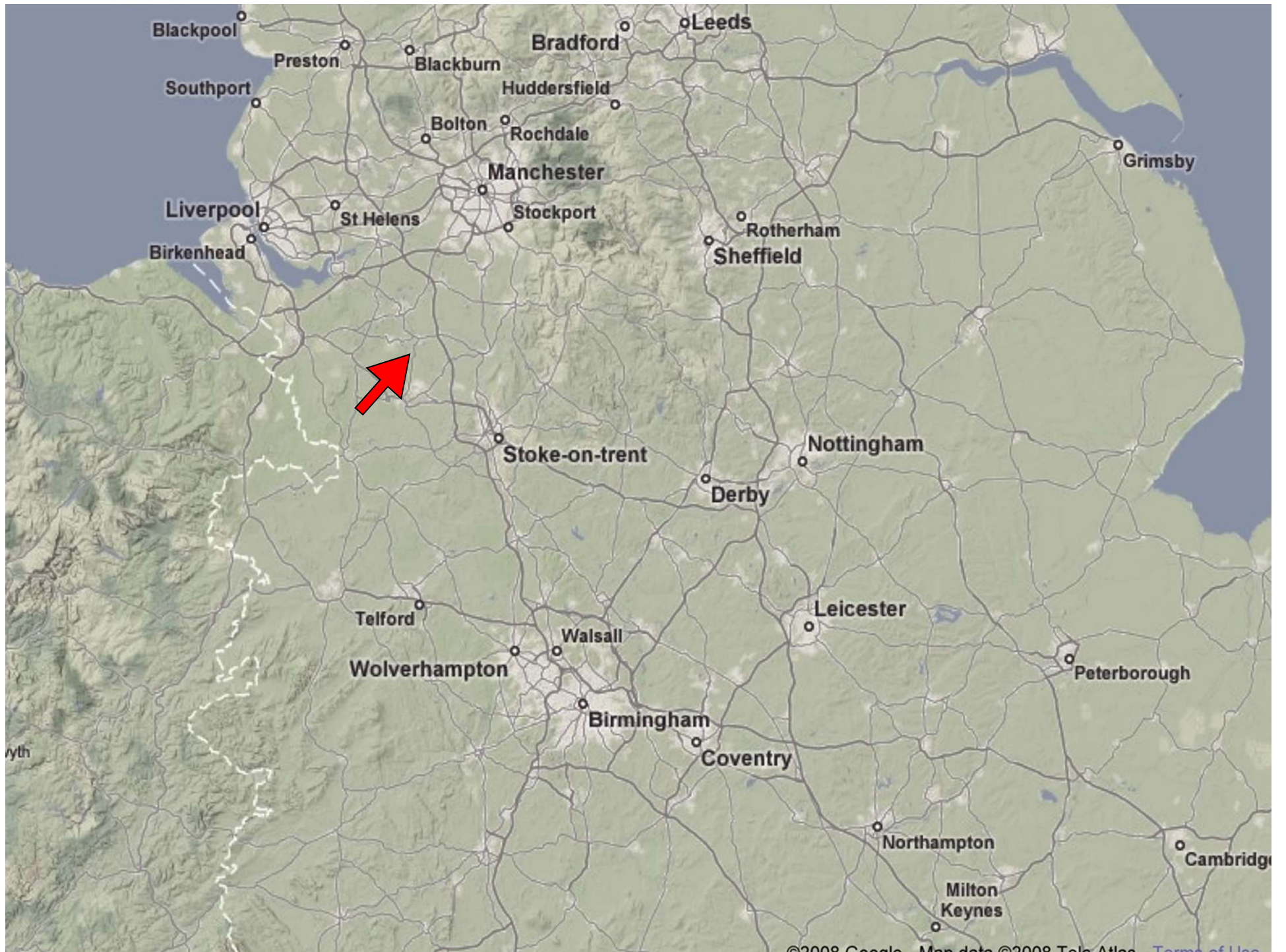




# APSE Highways, Street Lighting and Winter Maintenance Seminar 2020



