

**GAUGING/PRODUCT RECOVERY
APRIL THROUGH MAY 1996
GM POWERTRAIN, ATF AREA
YPSILANTI, MICHIGAN**

PREPARED FOR

**GENERAL MOTORS CORPORATION
POWERTRAIN DIVISION
YPSILANTI, MICHIGAN**

SUBMITTED

**JUNE 1996
TOLTEST PROJECT NO. 70472.28**

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TOLTEST, INC.

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1.0 INTRODUCTION

This report summarizes the field activities conducted by TolTest, Inc. (TolTest) from April through May 1996, at the General Motors Powertrain Division (Powertrain) in Ypsilanti, Michigan. No field activities were conducted during the month of June per Powertrain's decision. Site activities included the gauging and remedial system monitoring of the recovery wells. The sections that follow discuss the field activities performed by TolTest, a summary of system performance.

2.0 MONITORING ACTIVITIES

Monitoring activities conducted by TolTest in the ATF area consisted of groundwater and product thickness gauging and recovery system monitoring performed from April through May 1996. Each of the recovery wells was first gauged with an oil/water interface probe to determine the static water level and the thickness of separate-phase product.

Separate-phase product was detected in the outer wells of all recovery wells and in the inner wells of recovery wells RW-3, RW-10, RW-24, RW-30, and RW-39. At the end of the second quarter, recovery wells RW-3, RW-10, RW-15, and RW-24 show a decrease in product thickness and recovery wells RW-13, and RW-39 show an increase in product thickness. Product thickness ranged from 0.95 to 3.05 in the month of April, and 0.10 to 4.05 in the month of May. No gauging was conducted during the month of June. See appendix A (Groundwater/Product gauging record).

3.0 OPERATION AND MAINTENANCE ACTIVITIES

The pump hardware, pump screen, and plumbing were checked for integrity. The recovery pump controllers were checked for pressure, leaks at all fittings, and pump cycles. Flow measurements were determined by first disconnecting the product discharge line from the fitting connecting it to the holding tank, then using a 1000 ml graduated cylinder measurable product was obtained by allowing the product to discharge into the graduated cylinder for at least five minutes.

Based on the gauging data, pump cycle, system inspection and product flow rate, each of the recovery well systems were optimized as follows:

A. Pulse Pump Pneumatic Pumping System

1. Flow throttle was turn fully clockwise.
2. The refill control was set at the " D " setting.
3. The discharge control was at the " A " setting.
4. The discharge control was gradually increased (in 1/2 sec. increments), giving the pump time to go through 3 to 5 cycles between each adjustment. The discharge control was then increased until air bubbles were seen coming through the pump discharge tubing at the end of the discharge cycle. Pump discharge control was then slowly decreased until air bubbles were no longer seen at the end of the cycle.
5. The refill control was gradually decreased (in 1sec. increments), giving the pump time to go through 3 to 5 cycles between each adjustment. Refill control decreased until air bubbles were seen coming through the pump discharge tubing at the end of the discharge cycle. Refill control was then slowly increased until air bubbles were no longer seen at the end of the cycle.

During the second quarter, repairs were conducted in recovery wells RW-3, and RW-10 . The following is a description of the condition, repairs, and changes performed on the recovery wells:

RW-13: Product discharge line was repaired at the fitting to the holding tank by cutting off approximately 1 inch and reconnecting the line using a compression fitting.

RW-10: Drawdown discharge line was repaired at a section between the recovery pump and the holding tank by cutting off approximately 6 inches and reconnecting the line using a PVC compression fitting. Also, repair was conducted on the product discharge line at a section between the PVC well cap and the product pump by cutting off approximately 2 inches and reconnecting the line using a PVC compression coupling.

APPENDIX A
GROUNDWATER/PRODUCT GAUGING RECORD

GENERAL MOTORS CORPORATION
GM POWERTRAIN DIVISION, YPSILANTI, MICHIGAN
WILLOW RUN PLANT
GROUNDWATER/PRODUCT GAUGING RECORD

Project No: 70472.25

Site Location: ATF AREA

Date: 04/22/96

Field Personnel: JOSE CASTILLO

Well I.D.	Well Type	Inner Well			Outer Well			Comments
		Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	
RW-3	COMBINED	5.40	8.05	2.65	5.35	8.40	3.05	
RW-10	COMBINED	5.89	6.70	0.81	6.14	8.36	2.22	
RW-13	COMBINED	-----	7.45	0	6.75	8.32	1.57	
RW-15	COMBINED	-----	8.18	0	6.61	8.72	2.11	
RW-24	COMBINED	6.74	8.10	1.36	6.68	8.05	1.37	
RW-30	COMBINED	8.80	10.05	1.25	9.40	10.35	0.95	
RW-39	COMBINED	-----	7.50	0	7.60	7.70	0.10	

GENERAL MOTORS CORPORATION
GM POWERTRAIN DIVISION, YPSILANTI, MICHIGAN
WILLOW RUN PLANT
GROUNDWATER/PRODUCT GAUGING RECORD

Project No: 70472.28

Site Location: ATF AREA

Date: 05/16/96

Field Personnel: JOSE CASTILLO

Well I.D.	Well Type	Inner Well			Outer Well			Comments
		Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	
RW-3	COMBINED	5.30	9.35	4.05	5.35	6.75	1.40	Repaired line at fitting to holding tank.
RW-10	COMBINED	5.05	5.30	0.25	5.30	6.30	1.40	Repaired drawdown discharge line and product discharge line
RW-13	COMBINED	-----	6.60	0	6.70	NR	2.3	No water in outer well. Depth to well is 9.0 feet.
RW-15	COMBINED	5.10	5.20	0.01	5.41	5.90	0.49	
RW-24	COMBINED	-----	7.05	0	6.85	7.95	1.10	
RW-30	COMBINED	-----	9.10	0	9.20	10.15	0.95	
RW-39	COMBINED	-----	9.25	0	9.0	10.31	1.31	

**GAUGING/PRODUCT RECOVERY REPORT
APRIL THROUGH MAY 1996**

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YPSILANTI, MICHIGAN**

TOLTEST, INC.