Department of Environmental Conservation

Division of Environmental Remediation

Record of Decision

Jarl Extrusions Site
Pittsford, Monroe County
Site Number 8-28-005

March 1998

New York State Department of Environmental Conservation
GEORGE E. PATAKI, *Governor* John P. Cahill, *Commissioner*

DECLARATION STATEMENT - RECORD OF DECISION

Jarl Extrusions Site
Pittsford, Monroe County
Inactive Hazardous Waste Site No. 8-28-005

Statement of Purpose and Basis

The Record of Decision (ROD) presents the selected remedial action for the Jarl Extrusions Inactive Hazardous Waste Disposal Site which was chosen in accordance with the New York State Environmental Conservation Law (ECL). The remedial program selected is not inconsistent with the National Oil and Hazardous Substances Pollution Contingency Plan of March 8, 1990 (40CFR300).

This decision is based upon the Administrative Record of the New York State Department of Environmental Conservation (NYSDEC) for the Jarl Extrusions Inactive Hazardous Waste Site and upon public input to the Proposed Remedial Action Plan (PRAP) presented by the NYSDEC. A bibliography of the documents included as a part of the Administrative Record is included in Appendix B of the ROD.

Assessment of the Site

Actual or threatened releases of hazardous waste constituents from this site, if not addressed by implementing the response action selected in this ROD, present a current or potential threat to public health and the environment.

Description of Selected Remedy

Based upon the results of the Remedial Investigation/Feasibility Study (RI/FS) for the Jarl Extrusion Site and the criteria identified for evaluation of alternatives, the NYSDEC has selected a containment remedy for the site. The major components of the remedy are as follows:

- Excavation of contaminated surface soils along the eastern side of the site, and consolidation of this material within the former impoundment areas;
- Excavation of the cistern and associated contaminated soils, and consolidation of this material within the former impoundment areas;

- Design and construction of an asphalt cover system which will take possible future site uses into consideration. The cover system will be graded appropriately and will include appropriate drainage features to promote surface drainage away from the impoundment areas;

- Preparation and implementation of a long term Operation and Maintenance (O&M) plan for the cover. O&M activities include periodic repairs and sealing of the asphalt layer, and other maintenance as necessary;

- Preparation and implementation of a long term groundwater monitoring plan which will allow the effectiveness of the remedy to be monitored;

- Deed restrictions will be pursued to prevent future uses of the site which are incompatible with the selected remedy.

New York State Department of Health Acceptance

The New York State Department of Health concurs with the remedy selected for this site as being protective of human health.

Declaration

The selected remedy is protective of human health and the environment, complies with State and Federal requirements that are legally applicable or relevant and appropriate to the remedial action to the extent practicable, and is cost effective. This remedy utilizes permanent solutions and alternative treatment or resource recovery technologies, to the maximum extent practicable, and satisfies the preference for remedies that reduce toxicity, mobility, or volume as a principal element.

3/31/98
Date

Michael J. O'Toole Jr., Director
Division of Environmental Remediation

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SECTION 1: SITE LOCATION AND DESCRIPTION

The Jarl Extrusions site is a 21 acre site located on the north side of Linden Avenue in the Town of Pittsford, N.Y. The general area around the site consists of commercial and light industrial properties. The site is bordered on the south by Linden Avenue, and on the west by a light industrial facility. The site is bordered on the north by a wooded ravine and a tributary of Irondequoit Creek (Tributary #9). The site is bordered on the east by the Sigismondi Landfill, which is a Class 2 site (#8-28-011) on the registry of Inactive Hazardous Waste Disposal Sites in New York State. Figure 1 shows the site location and Figure 2 shows site details.

SECTION 2: SITE HISTORY

2.1: Operational/Disposal History

The Jarl Extrusion site began making aluminum products in 1953. From 1953 until 1956, wastewaters generated from plant production processes were discharged into the ravine at the north end of the site and/or into a former ravine to the east of the site (since filled and now part of the Sigismondi landfill). After 1956, wastewaters from manufacturing were pumped into two retention impoundments on the north side of the plant buildings. An estimated 200,000 gallons per year of untreated wastewaters were discharged into the impoundments. These wastewaters primarily contained inorganic contaminants (metals) from the aluminum extrusion processes, but likely also contained some organic contaminants as well. Periodic overflows of the impoundments were reported by State and County agencies between 1956 and 1968. In 1976, a pretreatment system was constructed within the plant and wastewaters were discharged to the municipal sewer system following on-site pre-treatment. Plant operations ceased in 1988 when the property was acquired by the Alcan Aluminum Corporation. The property was acquired in 1997 by the Associated Tool & Die Company.

2.2: Remedial History

Several investigations have been performed at the site. In 1982 and 1985/86 investigations were undertaken to locate and delineate the extent of the former wastewater impoundments used during

site operations. During these investigations, soil samples were collected from the impoundment areas, and several groundwater monitoring wells were installed and sampled. Results of sampling indicated that metals such as aluminum and chromium are present in impoundment soils, and chromium, hexavalent chromium, and other metals are present in groundwater above standards.

SECTION 3: CURRENT STATUS

In 1990 Alcan began a Focused Remedial Investigation (RI) to determine the extent of contamination in site soils and groundwater. The approved RI Report describing this work is dated October 1996. A Supplemental RI Report was prepared by Alcan and presents results from subsurface investigations under the main building. The Supplemental RI Report was approved by the NYSDEC in October 1996. A Feasibility Study that evaluated various remedial alternatives assembled to address site contamination was approved by the NYSDEC in August 1997. These reports can be found in the document repositories.

3.1: Summary of the Remedial Investigations

During 1985 and 1986 a limited site investigation was performed to locate the former surface impoundments. Activities performed at this time included:

- Geophysical surveys to help identify the limits of the impoundments;
- Soil borings and groundwater monitoring well installations;
- Groundwater sampling and analysis; and
- Test pit excavations within the surface impoundments to determine the limits of wastes.

A report entitled "Jarl Extrusions, Inc. Site Investigation," dated March 1986, was prepared to summarize these investigations.

Due to the presence of hazardous waste and concerns about groundwater contamination from the site, the site was reclassified by the NYSDEC in 1988 from a Class 2a to a Class 2 site in the Registry of Inactive Hazardous Waste Disposal Sites. A Class 2 designation indicates that the site has been determined to be a significant threat to human health or the environment, and action is required. In July 1990 a Remedial Investigation Workplan was approved by the NYSDEC for an investigation to fully characterize the nature and extent of site contamination.

Various RI activities were performed from 1990-1996 and included:

- Additional impoundment soil boring and sampling;

- Surface soil sampling;
- Air monitoring;
- Additional groundwater monitoring well installation and sampling;
- Cistern and pumphouse water and sediment sampling;
- A health risk assessment of site contaminants in air, soils, and groundwater; and
- A Fish and Wildlife Impact Analysis to evaluate potential site impacts to the surrounding ecology.

To determine which media (groundwater, site soils) contain contaminants of concern, the RI analytical data was compared to environmental Standards, Criteria, and Guidance (SCGs). Groundwater and drinking water SCGs identified for the Jarl Extrusions site were based on NYSDEC Ambient Water Quality Standards and Guidance Values and Part V of NYS Sanitary Code. For the evaluation and interpretation of soil and impoundment solids analytical results, the NYSDEC Technical Administrative and Guidance (TAGM) 4046 - Determination of Soil Cleanup Objectives and Cleanup Levels was used.

