

COMMENTS TO NPDES PERMIT RENEWAL Gibraltar Rock Quarry, New Hanover Township

COMMENTS PRESENTED AT PUBLIC HEARING
MARCH 29, 2016

NEW HANOVER TOWNSHIP, MONTGOMERY COUNTY, PA

Toby J. Kessler, P.G. – Hydrogeologist
Gilmore & Associates, Inc.



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Purpose: this presentation evaluates the potential impacts of the Hoff VC site and Gibraltar Rock quarry on drinking water quality in New Hanover Township.

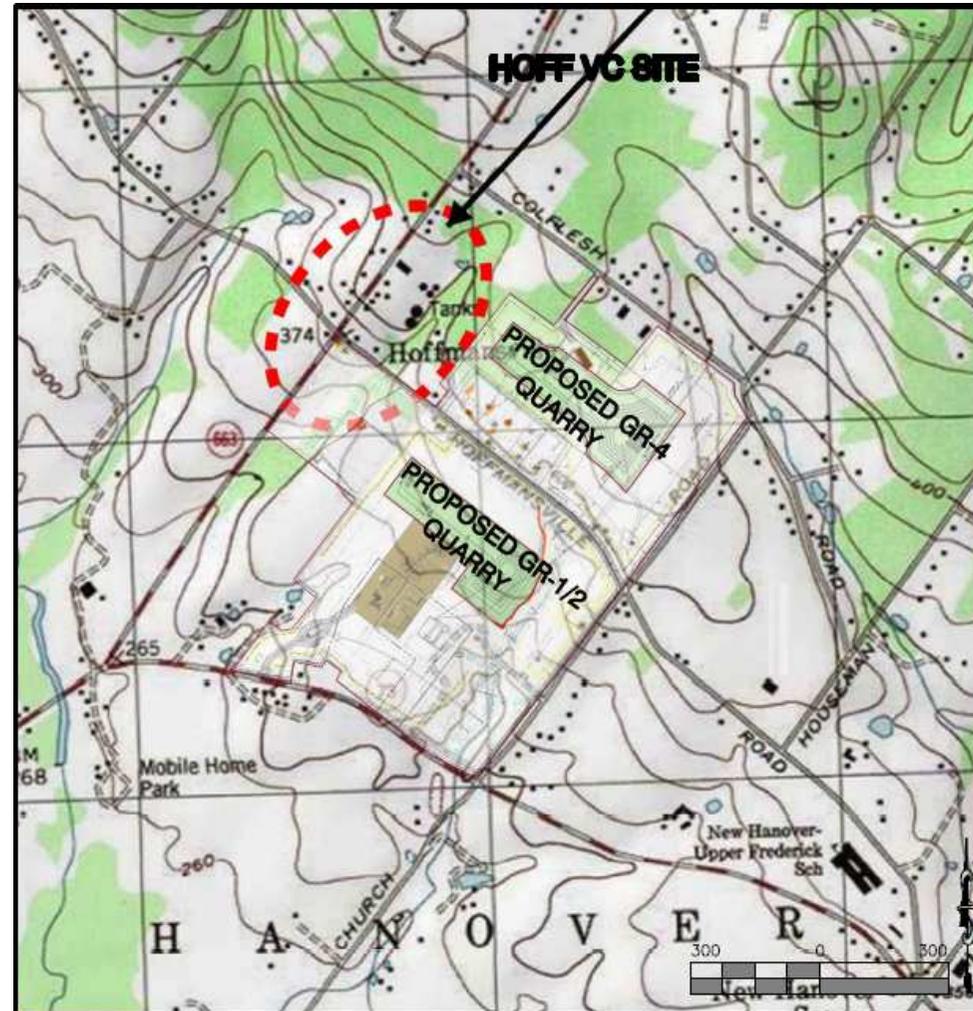
Disclaimer: G&A's review focused on hydrogeologic evaluation and did not include all aspects of permitting associated with the Gibraltar Rock quarry. Mapping shown in this presentation was derived from information provided by Gibraltar Rock to New Hanover Township, PADEP file review, and published reports.



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Location

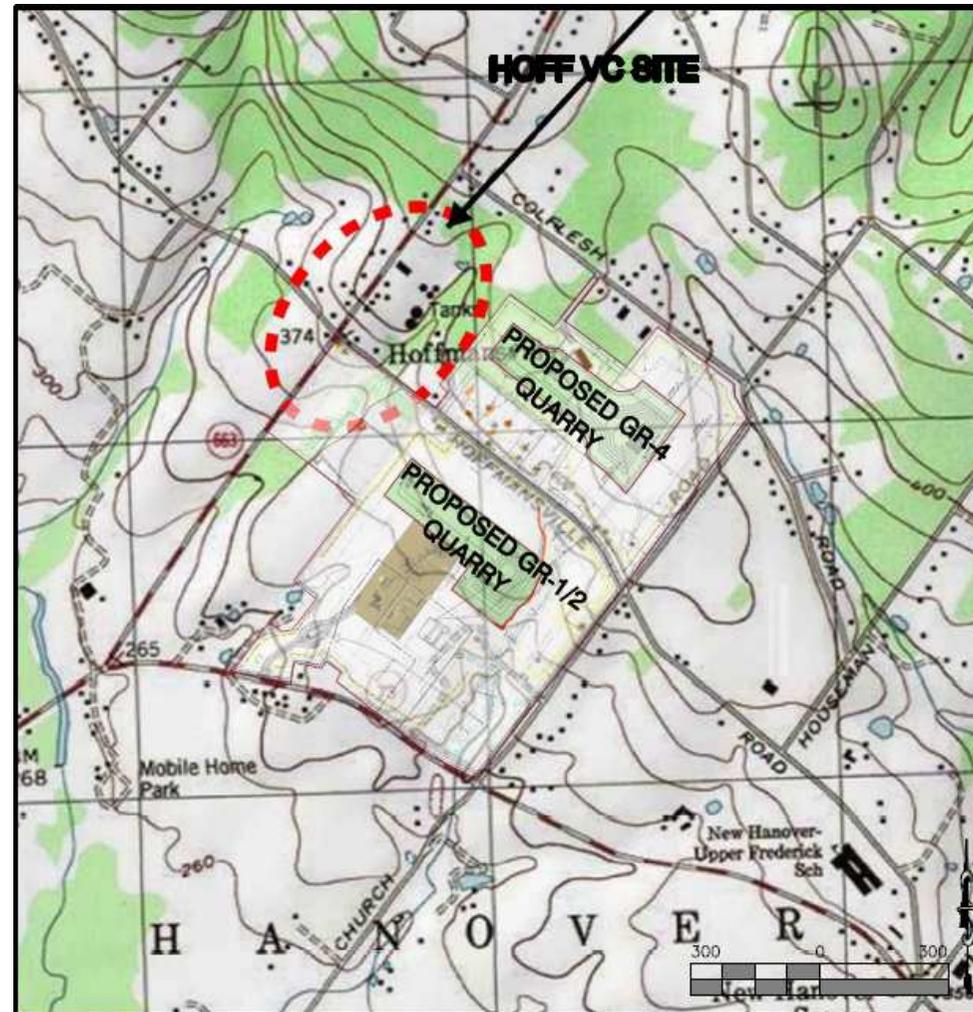
- Gibraltar Rock Quarry is adjacent to the Hoff VC Contaminated Site.
- Two quarry areas are shown: GR-1/2 and GR-4.
- Hoff VC site area is approximate based on extent of groundwater contamination.



