3R – 311

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-311

Site Summary Report

Site Name: Davis 1 **Reporting Period: 2011**

Location: Unit E, Sec 11, Twn 31N, Rng 12W
Canyon: Farmington Glade
Operator: COP

Status Narrative

All wells monitored down gradient of source area well MW-2 continue to show no detectable BTEX. LNAPL reappeared in MW-2 and free product removal continues each quarter. Free product in MW-2 does not appear to be affecting any other wells, but the presence of free product prevents the site from closure.

This site has six monitoring wells and forty-eight quarters of ground water monitoring to date. Monitoring of MW-5 was not performed in 2011 as there appears to be some damage preventing collection of samples. This well is not seen as essential so long as the source area well (MW-2) has measurable free product and the other down gradient wells have no BTEX contamination. Analytical results are provided in the attached summary table with lab reports retained in the project files to be submitted at the time of the closure request.

Ground water flows west-northwest with an average hydraulic gradient of 0.006. A seasonal rise in water table elevation has been observed in the spring, but overall influence in flow direction and gradient appears consistent with historical observation(s). Figure 2 shows the potentiometric surface for two of the quarterly sampling events. The hydrograph illustrates an overall decrease in water table elevation over the last several years. Monitored natural attenuation appears effective for this site and clean closure is likely.

