

PUBLIC MEETING

Minutes of a Public Meeting held Wednesday, July 12, 2006 at 7:00 p.m. at the Verdi Club, 689 Texas Road concerning elevated arsenic levels in the groundwater.

Present: Mayor Wayne Hurst
Deputy Mayor Anthony Leardi
Councillor Bob Bailey
Councillor Carl Gibb
Councillor Paul Renaud

Also Present: Frank Pizzuto, CAO
Carol Bendo, HR Specialist/Deputy Clerk
Lori Bratt, Planning Coordinator
Lou Zarlenga, Public Works Manager
Dr. G. Allen Heimann, Medical Officer of Health, Windsor-Essex
County Health Unit
Mr. Kevin Keller, Plant Manager, Honeywell Chemicals
Mike Moroney, District Manager Sarnia-Windsor, MOE
Bruce Harman, Hydrogeologist, MOE

A record of those members of the public in attendance is attached as a schedule and forms part of these minutes.

The slide presentation titled Amherstburg Groundwater, Public Information Session is attached and also forms part of these minutes.

Disclosures of Interest

There were no disclosures of interest.

Frank Pizzuto assumed the Chair and opened the meeting welcoming all those in attendance stating the purpose of the meeting was to update the public concerning the elevated arsenic levels in the groundwater. He reviewed the series of events leading up to this meeting including the following: on May 8th, the Town was advised of elevated levels of arsenic in the groundwater; since then a working group has been formed to address the issue; the situation has an impact on private well users and that the goal of the municipality is to protect the health and safety of the residents of Amherstburg. He then asked the Mayor to address the audience.

Mayor Hurst thanked everyone for coming on behalf of Council and Administration. He introduced the Councillors present expressed regrets from those that could not attend. He also advised the audience that the meeting was being held to give residents a better understanding of the situation with the elevated arsenic levels in the groundwater and stated that the drinking water has not been affected.

Dr. Allen Heimann, Medical Officer of Health, Windsor-Essex County Health Unit addressed Council and the public advising them what the problem is not. He stated that the arsenic in the groundwater is currently not a significant public health risk and that it has not been a health risk in the past either. He stated that the drinking water has not been contaminated. He also stated that as the Health Unit continues to look at the results of the testing coming from the wells, that the residents of Amherstburg have not been exposed to a significant amount of arsenic.

Kevin Keller, Plant Manager, Honeywell Chemicals

Mr. Keller addressed the audience and informed them that Honeywell takes their environmental responsibilities seriously. They are concerned for the health and safety of their employees and neighbours. They are currently reviewing the site and the surrounding area regarding the amount of arsenic in the groundwater.

Mike Moroney, District Manager, Sarnia-Windsor, MOE

Mr. Moroney addressed the audience and stated that the exact source of the arsenic is still being assessed at Honeywell. The information currently available is with regard to the number of wells tested, the results of the testing and what's planned for future steps. He advised that a collaborative approach has been taken between the Town, Honeywell and the MOE. A work group has been formed since the beginning and the primary goal of the group has been to protect the health and safety of the residents of Amherstburg. (Slides 5 and 6). With regard to the assessment of the source of the contamination he advised that an assessment is currently underway which involves the review of test results conducted on the wells to date, and a historical review of the records of ongoing testing conducted by Honeywell since 1990. The movement of the plume is also a very slow flow and moves in relation to the movement of the groundwater itself.

"The ministry takes this issue seriously. The Medical Officer of Health concurs with the ministry's assessment that there is no threat to the municipal drinking water as the Town's drinking water is drawn from the Detroit River, well upstream of the Honeywell property." (Slide 7)

Bruce Harman, Hydrogeologist, MOE

Mr. Harman reviewed the location of the gypsum/soda ash waste bed (see slides number 8 and 9). He then reviewed the history of the development of the chloride plume in the groundwater that has been in existence since the late 70's (see slides 10, 11 and 12). He also explained that the groundwater flows beneath the earth's surface and the plume flows toward the river to the south. Mr. Harman reviewed the estimated extent of the arsenic plume (slide 13). The plume varies in its concentration. In the center of the plume, the concentration of arsenic is 50 ppb and it is not consumable. On the outside of the plume, the water is 25 ppb and it is consumable. It has taken 30 years to expand to this position from the basin. It is following the flow of chloride in the groundwater, through the same path, but at a slower rate. He then reviewed the estimated depth of arsenic plume (slide 14, 15 and 16). It is flowing North-South from the quarry where there are fractures in the limestone. He reviewed the findings to date that describe the fact that the arsenic in the groundwater had migrated off-site at levels over the drinking water standard (slide 17). An area of concern was defined that would affect well water only (slide 18). Well records existed up to 65 years old, however, there was no way of knowing if they were affected. The Town of Amherstburg notified residents with wells in the area of concern so they could proceed with testing their wells. Mr. Harman reviewed the data with regard to well identification and sampling and the subsequent test results. (slide 19 and 20).

Mike Moroney, District Manager, Sarnia-Windsor, MOE

Mr. Moroney addressed the audience and reviewed the slide with regard to how we got here, that is, to discover the elevated of arsenic in the groundwater (slide 21). He also explained that groundwater monitoring was improved to include arsenic and the testing was completed in January 2006. He reviewed the summary of actions taken to date (slide 22 and 23). He also explained that Honeywell has been proceeding toward the fulfillment of the MOE order within the timeframes.