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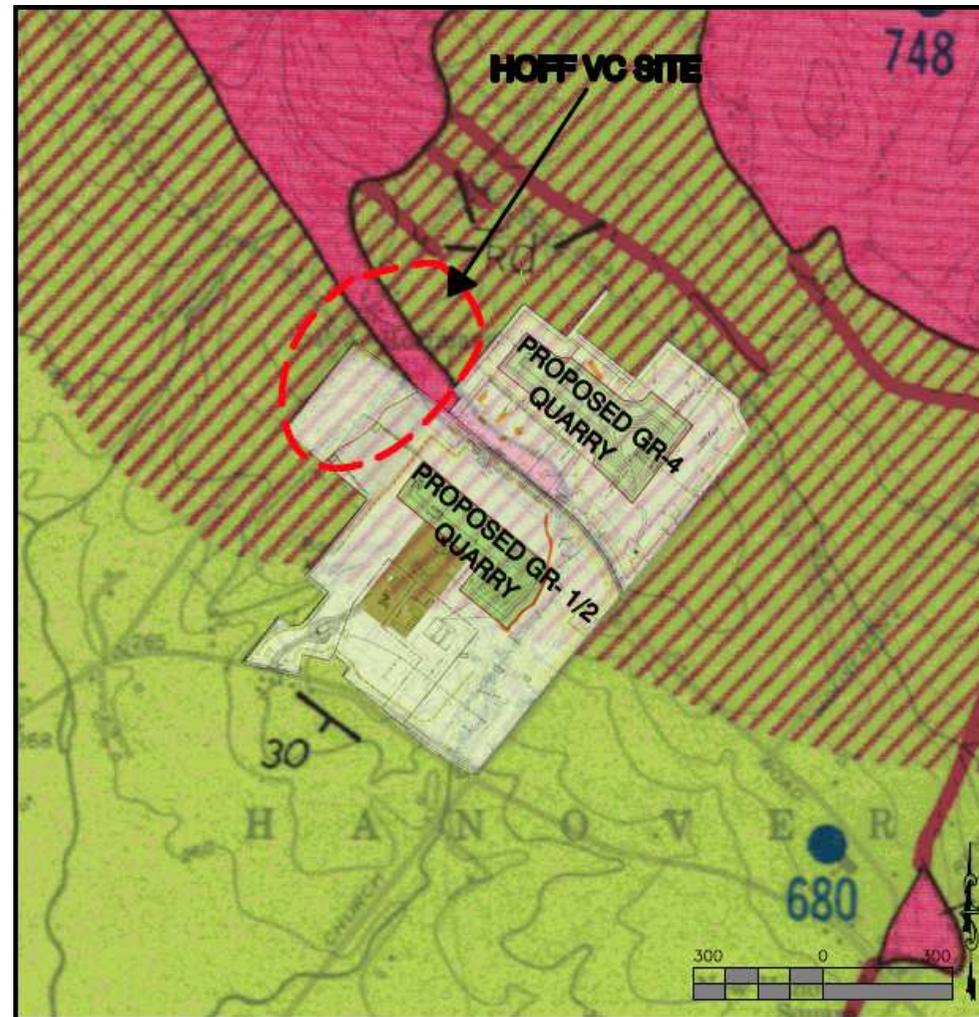
- Hoff VC site contamination was reportedly caused by Swann Oil, Good Oil, and tenants.
- Underground and Aboveground storage tanks were removed by owner.
- PADEP is now taking action under the Hazardous Sites Cleanup Program.



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Geology

- Groundwater moves through underlying bedrock, consisting of Brunswick Formation, Diabase and Hornfels.
- Proposed Gibraltar Quarry is along geologic strike of Hoff VC site.



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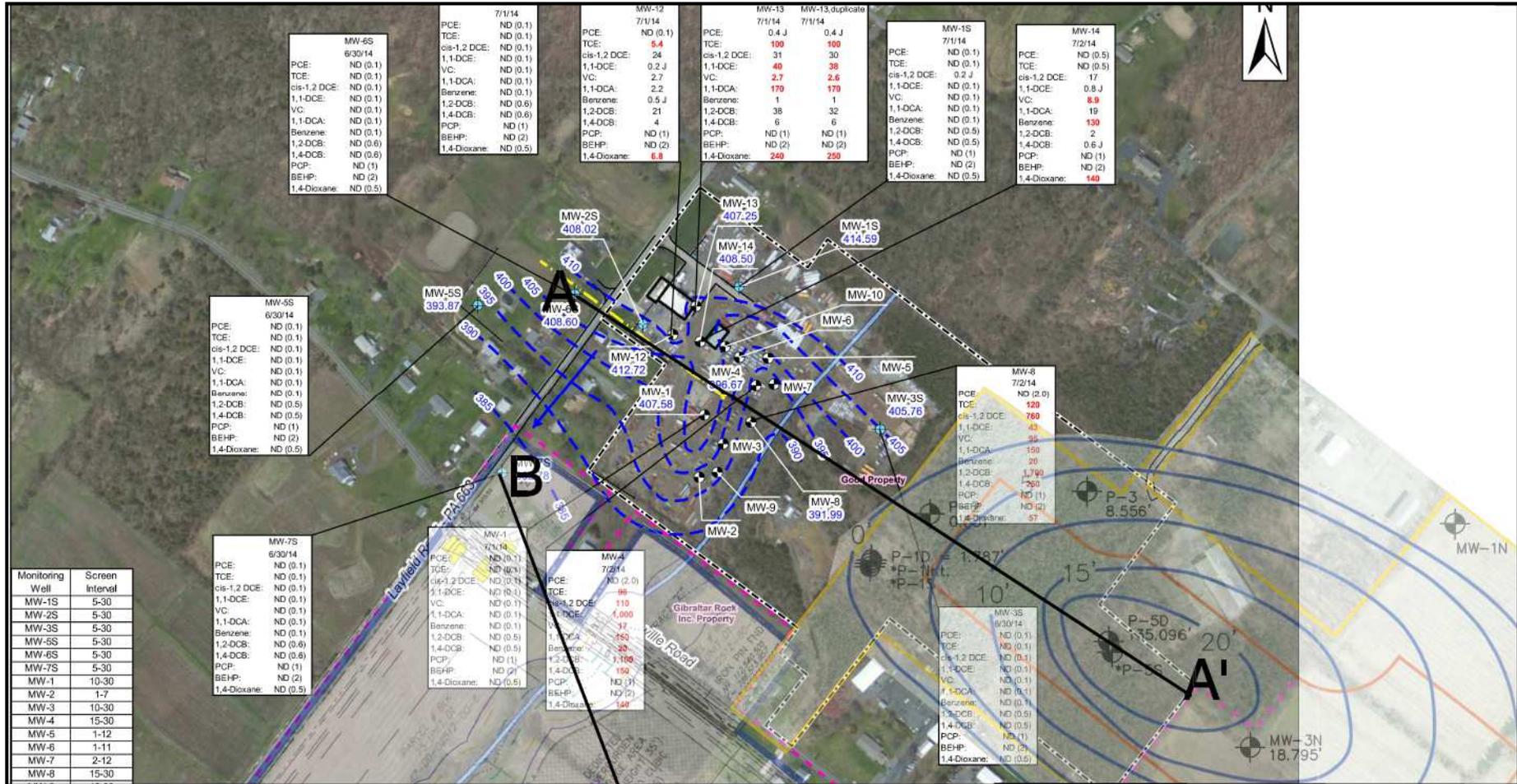
Private Well Sampling Map