Based upon the results of the Remedial Investigation and comparison with the SCGs and potential public health and environmental exposure routes, remedial measures are appropriate at the site in order to reduce the potential for future direct human exposure to the impoundment solids. General results of the investigations are summarized below. More complete information can be found in the RI Report.

Geology

The overburden in the vicinity of the site consists of fine grained sands, silts, and clays with gravel. While bedrock was not encountered during monitoring well installation, regional information suggests that the bedrock at the site is a dolostone and the depth to bedrock in the vicinity of the site is approximately 125 feet.

Hydrogeology

The site lies within the Irondequoit Creek drainage basin. Both surface drainage and groundwater flow within the area is generally to the north toward Lake Ontario. Two separate water bearing zones are present within the overburden at the site.

The shallow ground water zone consists of horizontally laminated clayey silt with occasional fine-grained sand horizons. The shallow zone extends from approximately 6 feet below grade to approximately 30 feet below grade. Below the shallow zone is an unsaturated, fine grained sand and silt unit. This lower unsaturated unit appears to somewhat restrict vertical movement of groundwater from the upper water bearing zone to the deeper groundwater zone.

The deep groundwater zone is contained within a horizontally laminated silty sand unit that forms part of the Irondequoit aquifer. The deep zone is believed to be approximately 60 feet thick, extending from approximately 65 feet below ground surface to the top of bedrock. The hydraulic conductivity of the deep groundwater zone is approximately 3 orders of magnitude higher than the hydraulic conductivity of the shallow groundwater zone.

Groundwater

Groundwater samples were collected from monitoring wells installed within the shallow and deep overburden (above bedrock) water bearing units. Groundwater samples were analyzed for the presence of Volatile Organic Compounds (VOCs) and metals.

VOCs were detected within both the shallow and deep groundwater. However data obtained from several rounds of sampling showed the VOCs to be sporadically distributed and did not indicate patterns of VOC contamination that would define a consistent VOC contaminant plume. Many contaminants detected in one round of sampling were not detected in subsequent rounds. VOCs detected included 1,2 dichloroethene at up to 80 parts per billions (ppb), trichloroethene at up to 46 ppb, and trace amounts (<10 ppb) of 1,1,1 trichloroethane, benzene, and toluene. Several additional VOCs were detected in some of the groundwater samples, but are believed to have been introduced to the samples in the laboratory or through faulty sampling techniques. These compounds include methylene chloride, acetone, and hexane.

Metals detected in the groundwater suggest that groundwater in the immediate vicinity of the impoundments have been contaminated by solids settled in the impoundments. Aluminum, chromium, hexavalent chromium, lead, manganese, and zinc were detected in elevated concentrations downgradient of the former impoundments. These compounds were also detected in the soils and settled solids present within the impoundments.

In the shallow groundwater zone, the following concentrations of metals were detected: aluminum at up to 89,500 ppb, chromium at up to 431 ppb, hexavalent chromium at up to 90 ppb, lead at up to 51 ppb, manganese at up to 2,770 ppb, and zinc at up to 336 ppb. Metals of concern detected at concentrations in excess of NYS State Class GA standards (suitable for drinking water) or guidance values in shallow groundwater included chromium, hexavalent chromium, and manganese.

In the deep groundwater zone, the following concentrations of metals were detected: chromium at up to 214 ppb, hexavalent chromium at up to 230 ppb, and magnesium at up to 35,600 ppb. Metals

of concern detected at concentrations in excess of NY State Class GA standards or guidance values in deep groundwater included chromium and hexavalent chromium.

Figure 2 shows monitoring well locations and Table 1 summarizes compounds detected in groundwater samples above State standards in groundwater samples.

Former Impoundment Solids

Several VOCs were detected in the former impoundment solids. Compounds detected include 1,2 dichloroethene at up to 160 ppb, trichloroethene at up to 180 ppb, toluene at up to 850 ppb, and xylene at up to 410 ppb. Methylene chloride and acetone were also reported but are suspected of being laboratory induced contaminants.

One semi-volatile organic compound, phenanthrene was detected at 420 ppb in the composite sample taken from the impoundments. No pesticides or PCBs were detected in the composite sample.

Numerous metals were detected in the impoundment solids. Most of the metals detected were present within the concentration range of native (natural) soils within New York State. Aluminum (at up to 59,000 parts per million (ppm)) and chromium (at up to 2810 ppm) were detected in all of the borings, and were detected in concentrations much greater than those typically found in native soils. Table 2 summarizes contaminants detected in the former impoundment settled solids.

Toxicity Characteristic Leaching Procedure analysis (TCLP - a test which determines contaminant leachability from soils or solids) was performed on impoundment solids to test for chromium and lead leachability. None of the solids tested exhibited significant concentrations of lead, and chromium was not detected in the TCLP analysis. This indicates that the impoundment solids are not likely to pose a future source of lead or chromium contamination for groundwater.

Surface Soil

Surface soil samples collected from areas around the former impoundments in areas known or suspected to have been subject to impoundment overflows were analyzed for VOCs and metals. Trace concentrations (<12 ppb) of the following VOCs were detected: methylene chloride, chloroform, methyl ethyl ketone, 1,1,1 trichloroethane, bromodichloromethane, and toluene. Aluminum and chromium were detected in surface soils near the eastern site drainage ditch (see Figure 2) above both site background concentrations and the typical concentration range for native soils in New York State. Table 3 summarizes contaminants detected above State guidance in surface soils.

Cistern and Pumphouse sampling

Water and sediment (soil) were collected from an old cistern located on the eastern side of the site and analyzed for VOCs and select metals. Water was collected from the eastern and western pumphouses and analyzed for VOCs and select metals (see figure 2 for locations).

VOCs detected in cistern sediment include chlorobenzene (at up to 1,300 ppb), xylene (at up to 340 ppb), toluene (at up to 13 ppb), and ethylbenzene (at up to 39 ppb). Metals of concern detected in cistern sediment include chromium (at up to 2,410 ppm), hexavalent chromium (at up to 0.86 ppm), lead (at up to 722 ppm), and mercury (at up to 0.52 ppm). However, due to the limited volume of the cistern, the amount of impacted soil and sediment in the cistern is very minor.

Metals detected in cistern water above Class GA standards included chromium (at up to 214 ppb), hexavalent chromium (at up to 131 ppb), and lead (at up to 78 ppb). Site contaminants of concern were not detected in the eastern or western pumphouse waters.

No VOCs were detected in cistern or pumphouse waters.

Building Sumps and Pits

In order to fully assess all possible contamination which may have resulted from previous manufacturing activities, soil samples were collected from under sumps and pits in the main process building. Chromium, copper, nickel, and zinc were detected in soils under building sumps and metal finishing pits above site background, in concentrations similar to those detected in the impoundments.

3.2: Summary of Human Exposure Pathways

This section describes the types of human exposures that may present added human health risks to persons at or around the site. A more detailed discussion of the health risks can be found in the Baseline Human Health Risk Assessment contained in Section 7 of the RI Report.

The Baseline Human Health Risk Assessment identified potential exposure pathways from the site (i.e. how an individual may come into contact with a contaminant). The five elements of an exposure pathway are 1) the source of the contamination; 2) the environmental media and transport mechanisms; 3) the point of exposure; 4) the route of exposure; and 5) the receptor population. These elements of an exposure pathway may be based on past, present, or future events.