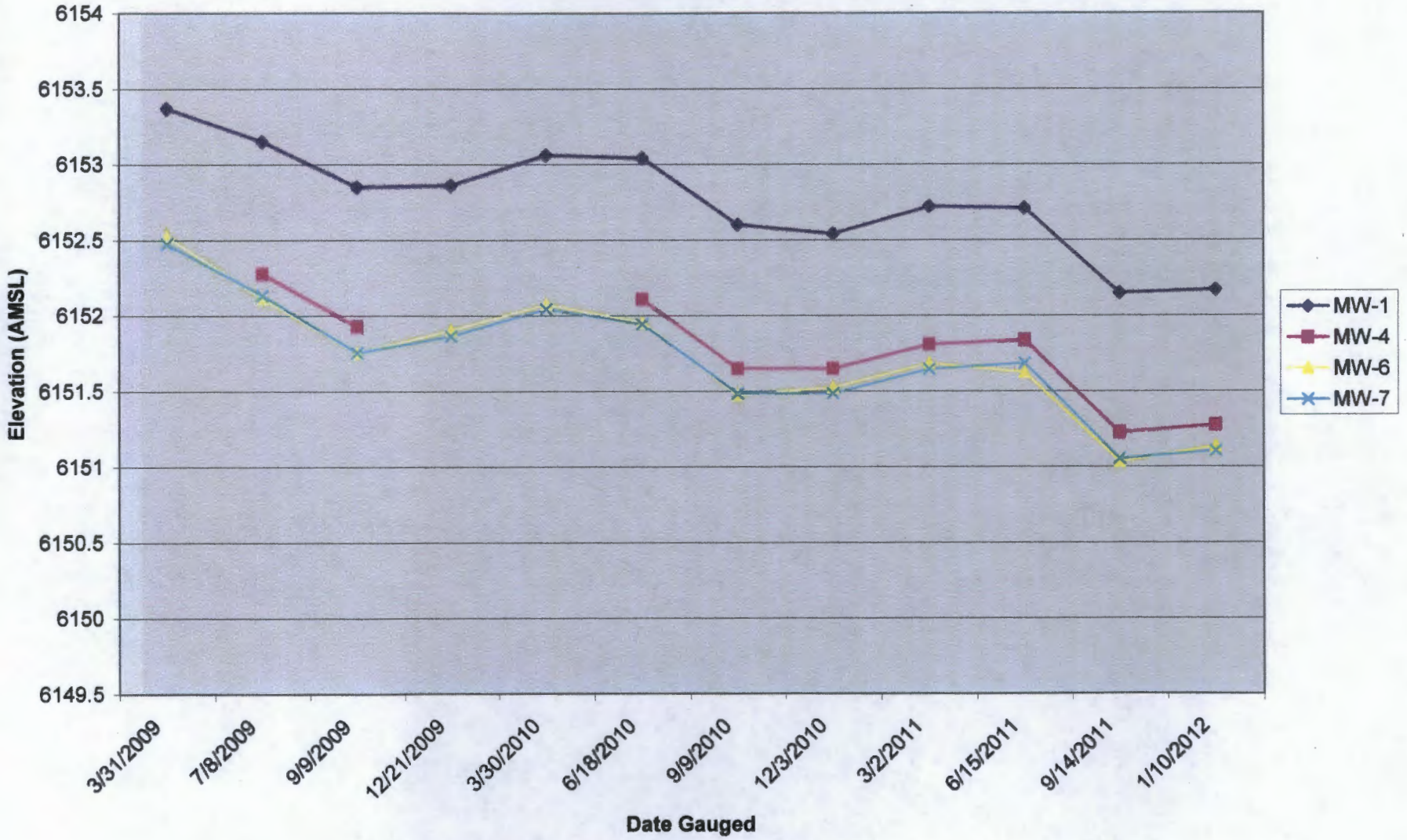
Analytical Data Summary

Site Name:
Davis 1

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
MW-1						
	3/30/2010	094730MAR10	<1.0	<1.0	<1.0	<3.0
	6/18/2010	162018JUN10	<1.0	<1.0	<1.0	<3.0
	9/9/2010	123909SEP10	<1.0	<1.0	<1.0	<3.0
	12/3/2010	131803DEC10	<1.0	<1.0	<1.0	<3.0
	3/2/2011	132202MAR11	<1.0	<1.0	<1.0	<3.0
	6/15/2011	180315JUN11	<1.0	<1.0	<1.0	<3.0
	9/14/2011	133814SEP11	<1.0	<1.0	<1.0	<3.0
	1/10/2012	122210JAN12	<1.0	<1.0	<1.0	<3.0
MW-4						
	6/18/2010	170818JUN10	<1.0	<1.0	<1.0	<3.0
	9/9/2010	131109SEP10	<1.0	<1.0	<1.0	<3.0
	12/3/2010	132803DEC10	<1.0	<1.0	<1.0	<3.0
	3/2/2011	133402MAR11	<1.0	<1.0	<1.0	<3.0
	6/15/2011	182415JUN11	<1.0	<1.0	<1.0	<3.0
	9/14/2011	134714SEP11	<1.0	<1.0	<1.0	<3.0
	1/10/2012	123510JAN12	<1.0	<1.0	<1.0	<3.0
MW-6						
	3/30/2010	103430MAR10	<1.0	<1.0	<1.0	<3.0
	6/18/2010	172418JUN10	<1.0	<1.0	<1.0	<3.0
	9/9/2010	135109SEP10	<1.0	<1.0	<1.0	<3.0
	12/3/2010	134803DEC10	<1.0	<1.0	<1.0	<3.0
	3/2/2011	135702MAR11	<1.0	<1.0	<1.0	<3.0
	6/15/2011	184515JUN11	<1.0	<1.0	<1.0	<3.0
	9/14/2011	140614SEP11	<1.0	<1.0	<1.0	<3.0
	1/10/2012	125810JAN12	<1.0	<1.0	<1.0	<3.0
MW-7						
	3/30/2010	102130MAR10	<1.0	<1.0	<1.0	<3.0
	6/18/2010	164818JUN10	<1.0	<1.0	<1.0	<3.0
	9/9/2010	132509SEP10	<1.0	<1.0	<1.0	<3.0
	12/3/2010	133703DEC10	<1.0	<1.0	<1.0	<3.0
	3/2/2011	134402MAR11	<1.0	<1.0	<1.0	<3.0
	6/15/2011	183415JUN11	<1.0	<1.0	<1.0	<3.0
	9/14/2011	135614SEP11	<1.0	<1.0	<1.0	<3.0
	1/10/2012	124710JAN12	<1.0	<1.0	<1.0	<3.0