- **Private Well Sampling (2012-2013) is shown adjacent to areas proposed for Gibraltar Rock quarry.**
- **Properties with contaminated wells based on the sampling have been connected by PADEP to public water supply.**
- **No background sampling of private wells for Hoff VC site contaminants has been performed by Gibraltar in support of the NDPEs Permit Renewal.**

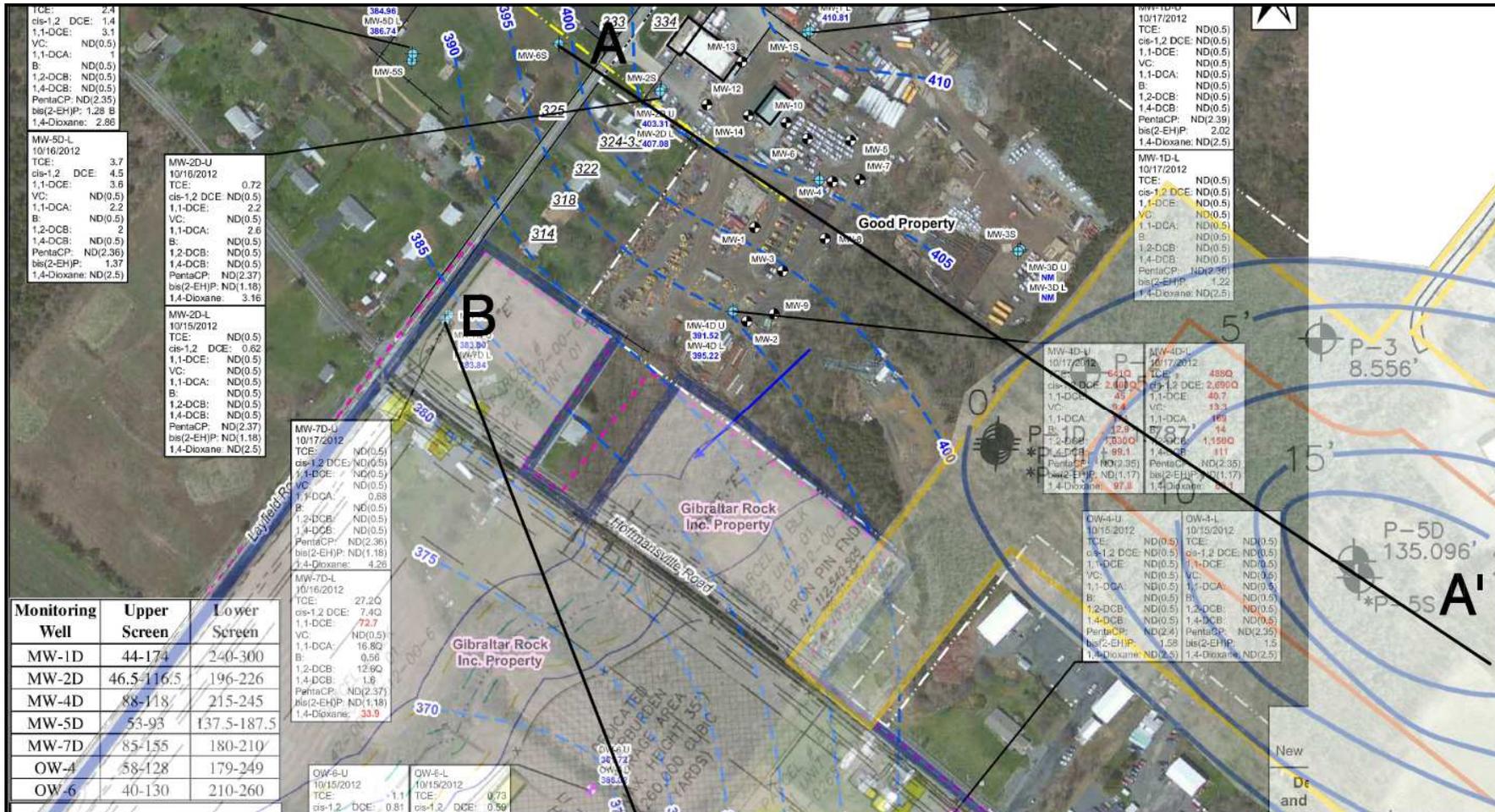


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Shallow Groundwater Sampling Map



