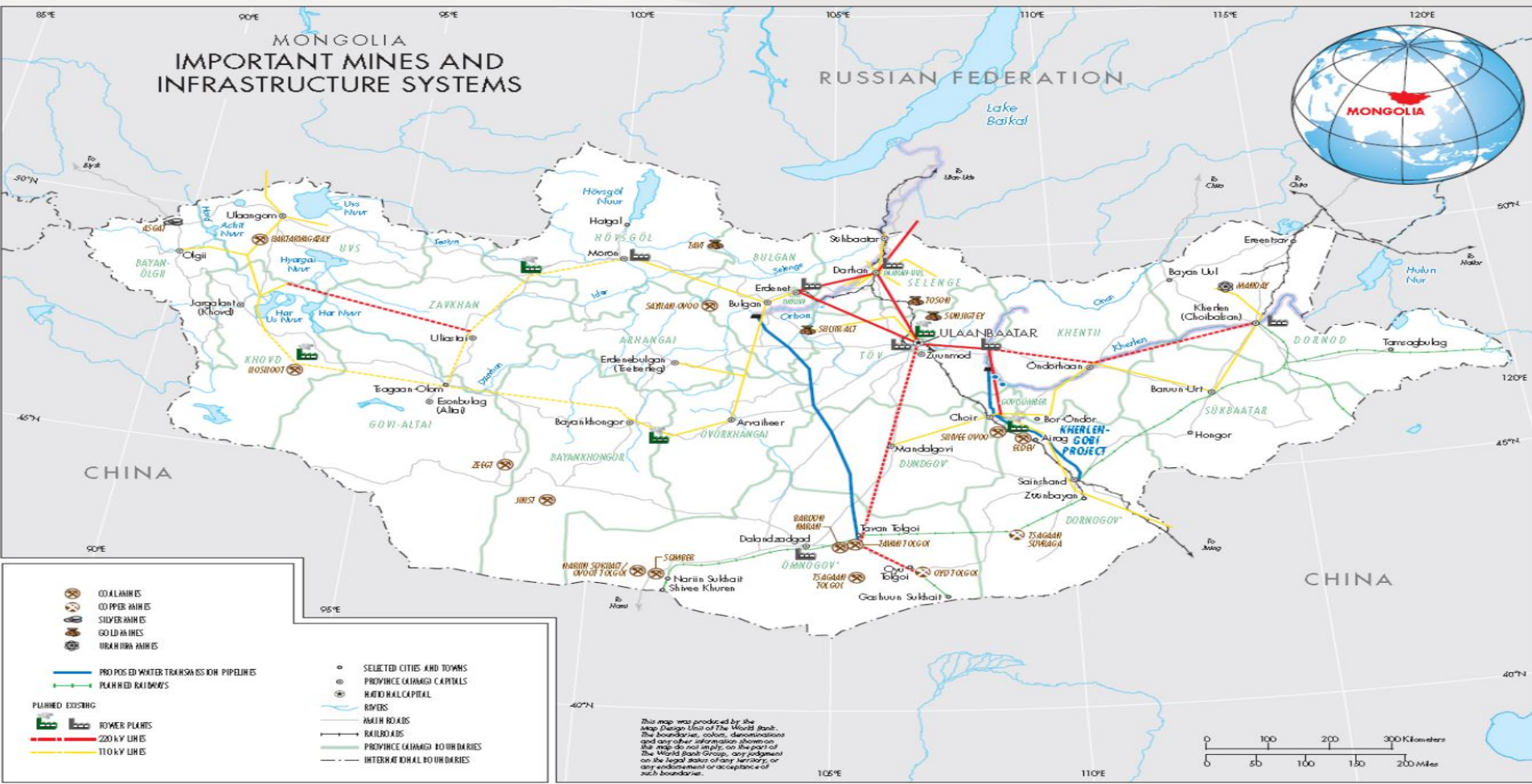
- Existing Railway (Main Route To Port)
- Planned Russian Gauge Dual Track (Upgrade to 100 Mtpa)
- Erdenet to Ovoot Rail Line
- Railway Under Construction
- Existing Railway
- Other Proposed Railway
- Major Ports



CONSTRUCTION CONDITIONS

II. Existing Energy System and Planning to Oyu Tolgoi

Depending on the size of the facility and utilized technology the project is expected to require 50-100 MW. The Region has existing 110 kV and 220 kV networks, at Tavan Tolgoi coal mine area power plant with 350-400MW is planned to provide power to users in Southern Mongolia. The Tavan Tolgoi Power Plant has been assumed to be in place at the start-up of smelter operations. In the figure shows the existing and proposed power system network.

