# 3R – 317

# 2010 AGWMR

# 04 / 29 / 2011

Williams
Environmental Services
188 CR 4900
Bloomfield, NM 87413

April 29, 2011

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

**RE: 2010 GROUND WATER SUMMARY REPORT**

Dear Mr. Von Gonten:

Enclosed for your review is the Williams 2010 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. Information for each site includes a brief narrative, analytical summary, hydrograph, and ground water contour maps.

As has been mentioned previously, 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 likely indicate producer or third party responsibility and affect the ultimate closure schedule.

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 continues at the aforementioned sites and at any other site if and when LNAPL is observed.

As noted in the site summaries, laboratory reports have not been included in the annual summary 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,

Mark B. Harvey
Project Manager

Enclosure - CD

c: Bill Liess, BLM Farmington District Office
Dan Reutlinger, Williams-TUL


# Annual Groundwater Summary Report 2010

San Juan Basin, New Mexico
Unlined Surface Impoundments

3R-317

# FLORENCE #47X

# Site Summary Report

**Site Name: Florance 47X** **Reporting Period: 2010**

**Location:** Unit G, Sec 5, Twn 30N, Rng 8W
**Canyon:** Crow
**Operator:** Amoco

**Status Narrative**

Fifty-three quarters of water quality data have been collected from the five monitoring wells located at this site. Monitoring well MW-3 remains as the only well with accumulations of LNAPL. To date, a total of approximately 54-liters of LNAPL have been recovered from this well. With the exception of a detectable level of benzene in quarter one, cross-gradient well MW-4 had only xylene detected during the monitoring period. Monitoring well MW-2 (source area) shows elevated levels of BTEX, but an overall declining trend.

Potentiometric surface maps (Figure 2) depict ground water flow to the south-southeast at an average hydraulic gradient of 0.02. No significant seasonal variations in flow direction or gradient are evident. The enclosed hydrograph illustrates a stable ground water elevation pattern over the past few years.

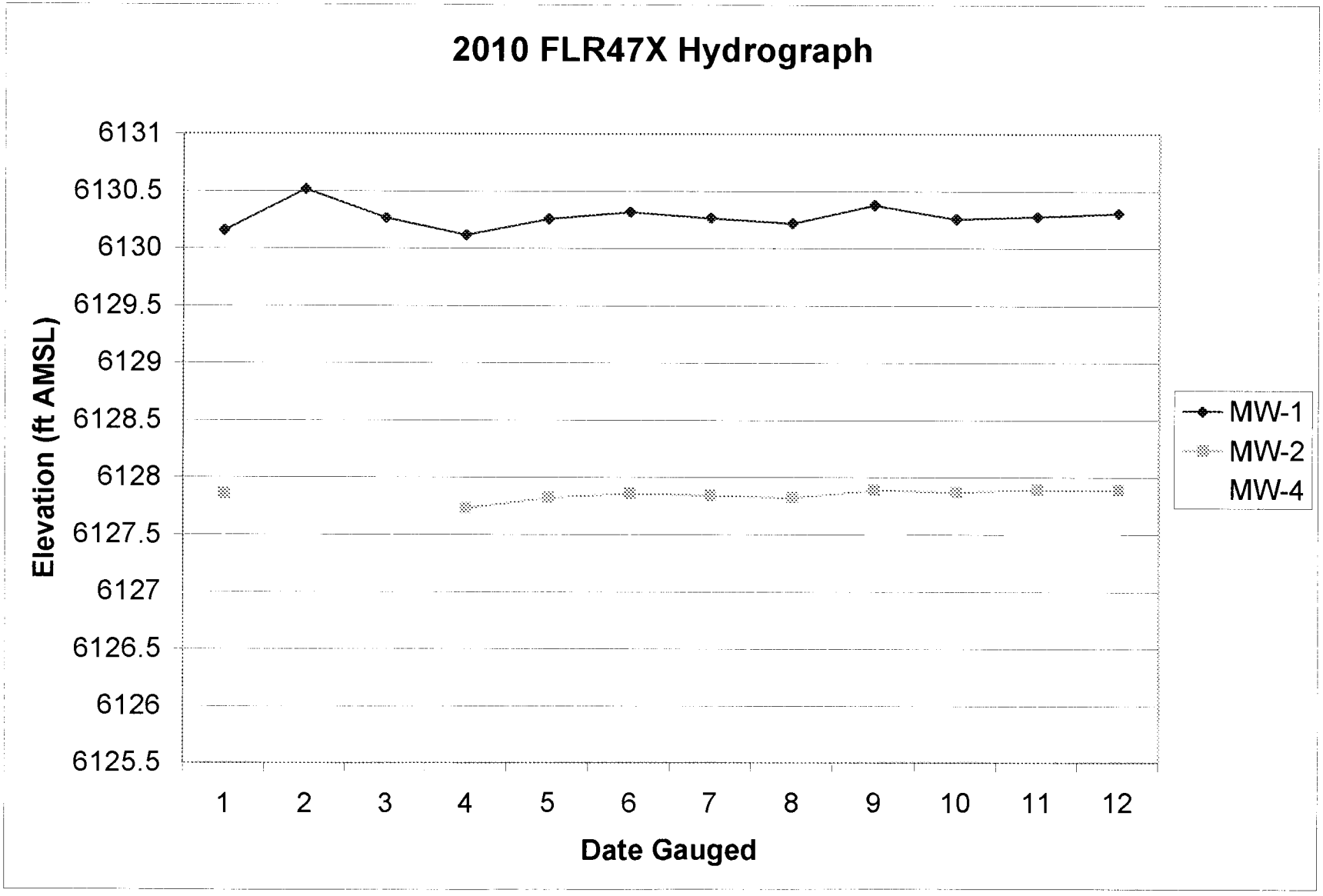
While the monitoring trends appear positive, the presence of LNAPL in MW-3 may indicate contribution(s) from another source. As has been noted in previous submittals, there was another pit operated by the producer within the immediate vicinity of this monitoring well which is on a lower terrace from the WFS dehydrator pit and MW-2. Free product accumulation in MW-3 appears to be relatively constant and dictates ongoing removal efforts.

