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INTER-OFFICE CORRESPONDENCE / SUBJECT: Observation of Mud Systems at Drilling Operations
BARTLESVILLE, OKLAHOMA

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On Tuesday and Wednesday, August 29 and 30, 1972, H. M. Barrett, G. I. Slater, L. L. Kidd and I visited numerous drilling operations in Southwestern and Western Oklahoma. Bill Barrett planned the trip and Glen Slater who is well acquainted with the location of rig operations conducted the tour. Glen was the contact at each location. In many instances he was personally acquainted with the tool pusher, driller on tour or the mud engineer. Though approximately 20 rigs were visited, only one was running over a Phillips hole so it was necessary for Glen to obtain local clearance for us. Even though several rigs visited were drilling tight holes, in every instance we were granted permission to look the operation over. The purpose of the trip was to observe mud handling techniques in general and specifically how those operations using Flosal were handling the material. It was also our objective to determine if the handling of Flosal was hazardous.

We observed in considerable detail mud systems in use on shallow holes and deep holes by small rigs and large rigs, by poor boy contractors and by the more sophisticated contractors. There was little difference in the mud houses at all operations. In each instance, housekeeping was poor. In some cases, it was very bad. However, this does not imply it was hazardous. Probably a compliance officer would object to the housekeeping, however, it is doubtful that there were any health hazards.

Most of us who have been apprehensive about Flosal probably based our concern due to prior experiences in mud houses where sack mud was being opened and added hurriedly and in large amounts by one or several roughnecks. Under those conditions, the roughnecks were covered with mud dust, the floor was covered with several inches of mud and cluttered with empty sacks and the atmosphere was so dusty it was difficult to see and breathe. Bulk muds have eliminated much of the handling of sack muds by roughnecks. Muds and mud additives injected at hoppers by roughnecks usually isn't a large volume operation and with a little more emphasis on housekeeping could be very clean.

At most of the rigs observed, a 55-gallon drum with an eductor type hook-up is used instead of the conventional hopper. This permits placing the sack material down inside the drum when dumping. The drum will hold several sacks of mud or additive so the material is well confined. Mud materials are not spilled and walked through around the drum. The eductor pulls the materials slowly into the system without any dust or residue. On one occasion Flosal was being added. The roughneck opened and poured a sack of Bentonite into the drum, then opened the sack of Flosal and poured it into the drum, then added a sack of Bentonite on top of the Flosal. No visible dust could be seen during this process. Certainly the Flosal was well isolated by the Bentonite.

At another operation where Flosal was being added, the roughneck had opened the sack, then placed it in the drum so that the material only trickled out as the eductor cleared the way. Though there is a warning printed on the sack, whether the roughneck was aware he was handling asbestos is not known, but he made no contact with the Flosal, got none on his hands or clothing and no dust was visible above the drum. At all locations, all refuse including mud sacks are thrown into an earth fill which will be covered with earth by a bulldozer when hole is completed.

At some rigs the conventional hopper was in use. At two or three rigs the hopper was out in the open. This made ventilation real good. Though these hoppers will not hold as much material as the eductor drum, with a little care and effort, they can be used without making a mess. Because the weather was warm and dry, all mud houses were opened on two sides and ventilation was good.

All mud chemicals now are packaged in 50-pound bags to facilitate safe and easy handling and it is expected all sack muds will soon be available in 50-pound sizes.

Though we were attempting to evaluate mud house conditions, we did take the liberty of casually looking about at some of the rigs. It was our opinion that a compliance officer inspecting any of the rigs we visited would find so many violations that the poor housekeeping in the mud house would be comparatively harmless. At some rigs there was no fire protection. At others it was only token. Most of them needed guard rails. Only one had toilet facilities. We detected numerous other conditions, some serious, which seemed far worse than the problem we were investigating. Parker Drilling Company has a tremendous rig working on a deep hole. Probably a 2-1/2 million dollar rig. Yet they were using an old battered, unattached, oil drum and a shovel to mix caustic and it was being mixed in a high wind by a bare-headed young roughneck without gloves, without goggles, without any emergency shower station or first aid equipment in the area.

The drilling industry critically needs training. To improve housekeeping in mud houses will take training. There is no other way. With just a little effort the situation could be corrected. Probably it would be a good practice to habitually use a small dust respirator when working in the mud house to prevent breathing any contaminants. On most rigs the derrickman looks after the mud. All three of the derrickmen should have their own respirator which they could keep clean and in their own locker. An adequate respirator costs $1.50. The best inexpensive one we have seen is the Welsh Model 7165 disposable respirator which has U. S. Bureau of Mines approval for toxic dusts. This respirator is available from the Marshall Supply Company, 1050 East Archer, Tulsa, Oklahoma. Certainly any program for upgrading housekeeping in mud houses and encouraging the use of dust respirators by any person adding any kind of materials to the mud system would be an improvement over present conditions. However, unless the atmosphere is monitored and tests prove Flosal is actually contaminating the atmosphere with asbestos particles, do not believe Flosal should be used as the reason for accomplishing the improvement. If Flosal is contaminating the atmosphere, it cannot be detected visually. Further, any person handling Flosal could, with just a little effort, further protect himself. However, this, too, would require a little training. Flosal does not dust easily. In the laboratory it is difficult to make it give off a dust. I am convinced it can be used safely.

It is my considered opinion, based on observations made at drilling operations, that generally mud handling techniques, including Flosal, could be improved primarily through housekeeping practices. However, I do not believe that presently a health hazard exists. However, there are some questions that need to be answered. They are:

1. Even though little or no dust is visible when Flosal is being used, we need to document whether or not airborne fibers in excess of exposure limits exist.

2. Does the regulation apply to drilling operations which reads, "No asbestos cement, mortar, coating, grout, plaster, or similar material containing asbestos shall be removed from bags, cartons, or other containers in which they are shipped, without being wetted, or enclosed or ventilated so as to prevent effectively the release of airborne asbestos fibers in excess of the limits....."

3. What is our Company responsibility when Flosal is being used by a contractor working for us?

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