



The Mining Sequence
Staking and Exploration

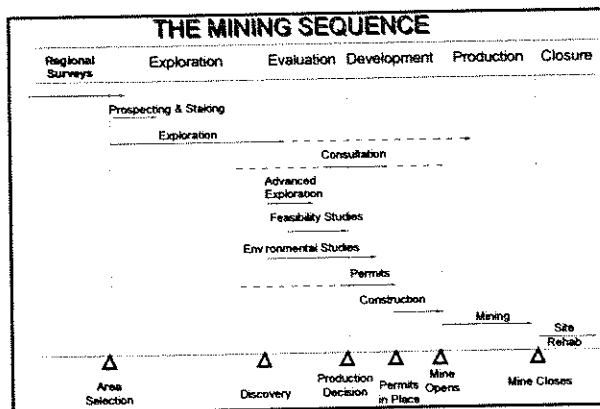


 **Ontario**
Ontario Ministry of Northern
Development and Mines

Mining Sequence



- Regional Surveys
- Prospecting and Staking
- Exploration
- Advanced Exploration
- Development and Construction
- Production
- Closure

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REGIONAL SURVEYS

Determining good places to look for minerals

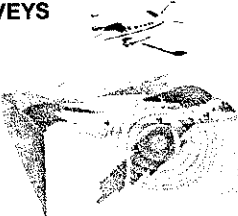



- reviewing records already collected
- reviewing the success of others
- reviewing the geology of the area
- determine the cost of doing business in the area


REGIONAL SURVEYS





Mapping and Sampling



From the air - airborne geophysics



PROSPECTING & STAKING

On the Ground Surveys

CLAIM STAKING

- Competitive process
- First prospector to stake gets the ground
- gives right to exploration only
- can bring the claim to lease
- Only 1 in 10 claims see significant exploration



CLAIM STAKING

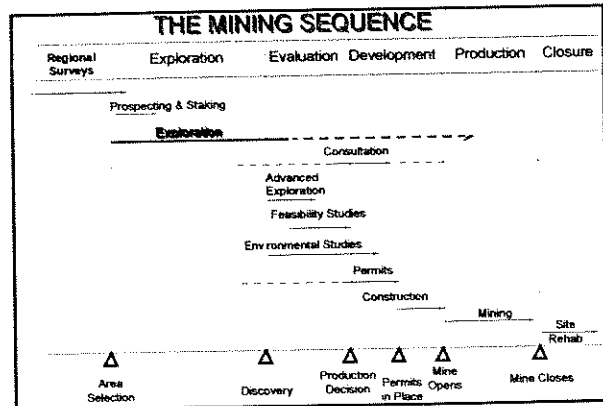
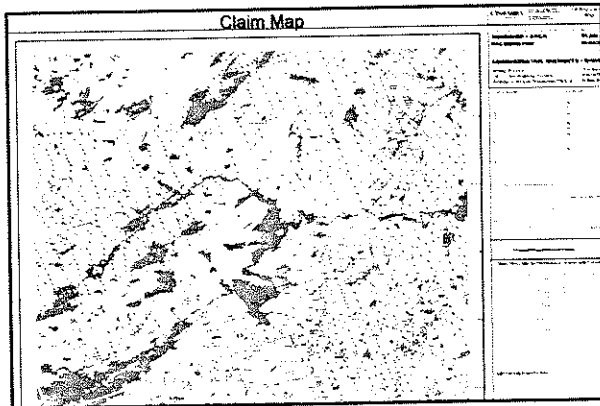
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 Up to 16 units (one square mile)
 1 Unit = 16 hectares
 40 acres

3 2

- must carry out a required minimum amount of work
- \$400 per unit, per year work to maintain claim
- claims will be revoked if work is not done



- Little or no impact Requirements:
- Prospector's Licence
- land must be open to staking (most Provincial Crown lands)