# *Analytical Data Summary*

Site Name:
Florance M 47X

Reporting Period:
1/8/2008 To 12/31/2010

| Well ID | Sample Date | Sample ID | Benzene ug/l | Toluene ug/l | Ethylbenzene ug/l | Xylene (Total) ug/l |
|---|---|---|---|---|---|---|
| MW-1 | | | | | | |
| | 3/26/2008 | 172626MAR08 | <1.0 | <1.0 | <1.0 | <3.0 |
| | 6/4/2008 | 171304JUN08 | 2.9 | <1.0 | <1.0 | 4.8 |
| | 9/18/2008 | 141019SEP08 | <1.0 | <1.0 | <1.0 | <3.0 |
| | 12/6/2008 | 104306DEC08 | <1.0 | <1.0 | <1.0 | <3.0 |
| | 7/8/2009 | 181408JUL09 | 1.2 | <1.0 | <1.0 | <3.0 |
| | 9/11/2009 | 185111SEP09 | <1.0 | <1.0 | <1.0 | <3.0 |
| | 12/20/2009 | 125320DEC09 | <1.0 | <1.0 | <1.0 | <3.0 |
| | 3/29/2010 | 185429MAR10 | <1.0 | <1.0 | <1.0 | <3.0 |
| | 6/18/2010 | 144618JUN10 | <1.0 | <1.0 | <1.0 | <3.0 |
| | 9/10/2010 | 134010SEP10 | 1.2 | <1.0 | <1.0 | <3.0 |
| | 12/4/2010 | 144404DEC10 | <1.0 | <1.0 | <1.0 | <3.0 |
| MW-2 | | | | | | |
| | 12/6/2008 | 110206DEC08 | 5820 | <25.0 | 442 | 3850 |
| | 12/6/2008 | 110406DEC08 | 6570 | <25.0 | 660 | 3700 |
| | 3/28/2009 | 145028MAR09 | 7760 | <50.0 | 768 | 6100 |
| | 7/8/2009 | 182508JUL09 | 6150 | <20.0 | 540 | 5640 |
| | 9/11/2009 | 190811SEP09 | 8460 | <20.0 | 729 | 4150 |
| | 12/20/2009 | 130620DEC09 | 8980 | <50.0 | 744 | 6080 |
| | 3/29/2010 | 190629MAR10 | 9460 | 67.2 | 521 | 6210 |
| | 6/18/2010 | 150018JUN10 | 3270 | <10.0 | 260 | 3530 |
| | 12/4/2010 | 145304DEC10 | 1470 | 26.3 | 599 | 2720 |
| MW-4 | | | | | | |
| | 3/26/2008 | 174926MAR08 | 1.2 | <1.0 | <1.0 | 17.2 |
| | 6/4/2008 | 172804JUN08 | <1.0 | <1.0 | <1.0 | 10.3 |
| | 9/18/2008 | 142419SEP08 | <1.0 | <1.0 | <1.0 | 11.5 |
| | 12/6/2008 | 112006DEC08 | <1.0 | <1.0 | <1.0 | 4.8 |
| | 3/28/2009 | 150428MAR09 | <1.0 | <1.0 | <1.0 | 6.8 |
| | 7/8/2009 | 183108JUL09 | <1.0 | <1.0 | <1.0 | 8.3 |
| | 12/20/2009 | 131820DEC09 | <1.0 | <1.0 | <1.0 | 8.5 |
| | 3/29/2010 | 191829MAR10 | 1.3 | <1.0 | <1.0 | 8.7 |
| | 6/18/2010 | 151518JUN10 | <1.0 | <1.0 | <1.0 | 6.8 |
| | 9/10/2010 | 163510SEP10 | <1.0 | <1.0 | <1.0 | 3.9 |
| | 12/4/2010 | 150404DEC10 | <1.0 | <1.0 | <1.0 | 5.6 |


