

BellBendCOLPEM Resource

From: Sgarro, Rocco R [rrsgarro@pplweb.com]
Sent: Friday, September 18, 2009 8:00 AM
To: Imboden, Stacey; 'Bruce.Mcdowell@pnl.gov'
Cc: 'Beecher, Kimberly A'; 'Perdomo, Federico R'
Subject: FW: BNP-2009-266 - Bell Bend ER RAIs Letter #4 - Part 2 or 5
Attachments: BNP-2009-266 - Bell Bend ER RAIs - Part 2 of 5.pdf

#2 OF 5

Rocky

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From: Beecher, Kimberly A [mailto:Kimberly.Beecher@unistarnuclear.com]
Sent: Thursday, September 17, 2009 5:22 PM
To: Sgarro, Rocco R
Subject: BNP-2009-266 - Bell Bend ER RAIs Letter #4 - Part 2 or 5

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Subject: FW: BNP-2009-266 - Bell Bend ER RAIs Letter #4 - Part 2 or 5
Sent Date: 9/18/2009 7:59:44 AM
Received Date: 9/18/2009 8:00:17 AM
From: Sgarro, Rocco R

Created By: rrrsgarro@pplweb.com

Recipients:

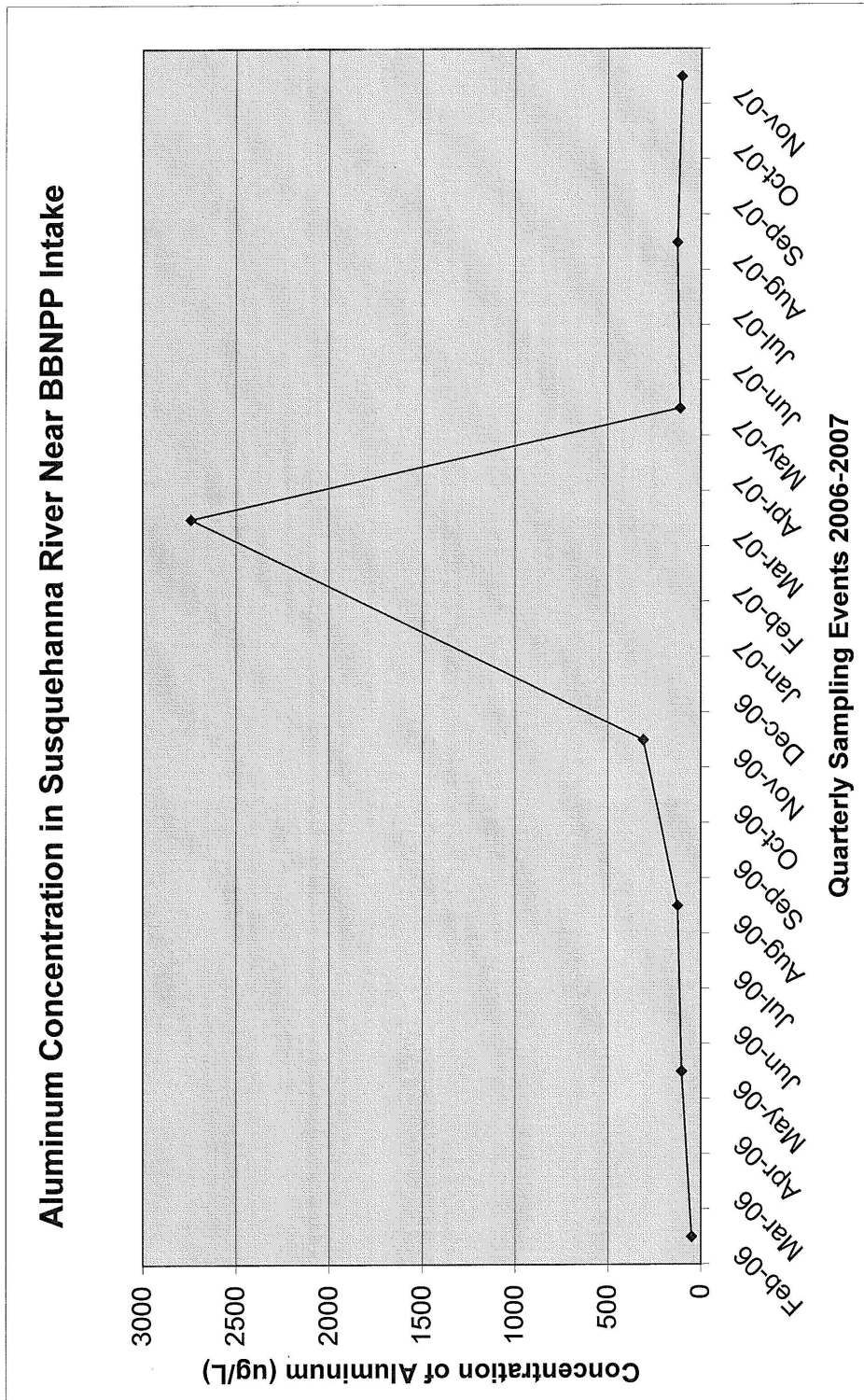
"Beecher, Kimberly A" <Kimberly.Beecher@unistarnuclear.com>
Tracking Status: None
"Perdomo, Federico R" <Federico.Perdomo@unistarnuclear.com>
Tracking Status: None
"Imboden, Stacey" <Stacey.Imboden@nrc.gov>
Tracking Status: None
"Bruce.Mcdowell@pnl.gov" <Bruce.Mcdowell@pnl.gov>
Tracking Status: None