Completed pathways which are known to or may exist because of the site include:

- Dermal (skin) contact with or incidental ingestion of impoundment solids by site workers or trespassers; and

- Dermal contact with or incidental ingestion of contaminated surface soils near the eastern drainage ditch (near the Sigismondi property boundary) and cistern sediment from the eastern side of the site.

3.3: Summary of Environmental Exposure Pathways

This section summarizes the types of environmental exposures which may be presented by the site. A detailed description of site habitat was performed according to Step I of the NYSDEC's Fish and Wildlife Impact Analysis guidance document. A detailed discussion of fish and wildlife present at and around the site can be found in Section 8 of the RI report. A wooded ravine is situated adjacent to the site and contains a tributary (No. 9) to Irondeqoit Creek. The RI did not evaluate possible impacts on the tributary from the Jarl site as investigation of this tributary will be conducted as part of the adjacent Sigismondi site evaluation.

SECTION 4: ENFORCEMENT STATUS

The NYSDEC and Alcan Aluminum entered into a Consent Order on October 10, 1990 (Index Number B8-0049-84-10). The Order obligates Alcan to conduct a Remedial Investigation and Feasibility Study at the site.

SECTION 5: SUMMARY OF THE REMEDIATION GOALS

Goals for the remedial program have been established through the remedy selection process stated in 6NYCRR 375-1.10. The overall remedial goal is to meet all Standards, Criteria, and Guidance (SCGs) and be protective of human health and the environment.

At a minimum, the remedy selected should eliminate or mitigate all significant threats to public health and to the environment presented by the hazardous waste disposed at the site, through the proper application of scientific and engineering principles.

The goals selected for this site are:

- *Reduce the potential for exposure to contaminants within the impoundment solids, and*
- *Reduce the potential for exposure to contaminants within the site's eastern surface soils and the cistern.*

SECTION 6: SUMMARY OF THE EVALUATION OF ALTERNATIVES

The selected remedy should be protective of human health and the environment, be cost effective, comply with other statutory laws and utilize permanent solutions, alternative technologies or resource

recovery technologies to the maximum extent practicable. Potential remedial alternatives for the Jarl Extrusions site were identified, screened and evaluated in a Feasibility Study. Due to several site specific factors, the alternatives presented below do not include a complete waste removal and disposal alternative. These site specific factors include: the limited exposure potential identified during the RI; the current and future land use possibilities on and next to the site; and the high costs for removal and disposal of the wastes. Evaluation of several of the alternatives considered is presented in the Feasibility Study report dated September 1997.

A summary of the detailed analysis follows. As used in the following text, the time to implement reflects only the time required to implement the remedy, and does not include the time required to design the remedy or procure contracts for design and construction.

6.1: Description of Alternatives

The potential remedies are intended to address the presence of organic and inorganic contaminants within the impoundments, the cistern sediment, and surface soils along the eastern drainage ditch.

Alternative 1: No Action

Present Worth:	$0
Capital Cost:	$0
Annual O&M (30 years):	$0
Time to Implement:	0 months

The no action alternative is evaluated as a procedural requirement and as a basis for comparison This alternative would leave the site in its present condition and would not provide any protection for human health and the environment.

Alternative 2: Institutional Controls

Present Worth:	$85,000
Capital Cost:	$35,000
Annual O&M (30 years):	$4,000
Time to Implement:	2 weeks

Alternative 2 would consist of some physical and institutional controls to limit site access. A fence with warning signs would be installed around the perimeter of the site to deter site access. In addition, deed restrictions would be implemented. A long term groundwater monitoring and sampling plan would also be implemented.

Alternative 3: Asphalt Cover System

Present Worth:	$338,000
Capital Cost:	$276,000
Annual O&M (30 years):	$5,000
Time to Implement:	1 month

Alternative 3 would provide for a physical barrier to the impoundment solids through design and construction of an asphalt cover system. Such a cover system would likely include several inches of asphalt overlying a gravel base layer. The design of such a barrier would consider possible future use of this area of the site. This alternative would also include the removal of contaminated surface soils along the eastern side of the site, as well as removal of the cistern and any associated soils which have been impacted. These soils would be consolidated over the impoundment area prior to cover construction. A long term operation and maintenance (O&M) plan would be instituted which would include appropriate maintenance of the asphalt layer and drainage features as well as groundwater monitoring and sampling activities to evaluate the effectiveness of the remedy. In addition, deed restrictions would be pursued to prevent future site uses which may be incompatible with the cover system.

Alternative 4: Low Permeability Cover System with Groundwater Diversion/Interceptors

Present Worth:	$1,062,000
Capital Cost:	$1,000,000
Annual O&M (30 years):	$5,000
Time to Implement:	6 months

This alternative would provide for the containment of the former impoundment solids through capping and groundwater diversion within the overburden soils. A low permeability cover system (which would either include a layer of plastic or a layer of clay to prevent infiltration) would be designed and constructed to prevent infiltration into the impoundments. In addition, groundwater interceptors or diversion systems would be constructed to prevent lateral shallow groundwater migration through the impoundment materials. This alternative would also include the removal of contaminated surface soils along the eastern side of the site, as well as removal of the cistern and any associated soils which have been impacted. These soils would be consolidated over the impoundment area prior to cover construction. A long term operation and maintenance (O&M) plan would be instituted which would include appropriate maintenance of the cover system and groundwater interceptors, as well as groundwater monitoring and sampling activities to evaluate the effectiveness of the remedy. Deed restrictions would be pursued to prevent future site uses which may be incompatible with the cover system and groundwater interceptor system.

6.2 Evaluation of Remedial Alternatives

The criteria used to evaluate the potential remedial alternatives are defined in the regulation that directs the remediation of inactive hazardous waste sites in New York State (6NYCRR Part 375). For each of the criteria, a brief description is provided followed by an evaluation of the alternative against that criterion. A detailed discussion of the evaluation criteria and comparative analysis is contained in the Feasibility Study.

The first two evaluation criteria are termed threshold criteria and must be satisfied in order for an alternative to be considered for selection.

1. Compliance with New York State Standards, Criteria, and Guidance (SCGs).

Compliance with SCGs addresses whether or not a remedy will meet applicable environmental laws, regulations, standards, and guidance. The most significant chemical specific SCGs for the site include groundwater standards and guidance values contained in NYSDEC Division of Water Technical and Operational Guidance Series (TOGS) 1.1.1 and NYSDEC Technical Administrative and Guidance (TAGM) 4046 - Determination of Soil Cleanup Objectives and Cleanup Levels.

Alternative 1:

No further action would not result in compliance with chemical specific SCGs. Impoundment soils and some other surface soils currently exceed NYSDEC TAGM 4046 cleanup guidance. Groundwater at the site currently exceeds groundwater standards for several organic and inorganic compounds.

Alternative 2:

Similar to the no further action alternative, institutional controls would also not result in compliance with soil or groundwater SCGs.

Alternative 3:

An asphalt cover system would not result in compliance with soil SCGs and may not result in compliance with SCGs for groundwater. However, based upon leachability tests of the impoundment solids, the inorganic contaminants of concern do not appear to pose a significant source for future groundwater contamination. In addition, while the asphalt cover layer is intended to serve as a barrier to prevent physical contact with contaminated soils, it will (when properly maintained) also serve to reduce infiltration into the impoundments. Considering the already low leachability of contaminants and the reduction in infiltration which an asphalt cap could provide, the existing groundwater contaminants outside the impoundment area should eventually attenuate through natural degradation processes.

