

**3R – 339**

**2009 AGWMR**

**09 / 03 / 2010**

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2009 SEP 13 AM 9:23



Environmental Services  
188 CR 4900  
Bloomfield, NM 87413

September 3, 2010

Mr. Glen Von Gonten  
Hydrologist  
Oil Conservation Division  
1220 S. St. Francis Dr.  
Santa Fe, NM 87505

**RE: 2009 GROUND WATER SUMMARY REPORT**

Dear Mr. Von Gonten:

Enclosed for your review is the Williams 2009 Ground Water Summary Report. The report presents monitoring data for eight sites having petroleum hydrocarbon impacted ground water resulting from past use of unlined surface impoundments. The sites included in the report are identified in separate sections.

Four of the eight sites have known or suspected up-gradient contaminant sources which continue to influence conditions affecting the rate of natural attenuation. These conditions have been previously mentioned in project correspondence and suggest producer or third party responsibility. Until such time as the other responsible parties address these sources, efforts by Williams are invariably extended.

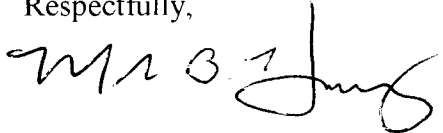
Two sites (Florence 47X and Davis #1) have regular accumulations of LNAPL in one monitoring well at each location. Since 2002, passive collection devices have been deployed in all wells containing measurable accumulations of LNAPL. Periodic emptying of the collection devices along with active bailing of LNAPL during the quarterly sampling events continues at the aforementioned sites and at times if observed at any other site.

One site previously monitored (Patterson A COM #1A) met closure criteria in 2008 and a closure request was submitted in 2009. Williams plans to close the Patterson A COM #1A and abandon the monitoring wells there unless the NMOCD objects to that action in the next 60 days. Williams will also abandon monitoring wells at five other sites where closure requests were made based on meeting closure criteria. The closure notices for these sites were submitted on two occasions with no response from the NMOCD. Again, closure is assumed to be approved unless there is documented objection.

As noted in the site summaries, laboratory reports have not been included in the annual report. Lab results reports are retained in project files until such time as a site closure report is developed, but are available anytime upon request.

Thank you for your time to review this submittal. If you have any questions regarding the content of the report, or about specific conditions at any site, you may call me at (801) 232-8985 or Aaron Dailey at (505) 634-4708.

Respectfully,

A handwritten signature in black ink, appearing to read "Mark B. Harvey". The signature is stylized with a large, looped "M" and a cursive "H".

Mark B. Harvey  
Project Manager

Enclosure

*Note: Report previously submitted electronically April 4, 2010*

3R-339

PRITCHARD 2A

# Site Summary Report

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**Site Name:** Pritchard 2A

**Reporting Period:** 2009

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**Location:** Unit J, Sec 6, Twn 30N, Rng 8W