Mr. Moroney reviewed the details of the Provincial Officer's Order (slide 24) and the next steps (slide 25). He also commented that the time required to do a thorough review does not affect the progression of the plume since it is slow moving.

Questions:

An unidentified member of the audience inquired about the nature of the arsenic being organic or inorganic and with regard to the acceptable level of arsenic in the water that would pose a safety concern. She stated that the U.S. is trying to decrease the arsenic in their water below 5 ppb. She also inquired as to whether the watering of lawns and gardens contaminate the soil over time and whether people have been advised with regard

to contact with the water. She inquired if testing has been completed on children or hair samples to determine if the public has actually been affected and expressed her discontent with waiting until General Chemical closed to have a look at this issue that has been present for 60 years.

Bruce Harman, Hydrogeologist, MOE responded that the arsenic was inorganic in nature and that an acceptable level of arsenic in drinking water would be 25 ppb or 25 mg/litre. He commented that the U.S. may be trying to decrease their levels of arsenic in the surface water, not the ground water that would explain why the threshold was lower. He was not familiar with the study to which she was referring. The acceptable levels of arsenic in soil can be 2 to 4 times that amount and in Essex-Kent County the average levels of arsenic in the soil are 5 to 10 ppb. He also stated that information has been requested on the levels of arsenic in the soil, although this is not the issue at hand, a soil assessment is underway. He commented that chloride would have a larger impact on the soil than arsenic would.

Dr. Heimann responded to the comment with regard to human contact with the water. He responded that it depends upon the use of the water. People with wells have been advised not to use them until they have been tested.

Mike Moroney responded to the comment with regard to the length of time that this issue has been in existence. He said that they have had methods to test for these substances over the years and the main issue was the safety of the surface water at the time.

Betty Federico - 12 Texas Rd.

Ms. Federico informed the attendees that they dug a well on Fort St. to water their garden and they were ordered to close the well. She also inquired about who was to pay for the testing of the wells and who is doing the testing.

Bruce Harman, Hydrogeologist, MOE responded that the closing of her well was most likely the result of the levels of chloride, not arsenic and that the settling basin was made to address the amount of chloride that was getting into the ground water at the time.

Mike Moroney, District Manager, Sarnia-Windsor, MOE responded that a certified lab will be doing the testing and Honeywell will be paying for the testing. The lab is Golder and Associates. A copy of the results of the report for the testing of the wells is distributed to the MOE, Honeywell and the Town of Amherstburg.

B. Rajesh, ERCA, Essex

Mr. Rajesh inquired what percentage of the test results were out of control. They also asked what is the plan for remediation and will there be more public meetings.

Mike Moroney, District Manager, Sarnia-Windsor, MOE responded that the wells within the plume were considered elevated. The assessment will be conducted first, prior to a remediation plan being developed. There is a need to gather more information about the source of the arsenic prior to identifying how it can be dealt with. There will also be more public meetings in the future to report out on these items.

J. Amlin - 5580 County Rd. 18

Mr. Amlin, stated that a well outside the area of concern was tested and it contained arsenic.

Bruce responded that 1.0 ppb is a natural occurrence of arsenic in water.

Pricilla Bouvier – 566 Concession 2

Pricilla stated that in 1989 a public meeting was held with regard to General Chemical and pollution in the limestone. She lives on Concession #2. Their well was tested and

closed and although the authorities knew that the well was closed, nothing has been done since.

Bruce Harman, Hydrogeologist, MOE responded that this was the result of chloride contamination in the groundwater and is a non-health related issue.

Mick Pettypiece – 4131 Concession 4

Mr. Pettypiece expressed his discontent with the fact that the well water is contaminated and questioned how much is going into the Detroit River from the groundwater that affects our drinking water. He also inquired about how the waste from Honeywell is being disposed of.

Bruce Harman, Hydrogeologist, MOE explained that the arsenic from the groundwater was not getting into the Detroit River at this time and that he is unsure how long it will take to reach the River. However, the groundwater would be greatly diluted by the volume of water in the Detroit River if it were to seep into it. With regard to the waste from Honeywell, he advised that the water from gypsum point is discharged to the solid ash settling basin to the Detroit River. Under the Mesea regulation, this discharge was monitored and is still being monitored. He stated that what is going into the Detroit River is safe.

An unidentified member of the audience inquired whether arsenic is used in the manufacture of computer monitors.

Mr. Kevin Keller, Plant Manager, Honeywell Chemicals responded that the arsenic is contained in the raw materials that are brought in to make their products, it is naturally occurring in those raw materials, it is not added to the manufacturing process. Part of the study they are conducting is to determine whether the arsenic is organic or inorganic, however, both occur naturally.

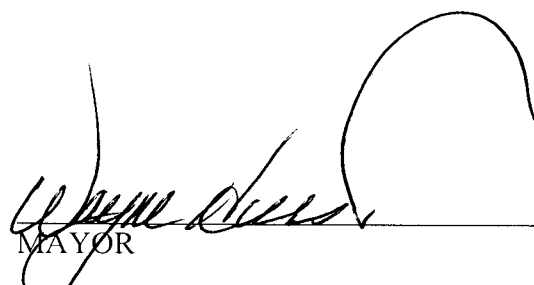
An unidentified member of the audience inquired if there was an increase in production that would have the arsenic levels increase to cause this issue.

