

**APPENDIX C**

**WELL DEVELOPMENT LOGS**

## Groundwater Well Development Log

Fort McClellan, Alabama



Project Number: 780 State 783/47  
 Form Completed by: Jason Brown  
 Well Developed by (person/firm): Jason Brown/IT

Parcel No.: GSBP-83-MW01  
 Well No.: MW-01  
 Date started: 08/09/99

## Monitoring Well Information

Development Method: Bail Pump  
 Development Equipment: PE Bailor, Whelp pump  
 Casing Diameter: 2"  
 Flush mount or (Stickup): Stickup

Beginning Measurements  
 Depth to Water (ft): 6.81  
 Total depth of Well (ft): 32.8 soft Bottom

**COMPLETED**  
Jason Brown 9/15/99

| Time<br>24hr | Purge<br>Volume<br>(gal)                                              | Water<br>Level (ft)<br>(TOC) | pH<br>(std units) | Conductivity<br>(mS/cm) | Turbidity<br>(NTU) | Dissolved<br>oxygen<br>(mg/L) | Temperature<br>(°C) | Clarity<br>(color) | Comments<br>(Date if different from start date) |
|--------------|-----------------------------------------------------------------------|------------------------------|-------------------|-------------------------|--------------------|-------------------------------|---------------------|--------------------|-------------------------------------------------|
| 14:10        | 4.0                                                                   | 12.90                        | 7.00              | 1.07                    | >1100              | 2.81                          | 21.8                | grey               | Very High Turbidity                             |
| 14:25        | 8.0                                                                   | 15.68                        | 6.88              | 1.17                    | >1100              | 2.17                          | 20.6                | grey               | Very High Turbidity                             |
| 14:39        | 12.0                                                                  | 19.06                        | 6.85              | 1.30                    | >1100              | 2.37                          | 19.8                | grey               | SAME                                            |
| 15:00        | 16.0                                                                  | 21.31                        | 6.82              | 1.89                    | >1100              | 2.98                          | 20.6                | grey               | SAME                                            |
| 15:15        | 18.5                                                                  | 23.97                        | 6.68              | 2.38                    | >1100              | 2.19                          | 20.6                | grey               | SAME                                            |
| 15:20        | Pump has stopped.                                                     |                              |                   |                         |                    |                               |                     |                    |                                                 |
| 15:35        | Pump going again. The wires to the pump broke. They are now repaired. |                              |                   |                         |                    |                               |                     |                    |                                                 |

Parcel No.: GSBP-83  
 Well ID: MW-01  
 Date: 08/09/99

| Time<br>24hr      | Purge<br>Volume<br>(gal) | Water Level<br>(ft) (TOC)                             | pH<br>(std units) | Conductivity<br>(mS/cm) | Turbidity<br>(NTU) | Dissolved<br>oxygen<br>(mg/L) | Temperature<br>(°C) | Clarity<br>(color) | Comments<br>(Date if different from start date) |
|-------------------|--------------------------|-------------------------------------------------------|-------------------|-------------------------|--------------------|-------------------------------|---------------------|--------------------|-------------------------------------------------|
| 15:50             | 21.0                     | 25.60                                                 | 6.65              | 2.43                    | 224                | 2.15                          | 21.6                | lt. grey           | Much less turbidity                             |
| 16:10             | 23.5                     | 26.50                                                 | 6.61              | 2.69                    | 445                | 2.52                          | 21.2                | grey               | more turbidity due to<br>surging the well.      |
| 16:22             | 26.0                     | 28.55                                                 | 6.59              | 2.85                    | 364                | 1.60                          | 20.9                | grey               | same                                            |
| 16:41             | 28.5                     | 28.73                                                 | 6.64              | 2.75                    | 7100               | 2.13                          | 20.6                | grey               | SAME. Recent Surge.                             |
| 16:59             | 31.0                     | 30.15                                                 | 6.63              | 2.90                    | 563                | 2.13                          | 21.0                | grey               | SAME.                                           |
| 17:16             | 33.5                     | 30.64                                                 | 6.63              | 2.84                    | 53                 | 1.57                          | 21.7                | greyish            | Low Flow ~ 0.2 gpm                              |
| 17:29             | 35.0                     | DIRTY. Well continue at a later date. <u>08/09/99</u> |                   |                         |                    |                               |                     |                    |                                                 |
| 08/10/99<br>13:34 | 7.40                     | Have returned to finish up development                |                   |                         |                    |                               |                     |                    |                                                 |
| 13:47             | 36.5                     | not taken                                             | 6.44              | 2.86                    | 475                | 2.45                          | 21.9                | grey               |                                                 |
| 14:03             | 40.5                     | "                                                     | 6.49              | 2.63                    | 596                | 2.90                          | 22.1                | grey               |                                                 |
| 14:18             | 44.5                     | "                                                     | 6.53              | 2.52                    | 380                | 3.42                          | 22.1                | grey               |                                                 |
| 14:36             | 48.5                     | "                                                     | 6.56              | 2.44                    | 196                | 3.47                          | 20.9                | grey               |                                                 |
| 14:51             | 52.5                     | "                                                     | 6.54              | 2.62                    | 256                | 3.09                          | 21.3                | grey               |                                                 |

