# 3R – 315

# 2011 AGWMR

# 05 / 11 / 2012

Williams

Environmental Services
188 CR 4900
Bloomfield, NM 87413



May 11, 2012

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

**RE: 2011 GROUND WATER SUMMARY REPORT**

Dear Mr. Von Gonten:

Enclosed for your review is the Williams 2011 Ground Water Summary Report. The report presents monitoring data for seven 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. Free product which has again appeared at the Dogie Compressor Station has been analyzed and found to be some type of refined product. A report on this finding will be presented under separate cover. Periodic emptying of the collection devices along with active bailing of LNAPL continues at all free product sites 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 (505) 402-1958 or Danny Reutlinger at (918) 573-2000.

Respectfully,

Mark Harvey
Project Manager

Enclosure

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


# Annual
# Groundwater Report
# 2011

San Juan Basin, New Mexico
Unlined Surface Impoundments

3R-315

# Site Summary Report

**Site Name: Florance 40** **Reporting Period: 2011**

**Location:** Unit G, Sec 21, Twn 30N, Rng 8W
**Canyon:** Gobernador
**Operator:** BP

## Status Narrative

Responsibility for the remediation of the contaminant plume or plumes was divided between BP and Williams by virtue of a December 30, 1997 letter to Amoco. In that letter, the NMOCD required Amoco to address soil and ground water contamination downgradient of Amoco's separator pit, located up gradient of the Williams source area. The letter assigned responsibility for ground water contamination downgradient of PNM's former dehydrator pit to PNM (now a Williams' responsibility). The effort or level of investigation by BP at this location is unknown.

Fifty-seven quarters of water quality data have been collected from the seven monitoring wells located at this site. LNAPL previously present in several wells has not observed for several years. The majority of recovered LNAPL had been previously removed from well MW-1 located in the BP (Amoco) area of responsibility. Monitoring well MW-6 (source area) which previously had LNAPL, continues to show a declining contaminant trend as does the up gradient Amoco well. Monitoring of sentinel well MW-7 confirms that there is no plume migration off-site.

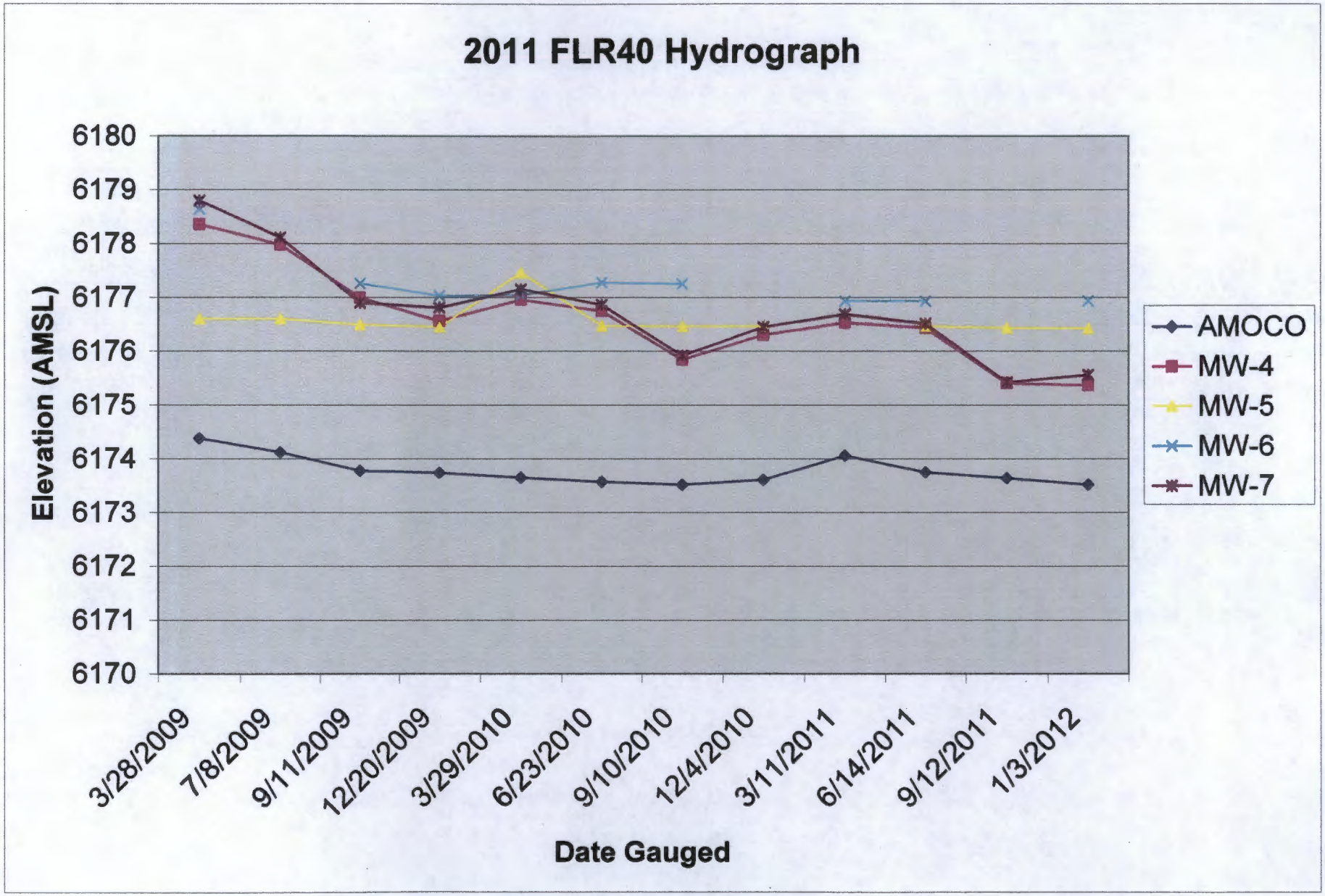
Potentiometric surface maps show ground water to flow generally to the east-southeast at an average hydraulic gradient of 0.05. Up gradient contamination likely delays effective monitored natural attenuation in the area for which Williams is responsible. Until such time as up-gradient conditions are addressed, monitored natural attenuation and ultimate site closure will likely extend in time.