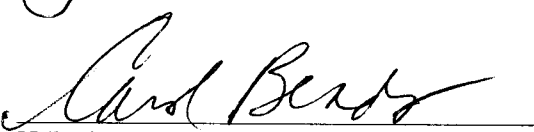
Mike Moroney, District Manager, Sarnia-Windsor, MOE responded that the source of the arsenic is still being studied. The land has had many uses.

Frank Pizzuto closed the meeting by stating that we will have another public meeting in October unless there is information available sooner.

Adjournment

The meeting adjourned at 8:15 p.m.

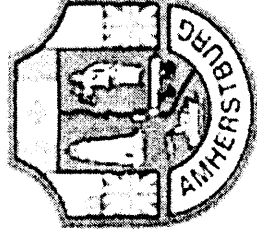

MAYOR


H.R. SPECIALIST/DEP. CLERK

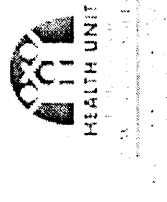
Amherstburg Groundwater

PUBLIC INFORMATION SESSION

July 12, 2006



Honeywell



PUBLIC INFORMATION SESSION

AGENDA

Chair: Frank Pizzuto, Chief Administrative Officer, Town of Amherstburg



Opening comments from His Worship Mayor Wayne Hurst



**Comment by Dr. G. Allen Heimann, Medical Officer of Health,
Windsor-Essex County Health Unit**



Comment by Mr. Kevin Keller, Plant Manager, Honeywell Chemicals



**Presentation by Ministry of the Environment
Mike Moroney, District Manager, Sarnia-Windsor
Bruce Harman, Hydrogeologist**



Questions

Issue Description

- Elevated levels of arsenic have been found in groundwater beneath the Town of Amherstburg.
 - There was some concern that there may be active wells drawing water from this aquifer.
 - The ministry believes that the arsenic originates from the Honeywell property, the exact source is being assessed.
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Meeting objective

- To provide residents with the most current information available.
- To respond to residents' questions.
- To identify next steps.

