

APPENDIX 2.5-5

TABLE 2.5-5-1
SUMMARY OF FIELD DERIVED AQUIFER PROPERTIES
SOUTH HEART LIGNITE MINE

Location	Screened Unit	Test Date	Type of Test	Q (gpm)	Number of Tests	Aquifer Parameters					
							T (ft ² /d)	T (cm ² /s)	b (ft)	K (ft/d)	K (cm/s)
SHMW-02C	D-coal	6/26/2007	Slug		6	Average	1.48E+00	1.60E-02	20	7.42E-02	2.62E-05
						Max	2.14E+00	2.30E-02		1.07E-01	3.77E-05
						Min	2.90E-02	3.11E-04		1.45E-03	5.11E-07
SHMW-03S	overburden	6/27/2007	Slug		6	Average	7.83E+01	8.42E-01	20	3.91E+00	1.38E-03
						Max	1.09E+02	1.17E+00		5.45E+00	1.92E-03
						Min	2.35E+01	2.53E-01		1.17E+00	4.14E-04
SHMW-03C	D-coal	6/22/2007	Constant Rate	5.2	1		2.78E+02	2.99E+00	20	1.39E+01	4.90E-03
SHMW-03D	underburden	6/26/2007	Slug		2	Average	2.13E-03	2.30E-05	20	1.07E-04	3.77E-08
						Max	3.29E-03	3.54E-05		1.65E-04	5.81E-08
						Min	9.77E-04	1.05E-05		4.88E-05	1.72E-08
SHMW-04C	D-coal	6/22/2007	Slug		6	Average	4.76E+02	5.12E+00	20	2.38E+01	8.40E-03
						Max	1.01E+03	1.08E+01		5.03E+01	1.78E-02
						Min	3.26E+01	3.51E-01		1.63E+00	5.76E-04
SHMW-04D	underburden	6/23/2007	Constant Rate	2.44	1		6.01E+01	6.46E-01	20	3.00E+00	1.06E-03
SHMW-05C	D-coal	6/25/2007	Slug		4	Average	2.90E+01	3.12E-01	20	1.45E+00	5.11E-04
						Max	5.96E+01	6.41E-01		2.98E+00	1.05E-03
						Min	1.38E+01	1.48E-01		6.90E-01	2.43E-04

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Location	Screened Unit	Test Date	Type of Test	Q (gpm)	Number of Tests	Aquifer Parameters					
							T (ft ² /d)	T (cm ² /s)	b (ft)	K (ft/d)	K (cm/s)
SHMW-05D	underburden	6/25/2007	Slug		2	Average	6.68E+00	7.18E-02	20	2.51E-01	8.85E-05
						Max	7.60E+00	8.17E-02		3.80E-01	1.34E-04
						Min	5.76E+00	6.19E-02		1.22E-01	4.30E-05
SHMW-06C	D-coal	6/25/2007	Slug		2	Average	7.55E+00	8.12E-02	20	3.77E-01	1.33E-04
						Max	1.01E+01	1.09E-01		5.05E-01	1.78E-04
						Min	5.00E+00	5.37E-02		2.50E-01	8.81E-05
SHMW-06D	underburden	6/25/2007	Slug		2	Average	2.17E-01	2.34E-03	20	1.09E-02	3.84E-06
						Max	3.19E-01	3.43E-03		1.60E-02	5.63E-06
						Min	1.16E-01	1.25E-03		5.79E-03	2.04E-06
SHMW-07C	D-coal	6/26/2007	Slug		2	Average	4.81E+01	5.17E-01	20	2.40E+00	8.48E-04
						Max	6.10E+01	6.56E-01		3.05E+00	1.08E-03
						Min	3.51E+01	3.78E-01		1.76E+00	6.20E-04
SHMW-07D	underburden	6/26/2007	Slug		1		9.63E-06	1.04E-07	20	4.81E-07	1.70E-10
SHMW-08C	D-coal	6/26/2007	Slug		6	Average	2.10E+02	2.25E+00	20	1.05E+01	3.70E-03
						Max	3.43E+02	3.69E+00		1.72E+01	6.05E-03
						Min	1.30E+02	1.40E+00		6.52E+00	2.30E-03
SHMW-08D	underburden	6/25/2007	Constant Rate	2.84	1		2.59E+02	2.79E+00	20	1.30E+01	4.57E-03
SHMW-10C	D-coal	6/23/2007	Constant Rate	2.55	1		1.11E+03	1.19E+01	40	2.77E+01	9.79E-03

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							T (ft ² /d)	T (cm ² /s)	b (ft)	K (ft/d)	K (cm/s)
SHMW-10D1	underburden	6/24/2007	Slug		6	Average	9.59E+01	1.03E+00	20	4.80E+00	1.69E-03
						Max	1.58E+02	1.70E+00		7.89E+00	2.78E-03
						Min	4.69E+01	5.05E-01		2.34E+00	8.27E-04
SHMW-10D2	underburden	6/25/2007	Slug		2	Average	5.40E-01	5.81E-03	30	1.88E-02	6.62E-06
						Max	5.65E-01	6.07E-03		1.88E-02	6.64E-06
						Min	5.16E-01	5.54E-03		1.87E-02	6.61E-06
SHMW-12C	D-coal	6/26/2007	Constant Rate	3.86	1		2.12E+02	2.28E+00	20	1.06E+01	3.75E-03
SHMW-12D	underburden	6/24/2007	Slug		1		8.23E-03	8.85E-05	20	4.12E-04	1.45E-07
SHMW-13C	D-coal	6/21/2007 2/24/2007	Slug		2	Average	2.01E-01	2.17E-03	20	1.01E-02	3.55E-06
						Max	3.65E-01	3.92E-03		1.82E-02	6.44E-06
						Min	3.81E-02	4.09E-04		1.90E-03	6.72E-07
SHMW-13S	overburden	6/21/2007 6/22/2007	Slug		2	Average	3.33E-01	3.58E-03	20	1.66E-02	5.87E-06
						Max	3.76E-01	4.05E-03		1.88E-02	6.64E-06
						Min	2.89E-01	3.11E-03		1.44E-02	5.10E-06

Notes:

- Arithmetic mean was used to average values from multiple tests in the same well
- "Q" = flow rate
- "T" = transmissivity
- "b" = aquifer thickness
- "K" = hydraulic conductivity
- "gpm" = gallons per minute
- "ft" = feet
- "cm" = centimeters
- "d" = day
- "s" = second