**Canyon:** Pump

**Operator:** Williams

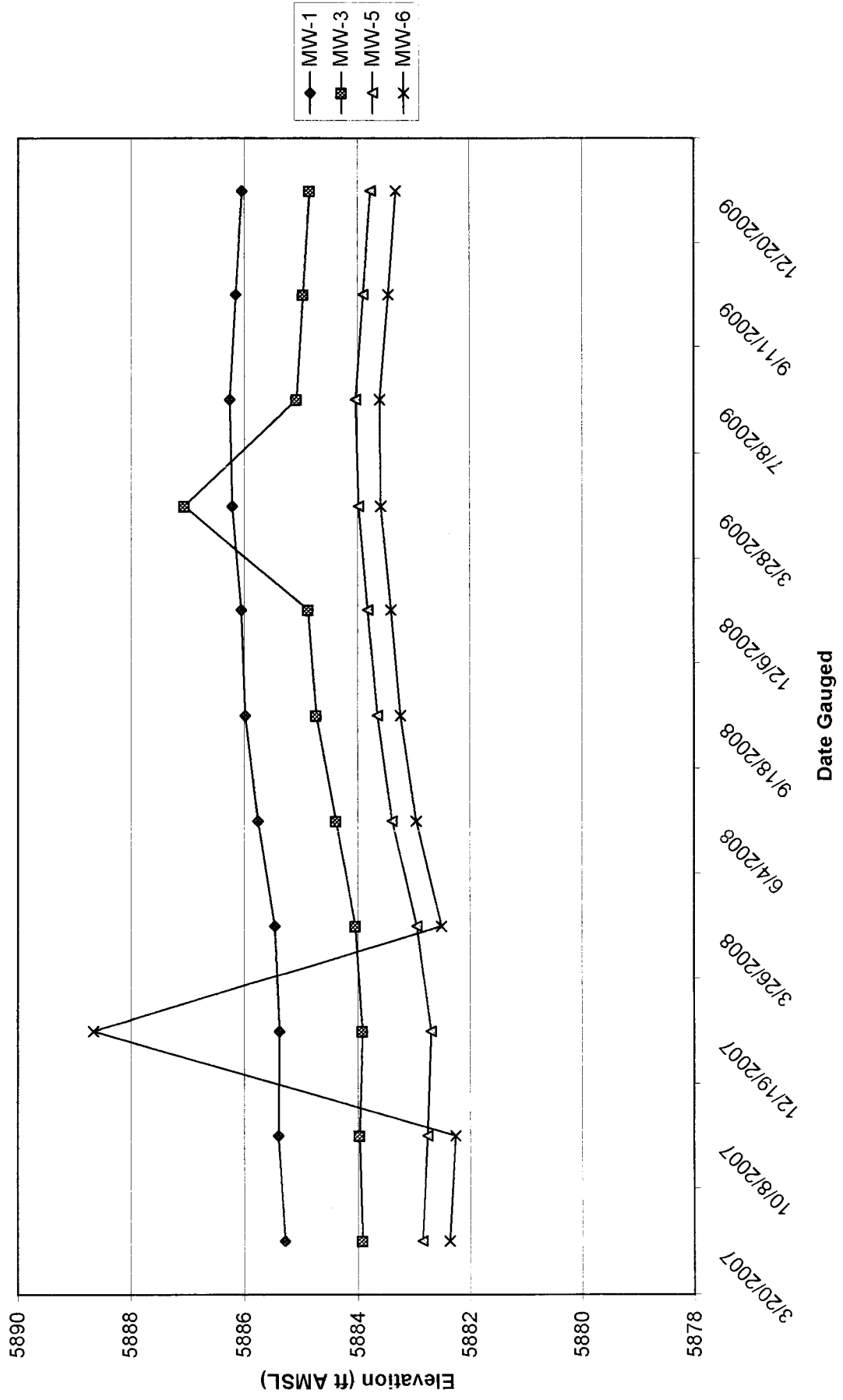
## Status Narrative

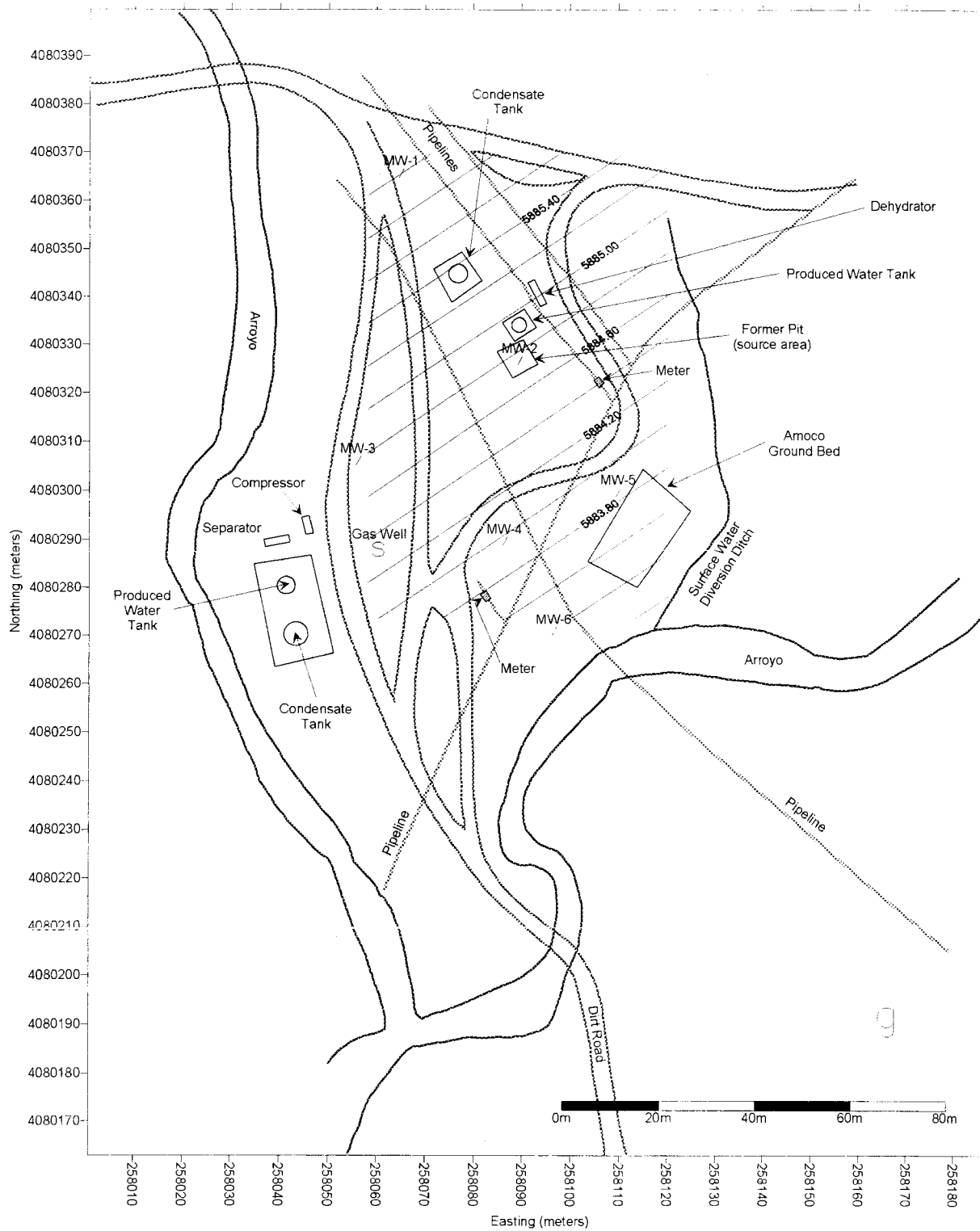
The six monitoring wells at this site have been sampled for forty-one quarters. Monitoring wells MW-2 and MW-4 no longer have observable LNAPL accumulations, but are not monitored routinely. In the fourth quarter, benzene in up-gradient well MW-1 declined significantly compared to measured values in the previous five quarters. Concentrations of BTEX in cross-gradient wells MW-3 and MW-5 remain relatively stable but in excess of NMWQCC standards. Total BTEX concentrations in down gradient well MW-6 are also relatively stable.

Potentiometric surface maps (Figure 2) depict a southeast by south ground water flow direction at an average hydraulic gradient of 0.01. No significant seasonal variations in ground water flow direction or gradient are evident. The enclosed hydrograph shows an overall decrease in the water-table elevation over the past few years.

Up-gradient contaminant remains troubling and is unlikely related to the former dehydrator pit. The presence of numerous pipelines in the area around MW-1 may warrant investigation by the pipeline operators. While conditions seem favorable for monitored natural attenuation, clean closure will not likely be achievable until after up-gradient sources are identified and addressed.