Parcel No.: GSBP-83  
 Well ID: M4101  
 Date: 08/10/99

| Time<br>24hr | Purge<br>Volume<br>(gal) | Water Level<br>(ft) (TOC) | pH<br>(std units) | Conductivity<br>(mS/cm) | Turbidity<br>(NTU) | Dissolved<br>oxygen<br>(mg/L) | Temperature<br>(°C) | Clarity<br>(color) | Comments<br>(Date if different from start date) |
|--------------|--------------------------|---------------------------|-------------------|-------------------------|--------------------|-------------------------------|---------------------|--------------------|-------------------------------------------------|
| 15:06        | 56.0                     | no level<br>met taken     | 6.51              | 2.66                    | 540                | 2.85                          | 21.8                | grey               |                                                 |
| 15:21        | 59.0                     | "                         | 6.49              | 2.78                    | 104                | 2.86                          | 21.2                | lt. grey           |                                                 |
| 15:36        | 61.0                     | "                         | 6.52              | 2.76                    | 51                 | 2.95                          | 22.2                | almost clear       |                                                 |
| 15:53        | 63.5                     | "                         | 6.59              | 2.79                    | 56                 | 3.46                          | 22.4                | almost clear       |                                                 |
| 16:14        | 65.5                     | "                         | 6.54              | 2.85                    | 68                 | 2.74                          | 22.8                | almost clear       |                                                 |
| 16:31        | 67.5                     | "                         | 6.52              | 2.78                    | 24                 | 2.69                          | 22.4                | almost clear       |                                                 |
| 16:48        | 69.5                     | "                         | 6.52              | 2.89                    | 14                 | 2.72                          | 22.4                | clear              |                                                 |
| :            |                          |                           |                   |                         |                    |                               |                     |                    |                                                 |
| :            |                          |                           |                   |                         |                    |                               |                     |                    |                                                 |
| :            |                          |                           |                   |                         |                    |                               |                     |                    |                                                 |
| :            |                          |                           |                   |                         |                    |                               |                     |                    |                                                 |
| :            |                          |                           |                   |                         |                    |                               |                     |                    |                                                 |
| :            |                          |                           |                   |                         |                    |                               |                     |                    |                                                 |

## Groundwater Well Development Log

Fort McClellan, Alabama

Project Number:

783149

Form Completed by:

JASON BROWN

Well Developed by (person/firm):

JASON BROWN

Parcel No.:

CSBP-83

Well No.:

MW-2

Date started:

08/10/97

## Monitoring Well Information

Development Method:

Wheal Pump Pumping

Development Equipment:

Wheal Pump, Surge Block

Casing Diameter:

2"Flush mount or StickupStickup

Beginning Measurements

Depth to Water (ft):

6.61

Total depth of Well (ft):