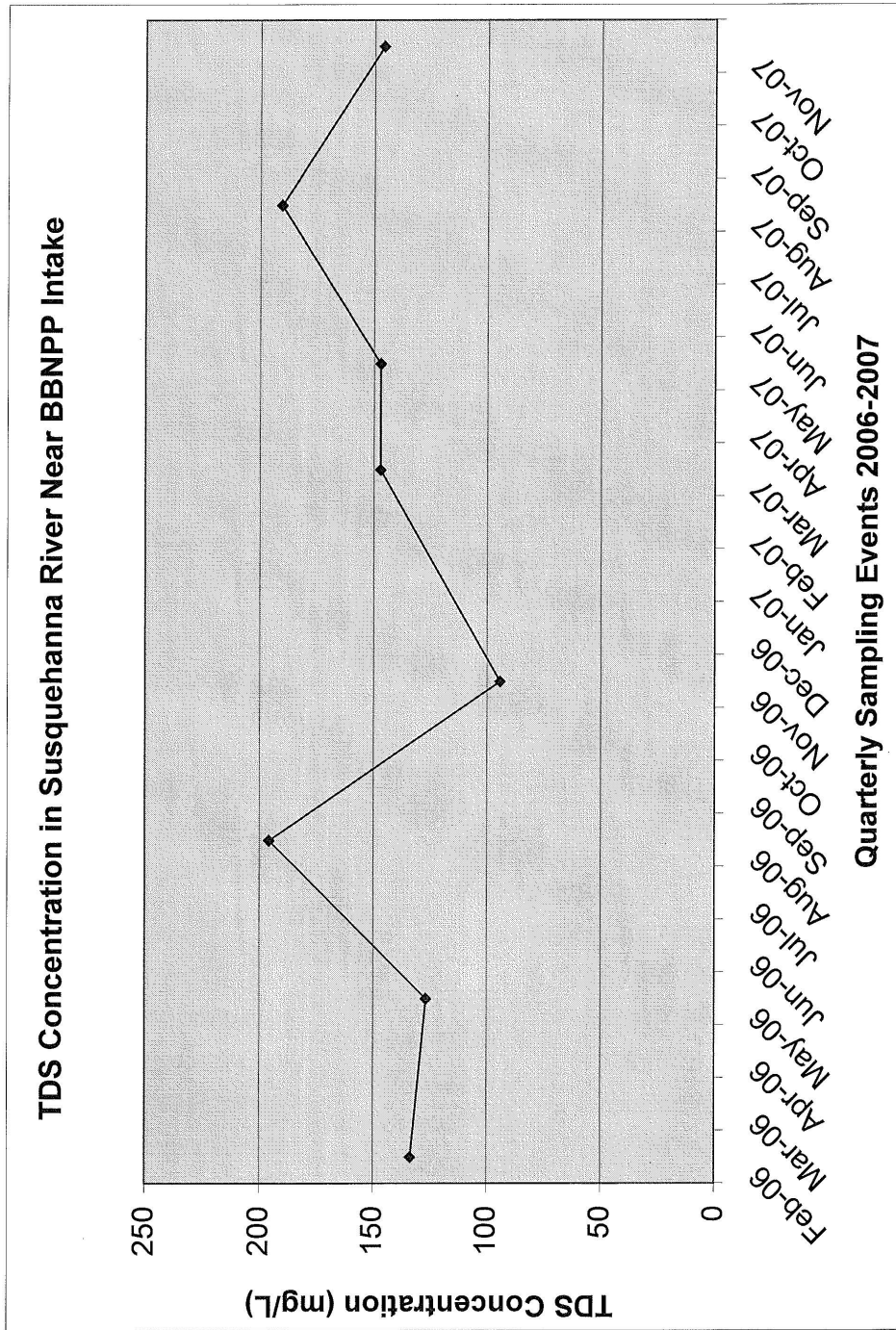
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Total Hardness in Susquehanna River Near BBNPP Intake