Collaborative Approach

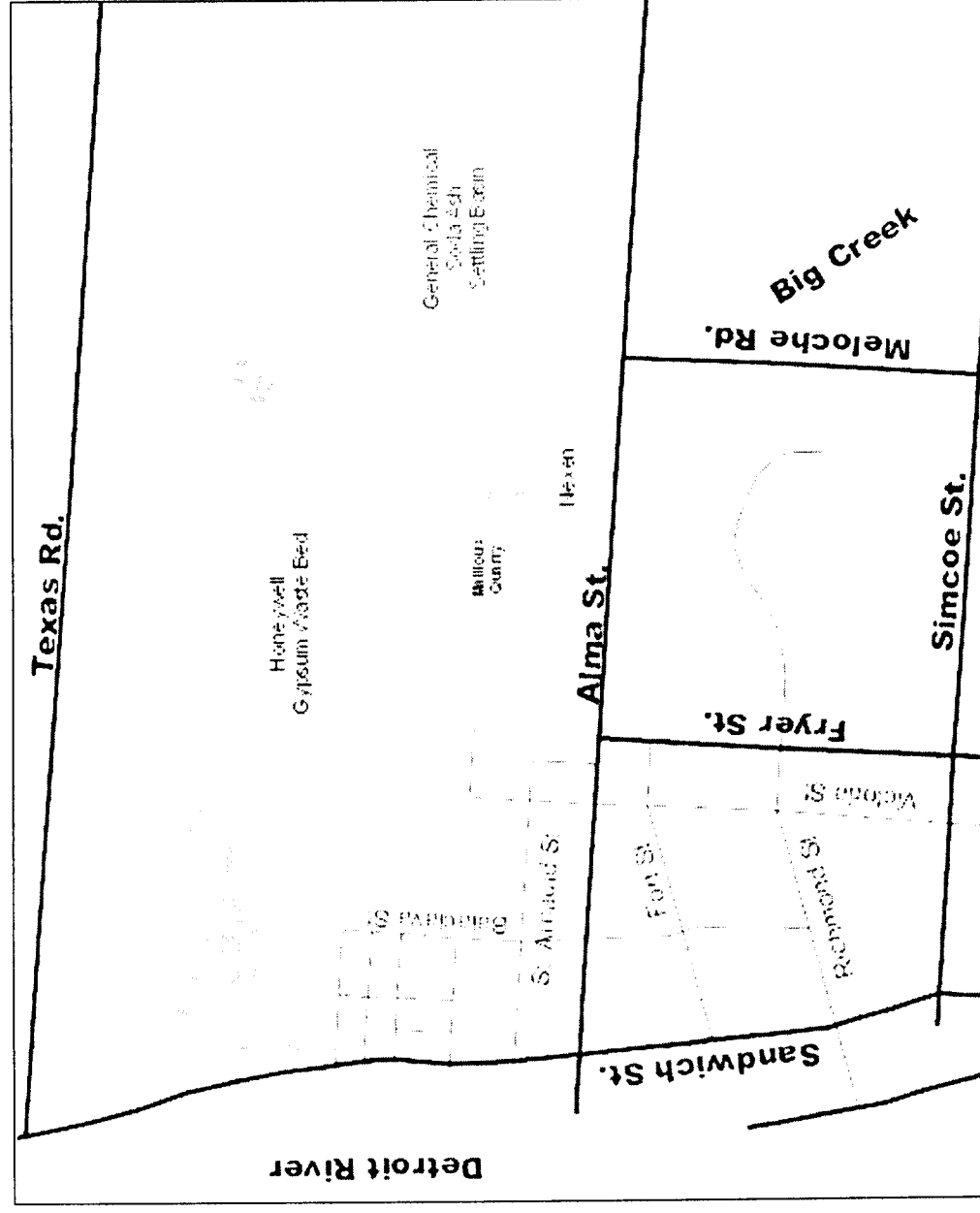
- Key stakeholders have been working together.
 - **Municipality's** priority is the health and safety of the community and the environment.
 - **Health Unit** can address health related questions.
 - **Ministry** ensures compliance with environmental laws.
 - **Honeywell** is committed to ensuring the issue is fully assessed, and that no resident is put at risk.
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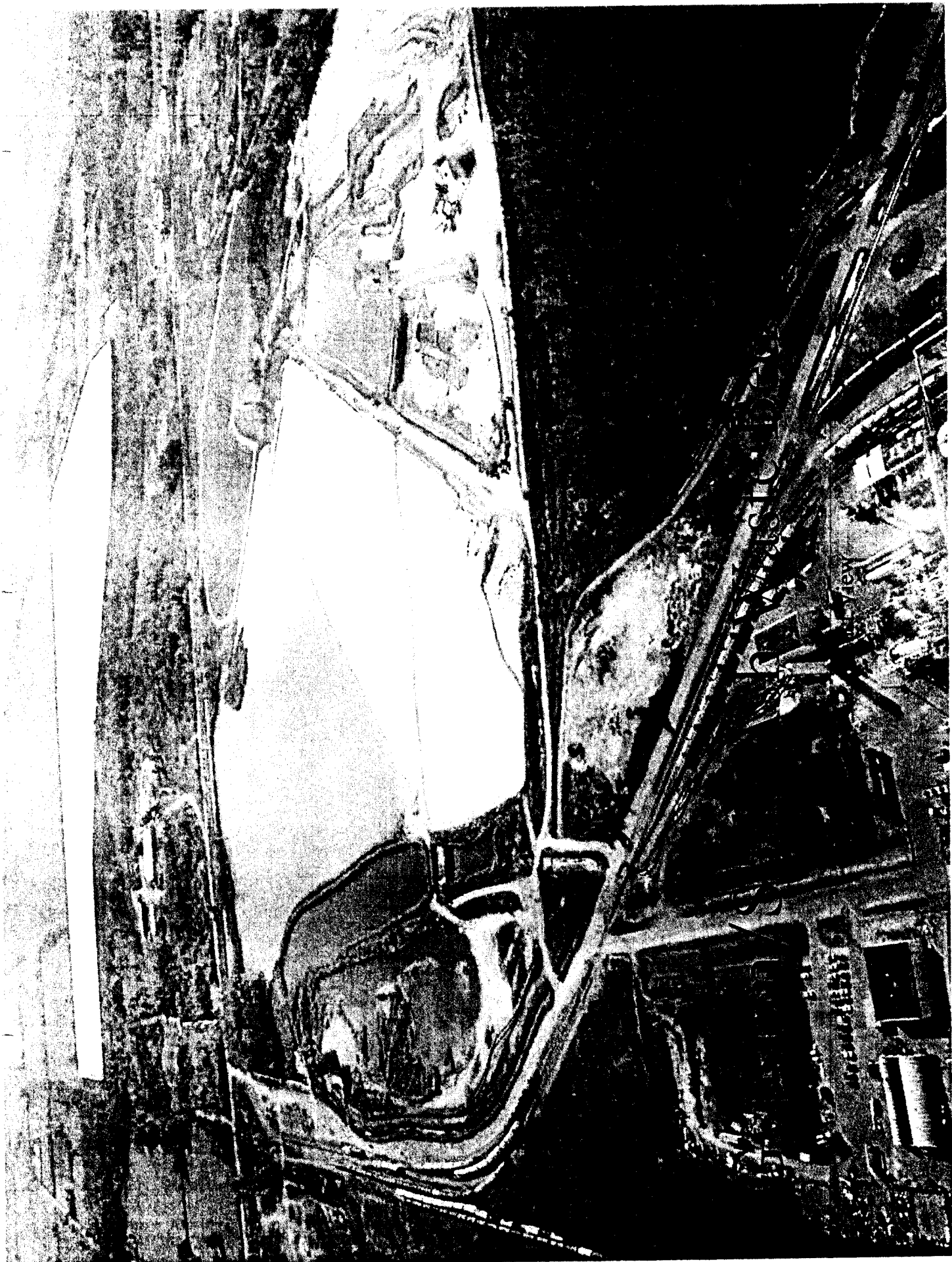
Working Group Mandate

- Every action taken in the assessment of this issue has been focused on ensuring that the health of the residents of Amherstburg is protected.
- Mitigating measures and potential remedies will be assessed to ensure that current and future residents and the environment are protected.

