

TA00

**Kulis, Jerzy, NMENV**

From: Kulis, Jerzy, NMENV
Sent: Tuesday, May 04, 2010 2:09 PM
To: 'Everett, Mark C'
Cc: Dale, Michael, NMENV; Cobrain, Dave, NMENV; Ball, Theodore T; Shen, Hai; Whitacre, Thomas J; Lynnes, Kathryn D; Katzman, Danny
Subject: RE: R-3: request for use of EZ-MUD to 550 ft

Mark,

NMED approves the use of EZ-MUD in drilling of the second R-3 borehole as described in your e-mail dated May 03, 2010, with the following conditions:

1. In accordance with Section X.B.3 of the 2005 Consent Order, if EZ-MUD is used during drilling of R-3, LANL must use a dispersant to chemically break down EZ-MUD during the residual drilling fluids cleanup phase, prior to drilling into the regional aquifer. LANL must follow EZ-MUD manufacturer's (Baroid) recommendations on the selection and use of a suitable dispersant (for example, non-perfumed 5% sodium hypochlorite [liquid household bleach]).
2. LANL must collect a sample of the cleanup water at the completion of the residual drilling fluids cleanup phase, prior to drilling into the regional aquifer, and analyze it for TOC in order to assess the need for additional cleanup of residual EZ-MUD during well development. LANL must submit to NMED the results of TOC testing as soon as they become available.

Please let me know if you have any questions.

Thanks,
 Jerzy Kulis
 Environmental Scientist
 Hazardous Waste Bureau
 New Mexico Environment Department
 2905 Rodeo Park Drive East, Bldg 1
 Santa Fe, NM 87505-6303
 Phone: 505-476-6039
 Fax: 505-476-6030

From: Everett, Mark C [mailto:meverett@lanl.gov]
Sent: Monday, May 03, 2010 4:30 PM
To: Kulis, Jerzy, NMENV
Cc: Dale, Michael, NMENV; Cobrain, Dave, NMENV; Ball, Theodore T; Shen, Hai; Whitacre, Thomas J; Lynnes, Kathryn D; Katzman, Danny
Subject: R-3: request for use of EZ-MUD to 550 ft

Jerzy,

Since we spoke last week there have been new developments at well R-3. The crew still plans to fish for the stuck tools using EZ MUD, but not until after moving over and drilling a new hole. This e-mail is to request the use of EZ-MUD in the new hole down to 550 ft bgs (100 ft above aquifer).

The crew has already moved over and drilled as follows:

- 23 in. open hole with tri-cone to top of basalt at 53 ft
- 17 in. open hole with down-the-hole-hammer to 143 ft

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Multiple scoria zones have been encountered and the stabilizer and bit keep getting stuck. The crew will now ream out the hole to 23" with the tri-cone and will cement from 100-143'. They will then take the 17 in. hammer through the cement and out the bottom of the basalt (~245 ft bgs). This may prove to be successful which negate the need for EZ-MUD, however, because of the poor drilling conditions in the basalt and the known formation instability in the 528-560 ft interval, the drillers are not confident that they can meet the ultimate objectives of the well without the use of EZ-MUD to stiffen the foam.

LANL's intent is to land and seal at least one string (18 in.) of casing above the regional aquifer and possibly a second (16 in.). Once the total depth is reached for each drilling method the borehole will be circulated to clear out as much residual drilling fluid as possible. Groundwater samples will be collected during development for TOC to confirm that no impacts remain. If you are available to discuss this tomorrow, I can be reached at my office or cell phone numbers listed below.

Thanks,

Mark Everett, PG
Drilling Project Technical Lead
EP-WSP
LANL
(505) 667-5931 (office)
(505) 231-6002 (mobile)

From: Kulis, Jerzy, NMENV [mailto:jerzy.kulis@state.nm.us]
Sent: Thursday, April 29, 2010 12:40 PM
To: Everett, Mark C
Cc: Dale, Michael, NMENV; Cobrain, Dave, NMENV; Ball, Theodore T; Shen, Hai; Whitacre, Thomas J; Lynnes, Kathryn D
Subject: RE: R-3: request for temporary use of EZ-MUD to unstick drill tools

Mark,

NMED approves the temporary use of EZ-MUD drilling fluid in well R-3 as described in your e-mail below. Please provide e-mail updates on the progress of drilling activities at R-3, specifically on the status of removal/cleanup of introduced EZ-MUD.

Thank you,
Jerzy Kulis
Environmental Scientist
Hazardous Waste Bureau
New Mexico Environment Department
2905 Rodeo Park Drive East, Bldg 1
Santa Fe, NM 87505-6303
Phone: 505-476-6039
Fax: 505-476-6030

From: Everett, Mark C [mailto:meverett@lanl.gov]
Sent: Thursday, April 29, 2010 11:42 AM
To: Kulis, Jerzy, NMENV
Cc: Dale, Michael, NMENV; Cobrain, Dave, NMENV; Ball, Theodore T; Shen, Hai; Whitacre, Thomas J; Lynnes, Kathryn D
Subject: R-3: request for temporary use of EZ-MUD to unstick drill tools

Jerzy,

5/4/2010

I am writing to request the temporary use of EZ-MUD drilling fluid to aid in getting drill tools unstuck at R-3. The target depth of the hole is 1100 ft and the top of the regional aquifer is expected at 647 ft. So far we have drilled a pilot hole to 600 ft which sloughed back in to 528 ft. Since the formation is unstable at this location we are now reaming out the hole with a 23 in. bit. The bit became stuck at 117 ft within a basalt sequence. The drillers have tried using a top-hole hammer to loosen the tools without success. The drillers now recommend adding EZ-MUD to the drilling fluids to increase lubricity. We will use the EZ-MUD to get the tools unstuck and will then return to using AQF-2 foam only. As we drill down from the current depth we will continually clean out the hole with drill fluids and cuttings. Once we reach the maximum depth with the 23 in. bit (~500 ft), and before landing drill casing to seal off the hole, we will evaluate the need for additional cleaning out of the EZ-MUD. If the drill fluid returns appear to be free of EZ-MUD we will land the 18 in. casing to seal off the perched water encountered and the introduced EZ-MUD. If residual EZ-MUD is present, we will continue to circulate the hole until it is cleared out. Please respond to this e-mail with your concurrence or any additional questions or points of clarification.

Thanks,

Mark Everett, PG
Drilling Project Technical Lead
EP-WSP
LANL
(505) 667-5931 (office)
(505) 231-6002 (mobile)

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