# PRTCHD 2009 Hydrograph



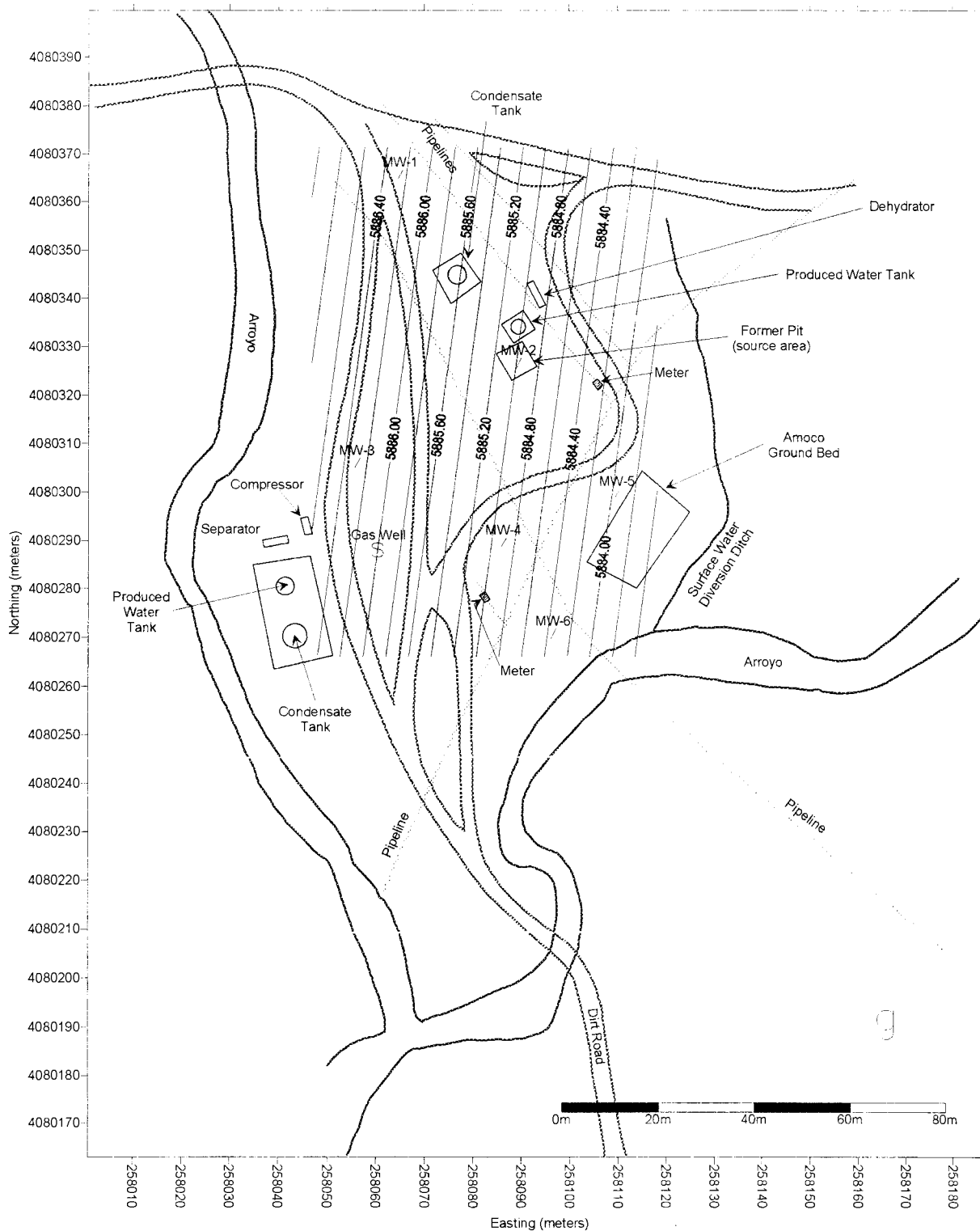


**Figure 2**  
**Potentiometric**  
**Surface Map**  
**Pritchard #2**  
**(December 2009)**

**LEGEND**

MW-2  
Monitoring Well

5585.20  
Ground Water Elevation (ft. AMSL)



**Figure 2**  
**Potentiometric**  
**Surface Map**  
**Pritchard #2**  
**(March 2009)**

**LEGEND**

- MW-2
- Monitoring Well
- Ground Water Elevation (ft. AMSL)



