3R – 339

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-339

Site Summary Report

Site Name: Pritchard 2A **Reporting Period: 2011**

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-nine quarters. Monitoring wells MW-2 and MW-4 no longer have observable LNAPL accumulations, but are not monitored routinely. Monitoring well MW-2 was sampled in the first and fourth quarters, with BTEX levels well in excess of WQCC limits. Contamination remains in up-gradient well MW-1 at statistically steady levels. Concentrations of BTEX in cross-gradient wells MW-3 and MW-5 while in excess of applicable standards, do show a moderately declining trend. Total BTEX concentrations in down gradient well MW-6 are relatively stable but were noticeably less than historical highs.

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.

Analytical Data Summary

Site Name:
Pritchard 2

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						
	3/29/2010	175329MAR10	18.3	2.7	<1.0	71.1
	6/18/2010	131918JUN10	26.5	1.9	<1.0	36.3
	9/10/2010	131610SEP10	20.0	<1.0	<1.0	30.2
	12/4/2010	133004DEC10	17.9	8.7	<1.0	91.6
	3/11/2011	132811MAR11	5.5	2.8	<1.0	65.1
	6/14/2011	151714JUN11	2.2	<1.0	<1.0	16.9
	9/12/2011	151512SEP11	1.9	<1.0	<1.0	23.3
	1/3/2012	125503JAN12	6.2	8.0	<1.0	78.1
MW-2						
	9/10/2010	134210SEP10	4490	10600	277	7700
	3/11/2011	140211MAR11	3690	6380	243	5440
	1/3/2012	132803JAN12	721	1280	73.6	1060
MW-3						
	3/29/2010	180329MAR10	6.0	<1.0	<1.0	4.3
	6/18/2010	133118JUN10	4.4	<1.0	<1.0	5.8
	9/10/2010	132710SEP10	17.6	4.3	1.9	20.2
	12/4/2010	134204DEC10	26.5	<1.0	1.9	16.4
	3/11/2011	133811MAR11	10.6	<1.0	<1.0	4.4
	6/14/2011	152914JUN11	10.1	<1.0	1.3	12.0
	9/12/2011	152912SEP11	21.2	<1.0	3.1	22.8
	1/3/2012	130903JAN12	8.3	<1.0	<1.0	7.6
MW-5						
	3/29/2010	181629MAR10	98.7	1.4	1.3	48.4
	6/18/2010	140218JUN10	58.2	1.0	<1.0	28.5
	9/10/2010	140410SEP10	108	3.9	<1.0	90.1
	12/4/2010	135204DEC10	4.6	<1.0	<1.0	8.2
	6/14/2011	154114JUN11	22.1	1.4	1.0	24.0
	9/12/2011	154312SEP11	12.4	<1.0	<1.0	12.6
	1/3/2012	133503JAN12	36.3	5.5	<1.0	31.6

Site Name:
Pritchard 2

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-6						
	3/29/2010	182929MAR10	777	12.2	187	1010
	6/18/2010	141618JUN10	2300	<10.0	510	2650
	9/10/2010	141710SEP10	829	<10.0	166	804
	12/4/2010	140504DEC10	1700	6.6	481	1530
	3/11/2011	142411MAR11	1650	<5.0	268	926
	6/14/2011	155314JUN11	1940	<10.0	450	1340
	9/12/2011	155712SEP11	811	2.0	185	452
	1/3/2012	134603JAN12	1280	<20.0	357	695

