

Mining Technique Study on Low Grade Uranium at Eko-Remaja Sector, Kalan West Kalimantan

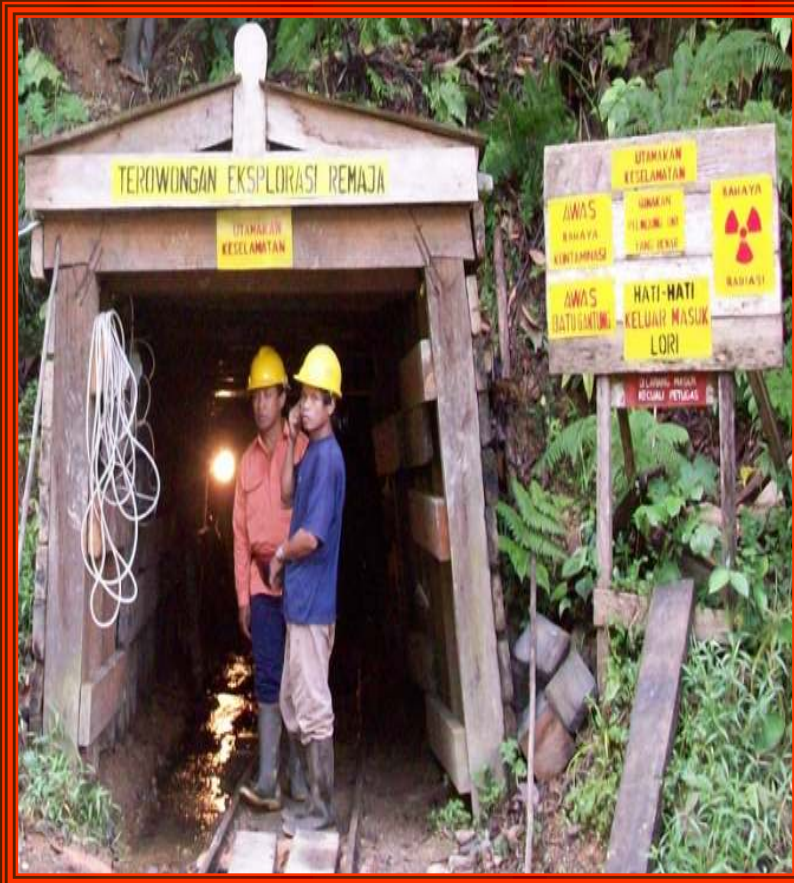
**Delivered on the occasion of Technical Meeting on Low
Grade Uranium Ore at the IAEA's Headquarters in Vienna**

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**Center for Development of Nuclear Geology
National Nuclear Energy Agency (BATAN)**

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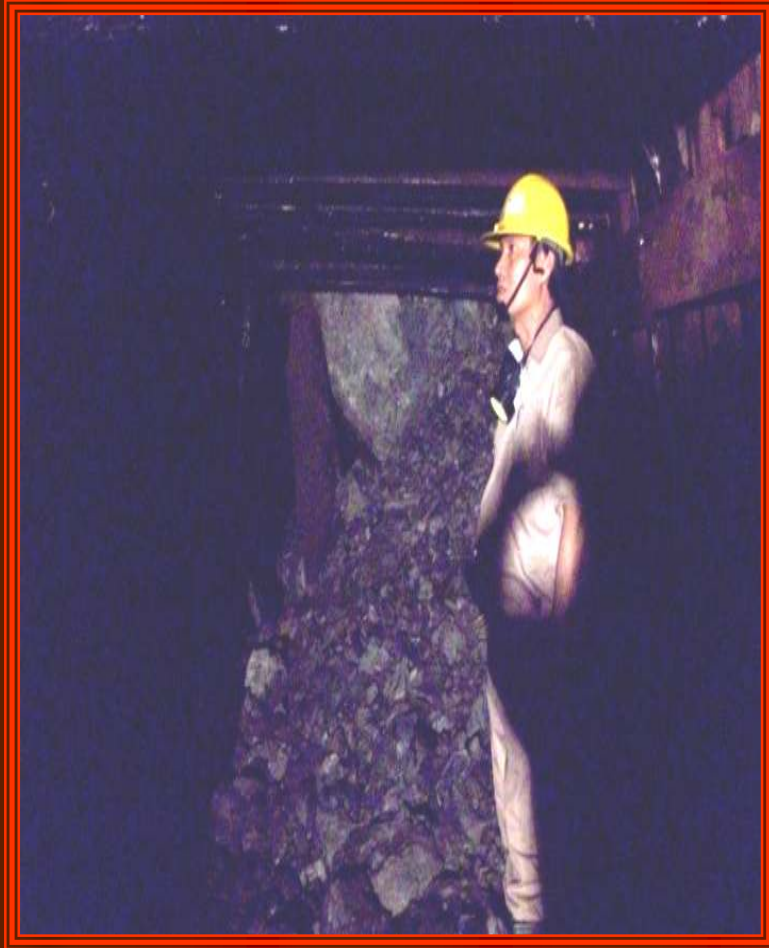
1. Uranium Deposit Exploration in Indonesia :

- Drilling
- Verification of drilling results



2. Data Uranium deposit Indonesia :

- **Uranium Deposit Eko-Remaja Sector, Kalan, West Kalimantan**
- **Mineralization, slope, direction etc.**



3. Problems and solutions

Problems:

Determination levels of grade classification (graphs 1), and type of mineralization.