COMMENTS TO NPDES PERMIT RENEWAL Deep Groundwater Sampling Map



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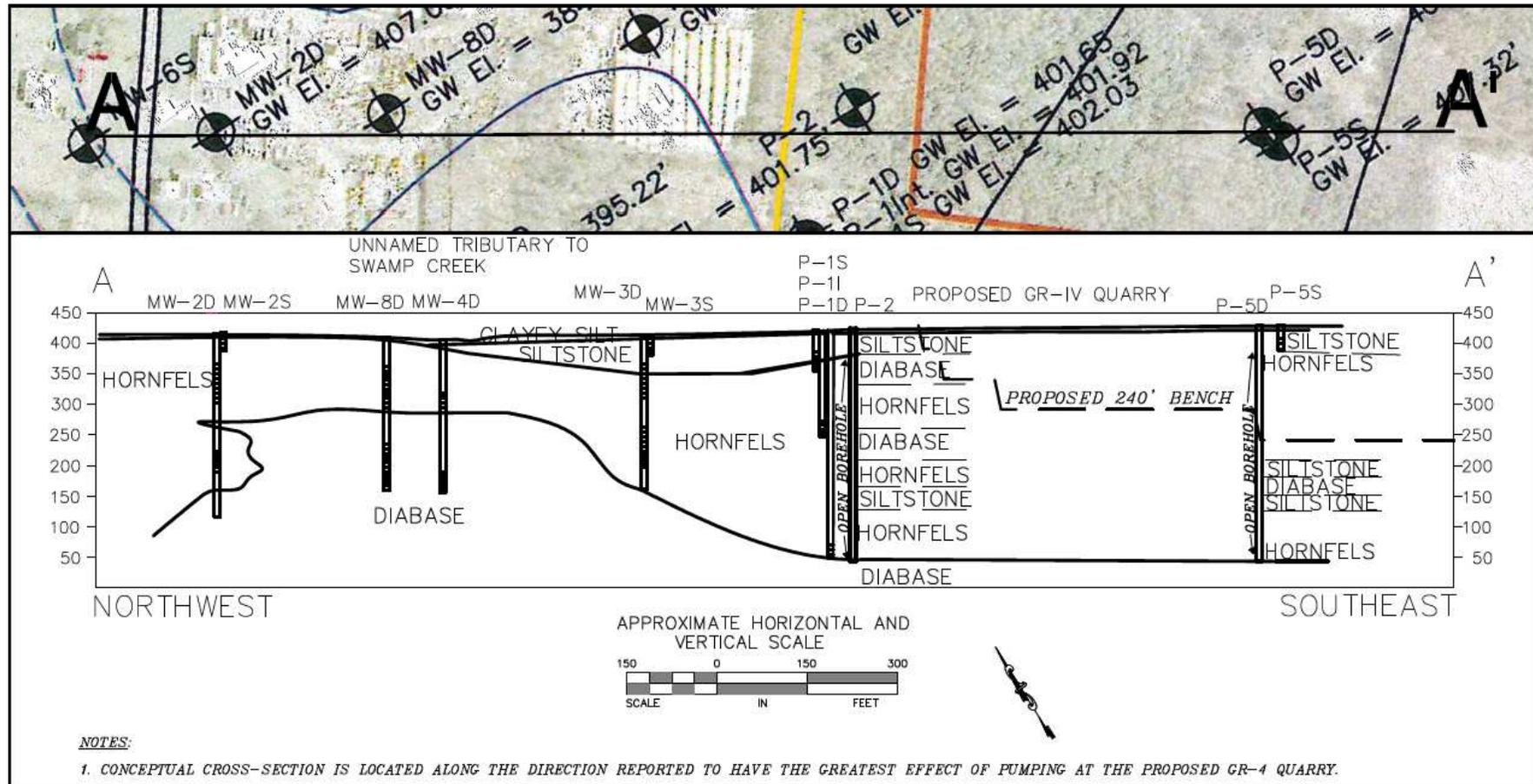
Conceptual Cross Sections

- **Conceptual Cross Sections are shown on the following slides that present potential pathways between the Hoff VC Site and GR Quarry.**
- **Cross Section A-A' trends along the direction reported to be most likely to be influenced by lowering of the water table in the GR-IV zoning application (2016).**
- **Cross Section B-B' trends along direction most likely to be influenced by lowering of the water table in the GR quarry application (2003).**
- **No fate and transport modeling was provided in the NPDES application.**



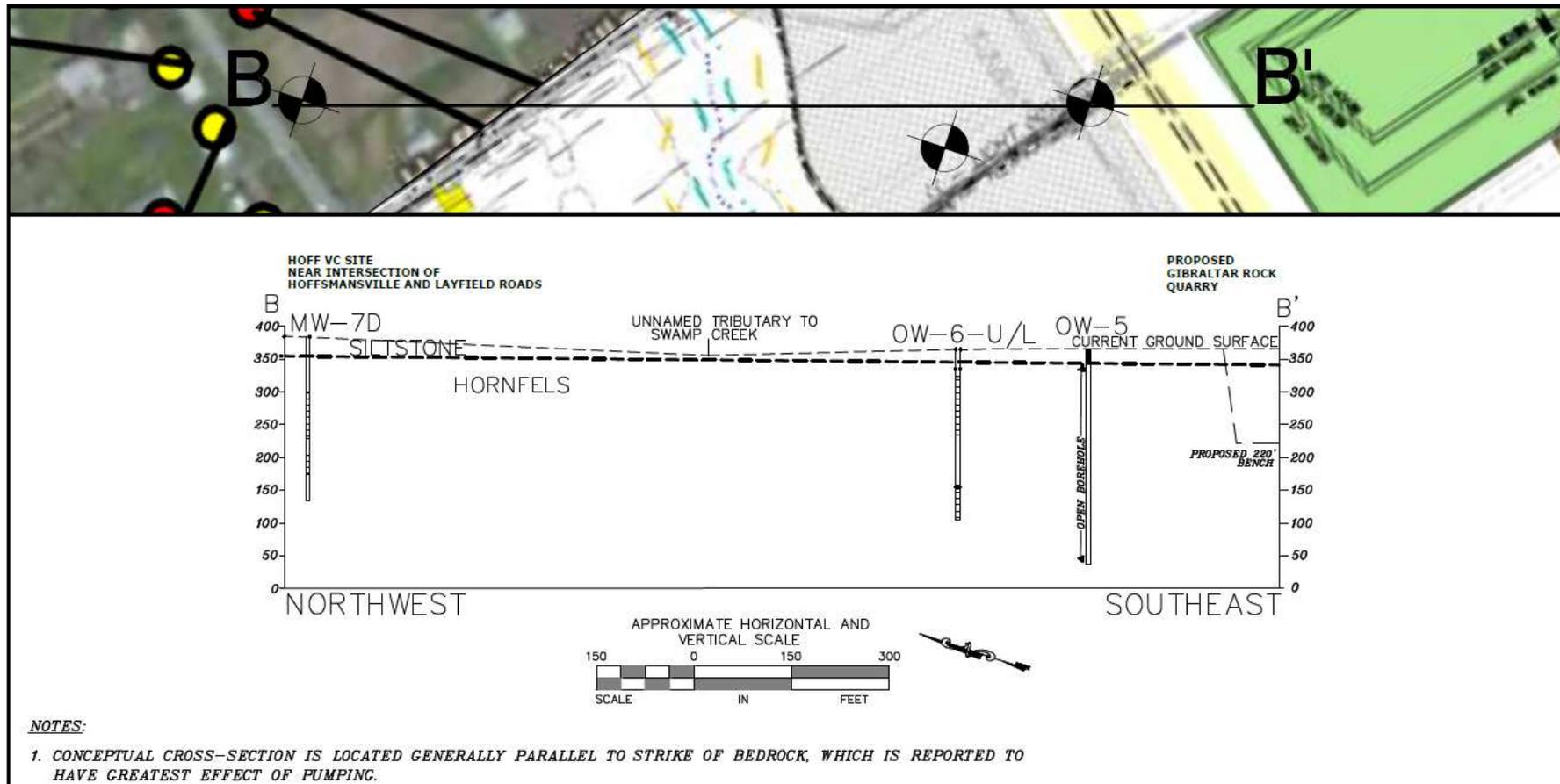
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Cross Section A-A' Geology