18.55

**COMPLETED**  
*J. Brown* 9/15/99

| Time<br>24hr           | Purge<br>Volume<br>(gal) | Water<br>Level (ft)<br>(TOC) | pH<br>(std units) | Conductivity<br>(mS/cm) | Turbidity<br>(NTU) | Dissolved<br>oxygen<br>(mg/L) | Temperature<br>(°C) | Clarity<br>(color) | Comments<br>(Date if different from start date)             |
|------------------------|--------------------------|------------------------------|-------------------|-------------------------|--------------------|-------------------------------|---------------------|--------------------|-------------------------------------------------------------|
| Started at <u>1415</u> |                          |                              |                   |                         |                    |                               |                     |                    |                                                             |
| 14:54                  | 6                        | 9.95                         | 6.50              | 1.99                    | >1100              | 1.08                          | 23.3                | brn, gray          | Very turbid                                                 |
| 15:25                  | 11                       | 13.50                        | 6.41              | 2.07                    | >1100              | 1.11                          | 23.7                | SAME               |                                                             |
| 15:56                  | 17                       | DRY                          |                   |                         |                    |                               |                     |                    |                                                             |
| 16:25                  | 17.5                     | DRY                          | 6.64              | 1.99                    | >1100              | 4.27                          | 24.3                | SAME               | The well had recovered three feet. It pumped dry very fast. |
| 17:02                  | 18.0                     | DRY                          |                   |                         |                    |                               |                     |                    | Using peristaltic pump at slow rate                         |
| 17:18                  | 18.2                     | 16.3                         | 6.50              | 1.98                    | 819                | 4.33                          | 23.4                | Brn, gray          | NONE                                                        |
| 17:30                  | 19.5                     | DRY                          |                   |                         |                    |                               |                     |                    | Stopping for today,                                         |

≈ 3 hour dev

Parcel No.: GSBP-83  
 Well ID: B MW-2  
 Date: 08/11/99

Start 8/11/99 @ 8.71' DTW @ 11:00

| Time<br>24hr      | Purge<br>Volume<br>(gal) | Water Level<br>(ft) (TOC)                         | pH<br>(std units) | Conductivity<br>(mS/cm) | Turbidity<br>(NTU) | Dissolved<br>oxygen<br>(mg/L) | Temperature<br>(°C) | Clarity<br>(color) | Comments<br>(Date if different from start date) |
|-------------------|--------------------------|---------------------------------------------------|-------------------|-------------------------|--------------------|-------------------------------|---------------------|--------------------|-------------------------------------------------|
| 08/11/99<br>11:11 | 20.5                     | 10.01                                             | 6.31              | 1.72                    | >1100              | 4.40                          | 24.3                | gray/brown         | NONE                                            |
| 11:49             | 24.0                     | 13.14                                             | 6.21              | 1.97                    | >1100              | 4.30                          | 23.2                | SAME               | Using a pressure/kick pump                      |
| 12:13             | 27.0                     | 15.32                                             | 6.38              | 2.16                    | >1100              | 3.65                          | 22.8                | SAME               | NONE                                            |
| 12:39             | 29.5                     | DRY                                               |                   |                         |                    |                               |                     |                    |                                                 |
| 4.5               | :                        | No further development completed per instructions |                   |                         |                    |                               |                     |                    |                                                 |
| :                 | :                        | from lead site geologist due to well going dry    |                   |                         |                    |                               |                     |                    |                                                 |
| :                 | :                        | over 3 times. Meets EPA requirement of 3          |                   |                         |                    |                               |                     |                    |                                                 |
| :                 | :                        |                                                   |                   |                         |                    |                               |                     |                    |                                                 |
| :                 | :                        |                                                   |                   |                         |                    |                               |                     |                    |                                                 |
| :                 | :                        |                                                   |                   |                         |                    |                               |                     |                    |                                                 |
| :                 | :                        |                                                   |                   |                         |                    |                               |                     |                    |                                                 |
| :                 | :                        |                                                   |                   |                         |                    |                               |                     |                    |                                                 |
| :                 | :                        |                                                   |                   |                         |                    |                               |                     |                    |                                                 |
| :                 | :                        |                                                   |                   |                         |                    |                               |                     |                    |                                                 |

