Hon. A. L. BEAUBIEN: Who would put those holes down?

Mr. COLE: I do not know.

Hon. A. L. BEAUBIEN: Your department would not do it?

Mr. COLE: I do not know whether it would be a federal or provincial project.

Hon. Mr. DAVIES: This company that is working out there now is developing salt mines. Is that correct?

Mr. COLE: They have no rights to the potash; if they come across any potash or recover any potash it has to be turned over to the Saskatchewan government.

Hon. Mr. CRERAR: Can you give us any information on how these potash salts could be taken out of the ground? Can they be mined like coal? What is the process?

Mr. COLE: There are two possibilities: one is by solution and one is by straight mining.

Hon. Mr. DUFFUS: Drilling?

Mr. COLE: Yes, by drilling; by putting water down the hole, dissolving the salt, making a solution, pumping it up and evaporating it to get salt.

Hon. Mr. CRERAR: Is that the way they get salt?

Mr. COLE: That is the way they get salt. They put the water down, dissolve the salt, pump the brine up and evaporate it and get salt. Of course they cannot control what part of that salt strata they are going to dissolve; that is the trouble in mining potash beds by solution, you cannot tell where hose solution channels are going to go. If you start in a potash bed you might have saturated brine with respect to potash, after about two or three months the channels might have worked down and go into straight sodium chloride or ordinary salt and you might get brine that is ordinary salt with no potash in it at all. You have no control of that method.

The mining method is costly, and there are a number of serious problems associated with sinking a shaft. Three serious problems are: You might encounter water and have to shut it off; the second is the possibility of encountering natural gas, which would be most difficult to shut off; the third would be the difficulty about the shales which lie above the salt beds; when water touches them, they start to swell and creep. So that what method would be finally adopted, if the beds are there in sufficient quantities, to recover the potash, we do not know at the present time.

Hon. Mr. HORNER: Do you know anything about the operation in Manitoba of the salt mines? Is that done by evaporating the brine?

Mr. COLE: That is accomplished by evaporating a brine which is not even saturated; it is only 70 per cent saturation. It is a natural brine underground, around fifteen hundred feet, which they pump up and evaporate to recover their salt.

Hon. Mr. DAVIES: Is it only in Saskatchewan where you discover any potash?

Mr. COLE: We have a small percentage of potash in one of the wells, so far, in Alberta, but it only analyzes around 4 per cent. I might say there are two localities down in south eastern Saskatchewan, one at Radville and the other at Ogema. This is from the Ogema salt, in which we have encountered potash of anywhere from 10 to 20 per cent K_2O; but that is at great depth. In Alberta the only one we found is at Provost, where the highest analysis we got was about 4 per cent K_2O.

Hon. Mr. BEAUBIEN (*St. Jean Baptiste*): Suppose you discovered a large bed around Unity, Saskatchewan, with possibilities, what percentage would you have to get to make it commercially feasible to develop?