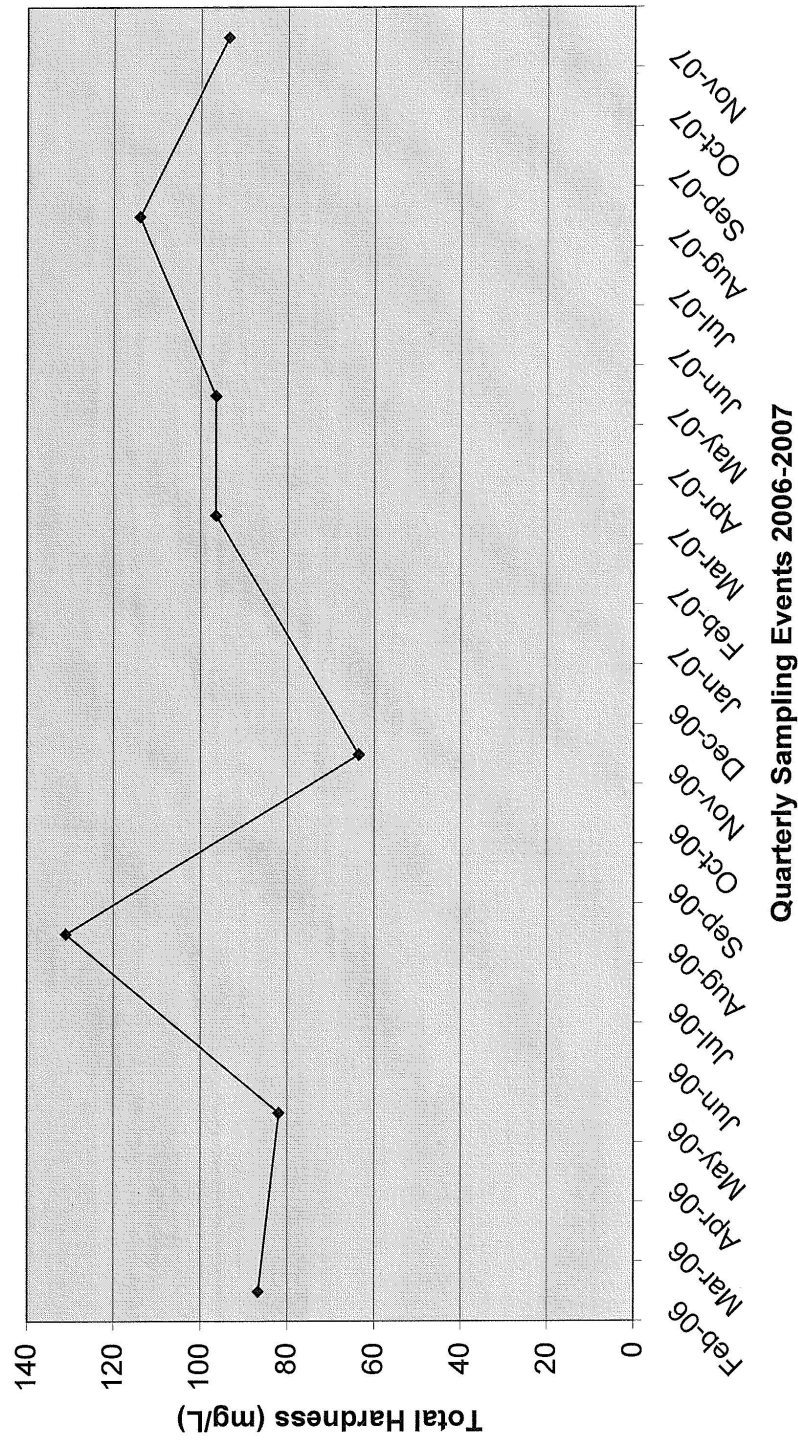


Table 2

Susquahanna River Water Quality at Discharge

| Location Sample Date | Bell Bend 2/23/2006 | Bell Bend 5/18/2006 | Bell Bend 8/16/2006 | Bell Bend 11/16/2007 | Bell Bend 3/15/2007 | Bell Bend 5/21/2007 | Bell Bend 8/23/2007 | Bell Bend 11/7/2007 | MIN | MAX | AVE | % Difference |
|---------------------------------------|------------------------|------------------------|------------------------|-------------------------|------------------------|------------------------|------------------------|------------------------|-------|--------|-------|--------------|
| Parameter | | | | | | | | | | | | |
| Total Alkalinity mg/L | 56 | 61 | 94 | 46 | 38 | 65 | 64 | 60 | 38 | 94 | 60.5 | 84.8 |
| Total Suspended Solids mg/L | 4 | 7 | 6.4 | 15.2 | 82 | 2 | 6 | 6 | 2 | 82 | 16.1 | 190.5 |
| Silica (Silicon Dioxide) mg/L | 3.9 | 0.2 | 3.69 | 4.75 | 3.25 | 0.18 | 2.06 | 4.45 | 0.18 | 4.75 | 2.8 | 185.4 |
| Bicarbonate as CaCO3 mg/L | 68.3 | 74.4 | 94 | 46 | 38 | 65 | 64 | 60 | 38 | 94 | 63.7 | 84.8 |
| Chloride mg/L | 23.2 | 22.7 | 31.4 | 13.3 | 22.3 | 28.7 | 39.6 | 24.3 | 13.3 | 39.6 | 25.7 | 99.4 |
| Fluoride mg/L | 0.06 | 0.06 | 0.11 | 0.07 | ND | 0.07 | 0.1 | 0.06 | 0.06 | 0.11 | 0.1 | 58.8 |