EXPLORATION

Looking for a mineral deposit

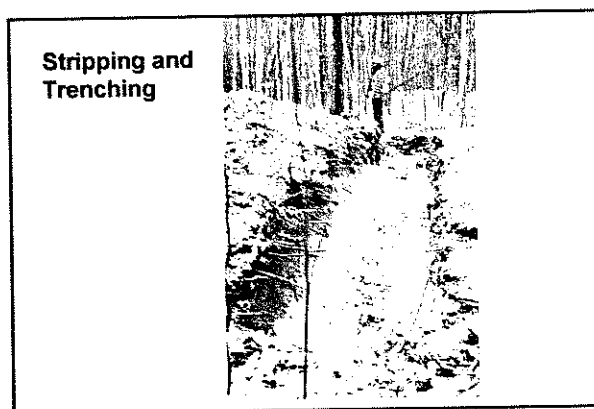
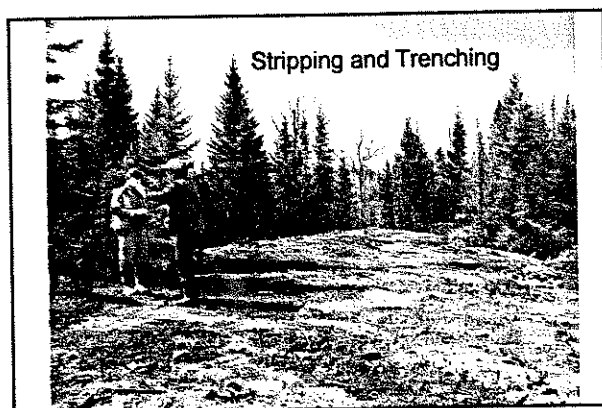
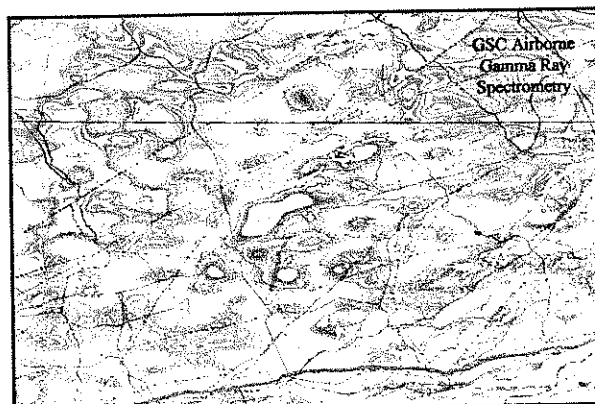
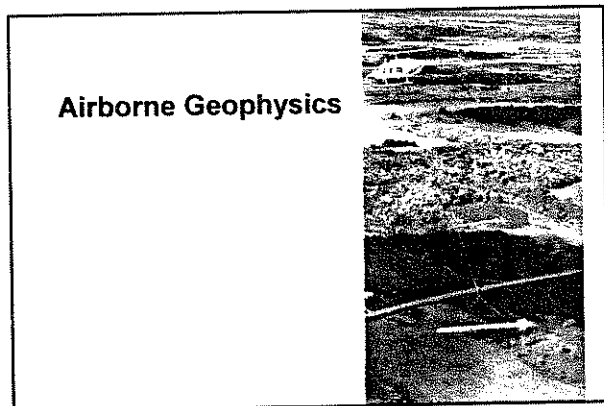
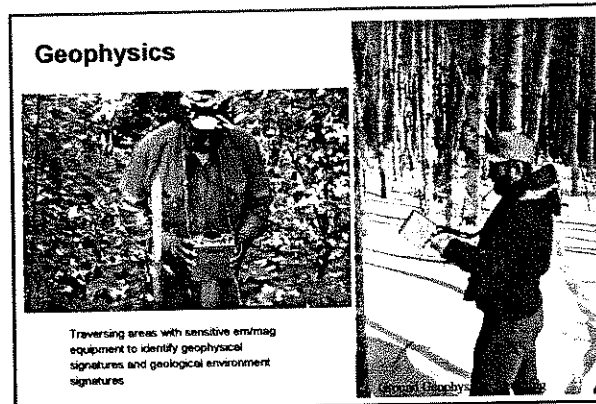
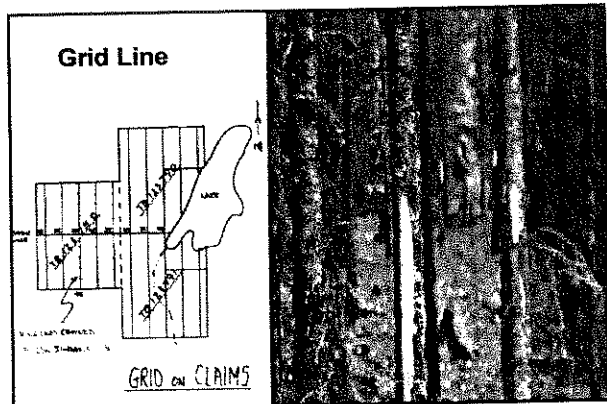
Work includes:

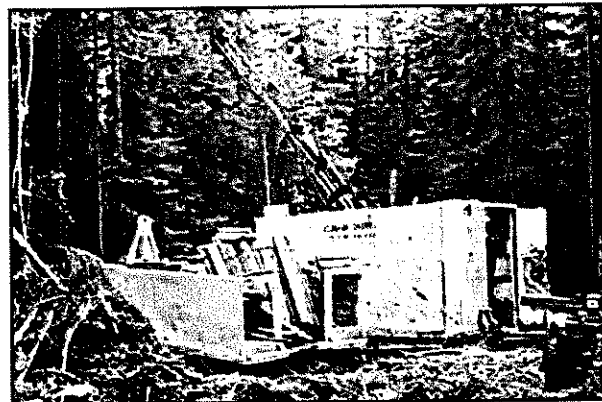
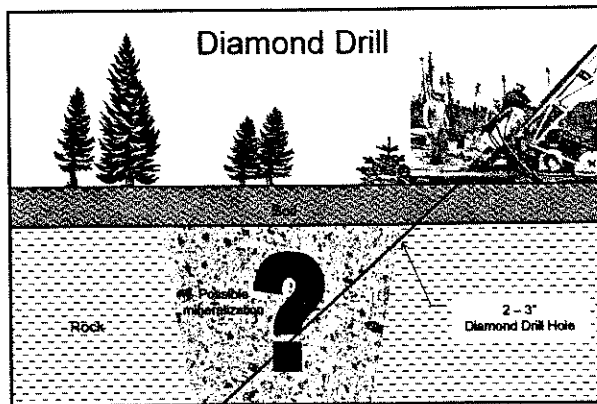
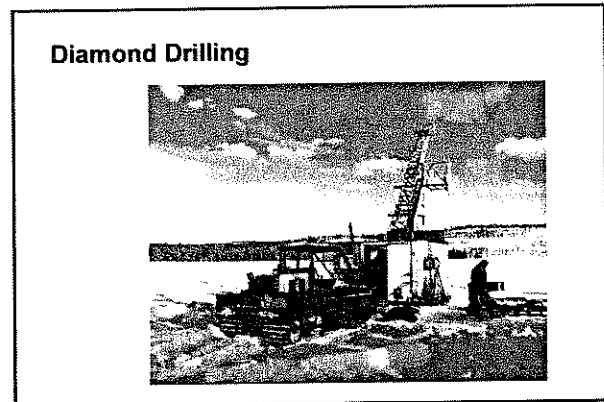
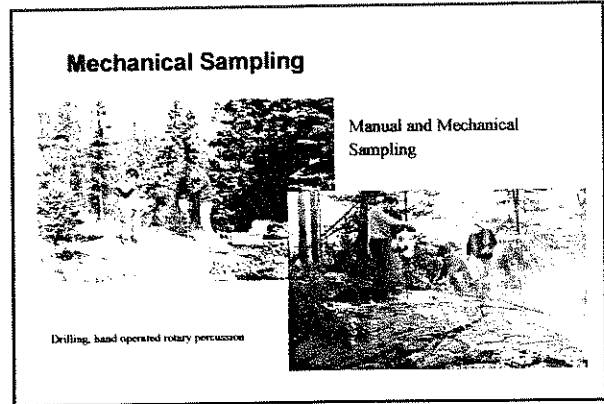
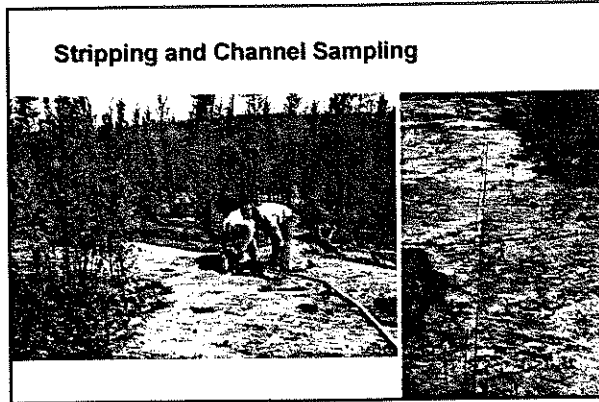
- mapping, surveying
- geology, geochemistry, geophysics
- stripping, trenching, test pitting
- drilling, sampling
- bulk sampling