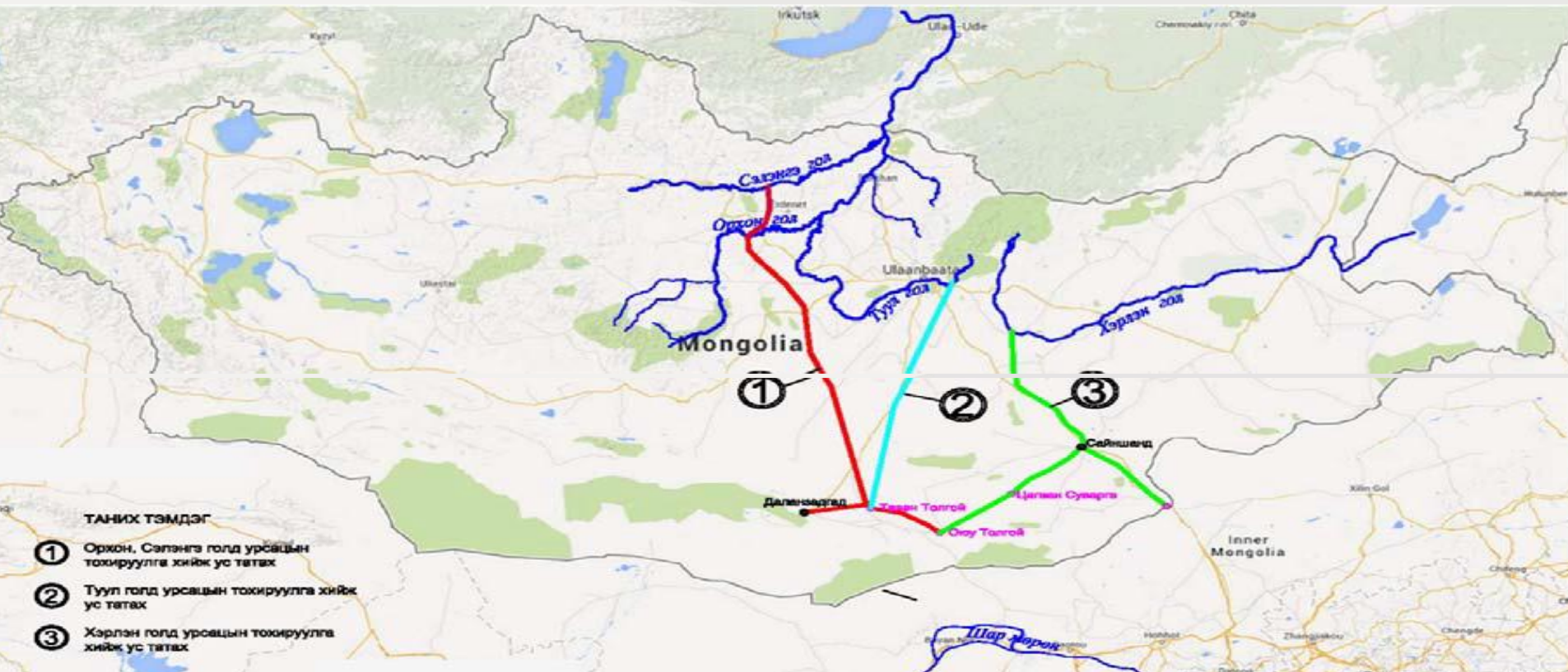


CONSTRUCTION CONDITIONS

III. Three Options for Water Supply

1. Opkhon-govi; 2. Tuul-govi; 3. Herlun-govi

Particularly in the southern regions with limited water supply, groundwater is one of the main sources of water in the country-generally held in aquifers between 50 & 400 m below the ground surface. To serve the planned industrial parks in Tavantolgoi and Sainshand areas of the Southern Govi region, the government of Mongolia initiated plans for two major water pipeline projects; the Otkhon-govi\1\ project and Kherlen-govi project\3\. The figure shows the planning routes for the Orkhon-govi\1\,and kherlen-govi\3\ water pipeline projects.