Alternative 4:

A low permeability cover system with groundwater controls would not result in compliance with soil SCGs but may eventually allow groundwater outside the impoundment areas to achieve chemical specific SCGs. While contaminants would remain on site above SCGs, the nature and concentrations of contaminants would not present a significant source of future groundwater contamination. The low permeability cover system would prevent infiltration into the impoundment solids, and the groundwater diversion/interceptor systems would prevent groundwater from flowing though the impoundment solids. This containment of the solids may reduce the time required for contaminated groundwater to achieve groundwater standards through natural degradation and attenuation processes.

2. Protection of Human Health and the Environment. This criterion is an overall evaluation of the health and environmental impacts to assess whether each alternative is protective.

Alternative 1:

The No Action Alternative would not adequately protect human health and the environment. In its present condition, site access is unrestricted and risks of potential human exposures to contaminated surface soils and impoundment solids would remain.

Alternative 2:

The institutional controls alternative would offer some protection for human health but would not provide any additional protection for the environment. Physical controls would help prevent trespassers potential exposure to site contaminants, but exposure potential would remain for future site users.

Alternative 3:

An asphalt cover alternative would offer protection for human health and the environment by removal of cistern soils and contaminated surface soils, consolidation of this material within impoundment area, and the construction of a physical barrier layer over the impoundment solids. If properly maintained, an asphalt cover could reduce the amount or water infiltrating into the impoundments. This reduction of infiltration should offer some reduction of the potential for contaminants to be mobilized into the site groundwater in the future.

Alternative 4:

A low permeability cover system with groundwater controls would be protective of human health and the environment by both preventing contact with impoundment solids and reducing or eliminating infiltration and groundwater flow through the solids. Consolidation of cistern and surface soils and

containment within the impoundments would reduce the potential for future contaminants to be mobilized into the site groundwater.

The next five "primary balancing criteria" are used to compare the positive and negative aspects of each of the remedial strategies.

3. Short-term Effectiveness. The potential short-term adverse impacts of the remedial action upon the community, the workers, and the environment during the construction and implementation of an alternative are evaluated. The length of time needed to achieve the remedial objectives is also estimated and compared with the other alternatives.

Alternative 1:

Since there are no additional construction activities associated with the no action alternative, there would not be any added short term risks to the community, workers, or the environment. This alternative would not achieve the remedial action objectives.

Alternative 2:

Institutional and physical controls would not cause any added short term impacts to the community, workers, or the environment. Remedial action objectives would not be fully achieved.

Alternative 3:

Construction of an asphalt cover would not cause any significant short term impacts to the community, workers, or the environment. Some minor impacts such as some truck traffic and equipment noise would be expected, but such activities are not uncommon in this area given its commercial/industrial nature. Remedial action objectives would be met quickly.

Alternative 4:

Construction of a low permeability cover system and groundwater controls would pose limited short term impacts to the community, workers, or the environment. Alternative 4 would cause a greater short term increase in truck traffic than Alternative 3. Appropriate health and safety measures would be taken to ensure protection of workers and the community during construction activities. Remedial action objectives would be met relatively quickly.

4. Long-term Effectiveness and Permanence. This criterion evaluates the long-term effectiveness of alternatives after implementation of the response actions. If wastes or treated residuals remain on site after the selected remedy has been implemented, the following items are evaluated: 1) the magnitude of the remaining risks, 2) the adequacy of the controls intended to limit the risk, and 3) the reliability of these controls.

Alternative 1:

The No Further Action alternative would not provide for long term effectiveness or permanence since no remedial measures would be performed. Allowed to remain in its current state, the potential for direct contact with contaminants within the impoundment solids and surface soils on site would continue to exist. No active controls would be implemented to limit potential exposures to site contamination.

Alternative 2:

Institutional and physical site controls would not provide for long-term effectiveness and permanence. However, these controls would help prevent trespassers from potential direct contact with contaminants in surface soils and impoundment solids and would be permanent as long as they were maintained.

Alternative 3:

An asphalt cover would provide for greater long term effectiveness and permanence by ensuring a physical barrier to contaminants on site and by providing some reduction in infiltration and possible contaminant migration. When proper operation and maintenance of an asphalt cover is performed, it can serve as a reliable cover and offer benefits for future use.

Alternative 4:

A low permeability soil cover with groundwater controls would provide for long term effectiveness and permanence by providing a means of containment. Such controls would be reliable provided they are properly maintained.

5. Reduction of Toxicity, Mobility or Volume. Preference is given to alternatives that permanently and significantly reduce the toxicity, mobility or volume of the wastes at the site.

Alternative 1:

The no action alternative would not provide for any reduction in toxicity, mobility, or volume of contaminants within impoundment solids, groundwater, and surface soils.

Alternative 2:

Institutional controls would not provide for any reduction in toxicity, mobility, or volume of contaminants within impoundment solids, groundwater, and surface soils.

Alternative 3:

If maintained properly, an asphalt cover system would result in some reduction in mobility of contaminants within the surface impoundments. It would not effect the toxicity or volume of contaminants. However, contaminants within the impoundment solids do not exhibit high toxicity in the concentrations detected. In addition, leachability tests of the impoundment solids indicate that contaminants within the solids are not prone to leaching into site groundwater.

Alternative 4:

A low permeability cover with groundwater controls would result in a greater reduction in mobility of contaminants within the impoundment solids than Alternative 3. It would not effect the volume of contaminants.

6. Implementability. The technical and administrative feasibility of implementing each alternative is evaluated. Technical feasibility includes the difficulties associated with the construction and the ability to monitor the effectiveness of the remedy. For administrative feasibility, the availability of the necessary personnel and material is evaluated along with potential difficulties in obtaining specific operating approvals, access for construction, etc.

Alternative 1:

The no action alternative would be readily implementable since no activities would be required.

Alternative 2:

Physical and institutional controls would be readily implementable. Periodic groundwater monitoring would be readily implementable.

Alternative 3:

Design and construction of an asphalt cover would be readily implementable. This type of cover is essentially the same as a parking lot or roadway. O&M of the asphalt cover and periodic groundwater monitoring would be readily implementable.

Alternative 4:

Design and construction of a low permeability cover system with groundwater controls is also readily implementable. Such containment systems are routinely implemented for landfills and other solid and hazardous waste sites . O&M and periodic groundwater monitoring would be readily implementable.

7. Cost. Capital and operation and maintenance costs are estimated for each alternative and compared on a present worth basis. Although cost is the last balancing criterion evaluated, where two or more alternatives have met the requirements of the remaining criteria, cost effectiveness can be used as the basis for the final decision. The costs for each alternative are presented in Table 4.

Alternative 1 would cost nothing.

Capital costs for Alternative 2 are estimated at $35,000. Annual O&M is estimated at $4,000. Capital costs with the addition of thirty years of O&M would result in a total present worth cost of $85,000.

Capital costs for Alternative 3 are estimated at $276,000. Annual O&M is estimated at $5,000. Capital costs with the addition of thirty years of O&M would result in a total present worth cost of $338,000.

Capital costs for Alternative 4 are estimated at $1,000,000. Annual O&M is estimated at $5,000. Capital costs with the addition of thirty years of O&M would result in a total present worth cost of $1,062,000.

Table 4 summarizes remedial alternative costs.

This final criterion is considered a modifying criterion. It was evaluated after all public comments on the Proposed Remedial Action Plan were received.