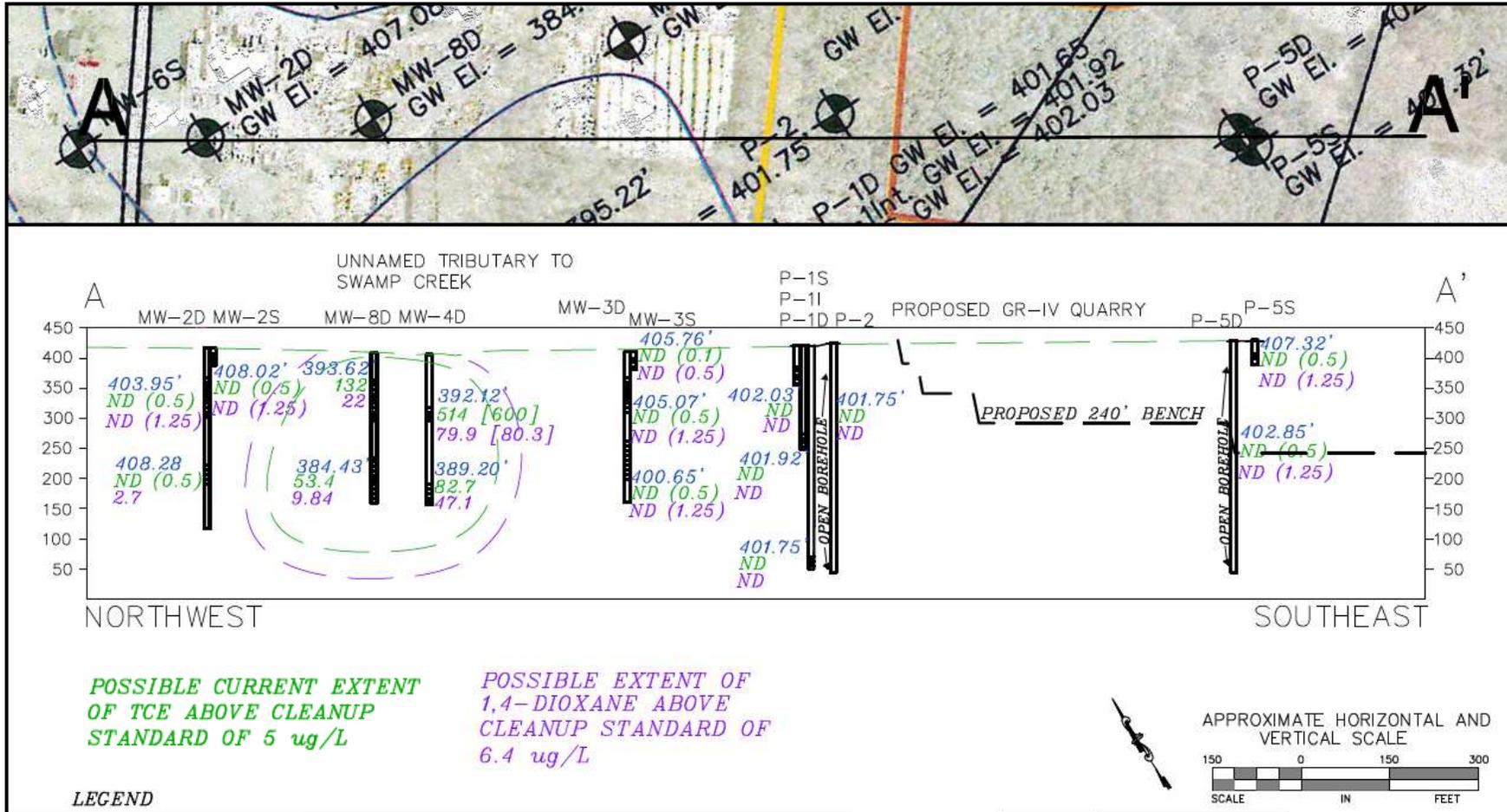
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Cross Section B-B' Geology



