

**3R – 322**

**2010 AGWMR**

**04 / 29 / 2011**



Environmental Services  
188 CR 4900  
Bloomfield, NM 87413

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2011 MAY -4 A 11: 04

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-322

ICE CANYON  
LINE DRIP

## Site Summary Report

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**Site Name:** Ice Canyon Drip

**Reporting Period:** 2010

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**Location:** Unit B, Sec 15, Twn 26N, Rng 6W

**Canyon:** Largo

**Operator:** Williams

### Status Narrative

This site has eight monitoring wells and one 4-inch well installed as part of a soil-vapor extraction pilot study conducted by PNM. To date, forty-nine quarters of monitoring have been completed. Accumulations of LNAPL in the 4-inch well have not been observed over the last several quarters.

Source area well MW-2 was again not sampled due to a restriction in the well. Previously, measured concentrations showed a decline from earlier monitoring events. Measured concentrations of BTEX in down gradient well MW-5 during the monitoring period were less than WQCC closure standards. Of the wells monitored, only SVE-4in was found to have contamination exceeding WQCC standards. Sentinel well MW-8 continues to show no measurable BTEX as it has for several years.

Potentiometric surface maps (Figure 2) depict a general south-southwest flow direction. The average hydraulic gradient is 0.003. The hydrograph for the monitoring period illustrates seasonal fluctuations in water-table elevations, with highs generally in the Spring. Monitored natural attenuation appears effective at this site with clean closure likely within the next few monitoring periods.

# Analytical Data Summary

Site Name:

Ice Canyon Drip

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						
	3/27/2008	110527MAR08	<1.0	<1.0	<1.0	<3.0
	6/5/2008	133105JUN08	<1.0	<1.0	<1.0	<3.0
	10/1/2008	133201OCT08	<1.0	<1.0	<1.0	<3.0
	12/5/2008	141605DEC08	<1.0	<1.0	<1.0	<3.0
	3/31/2009	121931MAR09	<1.0	<1.0	<1.0	<3.0
	7/9/2009	121709JUL09	<1.0	<1.0	<1.0	<3.0
	9/9/2009	105409SEP09	<1.0	<1.0	<1.0	<3.0
	12/19/2009	125519DEC09	<1.0	<1.0	<1.0	<3.0
	3/30/2010	141630MAR10	<1.0	<1.0	<1.0	<3.0
	6/22/2010	105722JUN10	<1.0	<1.0	<1.0	<3.0
	9/16/2010	120816SEP10	<1.0	<1.0	<1.0	<3.0
	12/8/2010	120208DEC10	<1.0	<1.0	<1.0	<3.0
MW-3						
	3/27/2008	115727MAR08	<1.0	<1.0	<1.0	<3.0
	6/5/2008	135605JUN08	<1.0	<1.0	<1.0	<3.0
	3/31/2009	130931MAR09	<1.0	<1.0	<1.0	<3.0
	9/9/2009	110709SEP09	<1.0	<1.0	<1.0	<3.0
	3/30/2010	143830MAR10	<1.0	<1.0	<1.0	<3.0
	9/16/2010	123116SEP10	<1.0	<1.0	<1.0	<3.0
MW-4						
	3/27/2008	111727MAR08	<1.0	<1.0	<1.0	<3.0
	6/5/2008	141805JUN08	<1.0	<1.0	<1.0	<3.0
	10/1/2008	135401OCT08	<1.0	<1.0	<1.0	<3.0
	12/5/2008	144205DEC08	<1.0	<1.0	<1.0	<3.0
	3/31/2009	132831MAR09	<1.0	<1.0	<1.0	<3.0
	7/9/2009	113809JUL09	<1.0	<1.0	<1.0	<3.0
	9/9/2009	114709SEP09	<1.0	<1.0	<1.0	<3.0
	12/19/2009	132819DEC09	<1.0	<1.0	<1.0	<3.0
	3/30/2010	145730MAR10	<1.0	<1.0	<1.0	<3.0
	6/22/2010	111922JUN10	<1.0	<1.0	<1.0	<3.0
	9/16/2010	124116SEP10	<1.0	<1.0	<1.0	<3.0
	12/8/2010	122108DEC10	<1.0	<1.0	<1.0	<3.0

