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**Kulis, Jerzy, NMENV**

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**From:** Kulis, Jerzy, NMENV  
**Sent:** Monday, September 12, 2011 4:52 PM  
**To:** 'Everett, Mark C'; Dale, Michael, NMENV; Cobrain, Dave, NMENV  
**Cc:** Shen, Hai; Woodworth, Lance A; Ball, Theodore T  
**Subject:** RE: Revision to annular fill: Well R-62 schematic and plan

Mark,

NMED approves your proposal to entomb the dropped 12-inch casing in R-62 borehole as presented in the e-mail below, with the following modification.

LANL must retag the dropped 12-inch casing before grouting it. If tagging indicates that the top of the dropped casing is more than 50 feet below ground surface, LANL must adjust the interval that will be cemented so at least 350 feet of the dropped casing is cemented to the borehole wall.

Please let me know if you have any questions.

Jerzy Kulis  
Environmental Scientist  
Hazardous Waste Bureau  
New Mexico Environment Department  
2905 Rodeo Park Drive East, Bldg 1  
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**From:** Everett, Mark C [<mailto:meverett@lanl.gov>]  
**Sent:** Monday, September 12, 2011 3:49 PM  
**To:** Dale, Michael, NMENV; Kulis, Jerzy, NMENV; Cobrain, Dave, NMENV  
**Cc:** Shen, Hai; Woodworth, Lance A; Ball, Theodore T  
**Subject:** Revision to annular fill: Well R-62 schematic and plan

Dave, Michael, and Jerzy,

Based on our discussion I contacted the drilling subcontractor about using cement to help secure the 12 inch casing. They agreed and will:

- Remove the 16 inch casing
- Pump bentonite grout outside of the 12 inch casing up to 400 feet below ground surface
- Pump cement from 400 feet bgs up to ground surface

The drill crew tagged the top of the 12 inch casing yesterday at 50 feet bgs and will retag today before continuing with well construction. We will collect a natural gamma log upon completion to document the location of annular materials including the 12 inch casing.

Please respond with your concurrence or give me a call to discuss.

Thanks,

Mark Everett, PG  
ADEP ET-EI  
Los Alamos National Laboratory

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(505) 667-5931

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**From:** Everett, Mark C  
**Sent:** Monday, September 12, 2011 1:36 PM  
**To:** 'Dale, Michael, NMENV'; 'Kulis, Jerzy, NMENV'; Cobrain, Dave, NMENV  
**Cc:** Shen, Hai; Woodworth, Lance A; Ball, Theodore T  
**Subject:** FW: Well R-62 schematic and plan

Michael,

During construction of the R-62 well the 12" drill casing dropped 50' into the annular seal (see attached diagram). The bottom of the dropped casing (1,004') is entombed in bentonite 146' above the transition sand which overlies the filter pack and is also 134' above the regional aquifer (1,138'). We can get a tool to pull the 12"; however, the stainless steel well casing may come with it. We recommend leaving the drill casing in place and ensuring the function of the well by implementing the steps as outlined below. Please review our proposal and get in touch with me to discuss further, if needed. Otherwise, please respond to this e-mail concurring with our plan to leave the 12" casing in place.

Thanks,

Mark Everett, PG  
ADEP ET-EI  
Los Alamos National Laboratory  
(505) 667-5931

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**From:** Richard Knapp [<mailto:richard.knapp@eberlineservices.com>]  
**Sent:** Monday, September 12, 2011 12:31 PM  
**To:** Reynolds, Robin P; Gard, Marvin O; Anderson, David W; Ball, Theodore T; Everett, Mark C  
**Cc:** Veronica Ybarra; Barbara Everett; Bernie Bockisch  
**Subject:** Well R-62 schematic and plan

Robin,

I've attached a figure Bernie made which shows the location of the 12-in. casing in relation to the well screen, bentonite, etc.

If allowed to leave the 12-in. casing in place we would perform the following steps to ensure a good seal for the well:

- Fill the interior of the 12-inch (in.) diameter casing with 3/8-in. bentonite chips to the top of the casing
- Retract the 16-in. diameter casing. We believe we can retract this casing because it was free when we placed the casing within the bentonite seal that was placed at 678 feet (ft) below ground surface. (In the event that we cannot retract the 16-in. casing, we would pump bentonite grout behind the 16-inch casing. Bentonite grout is a granular type of bentonite that is mixed in a slurry and pumped down hole. It does not contain any cement.)
- Once the 16-in. diameter casing is retracted, a tremie pipe would be placed in the annular space between the borehole wall and the 12-in. diam. casing. This annular space would be filled with bentonite grout to the top of the 12-in. casing.
- The 20-in. casing would be retracted.
- The well would be cemented from the top of the 12-in. casing to ground surface.

Please let me know if you have any questions.

Richard

Richard Knapp  
Project Manager

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PROJECT T2-60 PROJECT NO. \_\_\_\_\_  
 SUBJECT 12" CASING INTERRELATIONSHIP BY B. BOCKISCH DATE 9/12/11  
TO WELL CASING AND BENTONITE SEAL REVIEWED BY Richard Knapp DATE \_\_\_\_\_

WELL CONSTRUCTION  
 TOP OF SCREEN: 1158.4  
 BOTTOM OF SCREEN: 1179.1  
 BOTTOM OF WELL: 1189.7