2011 DVS Hydrograph



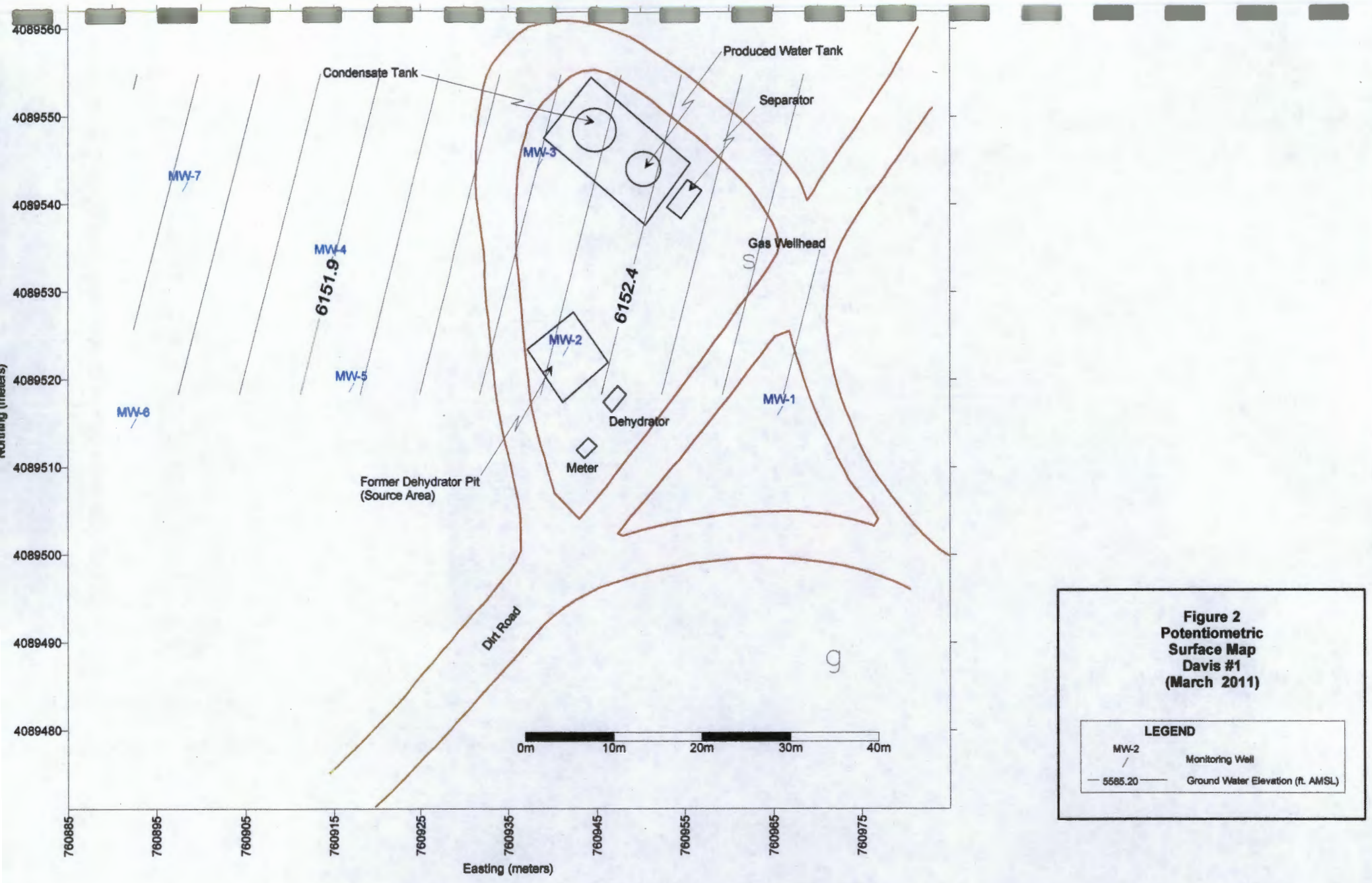


Figure 2
Potentiometric Surface Map
Davis #1
(March 2011)

LEGEND

MW-2 — Monitoring Well

5585.20 — Ground Water Elevation (ft. AMSL)