| Nitrate as NO3 mg/L | 3.4 | 1.3 | 1.8 | 2 | 3 | 1.2 | 2 | 2.4 | 1.2 | 3.4 | 2.1 | 95.7 |
| Nitrate as N mg/L | 0.8 | 0.3 | 0.4 | 0.4 | 0.7 | 0.3 | 0.4 | 0.5 | 0.3 | 0.8 | 0.5 | 90.9 |
| Phosphorus as PO4 mg/L | 0.092 | 0.147 | 0.101 | 0.31 | 0.712 | 0.12 | 0.092 | 0.172 | 0.092 | 0.712 | 0.2 | 154.2 |
| Sulfate mg/L | 23.7 | 21.7 | 35.8 | 15.1 | 12.4 | 24 | 51.2 | 28.9 | 12.4 | 51.2 | 26.6 | 122.0 |
| Aluminum, Total ug/L | 50 | 110 | 113 | 338 | 2700 | 50 | 50 | 104 | 50 | 2700 | 439.4 | 192.7 |
| Barium, Total ug/L | 25 | 30 | 34 | 24 | 55 | 28 | 34 | 31 | 24 | 55 | 32.6 | 78.5 |
| Calcium, Dissolved mg/L | 25.6 | 24.3 | 38.7 | 19.2 | 17.7 | 28.1 | 30.6 | 27.8 | 17.7 | 38.7 | 26.5 | 74.5 |
| Calcium, Total mg/L | 25.5 | 24.3 | 38.8 | 18.9 | 18.3 | 28.4 | 30.7 | 28.1 | 18.3 | 38.8 | 26.6 | 71.8 |
| Iron, Dissolved mg/L | 0.18 | 0.06 | 0.07 | 0.11 | 0.04 | 0.03 | 0.07 | 0.28 | 0.03 | 0.28 | 0.1 | 161.3 |
| Iron, Total mg/L | 0.55 | 0.5 | 0.59 | 0.86 | 5.58 | 0.51 | 0.73 | 0.89 | 0.5 | 5.58 | 1.3 | 167.1 |
| Magnesium, Dissolved mg/L | 5.49 | 5.15 | 8.53 | 3.86 | 3.42 | 6.13 | 10.5 | 6.09 | 3.42 | 10.5 | 6.1 | 101.7 |
| Magnesium, Total mg/L | 5.49 | 5.18 | 8.6 | 3.84 | 4.31 | 6.26 | 10.6 | 6.18 | 3.84 | 10.6 | 6.3 | 93.6 |