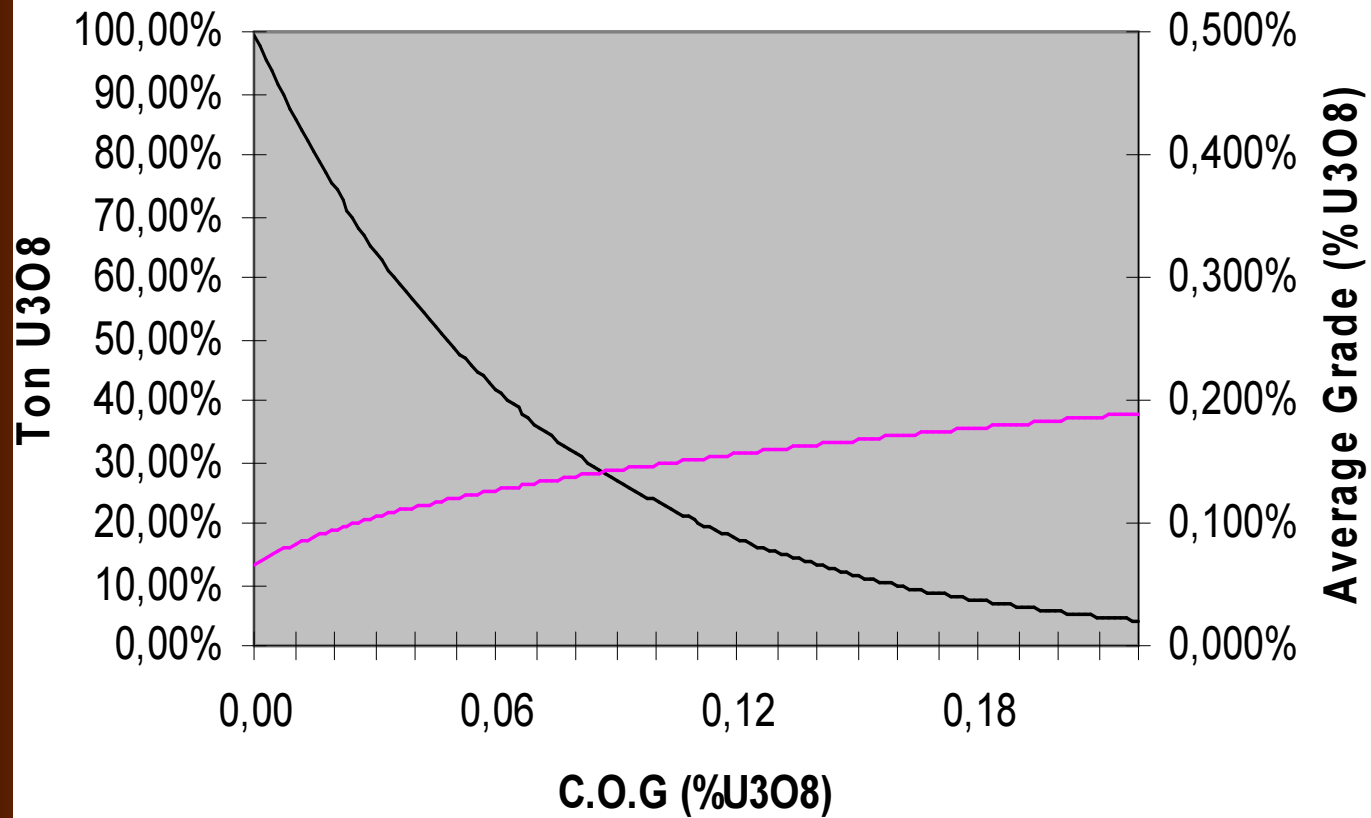
Solutions:

