

MEMORANDUM

TO Mr. B. E. Marr
Chief Engineer

FROM J. C. Foweraker
Chief
Groundwater Division

Water Investigations Branch

June 13 1973

SUBJECT Flowing Artesian Well
Vanderhoof Area

0242686-A
OUR FILE 0183613-C
YOUR FILE

Mr. Steve Ulchek, Interior Water Wells, Box 1558, Old Cariboo Highway, Prince George (telephone no. 963-9979) telephoned me on June 12 about an artesian well flowing at 200 gallons per minute. The hole is sited two miles downstream from Vanderhoof on the north side of the Nechako River. The driller used the rotary method for this hole. The hole has 110-115 feet of four-inch casing. The hole is uncased from 115 to 180 feet. The log shows 170 feet of "clay" material, then into sands and gravels where the artesian flow was encountered. The hole on completion did not at first flow, but overnight the water level increased and the well was flowing at 200 gallons per minute next morning with a considerable head in the driller's estimate.

Unfortunately, the casing is not holding and the water is flowing round the outside of the casing. Mr. Ulchek requested funds and technical assistance from the Groundwater Division to seal off this well.

I pointed out to Mr. Ulchek that past Government policy in these cases had been for the Government to take the attitude that this was a responsibility of the driller and/or the landowner. I also pointed out that if we gave technical assistance such as he requested, we (the Government) would then again be involved.

I did, however, review some normally accepted procedures for dealing with these flowing situations, including the drilling of a large capacity screened well alongside the flowing artesian hole. A pump would then be installed in the large capacity well and hopefully the water level in the flowing well would be drawn down by well interference through pumping to a level in the casing where grouting could be effective. The grouting would follow a professionally designed procedure and adequate grouting equipment for grouting off the flowing well must be used.

I briefly discussed the use of packers, Mills knife for cutting the casing, needs for special grout pumps, etc., such as we have used on past jobs. I suggested he telephone Messrs. Brown or Livingston and obtain their services for this work. He said that he had telephoned Mr. Livingston who had advised the drilling of a cable tool large capacity well, but he did not want to go to this expense! I advised that the longer he left the problem, the more serious it would become and that the whole operation should be completed as quickly as possible.

Mr. Randsepp - I suggested to Mr. Foweraker that as time permits he should compile a list or map of known flowing artesian wells as part of our inventory program.

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The question of Government responsibility was again brought up. I suggested that he should telephone either Mr. Marr or Mr. Raudsepp if he required further clarification on Government policy in these situations.

In conclusion, the well should not be left to flow uncontrolled regardless of who is responsible.

Also, the question that is raised in my mind is should British Columbia drillers be allowed to continue to use rotary drilling methods without adequate casing or grouting procedures in areas where artesian conditions are known to exist?

A similar question was raised at the B. C. Drillers' Association Annual Meeting held at Portland, Oregon last month. I believe a letter may be coming from the Association to our Minister on the matter of compulsory registration or licensing of all British Columbia well drillers and the need for adequate drilling standards to be set up and maintained in the Province.

J. C. Foweraker

J. C. Foweraker, Chief
Groundwater Division

JCF/js

Mr. Marr

1118-1112 Jan 22/73

1. Mr. Johanson will commence (I carry out, as time permits from his other duties), to delineate on suitably scaled maps, the areas of and locations of known flowing artesian wells. This would be a first step along the lines of our previous discussion.
2. A "stepped up" program of hydrogeological mapping (such as is carried out in other provinces) should follow the completion of our "pilot project" map areas. Such maps would certainly aid drillers to understand the ground water conditions on a given area. J.F.