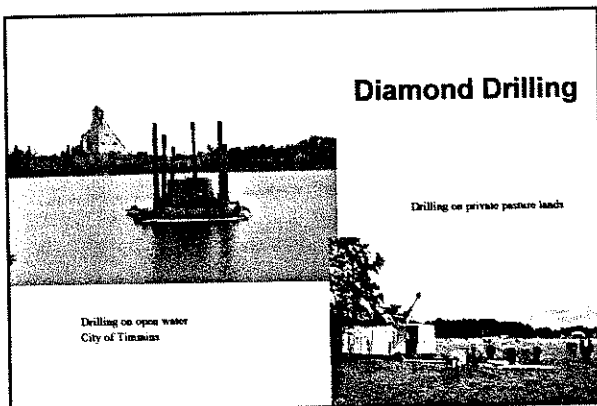
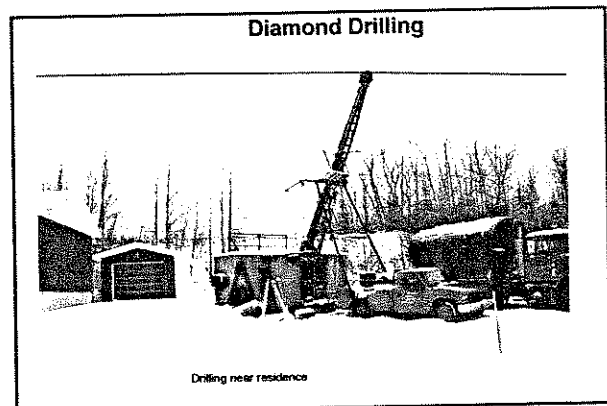
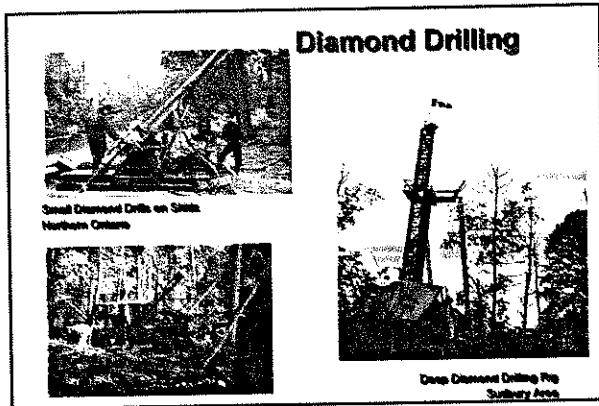
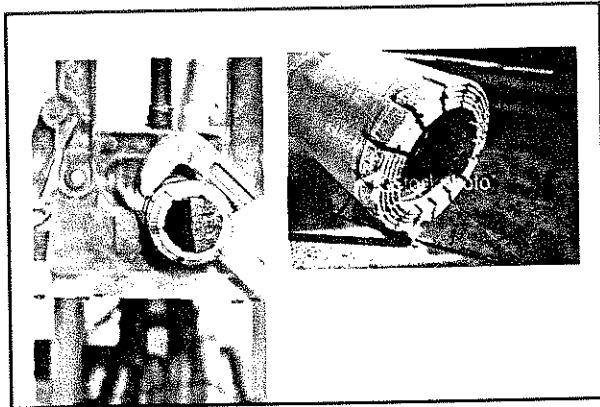


