

# STATE OF COLORADO

## DIVISION OF RECLAMATION, MINING AND SAFETY

Department of Natural Resources

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### INTEROFFICE MEMORANDUM

John W. Hickenlooper  
Governor

Mike King  
Executive Director

Loretta E. Piñeda  
Director

**TO:** Marcia Talvitie

**FROM:** Mike Boulay MB

**DATE:** August 13, 2013

**SUBJECT:** Western Fuels-Colorado, New Horizon North Mine (Permit No. C-2010-089),  
Well Abandonment Information Request

Per your request I have reviewed the e-mail correspondence from Doug White of Western Fuels-Colorado (WFC). As stated in his e-mail, WFC is seeking direction from the Division as to the requirements for removal and/or abandonment of water monitoring locations GW-N8, GW-N9, and GW-N3 whose monitoring is currently suspended. I have the following guidance and comments that you may forward directly to WFC.

Regarding WFC's questions concerning the permanent sealing of three groundwater monitoring wells at the NHN Mine, I agree with abandoning GW-N8 and GW-N9. Our current NHN groundwater monitoring plan provides good coverage at these locations. For GW-N3, I would like to have WFC do a little more research about its well construction. During the NHN permitting process we had several discussions concerning the best location and accessibility for downgradient monitoring wells. GW-N3 may provide an additional suitable downgradient monitoring location at some point in the future which could prove valuable. However, like Doug White indicated I also could not locate well construction information for this well. There is some information in the current permit for GW-N8 and GW-N9; they are both completed in the Overburden and Dakota Coal. They both have been completed to water and exhibit static water levels. We know that GW-N8 is completed to 100 feet and GW-N9 is 72.5 ft. deep, but no other completion information is available that I can locate. With some research I think they may be available to find well completion logs or other helpful information for these three wells (NH1 permit document or other files).

With regard to GW-N8 which will be mined through the concern is that the constructed well may extend below the lowest coal seam mined. It will depend on the wellhead surface elevation and thickness of overburden but with a depth of 100 ft. it may extend below the coal. Our rules require that boreholes or other underground openings extending deeper than the stratigraphic section mined through will be sealed below the stratigraphic section to be mined through. This precaution prevents the mined out borehole from acting as a potential conduit for groundwater migration from the overlying mined out section. This may be particularly important here because 90% of the

domestic wells in the adjacent area are completed in the Morrison Formation beneath the coal. GW-N9 will not be mined through so it just needs proper abandonment.

Finally the approach outlined in Doug White's August 12, 2013 e-mail to you will not satisfy the requirements of Rule 4.07 for permanent sealing of these wells. WFC proposed approach as stated *"Our recommended approach would be backfilling with 3/8" bentonite chips, and sakrete for the top 10 feet to surface"* will not suffice. Since these wells are completed to water and exhibit static water levels they need to be permanently sealed according to 4.07.3 (2) and proof of compliance submitted within 60 days after abandonment.

**Please request that WFC review all of their available information and permit files before they proceed with permanent sealing and provide the DRMS with all well completion information that they have for these three wells. Also DRMS would like to review WFC's final plans and abandonment procedures for each of these wells prior to commencing the work.**

Please let me know if you have questions or if I can be of further assistance.

C: DRMS Denver File