The ministry takes this issue seriously. The Medical Officer of Health concurs with the ministry's assessment that there is *no threat to the municipal drinking water* as the Town's drinking water is drawn from the Detroit River, well upstream of the Honeywell property.

Amherstburg Location Plan

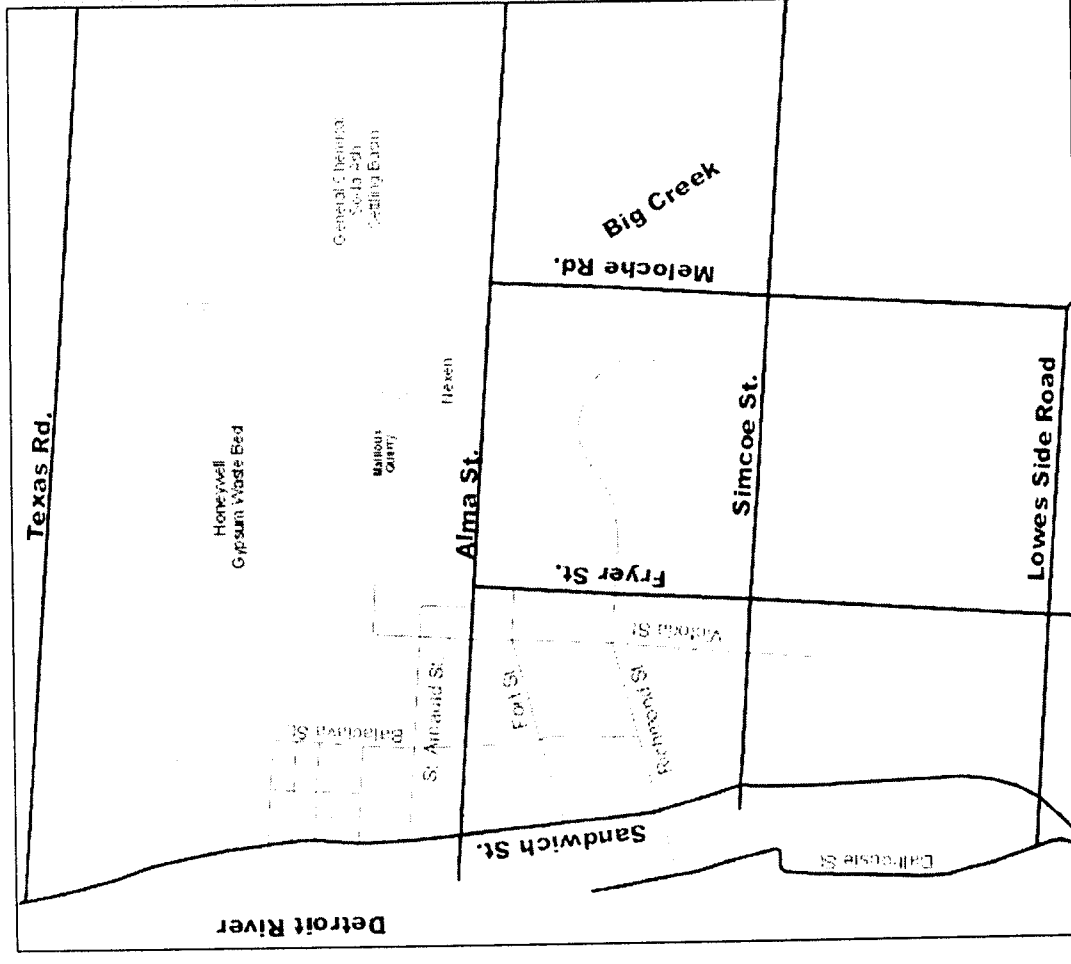




Background

- There has been a known chloride plume in the groundwater since the late 70's.
 - Chloride is non toxic, however produces a salty taste when concentration exceeds 250 mg/L.
 - Chloride was in the waste from the soda ash manufacturing process.