# *Analytical Data Summary*

Site Name:
Florance 40

Reporting Period:
1/1/2010 To 1/30/2012

| Well ID | Sample Date | Sample ID | Benzene ug/l | Toluene ug/l | Ethylbenzene ug/l | Xylene (Total) ug/l |
|---|---|---|---|---|---|---|
| AMOCO | | | | | | |
| | 3/29/2010 | 170129MAR10 | 114 | <100 | 1230 | 8840 |
| | 6/23/2010 | 115923JUN10 | 116 | <25.0 | 3400 | 19000 |
| | 9/10/2010 | 121410SEP10 | 112 | <50.0 | 2980 | 22000 |
| | 12/4/2010 | 123304DEC10 | 103 | <50.0 | 1710 | 10900 |
| | 3/11/2011 | 152211MAR11 | 78.1 | 23.3 | 1130 | 6350 |
| | 6/14/2011 | 141214JUN11 | 88.1 | <10.0 | 1980 | 14200 |
| | 9/12/2011 | 141912SEP11 | 75.6 | <1.0 | 670 | 3710 |
| | 1/3/2012 | 120603JAN12 | 73.8 | <5.0 | 732 | 3380 |
| MW-4 | | | | | | |
| | 3/29/2010 | 172729MAR10 | <5.0 | 7.1 | 65.5 | 360 |
| | 6/23/2010 | 123123JUN10 | <5.0 | <5.0 | 70.1 | 439 |
| | 9/10/2010 | 124110SEP10 | <1.0 | <1.0 | 11.8 | 110 |
| | 12/4/2010 | 130604DEC10 | <5.0 | <5.0 | 15.8 | 152 |
| | 3/11/2011 | 154111MAR11 | <5.0 | <5.0 | 18.1 | 167 |
| | 6/14/2011 | 142814JUN11 | <1.0 | <1.0 | 4.9 | 33.3 |
| | 9/12/2011 | 144212SEP11 | <1.0 | <1.0 | <1.0 | 7.9 |
| | 1/3/2012 | 122303JAN12 | <1.0 | <1.0 | <1.0 | 3.6 |
| MW-6 | | | | | | |
| | 6/23/2010 | 121923JUN10 | 815 | 75.3 | 32.3 | 3090 |
| | 9/10/2010 | 123110SEP10 | 674 | 129 | 28.7 | 4010 |
| MW-7 | | | | | | |
| | 3/29/2010 | 164629MAR10 | <5.0 | <5.0 | <5.0 | <15.0 |
| | 6/23/2010 | 114223JUN10 | <1.0 | <1.0 | <1.0 | <3.0 |
| | 9/10/2010 | 120010SEP10 | <1.0 | <1.0 | <1.0 | <3.0 |
| | 12/4/2010 | 122504DEC10 | <1.0 | <1.0 | <1.0 | <3.0 |
| | 3/11/2011 | 150311MAR11 | <1.0 | <1.0 | <1.0 | <3.0 |
| | 6/14/2011 | 140314JUN11 | <1.0 | <1.0 | <1.0 | <3.0 |
| | 9/12/2011 | 140612SEP11 | <1.0 | <1.0 | <1.0 | <3.0 |
| | 1/3/2012 | 115603JAN12 | <1.0 | <1.0 | <1.0 | <3.0 |