8. Community Acceptance - Concerns of the community regarding the RI/FS reports and the Proposed Remedial Action Plan were evaluated. Several questions were raised at the public meeting held on January 29, 1998. In general, comments presented at the public meeting were supportive of the remedy, and no opposition to the proposed remedy was expressed. One letter containing written comments were received during the comment period. This letter expressed an opinion that the proposed remedy was not sufficient in that it did not address possible contaminants which may have migrated onto Sigismondi landfill property. A "Responsiveness Summary" that summarizes public comments and questions during the public meeting are included as Appendix A.

SECTION 7: SUMMARY OF THE PREFERRED REMEDY

Based upon the results of the RI/FS, and the evaluation presented in Section 7, the NYSDEC has selected Alternative 3 as the remedy for this site.

This selection is based upon the review of the site data and evaluation of the alternatives and their ability to meet the above discussed criteria.

This selection is also based on the following:

Alternative 1 fails to meet either the site's remedial goals or the threshold criteria and is rejected on that basis.

Alternative 2 offers some benefits for protection of human health, but severely limits future site use.

Alternative 3 would be protective of human health and the environment, would not pose any significant short term impacts to the community or the environment, and would be readily implementable. While contaminants would remain on site in the impoundments above SCGs, the nature and concentrations of the contaminants would not present a significant source of future groundwater contamination. When properly maintained, Alternative 3 could offer some reduction in the mobility of contaminants within the impoundment solids by promoting runoff and reducing infiltration. This reduction may allow groundwater contamination outside the impoundment areas to attenuate and eventually achieve standards.

Alternative 3 satisfies requirements of 6 NYCRR 375-1.10 in that the alternative eliminates or mitigates all significant threats to public health and the environment presented by the hazardous waste disposed at the site through the proper application of scientific and engineering principals. Alternative 3 would result in the consolidation of contaminated site soils within the footprint of the impoundment areas, and would provide for an appropriately designed physical barrier to prevent future human contact with these contaminants. Appropriate operation and maintenance activities would ensure the long term effectiveness of this remedy.

Alternative 4 would be protective of human health and the environment, would not pose any significant short term impacts to the community or the environment, and would be readily implementable. Alternative 4 could offer a slightly enhanced reduction in mobility of contaminants in the impoundments over Alternative 3. However due to the low leachability of contaminants in the impoundment areas, significant additional reduction would not be expected

Alternative 3 offers similar long term effectiveness and permanence as Alternative 4. Both Alternative 3 and Alternative 4 would meet remedial action goals.

Alternative 3 is much lower in cost than Alternative 4, and since it would equally satisfy the other criteria, it is the preferred alternative.

The estimated present worth cost to implement the proposed remedy is estimated at approximately $393,000.

The elements of the proposed remedy are as follows:

1. A sampling program to adequately define the limits of contaminated surface soils along the eastern portion of the site. Sampling will include portions of the Sigismondi landfill property which are adjacent to impacted Jarl surface soils.

2. Excavation of the surface soils (including any contaminated surface soils on the Sigismondi site which are contiguous to impacted Jarl surface soils) and consolidation of this material within the impoundment areas.

3. Excavation of the cistern and associated contaminated soils and consolidation of this material within the impoundment areas.

4. Design and construction of an asphalt cover system which will take possible future uses into consideration. The cover system will be graded appropriately to promote surface drainage away from the impoundments and will include perimeter drainage and other features as appropriate.

5. Preparation and implementation of a long term operation and maintenance plan for the cover. O&M activities anticipated include periodic repair and sealing of the asphalt layer, and other maintenance as necessary.

6. Preparation and implementation of a long term monitoring program. This program will allow the effectiveness of the selected remedy to be monitored and would be a component of the operation and maintenance plan for the site. On-site groundwater will be periodically sampled.

7. Pursue deed restrictions to prevent future uses of the site which are incompatible with the proposed remedy.

SECTION 8: Highlights of Community Participation

- Document repositories were established for public review of project related material.

- A site mailing list was established which included nearby property owners, local political officials, local media, potentially responsible parties, and other interested parties. This list has been periodically updated.

- A citizen participation plan was established in 1991 and updated periodically throughout the remedial process.

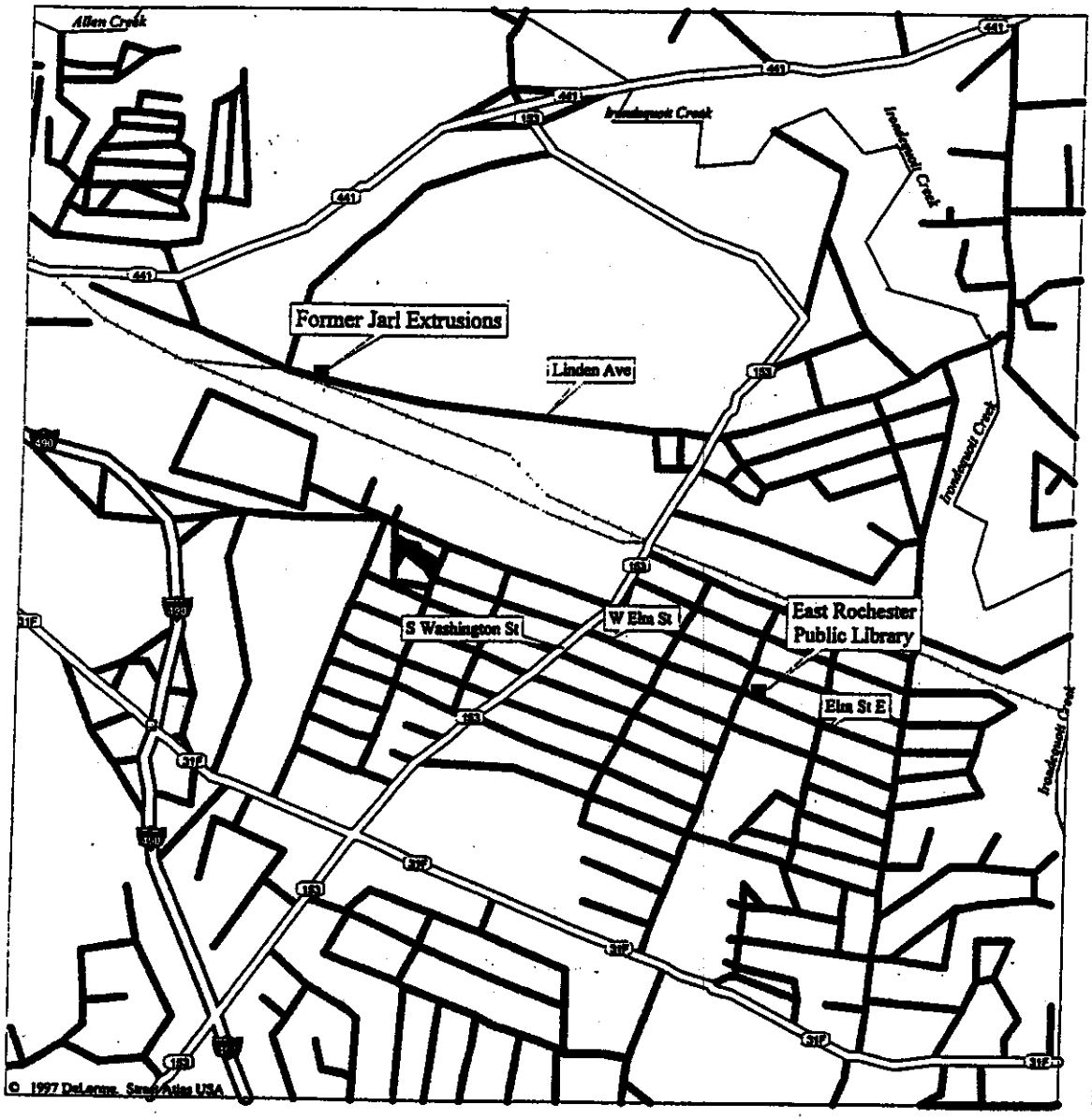
- Fact sheets were distributed to the mailing list on several occasions to update the public and interested parties. Fact sheets were distributed at the following times: July 1991, March 1992, March 1997, January 1998.