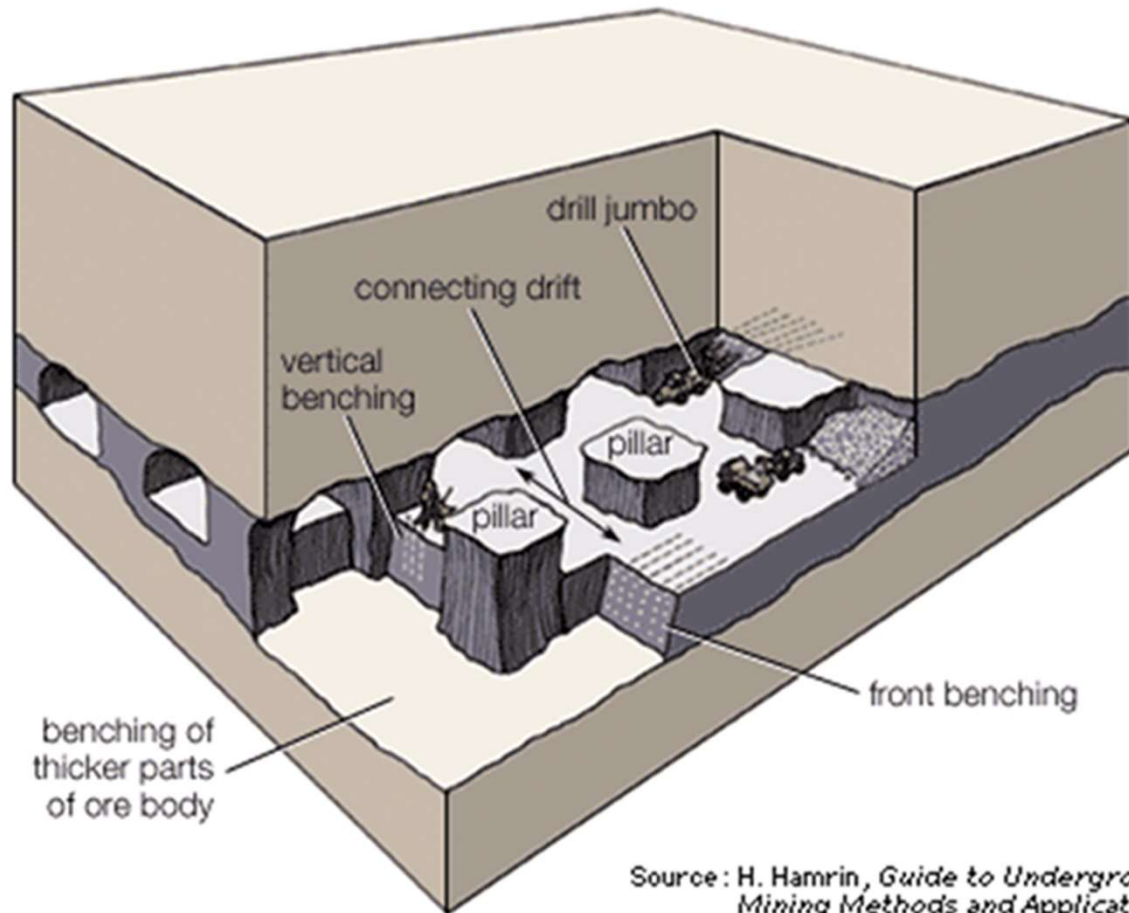








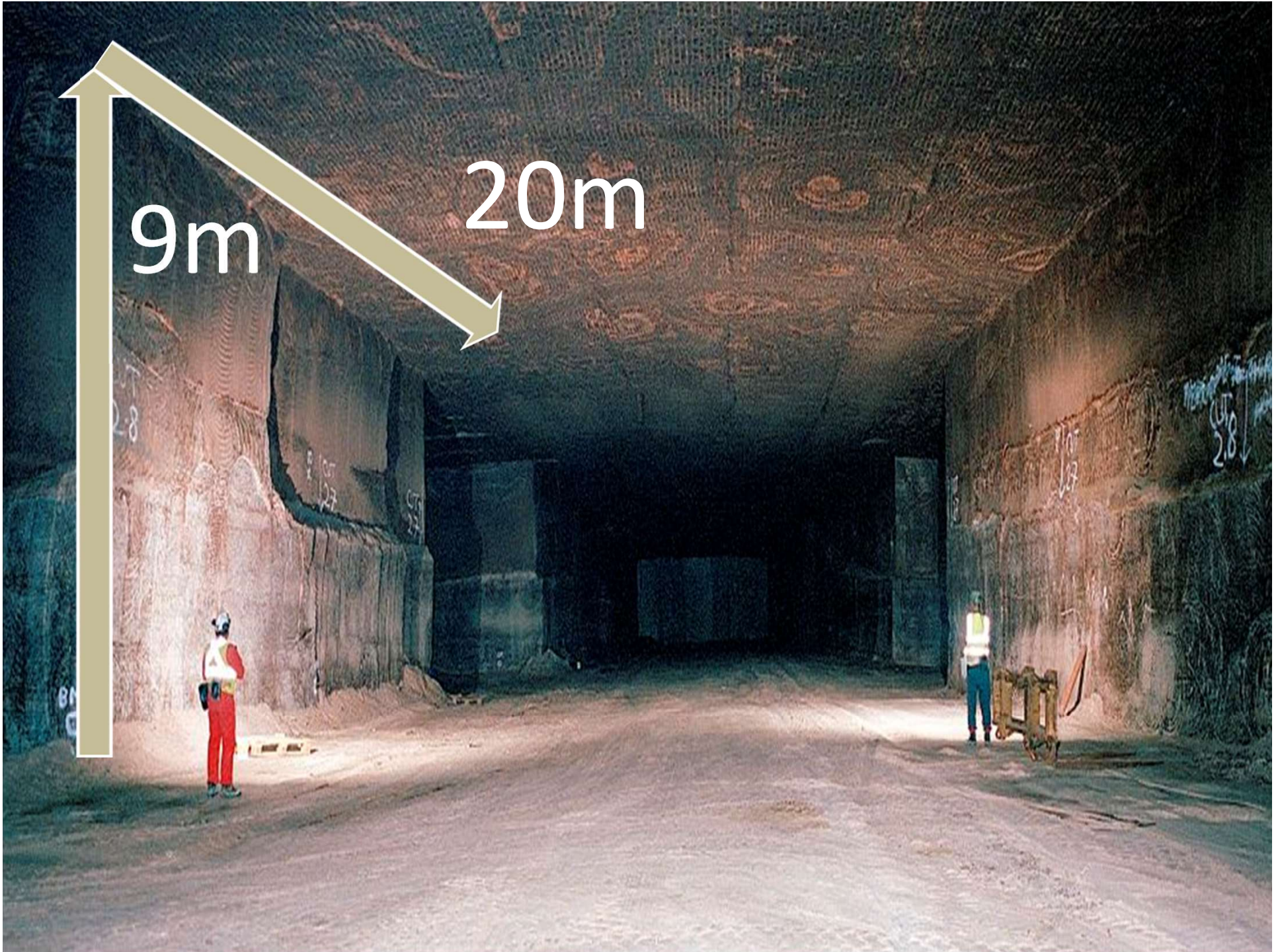
# Room and Pillar mining



Source: H. Hamrin, *Guide to Underground Mining Methods and Applications* (Stockholm: Atlas Copco, 1980)



