3R – 339

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-339

PRITCHARD #2A

Site Summary Report

Site Name: Pritchard 2A **Reporting Period: 2010**

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-five 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 third quarter, 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 also relatively stable but were noticeably less in quarters one and three.

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:
1/1/2008 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	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
	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
MW-2						
	9/10/2010	134210SEP10	4490	10600	277	7700
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
	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

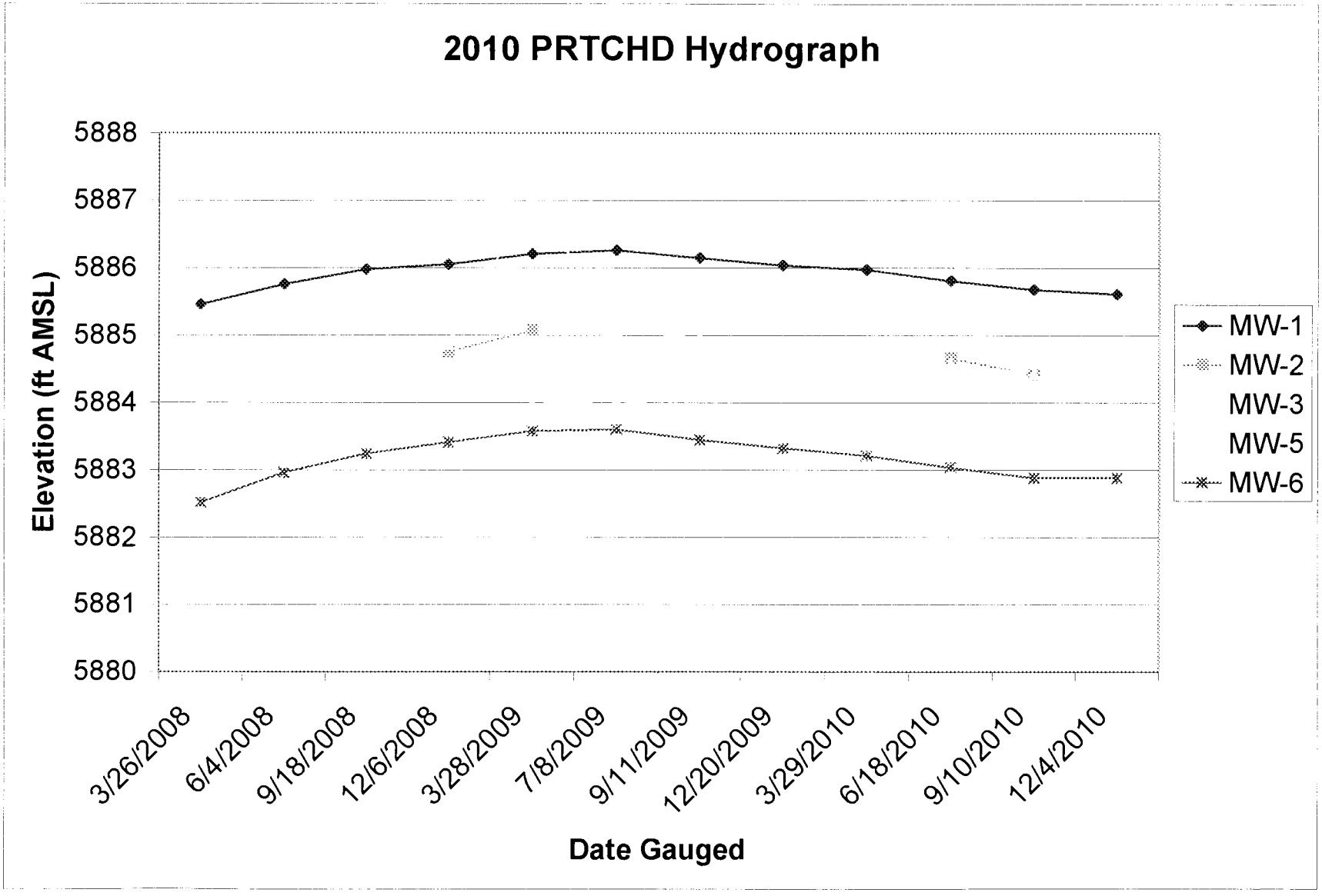
Site Name:
Pritchard 2

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

Well ID	Sample Date	Sample ID	Benzene ug/l	Toluene ug/l	Ethylbenzene ug/l	Xylene (Total) ug/l
MW-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
	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
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
	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

Figure 2
Potentiometric
Surface Map
Pritchard #2
March 2010
LEGEND
MW-2
Monitoring Well
5585.20
Ground Water Elevation (ft. AMSL)
Easting (meters)
258180
258170
258160
258150
258140
258130
258120
258110
258100
258090
258080
258070
258060
258050
258040
258030
258020
258010
Northing (meters)
4080170
4080180
4080190
4080200
4080210
4080220
4080230
4080240
4080250
4080260
4080270
4080280
4080290
4080300
4080310
4080320
4080330
4080340
4080350
4080360
4080370
4080380
4080390
0m
20m
40m
60m
80m
Dirt Road
Pipeline
Pipeline
Arroyo
Surface Water Diversion Ditch
Meter
MW-6
5583.8
MW-4
MW-5
Amoco Ground Bed
5584
MW-3
Gas Well
Condensate Tank
Produced Water Tank
Separator
Compressor
Meter
5584.4
MW-2
Former Pit (source area)
5584.8
Produced Water Tank
Dehydrator
5585.2
Pipelines
MW-1
Condensate Tank
Arroyo

Figure 2
Potentiometric
Surface Map
Pritchard #2
March 2010
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
Meter
MW-6
MW-4
MW-5
MW-3
MW-2
MW-1
5585.4
5585.8
5585.2
5585.6
5585
Gas Well
Condensate Tank
Produced Water Tank
Separator
Compressor
Amoco Ground Bed
Former Pit (source area)
Produced Water Tank
Dehydrator
Condensate Tank
Pipelines
Arroyo


2010 PRTCHD Hydrograph
Elevation (ft AMSL)
5888
5887
5886
5885
5884
5883
5882
5881
5880
3/26/2008
6/4/2008
9/18/2008
12/6/2008
3/28/2009
7/8/2009
9/11/2009
12/20/2009
3/29/2010
6/18/2010
9/10/2010
12/4/2010
Date Gauged
MW-1
MW-2
MW-3
MW-5
MW-6