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March 8, 2010

Kevin McCurley  
City of Argonia  
PO Box 35  
Argonia, KS 67004

Dear Kevin,

As you requested, KRWA completed a smoke testing of the sanitary sewer system on March 4, 2010. The enclosed report summarizes that work. Enclosed also are 3 DVD's that better identify the problems and locations.

A total of 51 infiltration and inflow (I & I) problems were identified, including:

- 28 clean outs
- 3 places with smoke in the structures
- 1 main line problems
- 5 service lines
- 14 other problems that are identified in the report and on the tapes

I believe that the largest single contributor was the manhole located east of pool near the ball fields. This is should be easy fix by adding extension to manhole.

Manholes with the holes in the lids in low lying areas such as drainage ditches allow large amounts of I & I and debris into the system and could be repaired by using plugs and some caulking.

We also found several places that smoke would not go through, which could be due to sags in the line or blockages and these should be video taped.

We also noted a significant number of sump pumps discharging to the outside, with one connected to a cleanout. Given the number of sump pumps, I believe there is likely an equal or number connected to the sanitary sewer system. These can have adverse effects on the treatment system.

We used three (3) gallons of liquid smoke to complete the smoke testing at a cost of \$90 per gallon. Total cost of smoke testing is \$270.

Please call if KRWA can be of further assistance. KRWA appreciates the opportunity to provide assistance to your community and your support as members.

Sincerely,

Charlie Schwindamann  
Wastewater Tech

CS:ejr  
Enclosure

c: Alan Brundage, Mayor  
John P. Goetz, KDHE District Engineer, Wichita  
Gary Smith, USDA Rural Development  
Brian Spano, P.E., Wilson & Company

Address	Cleanouts	Manhole	Smoke in Structure	Mainline	Service Lines	Other	Comments
Gary Parks						x	sump pump connected to clean out
Trailer house #2	x						clean out needs capped
Trailer house #1 by corner of building	x						clean out needs capped
Betty Moore	x						clean out needs capped
Minnie Clark			x				smoke from under house
Shawnell						x	vent
Petersons	x						clean out needs capped
Shawnell's rental	x				x		service line and cleanout need repaired
By Eric's						x	flush tank
Joyce Reynold's by Barber Shop	x						clean out needs capped
Jessica Finch	xx						2 clean outs need capped
Dwayne Earl	x						clean out needs capped
Rita O'Brian	x						clean out needs capped
Gladys Birch	x						clean out needs capped
behind Friends Church						x	2 inch hole by manhole
Cannonberg's by argonia Mart	x						clean out needs capped
Mark Wedmound						x	old building service needs capped
N. of Ricks service shop	x						clean out needs capped
Royce Cook	x						clean out needs capped
Eldon's Automotive	x						clean out needs capped
Arron Lamb	x						clean out needs capped
Shawnell's trailer house	x						clean out needs capped
Carna Yipes	x						clean out needs capped
next to Carna Yipes			x				smoke under trailer house
N. of Cherry between Pine and Elm						x	main line problem
<b>Next part of tapes</b>							
Mark Wedmound	x						clean out needs capped
by Bradfield's for houses across street	x						clean out needs capped
by Melvin Stevens, between mh's A1 and 00						x	main line problem
Haskell's Rental, SW Ash & Main	x						clean out needs capped

## Sanitary Sewer Smoke Test

City of Argonia

March 4, 2010

Address	Cleanouts	Manhole	Smoke in Structure	Mainline	Service Lines	Other	Comments
Max Davis	x						clean out needs capped
N. of Maple between Main & Plum						x	main line problem
Richard Fornes	x						clean out needs capped
Casey Love	x						clean out needs capped
S. of Harold Loveland						x	old service line needs capped
by Marilyn Peterson's				x			main line problem
Mondela Craig			x				smoke under house
S.W. of Alva Kochly	x						clean out needs capped
Mill & Garfield						x	main line problem
S.E. of High School						x	6 inch service line problem
Tami Martin					xx		2 old service lines need capped
Pat Barkley					xx		2 old service lines need capped
S. of fire barn, Eldons Automotive	x						may have recorded earlier
Car wash S. of Eldons Automotive						x	old car wash connection
East of Furniture store						x	main line problem
Mike Garcia, by garage	xx						2 clean outs need capped
N. of Vine between Elm and Pine						x	main line problem
<b>51 total problems found</b>	<b>28</b>	<b>0</b>	<b>3</b>	<b>1</b>	<b>5</b>	<b>14</b>	