CONSTRUCTION CONDITIONS

Water Source and Consumption in the Southern Region of Mongolia

The source of water supply in southern regional and growth trend water consumption

Water consumer	The name of the source of underground water	Reserve of water (m3/day)	Calculated reserve (m3/day)	Perspective water consumption in 2030 (m3/day)	Deficit of consumption (m3/day)
Oyu Tolgoi	Gunii Khooloi	75168 (870m/cek)	75170	93400	-18230
Tavantolgoi	Balgasiin ulaan nuur	13033 (150.8)	64460	51840	12620
	Khurmen tsagaan	29894 (346)			
	Nariin zag	6587 (76.24)			
	Oortsog hadan us	10368 (120)			
Uhaa hudag	Naimantiin Hundii	4579 (53)	4580	5600	-1020
	Guramsan hooloi	1230 (14)			
	Zairmagtai	1983 (22.95)			
	Mandah bumbat	3542 (41)			
Others	-	-	-	45000	-45000
SUM		163063 (1887.3)	144210	195840	-51630

CONSTRUCTION CONDITIONS

Water Consumption of the Copper Smelting Plant

The water consumption of copper smelting plant is 10 times less than Oyu Tolgoi mines project and this may supply from underground water reserve of Gunii Hooloi deposit, after entering of underground mine OT, the volume of processing will increase therefore will increase water consumption thus established reserves of water will be insufficient. So the above-mentioned project is necessary to promote.

Description	Units	0,5 M t/y	1 M t/y
Double Flash technology			
Potable water /includes demineralized water requirement/	m3/h	16,0	27.1
Demineralized water	m3/h	6,5	13,5
Gross process water consumption	m3/h	222	448
Net process water consumption	m3/h	127	252
Fresh water nominal consumption, /Net process water + potable water/	m3/h	143	279
Contingency consumption ,16%	m3/h	82	163
Gross consumption /excluding recycle from ETP/	m3/y	2942280	7156512
KS+ BCC technology			
Potable water /includes demineralized water requirement/	m3/h	11	19
Demineralized water	m3/h	1,3	2,6
Gross process water consumption	m3/h	180	355
Net process water consumption	m3/h	100	191
Fresh water normal consumption /Net process water + potable water/	m3/h	112,3	210
Contingency consumption	m3/h	65	124
Gross consumption /excluding recycle from ETP/	m3/y	2820816	5477472

PROJECT GENERAL INFORMATION

Technology Parameters

Description	Unit	Quantity
Design capacity	t/a	1 000 000
Copper concentrate , Cu	%	26
Copper concentrate , Au	g/t	6
Copper concentrate, Ag	g/t	60
Cathode copper (after the operation)	t/a	257 200
Sulphur acid /93.5% H ₂ SO ₄ / (after the operation)	t/a	988,000
Gold production (after the operation)	kg/a	5 880
Silver production (after the operation)	kg/a	57 000

PROJECT GENERAL INFORMATION

Financial Indicator

Description	Units	Remarks
Implementing project		Copper smelting project units
Implementation period	year	2017 – 2020
Volume of Investment	bill. USD	1.9- 2.30
Revenue (after operation)	bill. USD/y	1.99
Tax (after operation)	mln.USD/y	~46.39
Profit (befor Tax , after operation)	ml USD/y	139.18
/IRR/	%	14%
The period of return investment	year	10~13.1
Place an employee		1080
What is made a project		<ul style="list-style-type: none">• Hatch Co Ltd PreFS report “Copper smelting project of Mongolia”• “Erdenet mining Corporation” LLC - ENFI PreFS “copper smelting project with 520.000 tn copper concentrate

UTILITIES

Map of Copper Plant Complex



THANK YOU