Mining test

Table 1.**Mineral inventory data**

| C.O.G | Amount | Number of Block Size | Total Volume | Total Ore | Total U₃O₈ | | Average of Grade |
|-----------------------------------|---------------|-----------------------------|---------------------|------------------|---|---------|-----------------------------------|
| (%U ₃ O ₈) | | (m2) | (m3) | (ton) | (ton) | (%) | (%U ₃ O ₈) |
| 0,000 | 18 | 1.512.534 | 1.645.420 | 4.444.304 | 3.723,2 | 100,00% | 0,084% |
| 0,030 | 17 | 1.420.445 | 1.510.049 | 4.078.803 | 3.617,2 | 91,77% | 0,089% |
| 0,050 | 15 | 1.265.863 | 1.345.384 | 3.630.537 | 3.406,1 | 81,77% | 0,094% |
| 0,060 | 13 | 1.088.655 | 1.161.436 | 3.133.877 | 3.134,6 | 70,59% | 0,100% |
| 0,070 | 12 | 1.010.809 | 1.130.297 | 3.049.803 | 3.084,2 | 68,69% | 0,101% |
| 0,080 | 7 | 617.198 | 611.189 | 1.650.211 | 2.128,1 | 37,14% | 0,129% |
| 0,090 | 4 | 324.437 | 341.239 | 921.346 | 1.501,4 | 20,74% | 0,163% |
| 0,100 | 3 | 233.663 | 233.218 | 629.690 | 1.224,3 | 14,17% | 0,194% |
| 0,200 | 1 | 63.974 | 60.136 | 162.366 | 384,8 | 3,65% | 0,237% |