- A public comment period was held from January 19, 1998 - February 20, 1998 to receive input on the PRAP from the public and other interested parties.

- A public meeting was held on January 29, 1998 to present the PRAP and discuss and answer questions regarding the proposed remedy and the RI/FS.

- A Responsiveness Summary which addresses comments and questions raised during the public meeting was prepared and will be made available to the public in March 1998 as part of the ROD distribution.

Fig. 1. Location of Former Jarl Extrusions



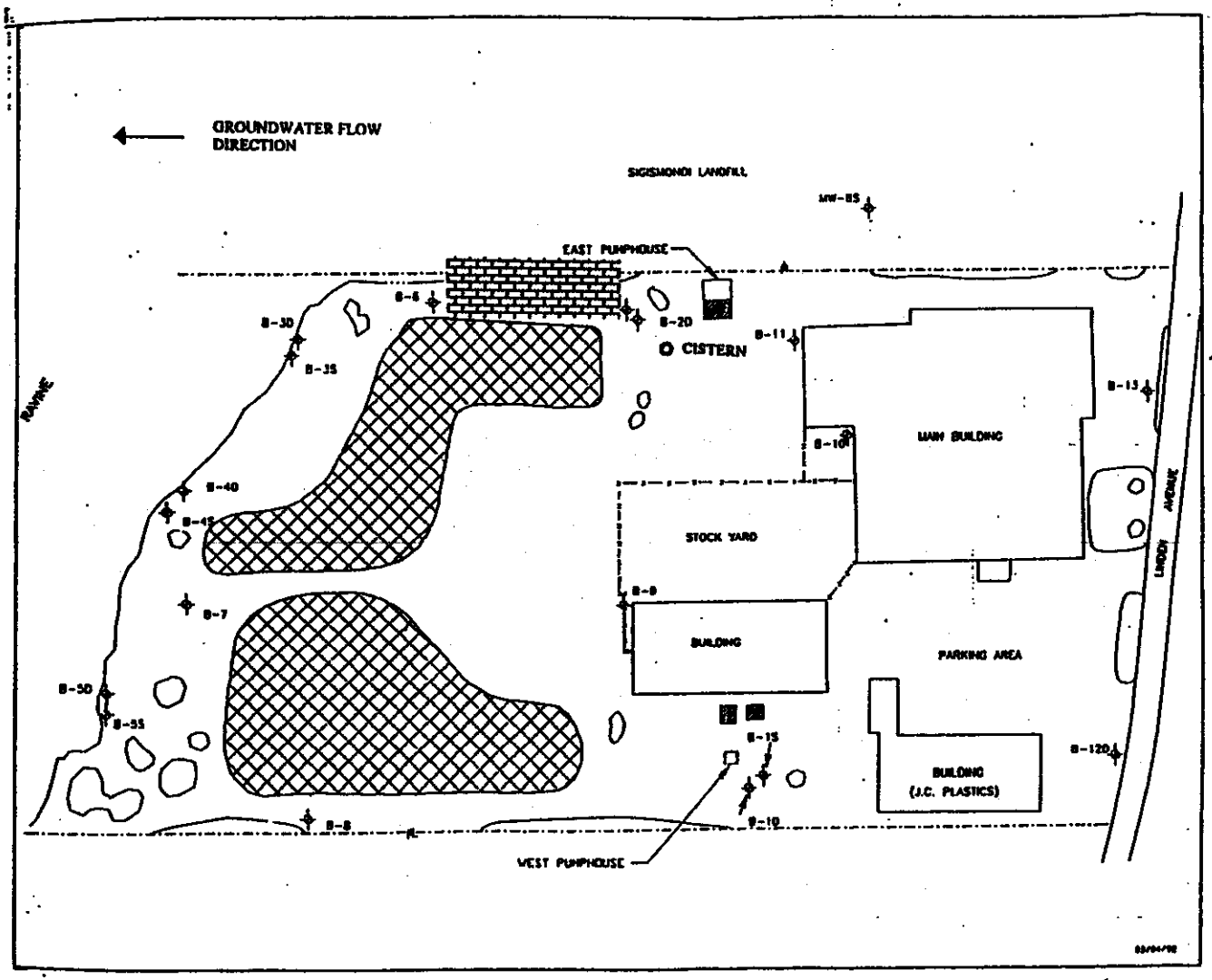


FIGURE 2

FORMER JARL EXTRUSIONS
SITE # 8-28-005
PITTSFORD, NY

N

LEGEND

- PROPERTY BOUNDARY
- MONITORING WELL LOCATIO
- FORMER WASTE WATER IMPOUNDMENTS AS LOCA FROM AERIAL PHOTOS AN SOIL BORINGS
- CEMENT FOUNDATION
- CISTERN
- GENERAL AREA OF SURFACE SOIL CONTAMINATION (LIMITS HAVE NOT BEEN DEFINED)

100 0
SCALE IN FEET

Table 1
Jarl Extrusions Site
Overburden Groundwater Contamination

CLASS	CONTAMINANT OF CONCERN	CONCENTRATION RANGE (ppb)	FREQUENCY EXCEEDING SCGs[1]	SCG[2] (ppb)
Organic Compounds	1,2 dichloroethene	ND[3] to 80	1 of 34	5
	trichloroethene	ND to 46	8 of 34	5
Metals	chromium	4 to 431	14 of 23	50
	hexavelent chromium	ND to 230	6 of 23	50
	manganese	95 to 2,770	6 of 10	300

Notes:

1 For metals results: When concentrations were reported for both soluble metals and total metals on the same well, only total metals concentrations are presented here.