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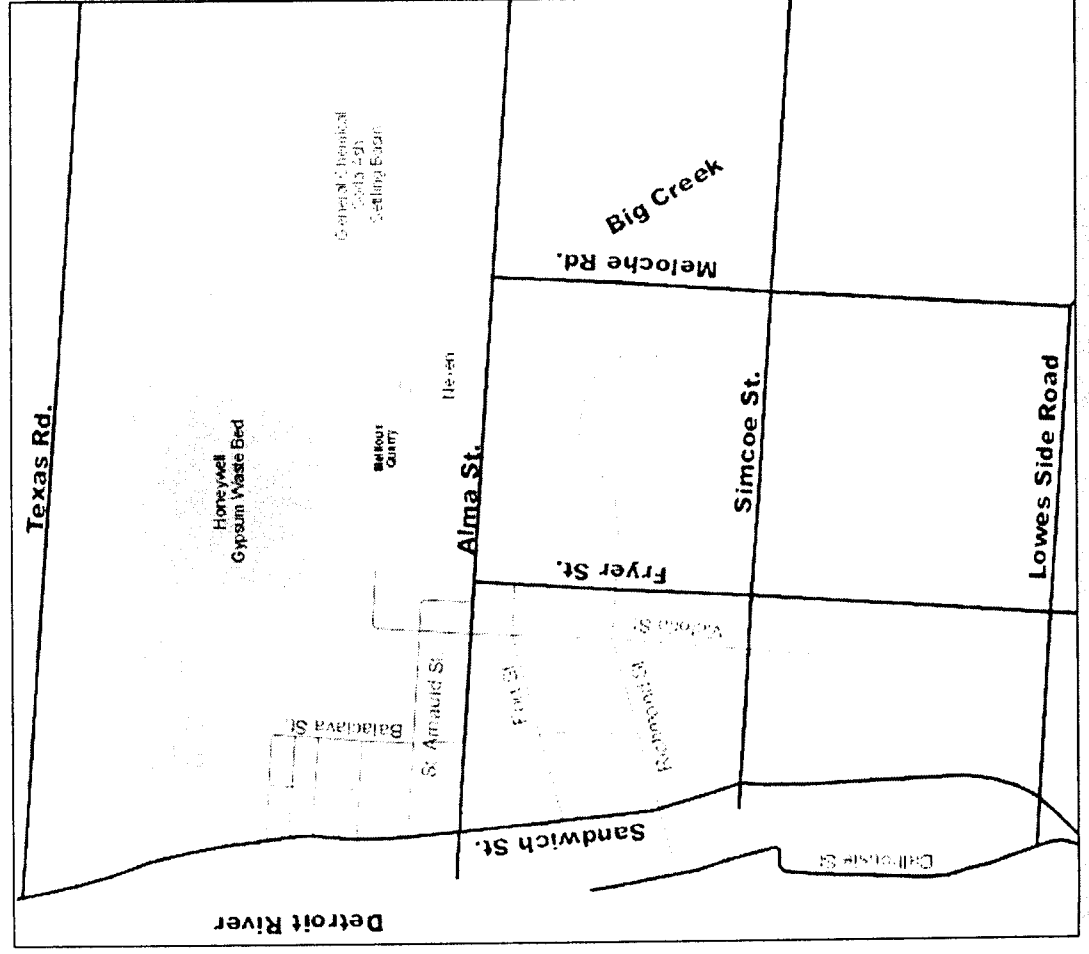
Background: Chloride Plume



Background – cont’d

- Honeywell manufactures hydrofluoric acid, using Fluorspar ore as a raw material.
 - Fluorspar naturally contains arsenic, which is not required in the end product, therefore becomes part of a dual waste stream, one of which is sent off-site to an approved waste disposal facility, the other remains onsite and flows into the gypsum waste bed.
 - On site waste disposal commenced in 1970’s and continues today.
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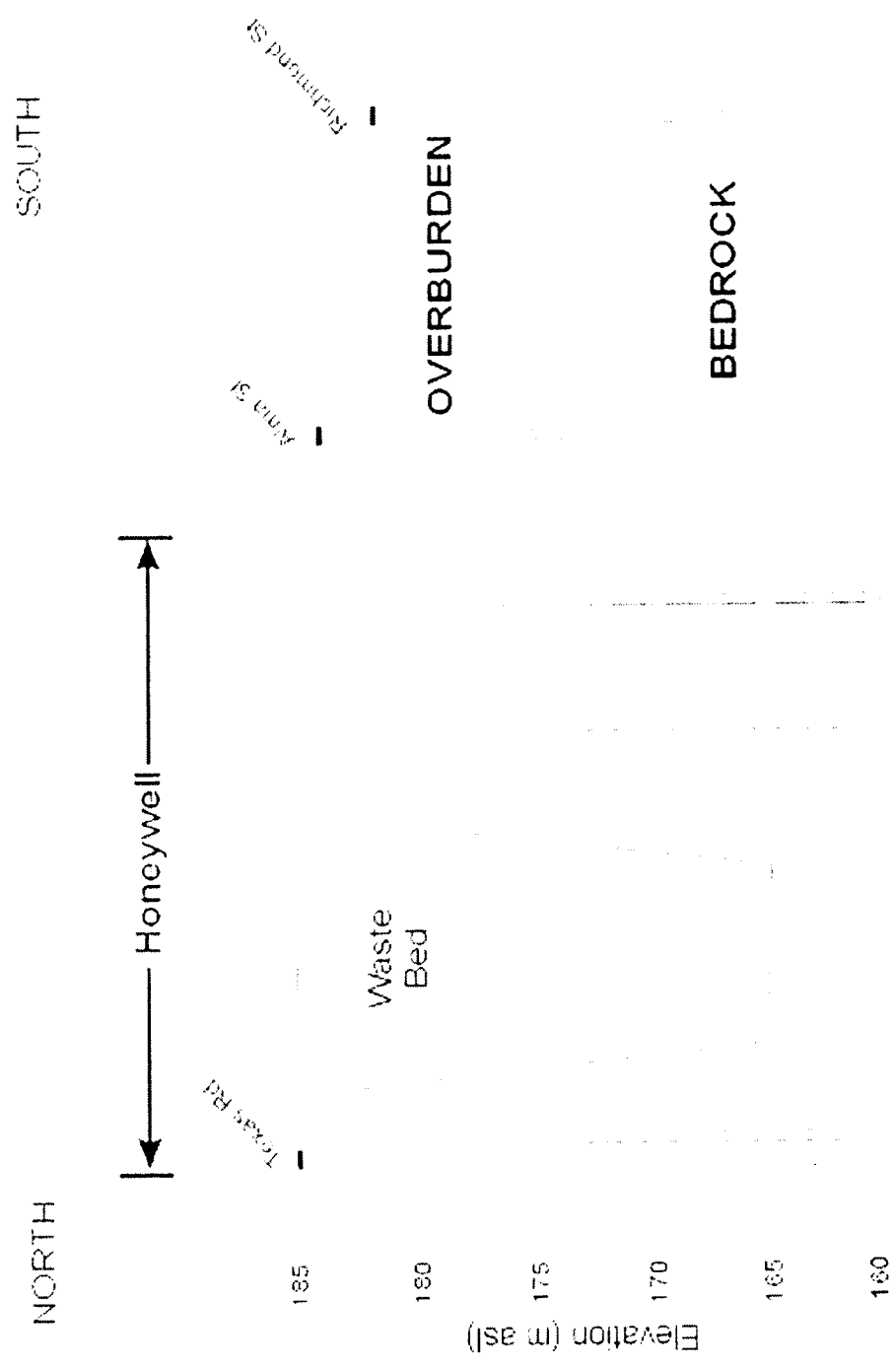
Estimated Extent of Arsenic Plume