# Analytical Data Summary

Site Name:

Pritchard 2

Reporting Period:

1/1/2008 To 12/31/2009

| Well ID | Sample Date | Sample ID   | Benzene<br>ug/l | Toluene<br>ug/l | Ethylbenzene<br>ug/l | Xylene (Total)<br>ug/l |
|---------|-------------|-------------|-----------------|-----------------|----------------------|------------------------|
| MW-1    |             |             |                 |                 |                      |                        |
|         | 3/26/2008   | 185026MAR08 | 37.7            | 7.9             | 1.3                  | 105                    |
|         | 6/4/2008    | 161004JUN08 | 22.3            | 15.1            | <1.0                 | 70.4                   |
|         | 9/18/2008   | 125919SEP08 | 28.4            | 8.7             | <1.0                 | 81.8                   |
|         | 12/6/2008   | 091006DEC08 | 18.1            | 2.0             | <1.0                 | 46.0                   |
|         | 3/28/2009   | 130728MAR09 | 45.9            | 1.4             | <1.0                 | 159                    |
|         | 7/8/2009    | 154708JUL09 | 23.6            | 4.2             | <1.0                 | 40.1                   |
|         | 9/11/2009   | 174311SEP09 | 33.8            | 1.9             | <1.0                 | 47.4                   |
|         | 12/20/2009  | 115220DEC09 | 6.3             | 6.1             | 1.1                  | 54.4                   |
| MW-3    |             |             |                 |                 |                      |                        |
|         | 3/26/2008   | 190326MAR08 | 26.0            | 14.3            | 1.2                  | 11.5                   |
|         | 6/4/2008    | 162204JUN08 | 82.1            | 3.4             | 7.1                  | 49.9                   |
|         | 9/18/2008   | 131319SEP08 | 28.9            | 1.3             | 3.1                  | 10.7                   |
|         | 12/6/2008   | 092606DEC08 | 25.3            | 1.7             | 3.0                  | 12.2                   |
|         | 3/28/2009   | 132228MAR09 | 94.4            | 9.2             | 11.8                 | 54.9                   |
|         | 7/8/2009    | 172108JUL09 | 64.6            | 6.6             | 7.3                  | 46.4                   |
|         | 9/11/2009   | 175811SEP09 | 39.2            | 5.5             | 3.8                  | 29.7                   |
|         | 12/20/2009  | 120620DEC09 | 11.3            | 1.6             | 1.7                  | 16.1                   |
| MW-5    |             |             |                 |                 |                      |                        |
|         | 3/26/2008   | 191426MAR08 | 24.1            | 2.3             | 1.7                  | 41.6                   |
|         | 6/4/2008    | 163504JUN08 | 102             | 5.7             | 9.4                  | 168                    |
|         | 9/18/2008   | 132719SEP08 | 285             | 18.1            | 12.0                 | 344                    |
|         | 7/8/2009    | 173208JUL09 | 163             | 4.7             | 1.5                  | 84.6                   |
|         | 9/11/2009   | 181211SEP09 | 192             | 2.3             | 2.5                  | 55.6                   |
|         | 12/20/2009  | 122120DEC09 | 203             | 3.4             | 3.8                  | 108                    |
| MW-6    |             |             |                 |                 |                      |                        |
|         | 3/26/2008   | 192826MAR08 | 2100            | 2500            | 454                  | 4350                   |
|         | 6/4/2008    | 164904JUN08 | 1460            | 1120            | 370                  | 3350                   |
|         | 9/18/2008   | 134319SEP08 | 2800            | 801             | 494                  | 4580                   |
|         | 12/6/2008   | 101706DEC08 | 759             | 280             | 247                  | 2130                   |
|         | 3/28/2009   | 140328MAR09 | 2060            | 659             | 569                  | 4540                   |
|         | 7/8/2009    | 174408JUL09 | 2010            | 333             | 492                  | 3760                   |
|         | 9/11/2009   | 182711SEP09 | 2810            | 274             | 579                  | 3310                   |