2 NYSDEC Division of Water Technical and Operational Guidance Series (TOGS) 1.1.1; "ppb"- parts per billion

3 ND - Non detectable (i.e. below detection limits)

Table 2
Jarl Extrusions Site
Impoundment Solids Contamination

CLASS	CONTAMINANT OF CONCERN	CONCENTRATION RANGE (ppm)	FREQUENCY EXCEEDING SCGs	SCG [1] (ppm)
Metals	aluminum	5,780 to 59,000	9 of 11	SB[2]
	chromium	13 o 2,810	11of 11	SB[3]

Notes

1 NYSDEC Division of Environmental Remediation Technical and Administrative Guidance Memorandum: Determination of Soil Cleanup Objectives and Cleanup Levels; "ppm" - parts per million (mg/Kg)

2 SB: Site backgrounds - Aluminum 5,000 - 9,000 ppm Chromium 8 - 9 ppm

Table 3
Jarl Extrusions Site
Surface Soil Contamination

CLASS	CONTAMINANT OF CONCERN	CONCENTRATION RANGE (ppm)	FREQUENCY EXCEEDING SCGs	SCG [1] (ppm)
Metals	aluminum	5,020 to 14,600	5 of 10	SB[2]
	chromium	7 to 268	7 of 10	SB[3]

Notes

1 NYSDEC Division of Environmental Remediation Technical and Administrative Guidance Memorandum: Determination of Soil Cleanup Objectives and Cleanup Levels; "ppm" - parts per million (mg/Kg)

2 SB: Site backgrounds - Aluminum 5,000 - 9,000 ppm; Chromium 8 - 9 ppm

Table 4
Jarl Extrusions Site
Remedial Alternative Costs

Remedial Alternative	Capital Cost	Annual O&M	Total Present Worth
t. 1: No Action	$0	$0	$0
t. 2: Institutional Controls	$35,000	$4,000	$85,000
t. 3: Asphalt Cover System	$276,000	$5,000	$338,000
. 4: Low Permeability Cover System w/ Groundwater Diversion/Interceptors	$1,000,000	$5,000	$1,062,000

APPENDIX A

RESPONSIVENESS SUMMARY

JARL EXTRUSIONS SITE

Pittsford, New York
Monroe County

The Proposed Remedial Action Plan (PRAP) for the Jarl Extrusions site was prepared by the New York State Department of Environmental Conservation (NYSDEC) and issued to the public on January 19, 1998. This Plan outlined the basis for the recommended remedial action at the Lindley Landfill site and provided opportunities for public input prior to final remedy selection. The remedy selected after public comment is summarized in section 7 of the Record of Decision.

The release of the PRAP was announced via a notice to the mailing list, informing the public of the PRAP's availability.

A public meeting was held on January 29, 1998 and included a presentation of the Remedial Investigation (RI), the Feasibility Study (FS), and the PRAP. This meeting provided an opportunity for citizens and interested parties to discuss their concerns, ask questions, and comment on the proposed remedy. The comments received at this meeting have been included in the Administrative Record for this site. The public comment period closed on February 20, 1998.

This Responsiveness Summary responds to the questions and comments raised at the January 29, 1998 public meeting, as well as to written comments received during the public comment period. Since some of the questions received concerned similar topics or areas, some of the questions have been summarized.

The following questions were raised at the public meeting:

Question: **Your report stated that some of the organic contaminants were not found in the second round of groundwater sampling. Please explain why contaminants might be found in one round but not in another.**

State Response:

Most of the organic contaminants detected in the first round of sampling were detected in very low concentrations. This generally indicates the lack of a significant source of organic contamination on site. It is not unusual for groundwater to contain very low organic contaminant concentrations in one sampling event and undetectable organic contaminant concentrations in a subsequent sampling event.

Question: **The testing found that some of the contaminants in the ground were not leaching. Does this mean that contaminants are not leaching into the groundwater and migrating away from the site?**

State Response:

The Toxicity Characteristic Leaching Procedure (TCLP) analysis was performed on samples of the impoundment solids. This is a test which determines contaminant leachability of solids. Impoundment solids were tested for chromium, lead, and mercury leachability. The test subjects the solids to acidic conditions to determine the potential for leachability under extreme conditions. None of the solids tested exhibited significant concentrations of lead. Chromium and mercury were not detected in the TCLP analysis. This indicates that the impoundment solids will not leach inorganic contaminants into the groundwater. In addition, as there is no defined contaminant source within the groundwater, and no contaminant "plume", there is no evidence of significant off-site migration of contaminants from the Jarl site.

Question: **Could other off-site sources be effecting the deep groundwater?**

State Response:

Given the commercial nature of this area of Linden Avenue and the adjacent Sigismondi landfill, deep (overburden) groundwater impacts from other properties cannot be ruled out.

Question: **Why isn't something being proposed in the PRAP to address the deep groundwater contamination near the building?**

State Response:

Groundwater samples from a deep overburden well between the north side of J.C. Plastics and the west side of Jarl contained several contaminants in concentrations slightly above Class "GA" (drinking water) standards. However, several rounds of sampling indicated that the contaminants at this location were not present in concentrations indicative of a source area. Due to the low concentrations encountered, and the fact that there are no exposure pathways present from site groundwater, the remedial alternatives evaluated did not include a groundwater component.

Question: **Did the pumphouses have wells to supply the plant with water?**

State Response:

Yes. At one time they supplied the plant with water. The wells are no longer in use.

Question: **What about future liability if this containment remedy does not prevent contamination from leaving the site? Will the legal agreement with the responsible parties hold them liable if contamination from the Jarl site goes onto other properties? What would happen to neighboring properties if contaminants from Jarl migrated off-site?**

State Response:

The Departments standard Consent Order for implementation of a site remedy contains a provision which states that if the remedial measures are not effective, the responsible party (in this case Alcan Aluminum) would be required to undertake additional remedial measures. Additional measures would be subject to approval by the NYSDEC. The construction of the asphalt cover will prevent possible erosion and transport of impacted soils. Investigations have not revealed any significant off-site groundwater contaminant migration. If future groundwater monitoring indicates a worsening of groundwater conditions, additional remedial measures would be considered.

Question: **Will the same monitoring wells used in the investigation be used for the long-term groundwater monitoring program? Will the wells ever be removed?**

State Response:

It is likely that several of the existing wells will be used for the groundwater monitoring program. Certain wells may be maintained in case the need arises for an expanded monitoring program. The non-waterbearing monitoring wells will not be needed and could be removed by over-drilling and grouting. When the NYSDEC concludes that monitoring is no longer necessary at the site, the remaining wells could be removed.

Question: **How were the limits and shapes of the impoundment areas defined?**

State Response:

The limits and shapes of the former impoundment areas were defined through an examination of historical aerial photographs and through borings and test pits.

Question: **What is the typical length of time between the signing of a Record of Decision and the start of construction?**

State Response:

The length of time from a ROD to construction is dependent on the remedy selected, site conditions,

and the specific responsible parties. An Order on Consent which obligates the responsible party to implement the ROD must be negotiated and agreed upon. Once the Order is executed, a design must be developed and submitted to the NYSDEC for review and approval. Construction begins after the approved design is awarded to a contractor. Consent Order negotiations vary depending upon the site and in this case may take from 3-9 months to result in an executed agreement. Design of this type of remedy and the approval process is expected to take at least 4 months. Alcan has indicated a desire to begin design work as soon as possible, and may elect to undertake the remedial design concurrently with Consent Order negotiation. This approach would be encouraged by the NYSDEC as it could allow for construction of the remedy within the current (1998) construction season.

Question: **The quantity of soil to be excavated from the eastern side of the site has not been defined. How will the excavation proceed and what will that area of the site look like after excavations are completed?**

State Response:

The limits of contaminated material must be further defined before excavation commences. After the soil is removed, the area must either be back-filled with clean material or regraded to achieve acceptable drainage conditions.

Question: **How often is groundwater being monitored right now?**

State Response:

No routine monitoring of site groundwater is being conducted at the present time. Groundwater monitoring will commence after completion of the site remedy.

Question: **How is groundwater flow direction determined?**

State Response:

Groundwater flow direction is determined by plotting the piezometric surface at the site. This is done by measuring the elevation of water in each of the groundwater monitoring wells (which are screened in the same waterbearing zone - either shallow or deep overburden). The elevation of the water in each well (of the same zone) is taken with respect to a known reference elevation. The elevations are then recorded on the site map and groundwater elevation contours are drawn which reflect the surface of the groundwater in each distinct zone. The direction of groundwater movement is from the area of higher groundwater surface elevations to areas of lower groundwater elevations.