| Manganese, Dissolved ug/L | 92 | 23 | 44 | 34 | 44 | 51 | 147 | 99 | 23 | 147 | 66.8 | 145.9 |
| Manganese, Total ug/L | 94 | 112 | 118 | 55 | 231 | 97 | 223 | 137 | 55 | 231 | 133.4 | 123.1 |
| Potassium, Dissolved mg/L | 1.07 | 1.26 | 1.68 | 1.42 | 1.45 | 1.41 | 2.32 | 1.71 | 1.07 | 2.32 | 1.5 | 73.7 |
| Potassium, Total mg/L | 1.08 | 1.29 | 1.72 | 1.38 | 1.83 | 1.47 | 2.34 | 1.79 | 1.08 | 2.34 | 1.6 | 73.7 |
| Sodium, Dissolved mg/L | 13.3 | 13.1 | 18.7 | 8.64 | 12.7 | 16.8 | 24.2 | 14.6 | 8.64 | 24.2 | 15.3 | 94.8 |
| Sodium, Total mg/L | 13.2 | 12.9 | 18.7 | 8.45 | 12.4 | 16.9 | 24.1 | 14.7 | 8.45 | 24.1 | 15.2 | 96.2 |
| Strontium, Total ug/L | 88 | 79 | 152 | 55 | 54 | 103 | 177 | 112 | 54 | 177 | 102.5 | 106.5 |
| Zinc, Total ug/L | ND | ND | 70 | 70 | 24 | ND | ND | ND | 10 | 24 | 5.5 | 82.4 |
| Arsenic, Total ug/L | 0.5 | ND | 0.5 | 0.5 | 2.8 | 0.5 | 1.1 | 0.5 | 0.5 | 2.8 | 0.8 | 139.4 |
| Lead, Total ug/L | ND | ND | ND | ND | 5 | ND | ND | ND | 5 | 5 | 0.6 | 0.0 |
| TDS mg/L | 133.17 | 126.29 | 196.79 | 95.78 | 98.98 | 145.58 | 200.88 | 146.26 | 95.78 | 200.88 | 143.0 | 70.9 |
| Calcium Hardness mg/L | 63.9 | 60.7 | 96.6 | 47.9 | 44.2 | 70.2 | 76.4 | 69.4 | 44.2 | 96.6 | 66.2 | 74.4 |
| Total Hardness mg/L | 86.3 | 82 | 132 | 63 | 63.4 | 96.7 | 120 | 95.6 | 63 | 132 | 92.4 | 70.8 |