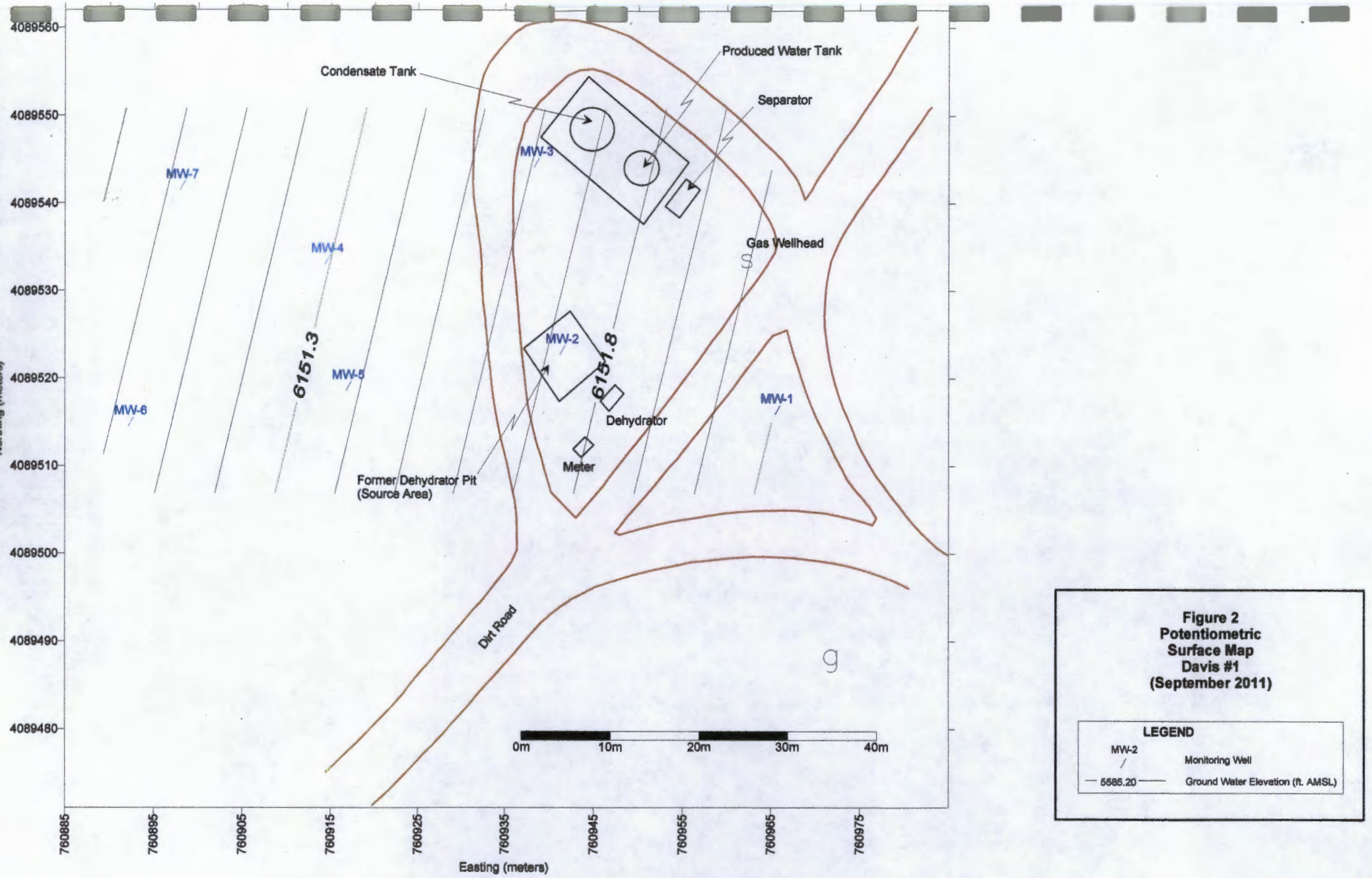


Figure 2
Potentiometric Surface Map
Davis #1
(September 2011)

LEGEND

MW-2 — Monitoring Well

5585.20 — Ground Water Elevation (ft. AMSL)