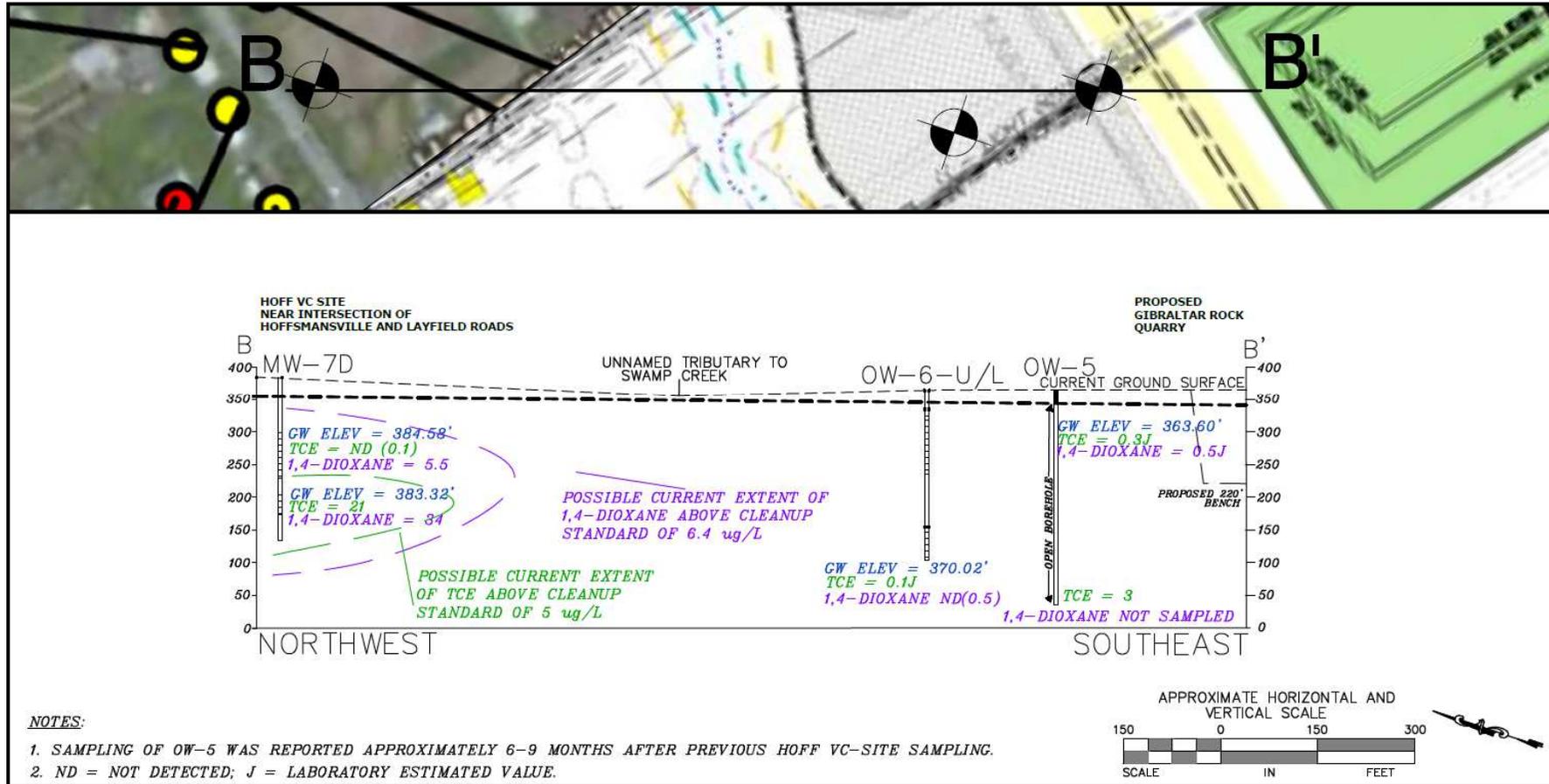
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Cross Section A-A' Sampling Results



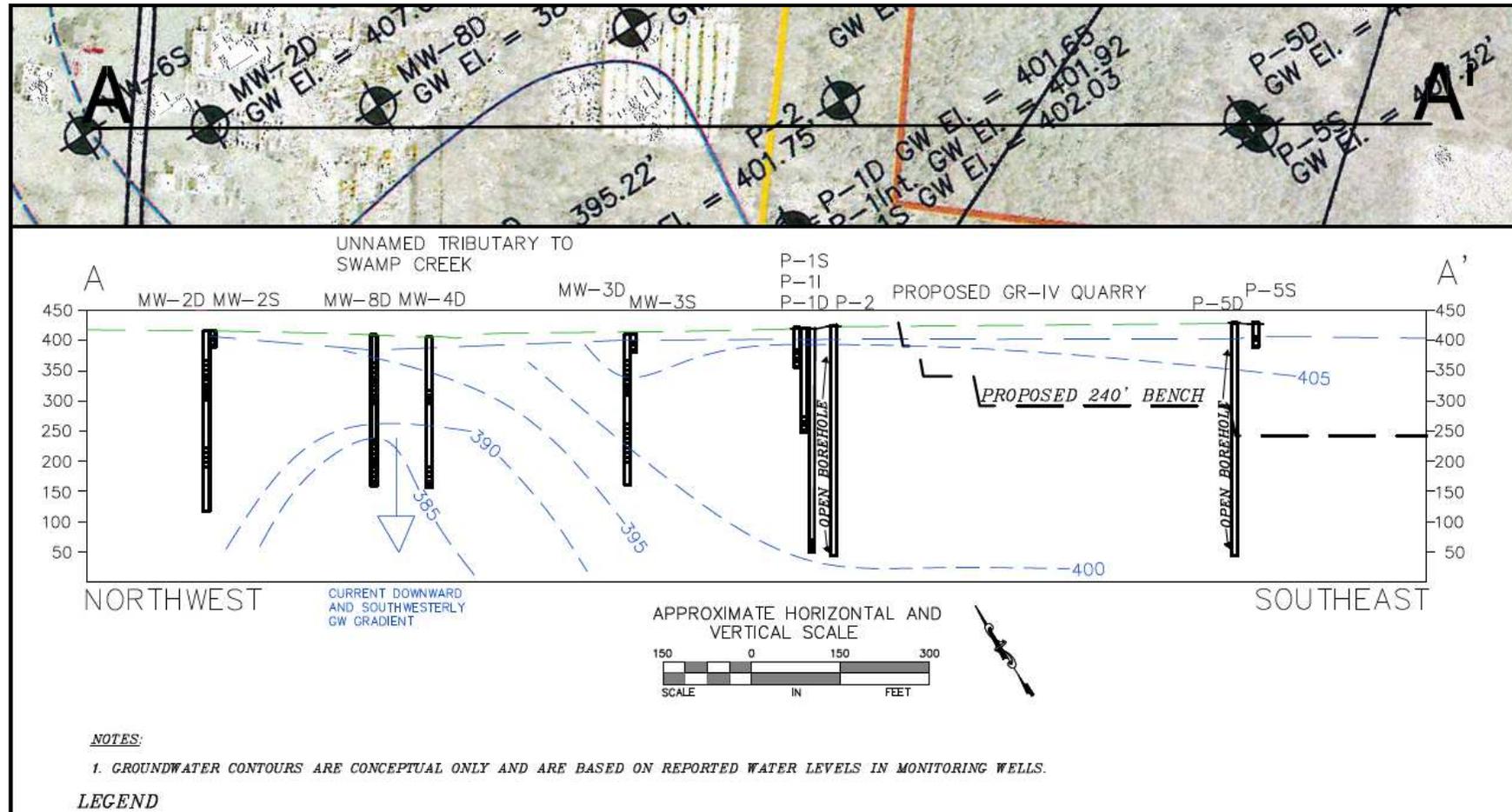
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Cross Section B-B' Sampling Results