Estimated depth of the arsenic plume

- Tests have shown that the arsenic is in a deep groundwater zone.
 - Depth of contaminated groundwater is 8 to 20 metres below ground level (26-65 feet).
 - No opportunity for the arsenic to seep upwards into the soil.
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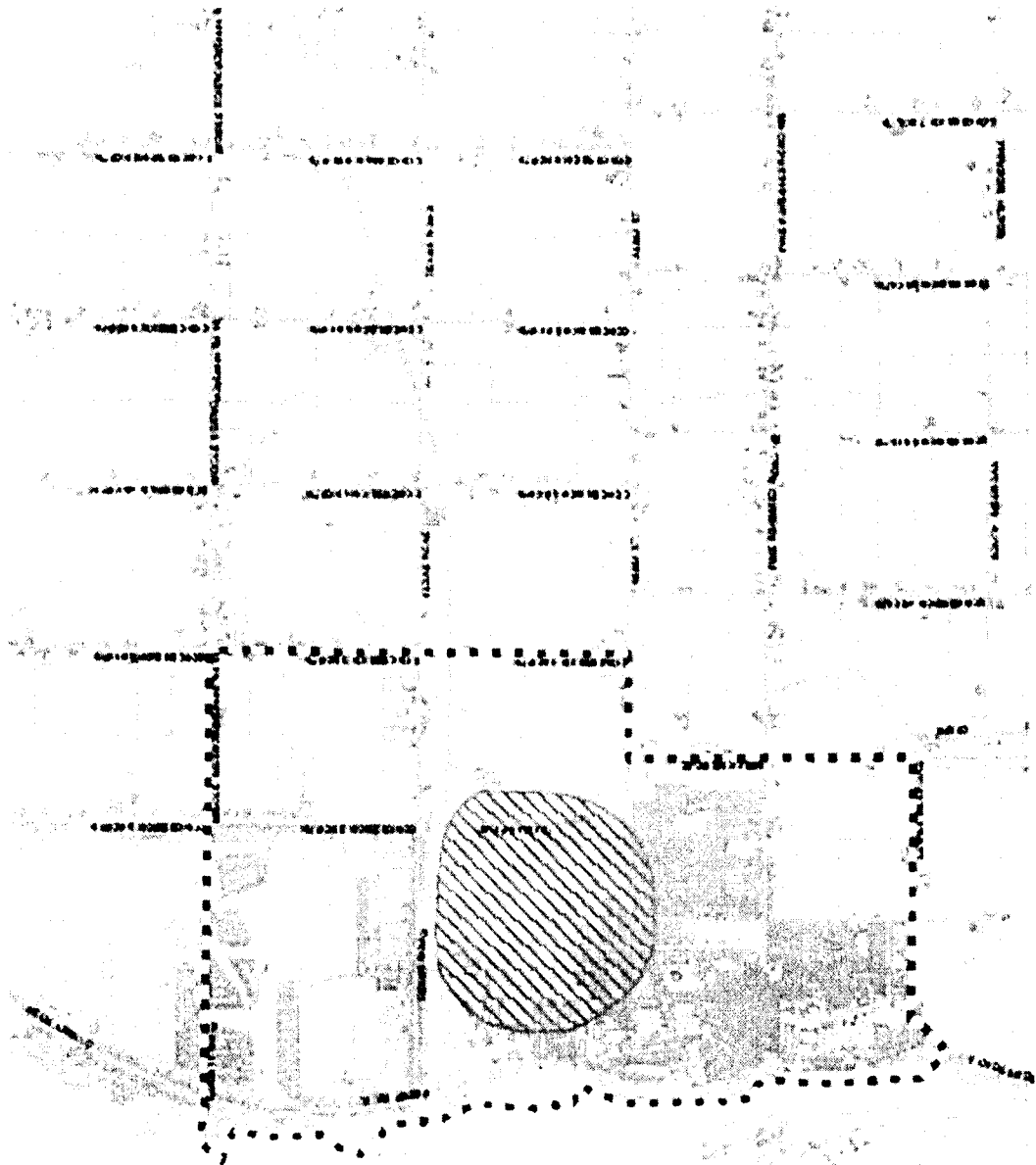
Geologic Cross Section



