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DATE:24 September, 1997

**FAX TRANSMITTAL**

<b>TO:</b>	<b>Robert Pine</b>	<b>PHONE #:</b> (505) 827-0178
	<b>NM Water Bureau</b>	<b>FAX #:</b> (505) 827-2965
<b>cc:</b>		

<b>FROM:</b>	<b>Don Kidd</b>	<b>PHONE #:</b> (602) 438-0883
	<b>Geraghty &amp; Miller, Inc.; Phoenix, Arizona</b>	<b>FAX #:</b> (602) 438-0102

<b>SUBJECT:</b>	<b>Percolation Test Results</b>	
	<b>THESE ARE TRANSMITTED AS CHECKED BELOW:</b>	
<input type="checkbox"/>	For approval	<input type="checkbox"/> As requested
<input type="checkbox"/>	For your use	<input type="checkbox"/> Approved as noted
<input checked="" type="checkbox"/>	For your information	<input checked="" type="checkbox"/> Review and comment
<input type="checkbox"/>	Returned for corrections	<input type="checkbox"/>

Mr. Pine,

Attached, please find a copy of the percolation test results performed for the Univar project in Albq. This test is provided to you per the request of Mr. George Sylvester of Univar. I can be reached at (602) 438-0883 if you have any questions,

Regards,

Don Kidd

**IF YOU DID NOT RECEIVE ALL PAGES INDICATED ABOVE, PLEASE CALL (602) 438-0883.**

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Project Name: OH

Project #: AZ0

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# DESIGN OF EXFILTRATION GALLERY

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SHEET 1/2

## PERCOLATION TEST RESULTS:

	1	2	3	4	
LOCATION	0+50	1+00	1+50	2+00	3
HOLE DIA.	6"	6"	8"	6"	2
TIME	DROPP IN WATER LEVEL (INCHES)				1
1204	0				0
1207		0			
1208			0		
1209				0	
1219	6	7	6	4	
1227	7.5	9	9	7	
1237	10	11	12	10	
1242	12	12		12	
	4 MIN/IN	5 MIN/IN	3 1/3 MIN/IN	3 1/3 MIN/IN	

## DESCRIPTION OF PERCOLATION TEST:

- 1) POST HOLED 3 FT. BELOW SURFACE.
- 2) FILLED HOLES WITH WATER FROM SITE SUPPLY WELLS AT 5-10 gpm for 5 MIN. (HOLES OVERFLOWED AFTER ABOUT 1 MIN.)

CALCULATIONS:

AVERAGE

Problem: FIND THE PERCOLATION RATE IN MINUTES PER INCH AND SIZE THE RECHARGE GALLERY.

GIVEN: RESULTS OF PERK TEST - VALUES SELECTED FROM EVEN 10 MINUTE INTERVAL TOWARDS END OF TEST.

ASSUME WIDTH OF GALLERY = 5 FT

SOLUTION:

TEST HOLE	1	2	3	4
DROP IN 10 MIN. (INCHES)	2.5	2	3	3
PERC. RATE (MIN/IN)	4	5	3 1/3	3 1/3

AVERAGE PERCOLATION RATE =  $\frac{15 2/3}{4} \approx 4$  MIN/IN H<sub>2</sub>O

Consider Assuming 1 ft<sup>2</sup> at bottom of gallery  $\Rightarrow$  # gal/min/ft<sup>2</sup> =

CONVERSION TO GPM/FT<sup>2</sup> =  $7.48 \frac{\text{GAL}}{\text{FT}^3} \div \left( 12 \frac{\text{IN}}{\text{FT}} \times 4 \frac{\text{MIN}}{\text{IN}} \right) = 0.16 \text{ GPM/FT}^2$

AREA OF GALLERY =  $(150 \text{ GPM} \div 0.16 \text{ GPM/FT}^2) = 963 \text{ FT}^2$

LENGTH OF GALLERY =  $963 \text{ FT}^2 \div 5 \text{ FT} = 193 \text{ FT}$

GALLERY DIMENSIONS: 5 FT X 200 FT

Handwritten notes: 1.48 gal/ft<sup>2</sup>, 4.8

AT 5-10 g for 5 min. (HOLES D<sub>1</sub> FLOWED AFTER ABOUT 1 MIN.)

3) ALLOWED WATER IN HOLES TO PERCOLATE FOR ABOUT 10 MIN.

4) REMOVED "CAVE-IN" FROM LOWER 1 FT. OF HOLE (NOTE: NO GRAVEL AVAILABLE TO BRIDGE OPEN HOLES - COLLAPSE OF THE LOWER PORTION OF THE HOLES DID DECREASE PERCOLATION CAPACITY)

5) FILLED LOWER 2 FT. OF HOLE WITH WATER AND TIMED 1 FT DROP.