**Site Name:**

Ice Canyon Drip

**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
<b>MW-5</b>						
	3/27/2008	113027MAR08	33.0	<1.0	7.3	8.5
	6/5/2008	142805JUN08	10.3	4.6	2.6	3.3
	10/1/2008	140601OCT08	4.6	<1.0	<1.0	<3.0
	7/9/2009	112809JUL09	13.0	1.5	2.6	16.9
	9/9/2009	111709SEP09	21.3	2.5	2.8	22.3
	3/30/2010	150930MAR10	1.4	<1.0	<1.0	<3.0
	6/22/2010	114422JUN10	<1.0	<1.0	<1.0	<3.0
	9/16/2010	130216SEP10	1.8	<1.0	<1.0	<3.0
	12/8/2010	123708DEC10	<1.0	<1.0	<1.0	<3.0
<b>MW-6</b>						
	6/5/2008	143905JUN08	1.6	<1.0	<1.0	<3.0
<b>MW-7</b>						
	3/27/2008	114227MAR08	<1.0	<1.0	<1.0	<3.0
	6/5/2008	140605JUN08	<1.0	<1.0	<1.0	<3.0
	10/1/2008	134301OCT08	<1.0	<1.0	<1.0	<3.0
	12/5/2008	142905DEC08	<1.0	<1.0	<1.0	<3.0
	3/31/2009	131931MAR09	<1.0	<1.0	<1.0	<3.0
	9/9/2009	112809SEP09	<1.0	<1.0	<1.0	<3.0
	12/19/2009	130419DEC09	<1.0	<1.0	<1.0	<3.0
	3/30/2010	144730MAR10	<1.0	<1.0	<1.0	<3.0
	6/22/2010	110922JUN10	<1.0	<1.0	<1.0	<3.0
	9/16/2010	131216SEP10	<1.0	<1.0	<1.0	<3.0
	12/8/2010	122808DEC10	<1.0	<1.0	<1.0	<3.0
<b>MW-8</b>						
	3/27/2008	105327MAR08	<1.0	<1.0	<1.0	<3.0
	6/5/2008	131905JUN08	<1.0	<1.0	<1.0	<3.0
	10/1/2008	132201OCT08	<1.0	<1.0	<1.0	<3.0
	12/5/2008	140505DEC08	<1.0	<1.0	<1.0	<3.0
	3/31/2009	120931MAR09	<1.0	<1.0	<1.0	<3.0
	7/9/2009	111609JUL09	<1.0	<1.0	<1.0	<3.0
	9/9/2009	104309SEP09	<1.0	<1.0	<1.0	<3.0
	12/19/2009	124519DEC09	<1.0	<1.0	<1.0	<3.0
	3/30/2010	140430MAR10	<1.0	<1.0	<1.0	<3.0
	6/22/2010	104822JUN10	<1.0	<1.0	<1.0	<3.0
	9/16/2010	120016SEP10	<1.0	<1.0	<1.0	<3.0
	12/8/2010	115308DEC10	<1.0	<1.0	<1.0	<3.0