Stages In Exploration

Most claims do not contain valuable minerals
 Less than 1 in 10 claims will see significant exploration
 Less than 1 prospect in 10,000 will become a mine
 Exploration is expensive. The mining industry finds about 1 mine for each \$200 million spent on exploration
 Costs rapidly increase as the project progresses
 Exploration follows a distinct series of stages or steps.
 At the end of each stage, the results are reviewed and used to determine if it is worth going to the next stage
 Successive stages are progressively more complicated and expensive.
 If the results do not justify a next stage, then the project ends.



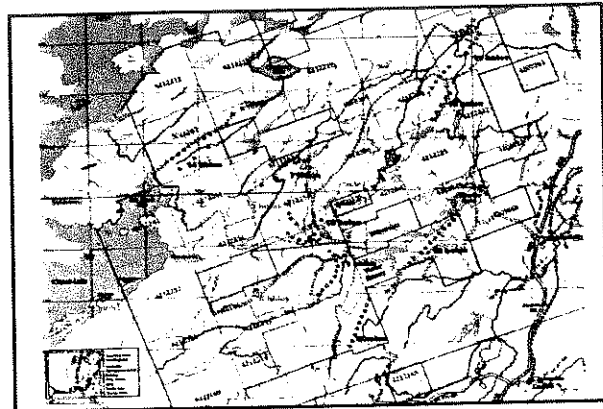
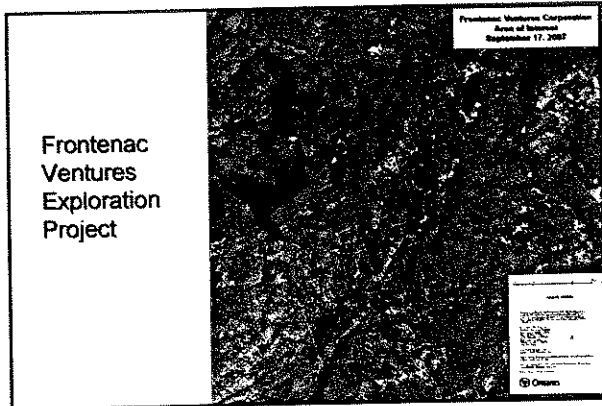




Exploration Impact

Some impact but risks are limited

- Small scale clearing and stripping
- fuels spills
- fire
- disturbance of sensitive values sites
burial sites, cottage lots, nesting sites, etc
- noise if in close proximity to sensitive receiver
- impacts are usually short lived and localized



Exploration Permits

Mining Act (MNDM)

- Most Exploration - no permits are required
- Exception:
 - Bulk Samples Permit for removal of >10 tonnes on unpatented claims
 - Exploration in designated areas (e.g. Temagami Land Use Area)
 - Some notifications may be required depending on the type of work (MOL)

Public Lands / Lakes & Rivers Improvement Act (PLA/LRIA) (MNR)

- Roads & water crossings commonly trigger Work Permits under PLA which in turn are subject to a Class EA
- Water Crossings will typically involve DFO advice although it will be extremely rare that DFO would need to issue an authorization at this stage
- Other permits and approvals rare at this stage
 - Larger drilling projects may trigger a Permit to Take Water (MOE)

Aboriginal Consultation

- Projects may trigger a duty to consult with affected aboriginal people