2010 FLR47X Hydrograph
Elevation (ft AMSL)
6131
6130.5
6130
6129.5
6129
6128.5
6128
6127.5
6127
6126.5
6126
6125.5
1
2
3
4
5
6
7
8
9
10
11
12
Date Gauged
MW-1
MW-2
MW-4

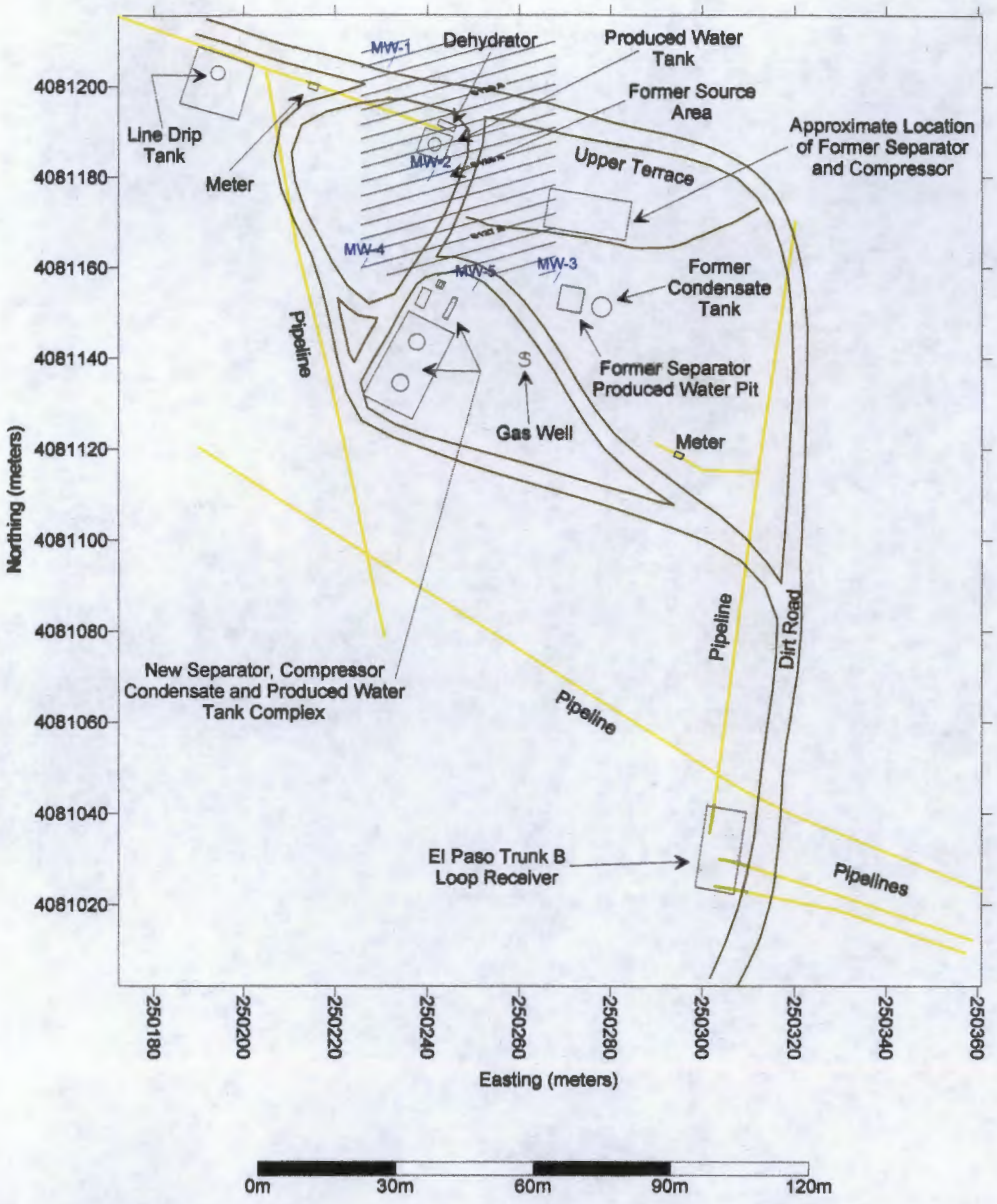



**Figure 2**
**Potentiometric Surface Map**
**Florance 47X**
**March 2010**

**LEGEND**

MW-2 — Monitoring Well

5585.20 — Ground Water Elevation (ft. AMSL)