**Site Name:**

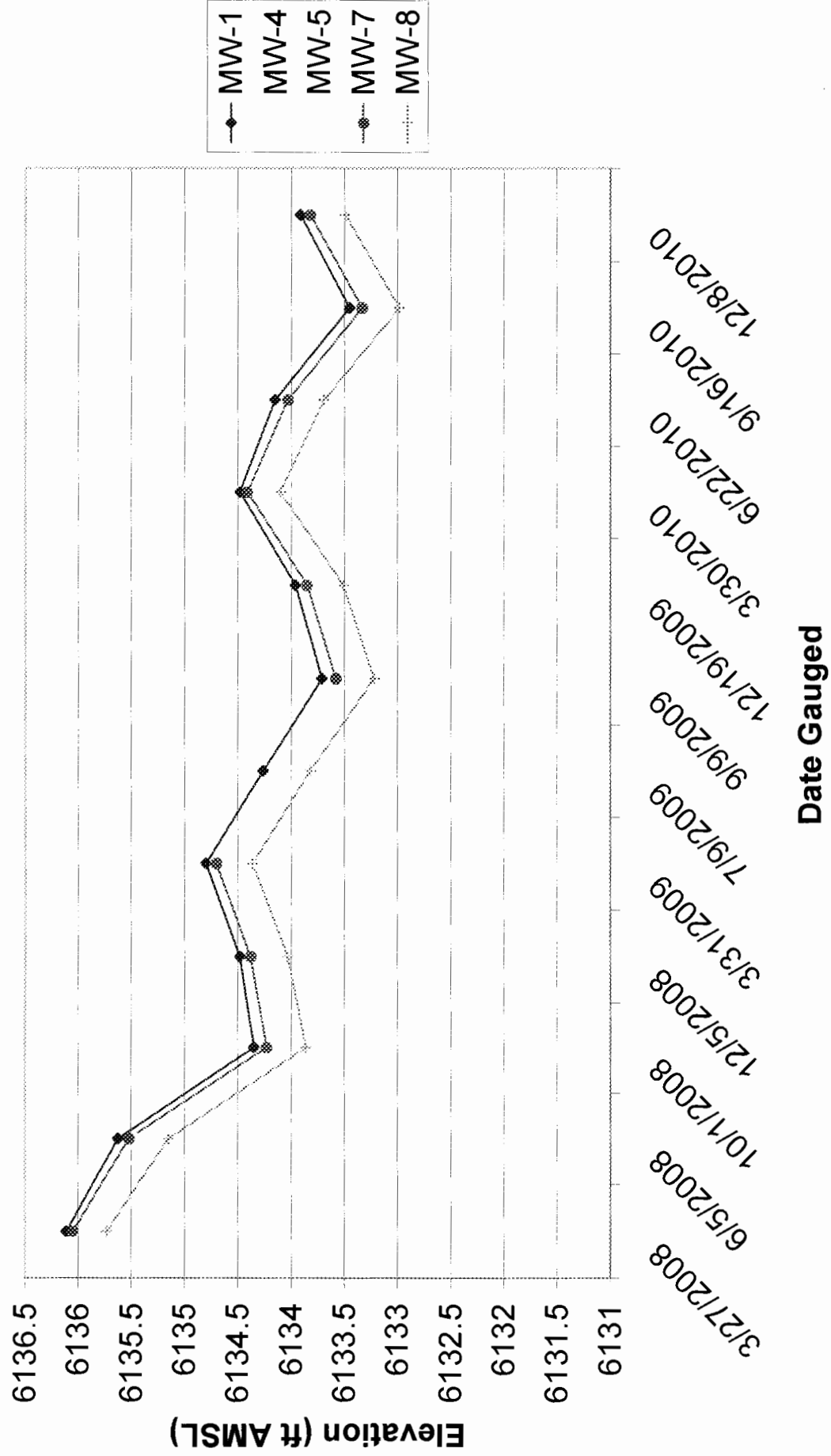
Ice Canyon Drip

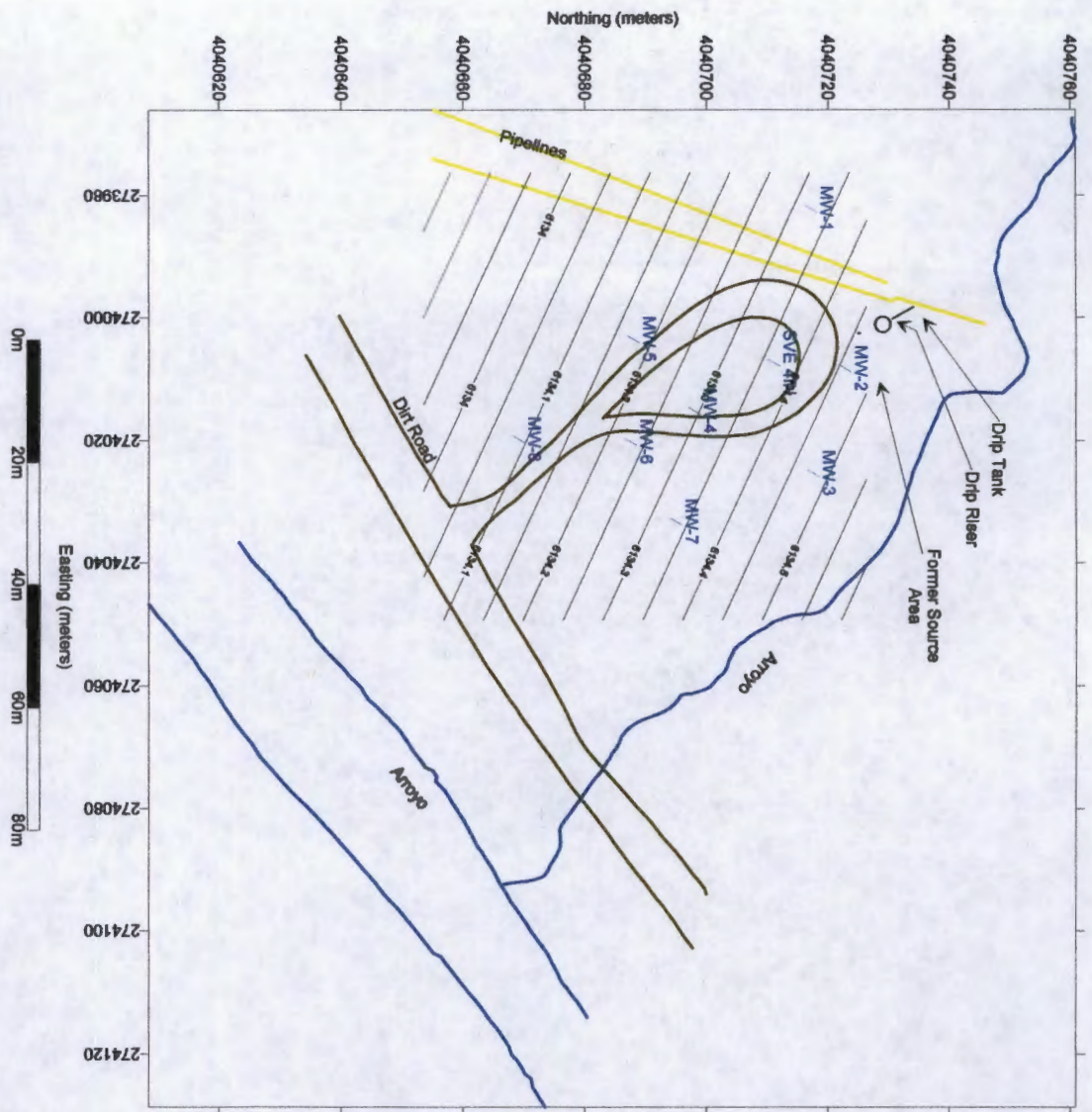
**Reporting Period:**

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
SVE 4IN	12/5/2008	145605DEC08	3.2	1.1	43.8	41.7
	3/31/2009	123831MAR09	4.7	2.2	83.9	155
	7/9/2009	115609JUL09	4.1	1.8	59.7	193
	9/9/2009	120309SEP09	3.1	<1.0	41.6	125
	12/19/2009	132019DEC09	4.6	1.3	88.6	352
	3/30/2010	142830MAR10	5.9	1.5	113	400
	6/22/2010	113222JUN10	6.9	<5.0	105	413
	9/16/2010	125016SEP10	<1.0	<1.0	9.0	<3.0
	12/8/2010	124708DEC10	1.3	<1.0	18.8	29.2

# 2010 ICE Hydrograph





**Figure 2**  
**Potenttiometric**  
**Surface Map**  
**Ice Canyon Line Drip**  
**March 2010**