Findings to date

- When arsenic was found in the groundwater beneath Honeywell property, additional testing was done to establish the extent, if any, of off-site contamination.
 - Test results showed that arsenic in the groundwater had migrated off-site at levels over drinking water standard.
 - Municipality notified residents in a defined area of concern.
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Established Area of Concern



Well identification and sampling

- As of July 12, 2006:
 - 16 residents had notified the ministry that there was one or more private wells on their property.
 - 10 wells were confirmed to exist within the area of concern and arrangements made to draw samples and test for arsenic and chloride.
 - Identified wells were being used primarily for watering gardens and lawns. Only one well was being used for drinking water and results indicate no measurable levels of arsenic.
-

Test results

- Two wells have concentrations of arsenic that did not meet drinking water standards and residents have been advised that these wells should be professionally decommissioned.
- For confirmatory purposes, at least two samples were drawn from every well tested.

How did we get here?

- General Chemical insolvency
- First results in September 2005
- Request for second & third round of testing
November 2005 & January 2006
- Confirmatory testing with ministry laboratories
April 2006

Summary of actions taken to date

- Municipality and Medical Officer of Health advised of off-site results May 8, 2006.
- Working group established with representatives from Ministry of the Environment, Windsor-Essex County Health Unit, Municipality, and Honeywell.
- Area of concern identified.
- Town council briefed May 8, 2006.

Summary of actions – cont'd

- Municipality issued press release May 10, 2006
 - Notification by municipality to residents in area of concern May 12, 2006.
 - Well testing by Honeywell consultant started May 18, continued into June.
 - June 1st, Ministry issued an order to Honeywell for a full assessment and report to be completed and submitted to the ministry by September 1, 2006.
 - Working group meets weekly.
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Provincial Officer's Order

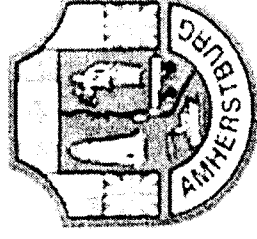
- Honeywell is complying with the requirements of the MOE Order
 - To provide historical data on arsenic in the groundwater,
 - To determine the path and advancement of the arsenic plume,
 - To identify the conditions at the facility that may have contributed to the elevated levels of arsenic in the groundwater; and
 - To develop a plan for potential remedies.
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Next Steps

- Both Honeywell and the ministry continue to review their records for historical information.
- By September 1, 2006 Honeywell will develop a complete assessment plan to be reviewed by the ministry.
- Decommissioning of wells with elevated levels of arsenic.
- On going meetings of working group.
- Updates to Council by Chief Administrative Officer.
- Further updates to the Community.

Amherstburg Groundwater

Questions?



Honeywell



 **Ontario**

PUBLIC MEETING

Date: July 12, 2006
 Concerning Elevated Arsenic Levels in the Groundwater
Attendance Record

NAME	ADDRESS	SIGNATURE
RAJESH B	ERCA, ESSEX	B. Rajesh
Amlin @ of	5580 City Rd 18, Amherstburg	Amlin
JOHN BYTON	23 MAIN ST. A'BURG.	John Byton
Derek Fletcher	1945 Canard LaSalle	Derek Fletcher
KEVIN KELLER	HONEYWELL	Kevin Keller
Trevor Diggins	" "	Trevor Diggins
Kelly Anderson	" "	Kelly Anderson
Giovanni Grande	" "	Giovanni Grande
Jon Moran		Jon Moran
Risella Bouverie	566 Core H2 A'burg	Risella Bouverie
CHARLES SQUIRE	125 ILLINOIS ST. A'BURG.	Charles Squire
Cora Corriera	857 Lawrence Rd. Windsor	Cora Corriera
Rob Bell	Dillon Cusidry, Dezel Dr Under	Rob Bell
J. Levy	Essex ON.	J. Levy
B. Levy	" "	Barbara Levy
Frank Cristofani	Amherstburg	Frank Cristofani
Peter Sichen	311 Taylor Dr	Peter Sichen
Dolores Sichen	311 Taylor	Dolores Sichen
Michael Sichen	311 Taylor	Michael Sichen
David Munro	3915 Southport Drive	David Munro
KLARA FORETEK	3521 Mc Bruce Road	Klara Foretek
Colleen Byford	179 Sandwich St. N.	Colleen Byford
Shirley Byford	179 Sandwich St. N.	Shirley Byford
Bruce Cleary	83 Green Ave A'burg	Bruce Cleary
Rosewood	312 ERF. ST. WINDSOR	Rosewood
ROBERT SPEARING	4483 HTH CONC.N	Robert Spearing
JOSEPH CAPALDI	3140 Northstar Dr	Joseph Capaldi
DAVE MAILLOUF	56 ALMA	Dave Maillof
BETTY FEDERICO	12 TEXAS RD A'BURG	Betty Federico
Antonina Sawo	760 Secon Con Burg	Antonina Sawo
Vincenzo Salvati	159 Texas Road.	Vincenzo Salvati
M. Werkman	AIM ENVIRONMENTAL	M. Werkman
P. TRIVAN	AMHERSTBURG	P. Trivan
LORY BRATT	A'burg Planning Comm	Lory Bratt