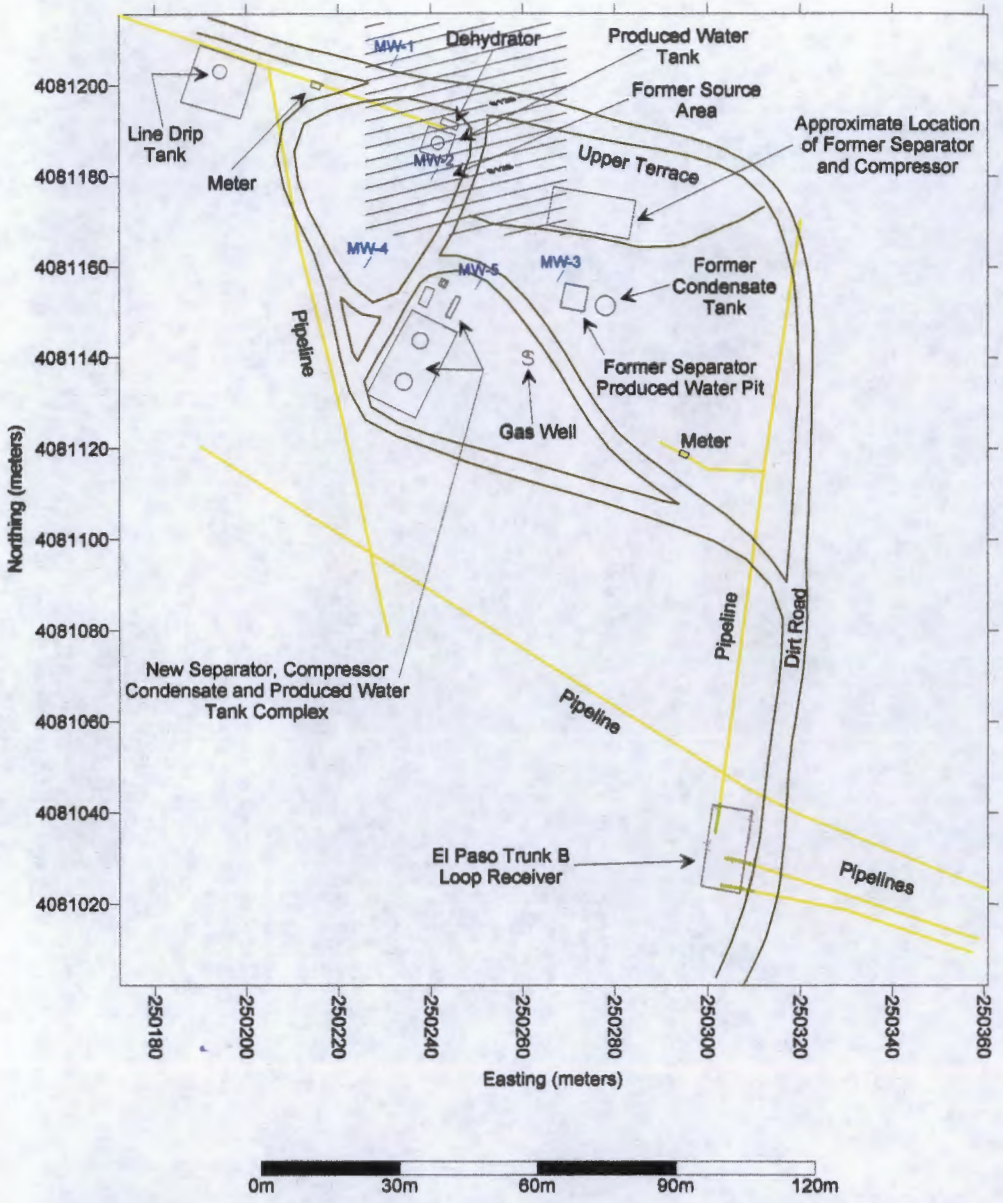



**Figure 2**
**Potentiometric Surface Map**
**Florance 47X**
**September 2010**

**LEGEND**

MW-2 — Monitoring Well

5585.20 — Ground Water Elevation (ft. AMSL)