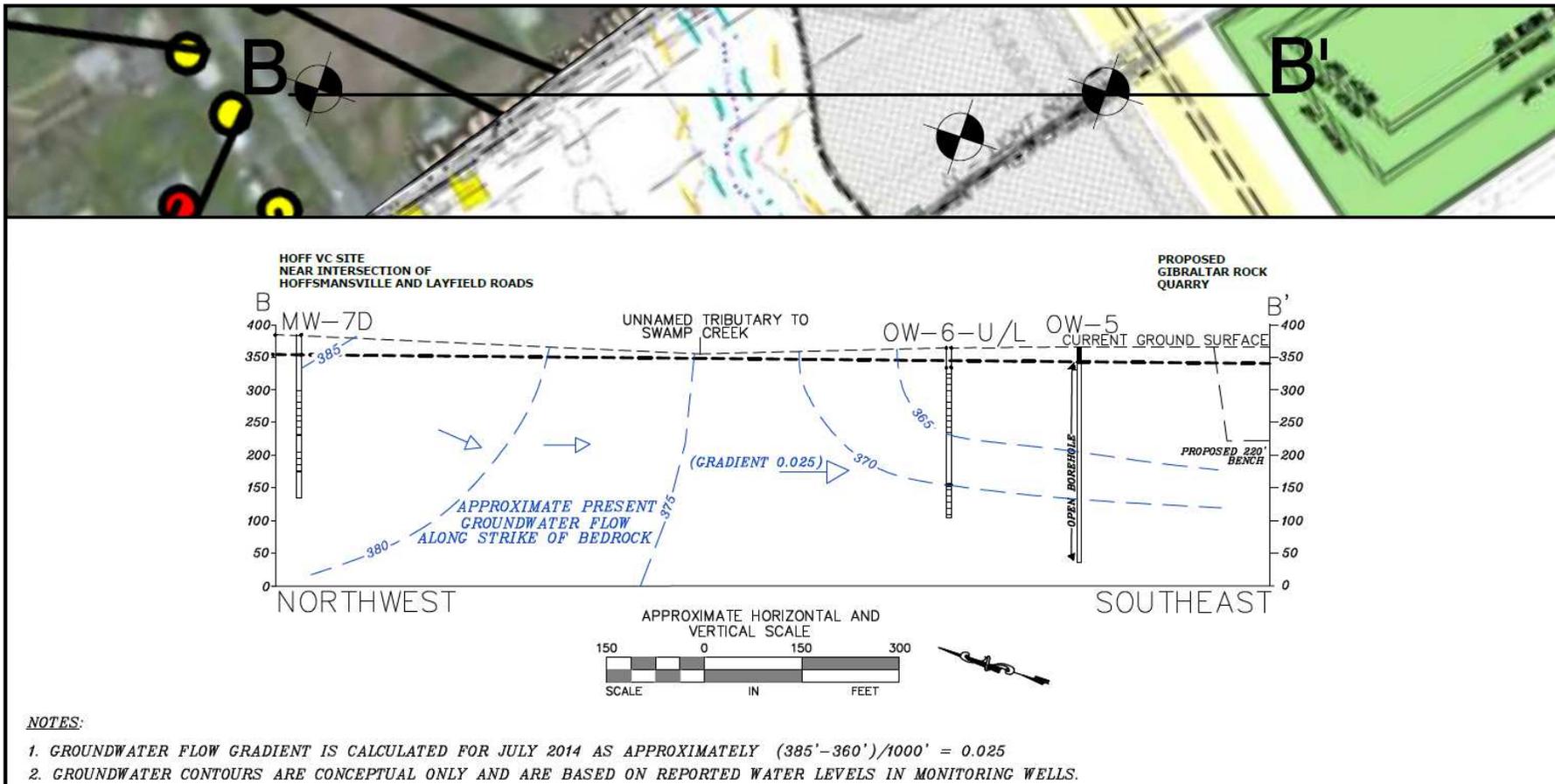
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Cross Section A-A' Conceptual Current Flow



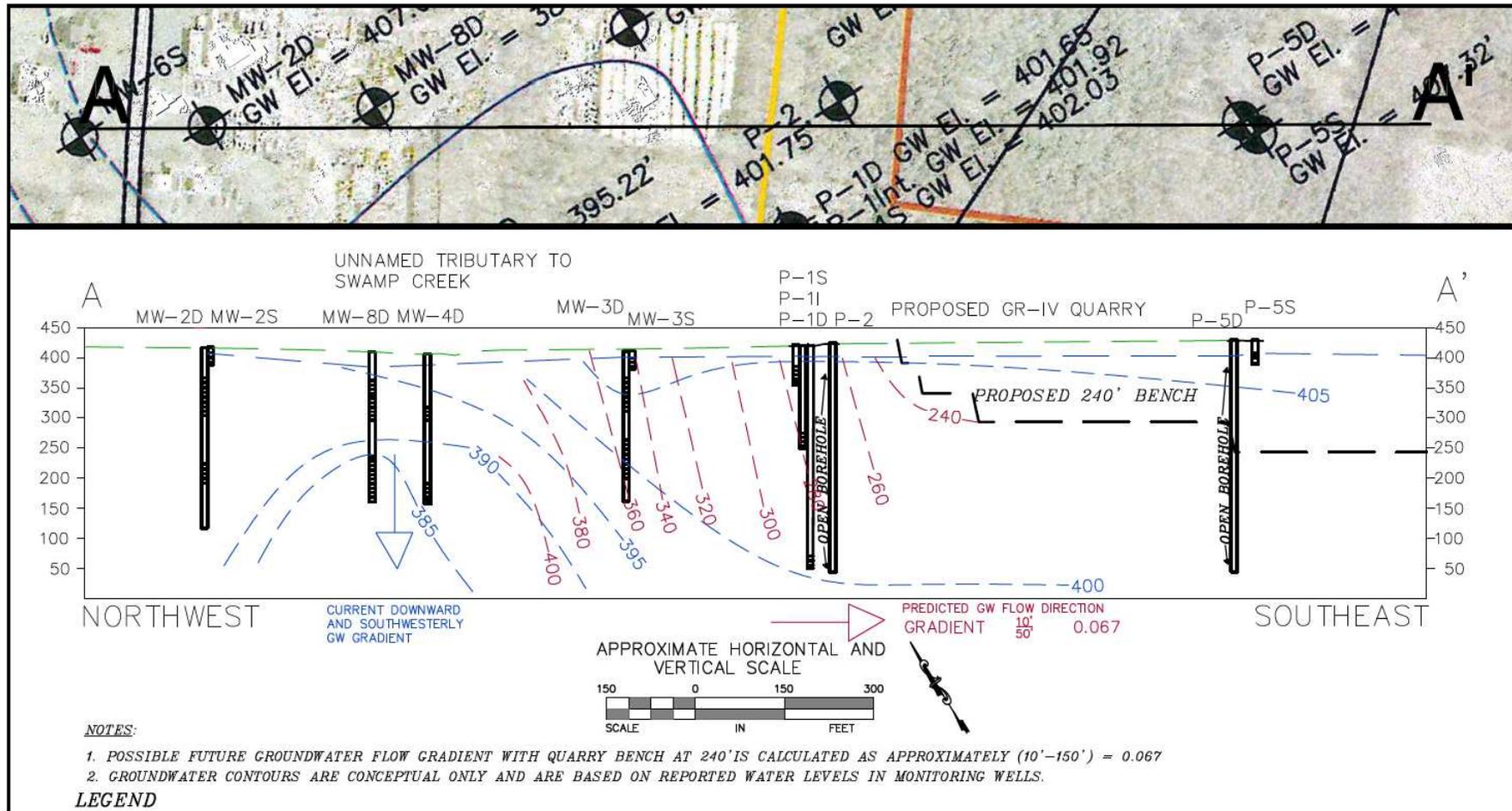
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Cross Section B-B' Conceptual Current Flow