**Graphic 1. Mineral Inventory Eko-Remaja Sector,
Kalan, West Kalimantan**



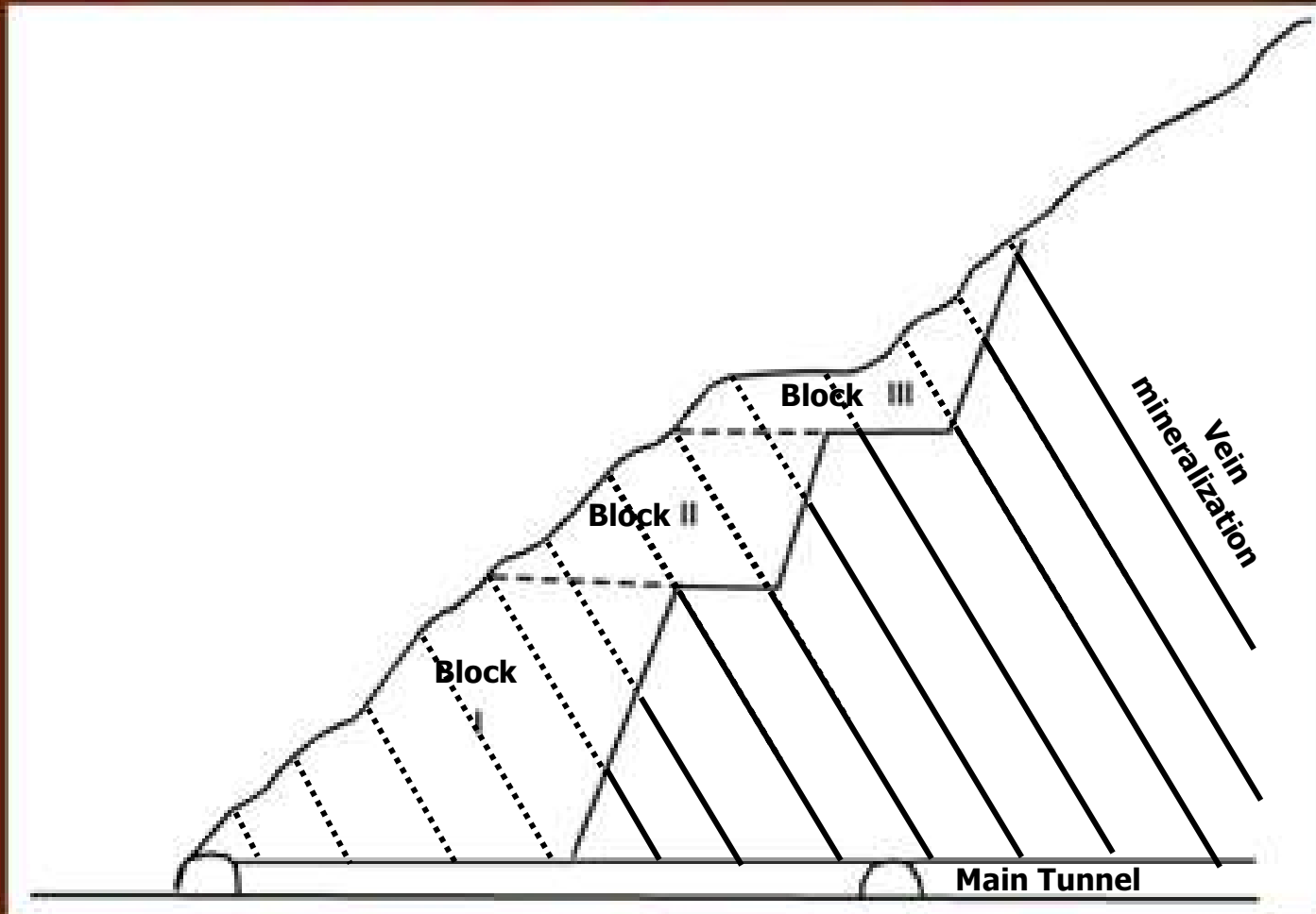


Figure 1. Blocks mining method

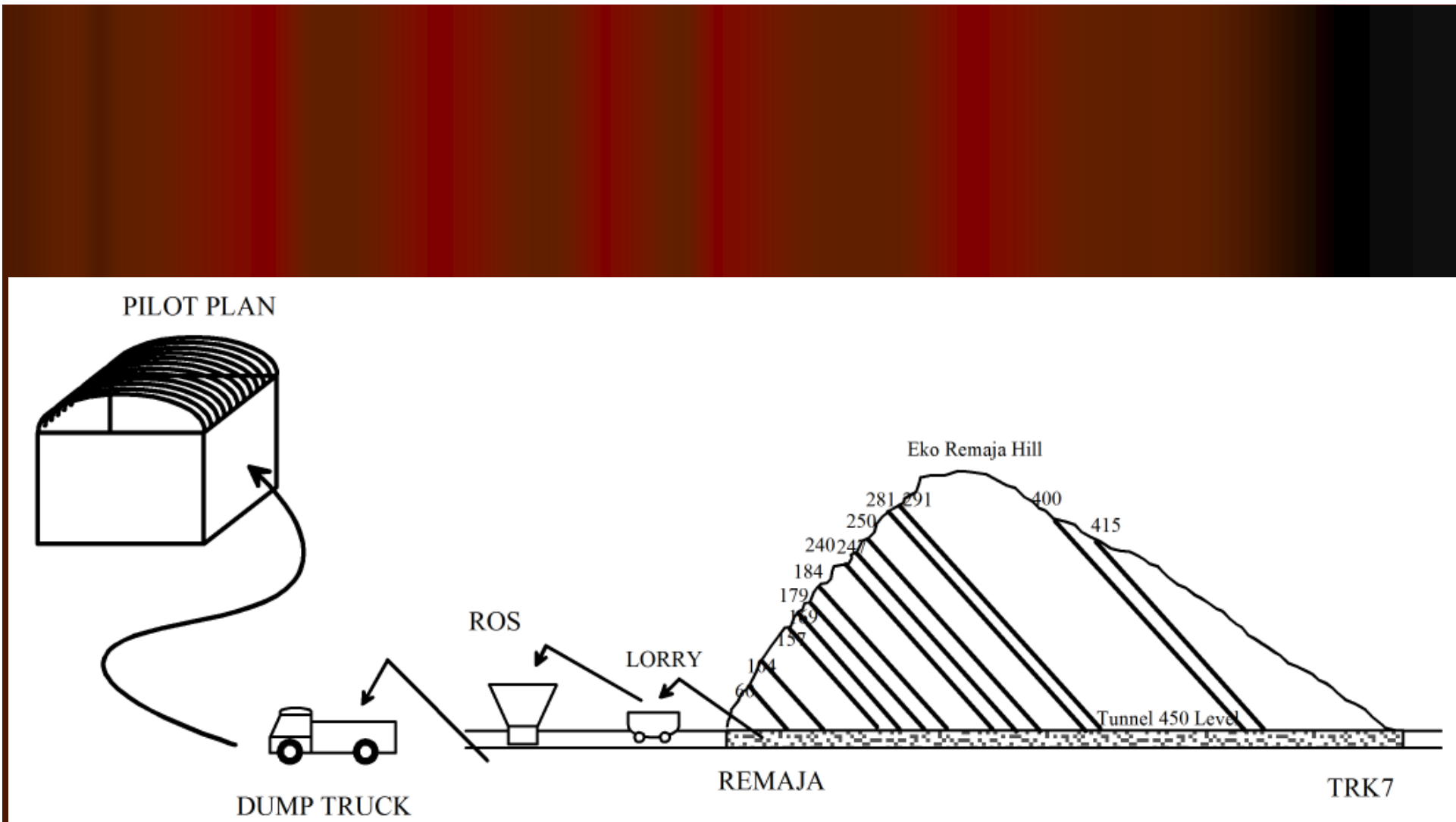


Figure 2. Mining Test

CONCLUSION

- **In the future we plan to do Mining Test.**
- **Mining is done by dropping the large blocks, then sorted, separated between ore with waste.**
- **Separation is done by ROS (radiometric Ore Sorting) before the ore transported to the processing.**

That's all, sorry if I was not able to provide information about how to manage a low-grade uranium, and on this occasion I expect feedback from the ladies and gentlemen who are present here.

At the end this paper still expect for any suggestion that can be implemented into our mining exploration activity

Thank you (terima kasih)