



PHOTO 2b-1

8010290381

POOR ORIGINAL



PHOTO 2b-2

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(2c) Question

"It is our opinion that the recovery well system is in need of modification and repair to function effectively. Our review of water quality data indicates that some improvement in water quality is observed while the system is in operation. Extended periods of down time have limited effectiveness of the system."

The NRC staff agrees with the recommendation that the recovery well system be modified and repaired to function effectively, and the staff requires FAP Corporation to address and resolve the problem by developing and implementing the appropriate modifications and repairs. Such plans shall be submitted to the NRC in writing.

Response

Federal-American Partners has taken several steps to improve the pumpback system in recent months. Several pumps have been re-built re-installed in the wells. We are investigating the possibility of additional pumps for standby and using a different brand of stainless steel pumps. Check valves have also been re-conditioned.

Ultimate plans are to replace all check valves in the pump discharge lines with a manual operated ball valve. This will end the possibility of the check valve sticking open.

To further improve the efficiency of the pumpback system, the following tasks are planned:

- 1) Existing pumpback wells will be checked individually to determine suitable pumping rates for each well. Wells displaying low yields will be abandoned or modified by installing cutoff switches to prevent pump operation under dry conditions.
- 2) After determination of existing wells which can effectively be utilized in the pumpback system, further modelling will be performed to evaluate the predicted effectiveness of the existing system.
- 3) If modelling indicates the existing system is inadequate, further modelling will be performed to identify additional measures required for an effective system. Additional wells will be installed as necessary.

(2d) "The well construction of STF-15 is not known exactly and may partially account for the anomalous value of vertical permeability obtained. The original well log indicates the bottom 20 feet is screened but that the gravel pack was extended to the surface."

"Our results for aquifer transmissivity and vertical permeability indicate clearly that either the log is not truly representative of the geology or water in the K-1 backfill was able to travel freely through the gravel pack around the wall and able to influence drawdown results during the test."

It appears that the well construction of STF-15 is faulty and could result in downward movement of tailings pond seepage along the outside of the casing to the Lower Wind River aquifer.

Please elaborate and comment on the above and determine how to correct the existing problem.

Response

Well drilling records maintained by Federal-American Partners indicate that on February 15, 1979, Champ Drilling Company installed 40 feet of eight inch steel casing with three inch PVC riser and grouted the annular space between the steel and PVC casing. Therefore, of the two possibilities suggested as possible reasons for an apparent discrepancy between pumping test results and report geology, it is likely that the geologic log for this well may be inaccurate. The original log for STF-15 indicates dark green silty mudstone from elevation 6388 feet to 6243 feet, or 145 feet thick. The remaining 15 feet to the bottom of the hole is reported as green silty claystone with secondary iron staining. A transmissivity of 370 gpd/ft. was estimated for STF-15 on the basis of our pumping tests, which, although somewhat lower than transmissivities estimated at other observation wells, is at least two orders of magnitude higher than would be expected for claystone. We suspect that several sand seams within the section were not identified during drilling and this accounts for the discrepancy. Since sand seams were not identified, vertical permeability estimates were based on assumptions.

Federal-American Partners intends to construct a new well to replace STF-15 for the subgrade disposal ground water monitoring program.

Since STF-15 is located midway up the slope of the Union Carbide K-1 backfill, access for sampling and bailing operations is extremely difficult. The new well will be drilled as close as possible to STF-15 on suitable terrain with the screened interval in the lower Wind River aquifer and sealed to the upper Wind River aquifer. The space within the three inch PVC casing of STF-15 will be grouted throughout when the new well is installed.

(3) Plate: Area Water Well Locations

Federal Well No. 5, which is still in service as an industrial well, is not shown or referenced in the legend on the plate. This should be done for the final report.

Response

Please find attached a revised print of Area Water Well Locations, which shows the location of Federal Well No. 5.

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NO. OF PAGES 1 map

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