2011 FLR40 Hydrograph
Elevation (AMSL)
6180
6179
6178
6177
6176
6175
6174
6173
6172
6171
6170
3/28/2009
7/8/2009
9/11/2009
12/20/2009
3/29/2010
6/23/2010
9/10/2010
12/4/2010
3/11/2011
6/14/2011
9/12/2011
1/3/2012
Date Gauged
AMOCO
MW-4
MW-5
MW-6
MW-7

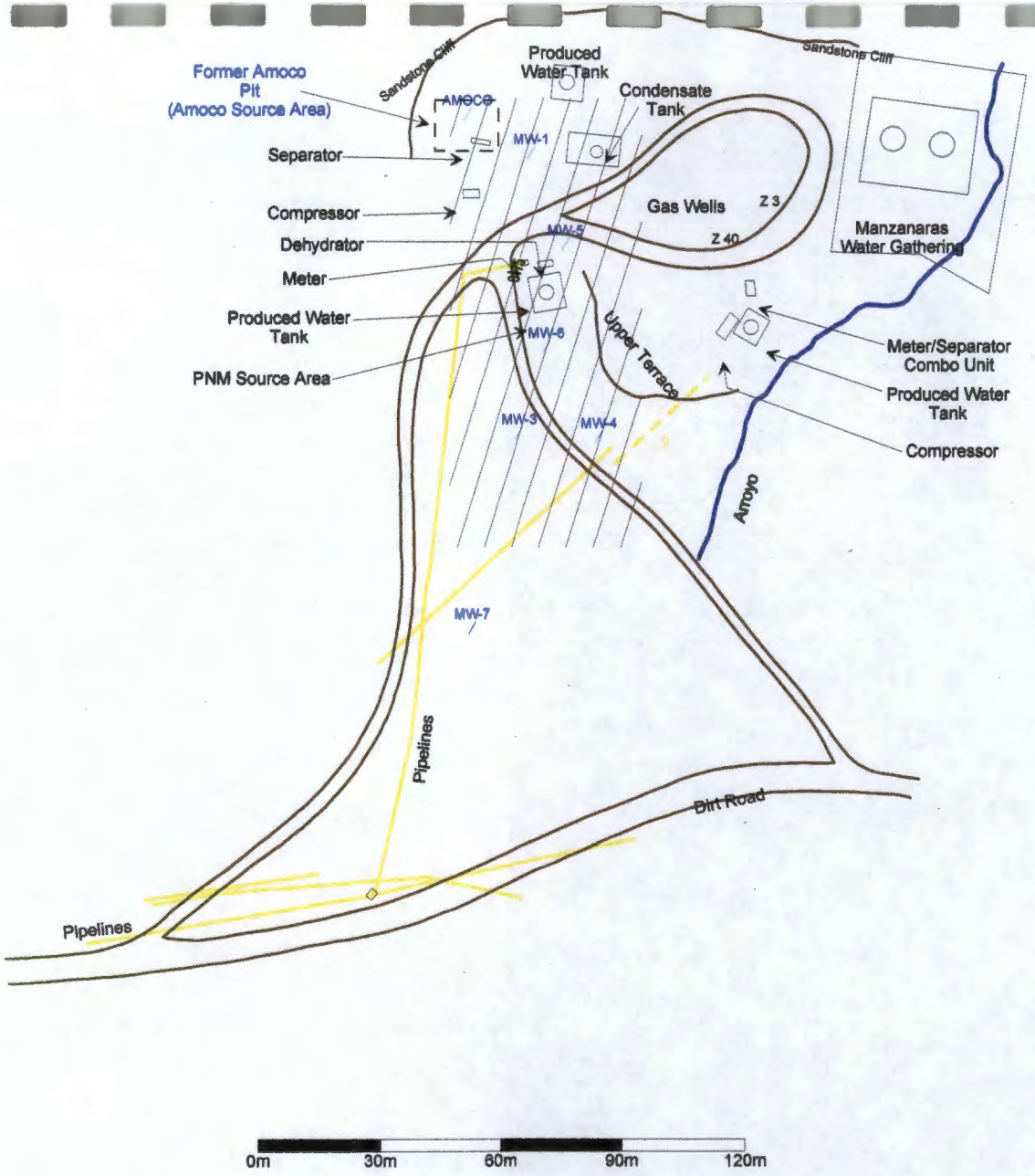



**Figure 2**
**Potentiometric Surface Map**
**Florance 40**
**September 2011**

**LEGEND**

MW-2 — Monitoring Well

5585.20 — Ground Water Elevation (ft. AMSL)