4.5m



9m

20m





**Can operate across  
3 shifts producing  
24 hrs**









# WHY?



**328bn miles driven per year**


**Great Britain road length  
totals 246,000 Miles**

**Total gritted road 118,000 miles**

**24,831 serious injuries**

**1,793 fatalities**





consistency  
is key

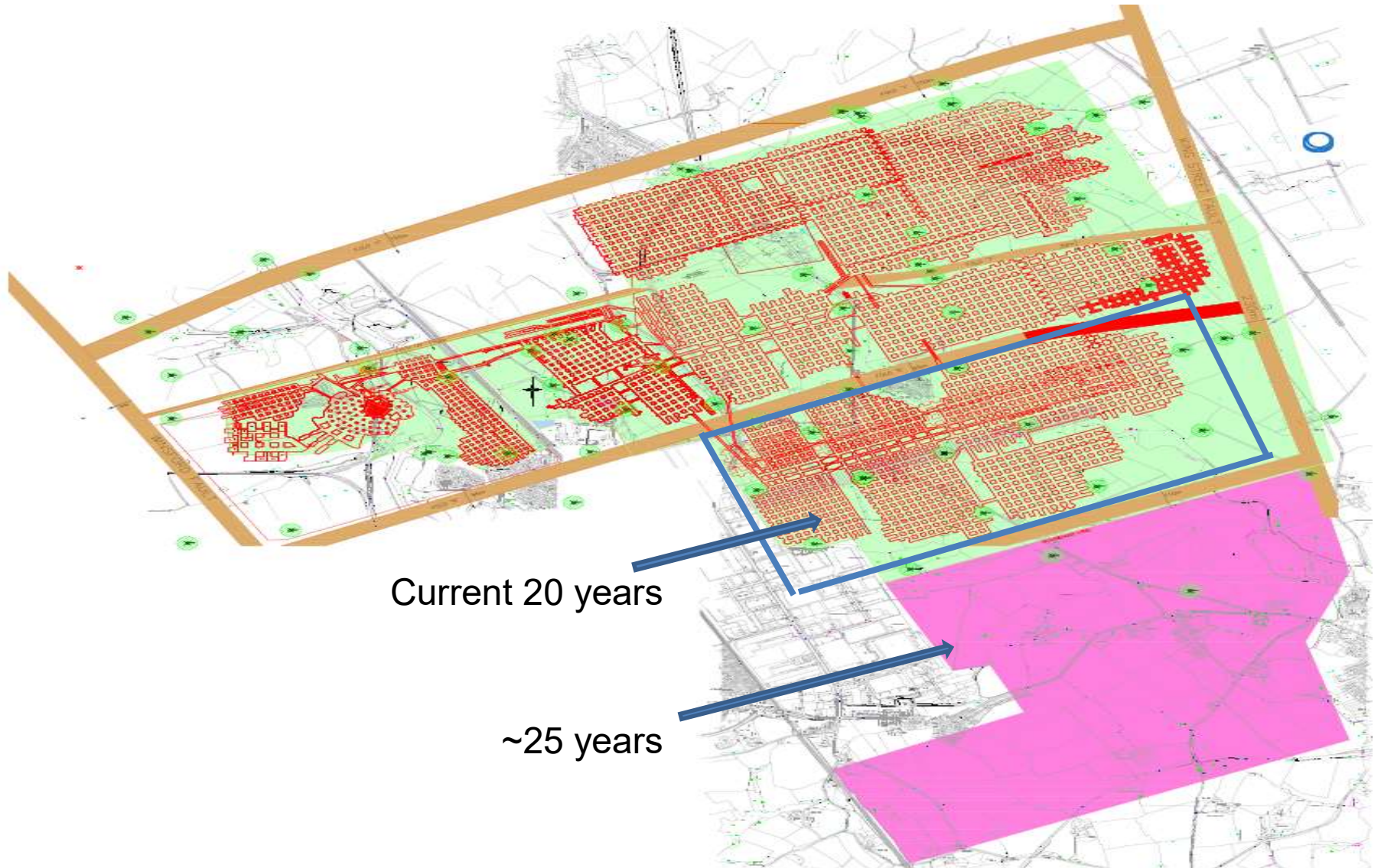


A word cloud centered around the words "CUSTOMER" and "SERVICE". The words are arranged in a roughly heart-like shape. The colors used are dark blue, light blue, and black. The words vary in size, with "CUSTOMER" and "SERVICE" being the largest. Other prominent words include "information", "training", "assistance", "quality", "helpful", "satisfaction", "friendly", "answers", "knowledge", "organization", "solutions", "patience", "business", "representative", "team", "time", "information", "methods", "complaint", "policy", "phone", "organization", "info", "sales", "personal", "exchange", "methods", "answers", "representative", "info", "sales", "business", "training", "solutions", "exchange", "patience", "assistance", "policy", "patience", "friendly", "answers", "friendly", "quality", "friendly", "team", "organization", "personal", "time", "information", "methods", "solutions", "assistance", "satisfaction", "complaint", "patience", "business", "sales", "organization", "info", "phone", "representative", "patience", "info", "policy", "sales", "helpful", "team", "info".

# INVESTMENT



# Future Availability



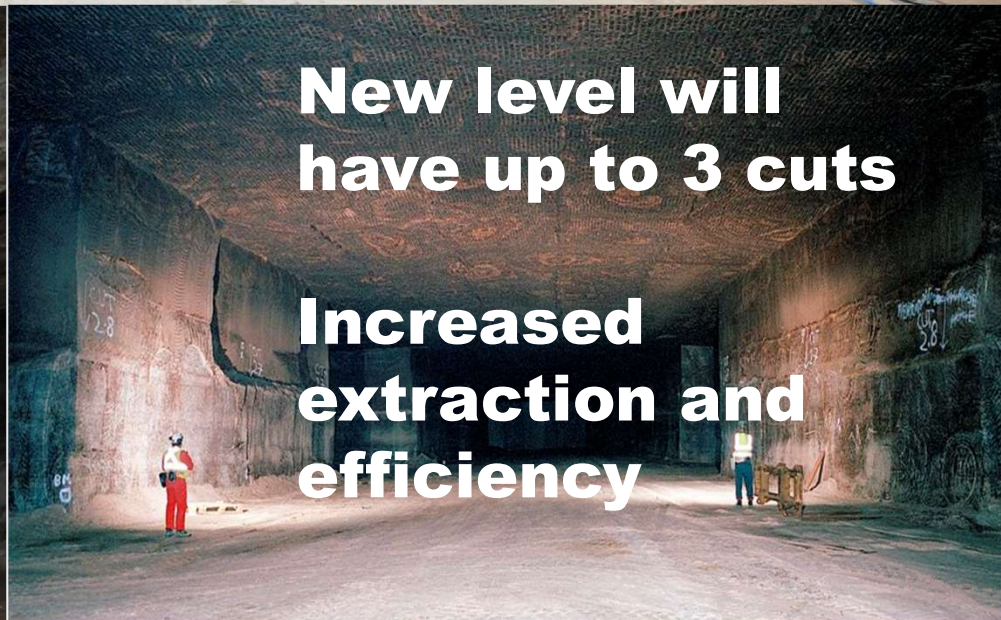
Current 20 years

~25 years

**Deeper horizon  
mining**

**Now 300m deep**

**26m tonne salt**



**KOMATSU**  
**12HM series**  
**Joy 12HM46**



# SCM

SUPPLY CHAIN  
MANAGEMENT



# Supply Chain Challenges

**Driver shortages**

**Network disruption  
in severe weather**



# Supply Chain Challenges

**Working with DfT to  
Consider these impacts**

**Large user of tippers  
for implementation**





# Site improvements for Haulage



# Supply Chain Through CV19



**1 tn OUT = 1 tn IN**



 *Compass  
Minerals®*