

Geologic Drill Hole Log & Piezometer As-Built

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|-------------|--------------------------------------|-----------------------|----------------------------------------------------------------|
| Hole No. | 180-31 | Operation Name | Abandoned Nickle Plate Mine "Blowout", McDonald, PA |
| Landowner | Aloe Family Limited Partnership | Contract & OSM # | EP 3555440000-05-01; OSM 63(1441)101.1 |
| Sfc. Elev. | 1053.31 | Drilling Method(Date) | air-rotary; 4 3/4" carbide button bit (04/04/05) |
| Surveyed by | PA DEP, BAMR | Driller(License#) | McKay & Gould Drilling Co.(PA-0592); Mike Hollabaugh (driller) |
| Client | PA DEP, BAMR | Municipality/County | North Fayette Township/Allegheny County |
| Remarks | all dimensions in feet, unless noted | Quadrangle | 7½' Oakdale (PR1990) |
| Logged by | Margaret H. Dunn, PG (PA-000771) | Latitude | 40.37830784 |
| | | Longitude | -80.23000428 |

| Depth | Thick-ness | Scale | Lithology | Graphic Log | "As-Built" | Water Level Data | | | | Comments | | |
|-------|------------|--------|-------------------------------------------------------------|----------------|------------|------------------|------|--------|----------|----------|--------------------------------------------|---------------------------------------------------------------------------------------|
| | | | | | | DTW | WE | Date | Time | | | |
| | | 0 | | | | | | | | | | |
| 0 | 1 | | SBS | | (1) | | | 9.26 | 1046.8 | 04/05/05 | 1225 | (1) "Stick-Up": 2.79; elev. at top = 1056.10 (DTW reported from top of "Stick-Up") |
| 1 | 6 | | clay; lt-brn, dry | | ~x-x | ~x-x | 9.34 | 1046.8 | 04/06/05 | 1805 | WE - rounding discrepancies | |
| | | | | | (2) | | | 9.20 | 1046.9 | 04/07/05 | 1101 | (2) Grout: 0 - 8½ |
| | | | | | x-x~ | x-x~ | 8.89 | 1047.3 | 04/09/05 | 0813 | | |
| | | | | | (3) | __WL__ | | 9.11 | 1047.0 | 04/10/05 | 1026 | (3) Riser: 0 - 9½ |
| | | | | | (4) | | | | | | | (4) Shale trap: @8½ |
| 7 | 11½ | __10__ | coal; v. v. wx (@8 poor air return) | (no chips) | | | | | | | | (5) Screen: 9½ -19½ |
| | | | @13 coal broken; v. muddy (@15 add rod) [Pgh coalbed] | | | | | | | | | |
| 18½ | 1 | | CS [Pgh Seatearth] | | (6) | | | | | | | (Water heard flowing into borehole) |
| 19½ | | __20__ | LS | | | TD 19½ | | | | | | |
| | | __30__ | | | | | | | | | | |
| | | __40__ | | | | | | | | | | |
| | | __50__ | | | | | | | | | | |
| | | __60__ | | | | | | | | | | |
| | | __70__ | | | | | | | | | | |
| | | | | | | | | | | | WELL CONSTRUCTION | |
| | | | | | | | | | | | (1) "Stick-Up" with slip cap: 2" PVC | |
| | | | | | | | | | | | (2) Grout: bentonite (chips) & drill chips | |
| | | | | | | | | | | | (3) Riser: 2", Sch. 40, PVC, threaded | |
| | | | | | | | | | | | (4) Shale trap: 2"x5", bell-shaped, rubber | |
| | | | | | | | | | | | (5) Screen: 20,000" slot, Sch. 40 PVC | |
| | | | | | | | | | | | (6) Slip cap: 2" PVC | |