2011 PRTCHD Hydrograph

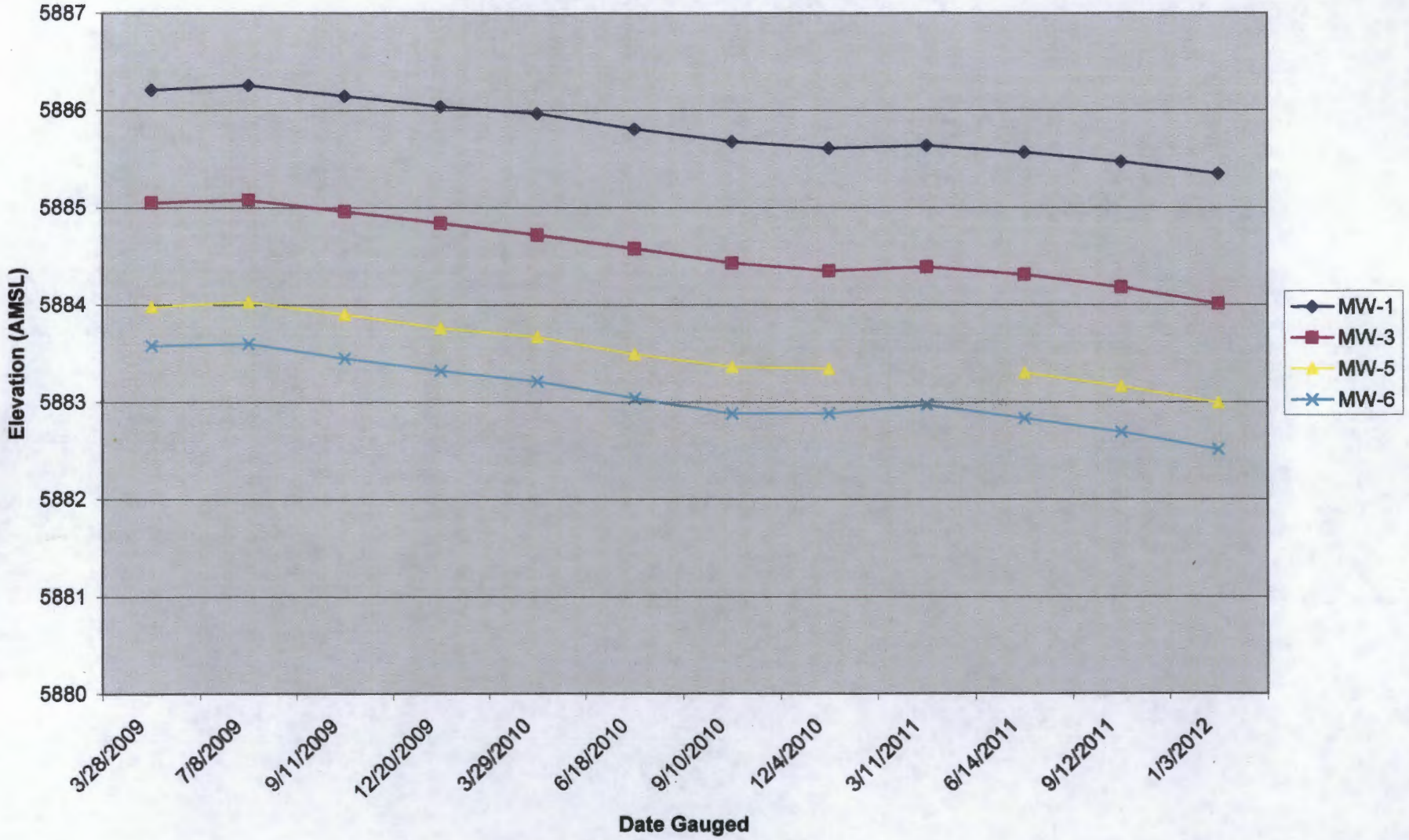

Figure 2
Potentiometric
Surface Map
Pritchard #2
(March 2011)
LEGEND
MW-2
Monitoring Well
6585.20
Ground Water Elevation (ft. AMSL)
Easting (meters)
Northing (meters)
0m
20m
40m
60m
80m
Dirt Road
Pipeline
Arroyo
Surface Water Diversion Ditch
Meter
MW-5
MW-4
MW-3
MW-2
MW-1
Gas Well
Condensate Tank
Produced Water Tank
Separator
Compressor
Amoco Ground Bed
Former Pit (source area)
Produced Water Tank
Dehydrator
Condensate Tank
Pipelines
Arroyo

Figure 2
Potentiometric
Surface Map
Pritchard #2
(September 2011)
LEGEND
MW-2
Monitoring Well
5585.20
Ground Water Elevation (ft. AMSL)
Easting (meters)
Northing (meters)
0m
20m
40m
60m
80m
Dirt Road
Pipeline
Arroyo
Surface Water Diversion Ditch
Amoco Ground Bed
Meter
Former Pit (source area)
Produced Water Tank
Dehydrator
Condensate Tank
Gas Well
Separator
Compressor
MW-1
MW-2
MW-3
MW-4
MW-5
MW-6
5585
5584
5586