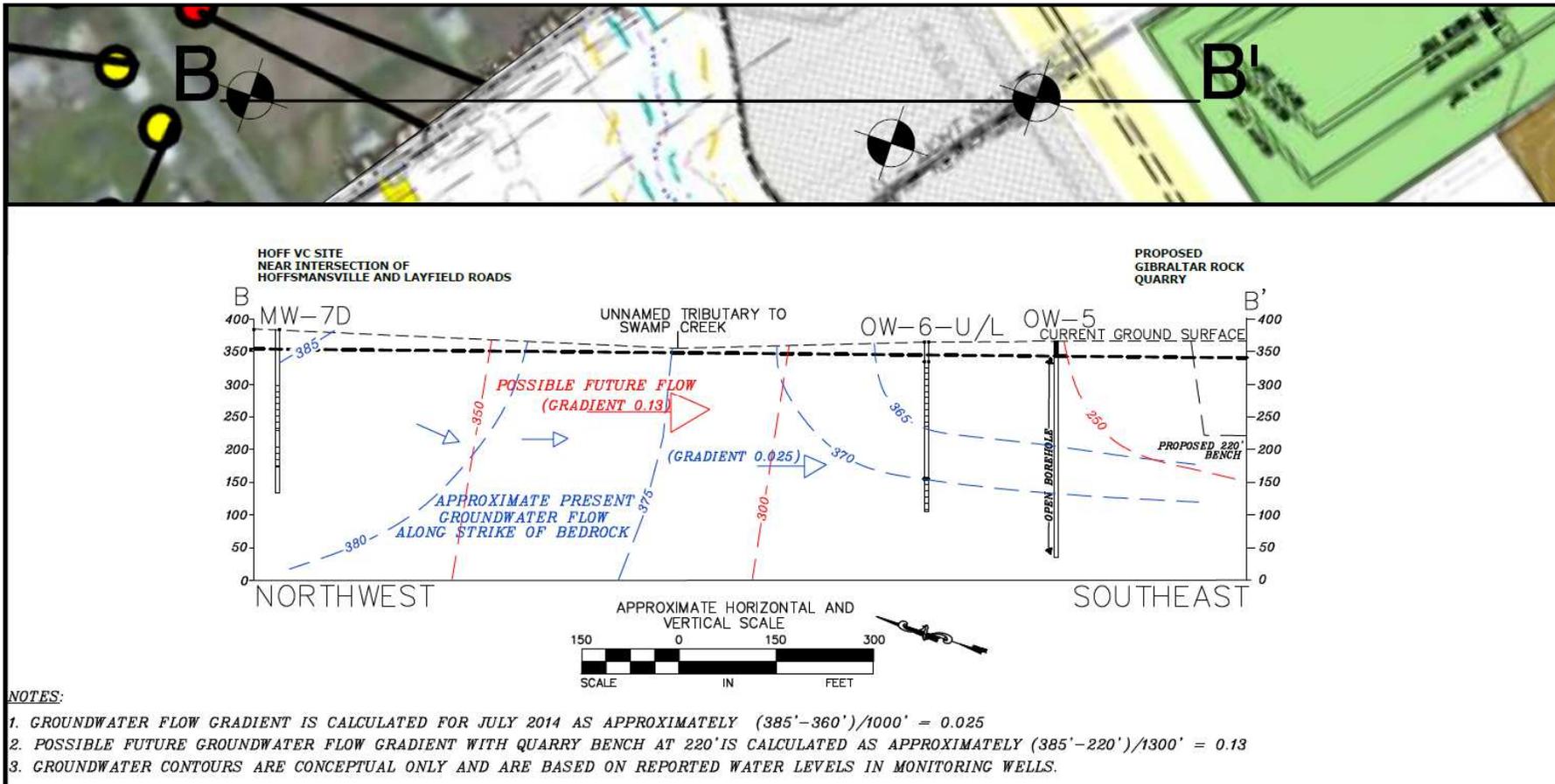
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Cross Section A-A' Conceptual Future Flow



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Cross Section B-B' Conceptual Future Flow



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Conceptual Treatment System

- **Proposed treatment system consists of aeration. This proposal would not work for 1,4-dioxane and other Hoff VC site contaminants, thus putting New Hanover drinking water supplies at risk.**
- **Given that the proposed treatment system may not work, a much more expensive treatment system may be necessary.**
- **Currently there is no assurance that GR has the funds to construct such a treatment system, thereby furthering the risk to groundwater drinking water supplies in New Hanover.**



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Conceptual Treatment System

- **Ambler Borough Whitemarsh Quarry Water Supply provides drinking water.**
- **Treatment for TCE includes air-stripping tower and granular activated carbon.**



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Conceptual Treatment System

- **Bally Superfund Site, Berks County**
- **Record of Decision involving 1,4-dioxane in drinking water 2007.**
- **A new public water supply well was chosen to replace contaminated water supply as the most effective remedial option.**



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Proposed Treatment System

- No discussion in the conceptual treatment plan of how wastes would be handled from the treatment.
- The preparedness, prevention, and contingency plan that was provided in the NPDES renewal application does not address contaminants associated with the Hoff VC site.
- Draft NPDES permit does not provide a discharge limit or detection limit for 1,4-dioxane.



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Conclusions

- Hydrogeologic interpretation indicates that contaminants may travel along preferential flow pathways into the Gibraltar Rock Quarry.
- During low flow periods contaminant concentrations may further increase in the quarry and discharge.
- In the Gibraltar Quarry NPDES permit renewal application, a conceptual treatment plan is provided which would be insufficient to protect drinking water supplies from many Hoff VC site contaminants.