Question: **Why was the public meeting held at the library/senior center in East Rochester if the site is actually located in Pittsford?**

State Response:

The State attempts to schedule and hold meetings in an available public facility which is near the site being discussed. In this way, meetings attempt to accommodate those people who live closest to sites. The East Rochester public library/senior center was determined to be the closest available facility to accomplish the task.

Question: **Will the design and construction of the remedy be exempt from local regulations?**

State Response:

State and Local permits will not be required for the site remedy. However, design and construction must meet all substantive requirements of State and Local permits. As discussed in the meeting, the State will provide the Town of Pittsford with a copy of the draft design.

Question: **The Town has concerns with potential drainage and erosion issues. How will these issues be addressed in the design?**

State Response:

The design of the remedy will not be approved without proper drainage features to prevent erosion.

Question: **Would deed restrictions be imposed as a part of the Consent Order or sometime after construction is completed? Will deed restrictions apply to areas beyond the impoundments? Would future activities within deed restricted areas be subject to review by the State and the Monroe County Health Department?**

State Response:

While deed restrictions are important to the long term viability of the remedy, the State does not have the legal authority to impose them on an unwilling property owner. The responsible party, Alcan Aluminum, no longer owns the property. Therefore deed restrictions could not be included in an

Order unless the current site owner also agrees to be bound by provisions of the Order and is also a signatory. Deed restrictions would be appropriate for the impoundment areas. If deed restrictions are enacted, future site activities would have to comply with all notification requirements contained in the deed restriction.

Question: **Could future construction occur in areas adjacent to the paved impoundment areas?**

State Response:

Future construction could take place in areas adjacent to the asphalt cover provided appropriate drainage features were incorporated.

Question: **The conceptual design of 3 inches of asphalt over 6 inches of subbase may not be sufficient for future use as a parking lot for equipment or material staging area. Has the current owner expressed any interest in future development in this portion of the property?**

State Response:

The State is unaware of any future use plans by the present owner. Alcan Aluminum and their consultants will be responsible for designing the asphalt cover. Any design must take into account future site use, or be designed so that it is readily adaptable for future use.

Several questions were raised at the public meeting relating to previous investigations of the Sigismondi Landfill site located to the east of the Jarl site. These questions were answered in the public meeting, but are not included in this responsiveness summary. A State funded remedial investigation is under development. It is expected that field work for the investigation of the Sigismondi site will commence in the spring of 1998. Appropriate citizen participation activities will be incorporated into that remedial investigation.

One letter was received during the public comment period. This letter was from an attorney representing the owners of the neighboring Sigismondi Landfill. Issues raised and responses are summarized below.

Statement: **We have reviewed that PRAP for the Jarl Extrusion site and have determined that it does not adequately protect human health and the environment because**

it does not fully address the migration of contamination from Jarl to the Sigismondi landfill.

State Response:

The State believes that the proposed remedy is fully protective of human health and the environment. Exposure pathways were evaluated as part of the RI/FS. There are no exposure pathways associated with groundwater contamination from the Jarl site. The Jarl remedy will address the only other exposure pathway identified at the site - possible direct contact with impoundment soils and other impacted surface soils. The remedy will include removal and consolidation of any impacted Sigismondi surface soils which are contiguous to impacted Jarl surface soils.

Statement: **The PRAP does not comply with SCGs for soil. The PRAP also notes that the asphalt cover may not result in compliance with SCGs for groundwater. It is not enough to provide "some reduction in mobility of contaminants within the surface impoundments." A remedy should be devised which prevents additional migration of these contaminants.**

State Response:

While site soils with contaminants above SCGs will remain on-site, testing has determined that this material does not pose a significant source of future groundwater contamination. The results of the site investigations have revealed no extensive groundwater contamination or groundwater contaminant migration. While there are some exceedences of groundwater standards at the Jarl site, it is expected that groundwater contaminant concentrations will continue to diminish over time.

Statement: **The proposed excavation of contaminated surface soils along the eastern side of the Jarl site demonstrates that the contamination has spread beyond the boundaries of the Jarl site. Since this site has already impacted neighboring properties, proposing an asphalt cover rather than a more effective remedy does nothing to remedy off-site impacts.**

State Response:

Removal of impacted soils are included as part of the remedy. The extent of impacted soils near the eastern Jarl/Sigismondi property has not been fully defined. Before excavation of this material can begin, additional sampling must be performed. Any excavation of impacted soils will not be arbitrarily stopped at the Sigismondi property boundary. All impacted contiguous soils will be removed and consolidated within the impoundment areas prior to construction of an asphalt cover.

Statement: **A system should be devised which adequately recovers and recaptures contamination which has moved to the Sigismondi site from the Jarl Extrusions site. Additional testing should be performed on the Sigismondi site to evaluate the extent of contamination. The results of these tests should be considered and integrated into the design for a remedy for Jarl which will include recovery of contamination on Sigismondi.**

State Response:

Impacted Sigismondi soils which are contiguous to impacted Jarl site soils will be addressed under the Jarl remedy. The highest contaminants detected on the Sigismondi site in previous investigations were associated with fairly recent (post 1990) contaminated soil disposal, and groundwater which was found to contain volatile organic compounds. The contaminated surface soils were removed as an IRM in 1993. Previous groundwater investigations of the Sigismondi site do not indicate significant Jarl site-related contaminant concentrations. In addition, the volatile organic contaminants detected in Sigismondi groundwater appear to be unrelated to the Jarl site and are localized on an eastern portion of the Sigismondi site.

It is important to note that the Sigismondi landfill was operated as a construction and demolition landfill which also accepted industrial wastes. It is listed as a Class 2 site on the Registry of Inactive Hazardous Waste Disposal Sites. The remedial program for Sigismondi will include all tasks which are necessary to evaluate possible threats to human health and the environment. Additional investigations of the Sigismondi Landfill site are planned for 1998. Results of these investigations will be used to supplement previous data collected and evaluate remedial alternatives for the site.

APPENDIX B

ADMINISTRATIVE RECORD
JARL EXTRUSIONS SITE

Site Investigations

Feasibility Study - Former Alcan Aluminum Corporation; O'Brien & Gere Engineers Inc; September 1997

Focused Remedial Investigation - Alcan Aluminum Corporation; O'Brien & Gere Engineers Inc; October 1996

Focused Remedial Investigation Supplemental Report - Alcan Aluminum Corporation; O'Brien & Gere Engineers Inc; September 1996

Focused Remedial Investigation Workplan - Alcan Aluminum Corporation; O'Brien & Gere Engineers Inc; July 1990

Feasibility Study Workplan - Jarl Extrusions Site; September 1989

Site Investigation - Jarl Extrusions, Inc.; O'Brien & Gere Engineers Inc; March 1986

Other Documents/Correspondence

Notice of Dispute and Statement of Position; Issued by Alcan Aluminum Corporation; January 17, 1994; Regarding Index No. B8-0049-84-10

Statement of Position; January 28, 1994. Response to Alcan Aluminum Corporation's Notice

Order on Consent; Alcan Aluminum Corporation - Respondent; October 10, 1990; Index No. B8-0049-84-10

DEC Decision and Order; January 27, 1995, Issued by NYSDEC Deputy Commissioner DeBarbieri