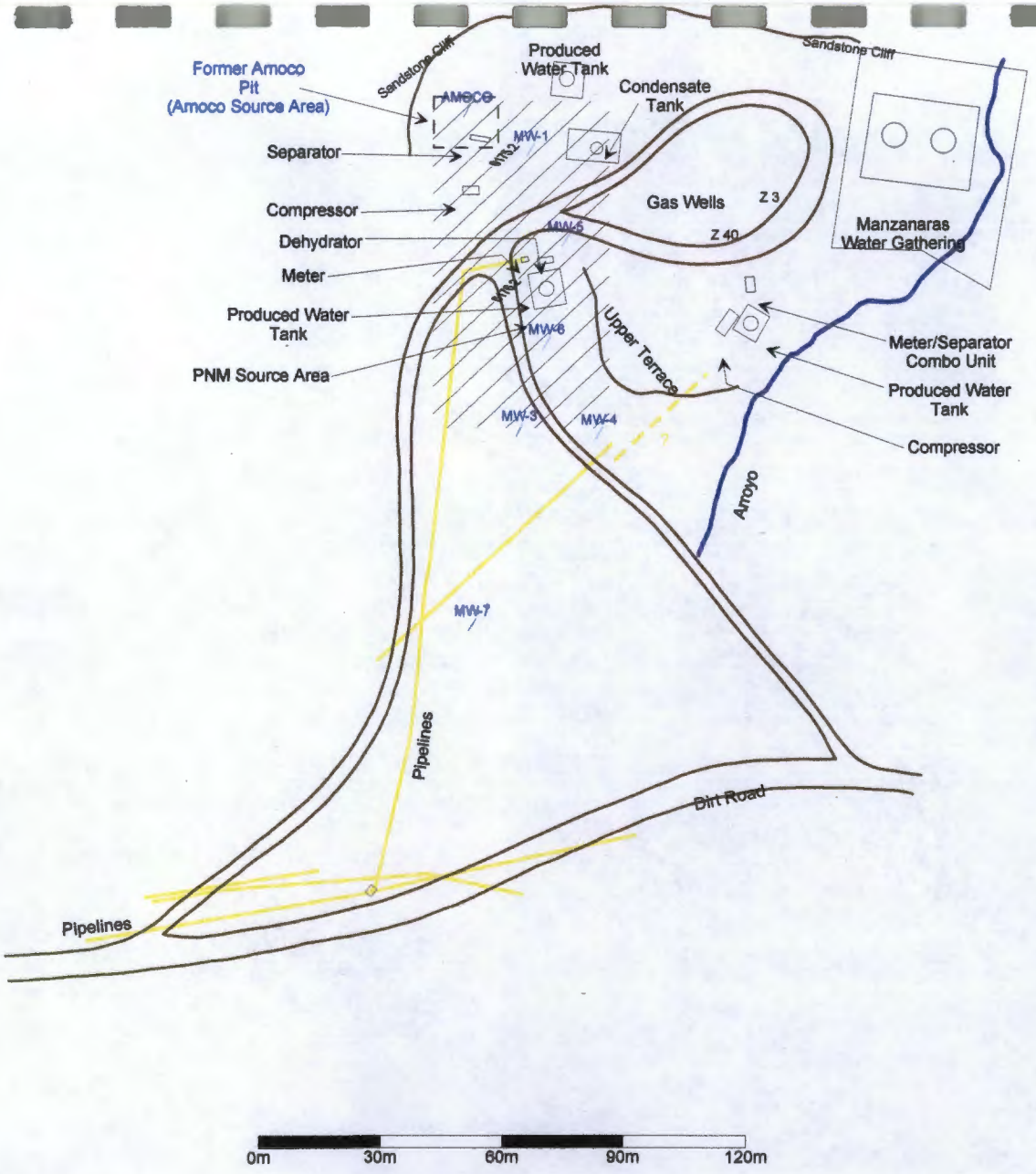



**Figure 2**
**Potentiometric Surface Map**
**Florance 40**
**March 2011**

**LEGEND**

MW-2 — Monitoring Well

5585.20 — Ground Water Elevation (ft. AMSL)