

INITIAL INVESTIGATION FIELD REPORT

WASHINGTON STATE
DEPARTMENT OF
ECOLOGY

ERTS NUMBER
604330

SITE NAME
Inman Landfill

SEP 17 2008

W-01 (10-01-04) (M)
COPPINEN

SITE LOCATION INFORMATION

Contact Person Name Margo Burton	Title Hydro-geo Tech	Phone No. 360-336-3115
Mailing Address Skagit County Public Works - 1800 Continental Place	City Mount Vernon	Zip + 4 98273
Site Location 14506 Allen West Road	Closest City Bow	County Skagit
Quarter-Quarter: <u>S1/2N1/2</u> Longitude: <u>-122</u> Latitude: <u>48</u>	Section: <u>21</u> Degree: <u>26</u> Degree: <u>30</u>	Township: <u>35</u> Minute: <u>6.6</u> Minute: <u>38.7</u>
		Range: <u>03</u> Second: _____ Second: _____

INSPECTION INFORMATION

Inspection Date 6/23/08	Inspection Time 1100	Type of Entry Notice verbal in person
Photographs Yes Videotape No Samples No	Weather: Clear <input checked="" type="checkbox"/> Precipitation: none Wind Direction: _____	Partly Cloudy <input type="checkbox"/> Overcast <input type="checkbox"/> Rain <input type="checkbox"/> Temperature: <u>60</u> Wind Speed: _____

RECOMMENDATION

No Further Action:

- Release or threatened release does not pose a threat
 No release or threatened release
 Refer to another program/agency
 Educational mailing

- Site Hazard Assessment *OKM*
 Interim Action
 Emergency Action

Independent Cleanup Action: In progress Completed

Name: Polly Dubbel

Comments: Site is regulated landfill closed under WAC 173-304 and 173-306. Ecology determine if SHA necessary or if landfill continues under oversight of Solid Waste Division of Ecology as in past.

DEPARTMENT REVIEW

Investigator: <u>Musa De Amata</u>	Date: <u>9/17/08</u>
Approved by: Unit Supervisor: <u>Russ Oh</u>	Date: <u>12/9/08</u>
Section Manager: _____	Date: _____

OBSERVATIONS

Description of observations: On the visit I drove into the landfill with Gary Lyka and Margo Burton from Skagit County Public Works. The site is entirely fenced. The landfill has a rolling sloped surface moving downgradient from the southwest to the northeast and dropping steeply from the high point of the landfill to the perimeter road on the south. The surface is planted in grasses and is mowed twice per year to keep larger vegetation from taking root. The area surrounding the landfill is rural residential and agricultural land. Photographs of the site visit are attached as Figure 1.

Description of past practices likely to be responsible for contamination: This site was a municipal solid waste landfill operated by Skagit County Public Works from 1972 to 1994. Prior to being used as a landfill the site was a gravel pit. The landfill has two portions, one unlined approximately 16 acres on the eastern portion of the site used from 1972 to 1986 (Phase 1) and one lined portion (80 mil HDPE geomembrane) approximately 10 acres (Phase 2) which partially overlaps phase 1. Ash from a municipal solid waste incinerator was disposed of in Phase 2 from 1986 to 1993. In 1993 to 1995 landfill closure activities were completed and included recapping Phase 1 and capping Phase 2 with 24 inches low permeability soil (10 -7) and 60 mil HDPE geomembrane, and geonet composite. Twelve inches of cover soil and 12 inches of topsoil were placed over the cap and the site seeded with grasses. The landfill has a landfill gas extraction system that has operated with some intermittent phases since closure. In 2007 the system was upgraded to allow for low flow continuous flaring of gas. The lined Phase 2 portion of the landfill has a leachate collection system. Leachate drains to a lined collection pond located in the northwest portion of the landfill. The leachate is pumped periodically and removed to the City of Mt. Vernon Wastewater Treatment Plant.

Hydrogeologic investigation has shown that the landfill is underlain by two aquifers, a shallow, unconfined perched aquifer and a regional aquifer situated near or below sea level. The perched aquifer flows generally to the southwest and the regional aquifer flows generally to the northeast/east. A series of monitoring wells monitors each of the aquifers in the near vicinity of the landfill. Six wells are screened in the perched aquifer and seven wells are screened in the regional aquifer. Figures 2 and 3 show the locations of the monitoring wells. Quarterly and annual reports on groundwater water monitoring per WAC 173-304 and 173-306 are submitted to Ecology Solid Waste Division. Landfill contaminants have been detected in the groundwater since closure. For a full summary of data refer to the Annual Monitoring Reports for Inman Landfill from 1994 to 2007. What follows is a brief summary of conditions as of 2007. In the perched aquifer arsenic, vinyl chloride, and tetrachloroethene exceed MTCA Method B standard formula values (carcinogenic) for ground water in one well or all wells (arsenic only). In the regional aquifer arsenic and vinyl chloride exceeded the Method B Standard formula values (carcenogenic).

Between 1991 and 2000 Skagit County paid to supply public water to 10 properties and decommissioned 11 private wells in the area of the landfill in order to decrease public health risk from the landfill. Private wells deemed to be hydrologically at risk from the landfill were decommissioned. Public water supplies additional parcels in the landfill vicinity beyond these 10 properties. Figure 4 shows the landfill and the water supply for the surrounding properties.

Activities or practices responsible for contamination:

- | | | |
|--|--|--|
| <input type="checkbox"/> Spill | <input type="checkbox"/> LUST | <input type="checkbox"/> Other (describe): |
| <input type="checkbox"/> Pesticide disposal | <input type="checkbox"/> Tank | _____ |
| <input checked="" type="checkbox"/> Landfill | <input type="checkbox"/> Improper handling | |
| <input type="checkbox"/> Drums | <input type="checkbox"/> Improper disposal | |

Are discharges permitted: No
If yes, describe:

Standard Industrial Code(s): _____

CONTAMINANT(S)

See contaminant list (#1-16). Enter letter designating status of contaminants.

AFFECTED MEDIA

C= Confirmed; S= Suspected; P= Potential; R= Remediated; U= Unknown

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Ground Water		C	C													
Surface Water																
Drinking Water																
Soil		S	S	S	S	S	S	S	S		S				S	S
Sediment																
Air																

1 Base/Neutral/Acid Organics	7 Petroleum Products	13 Corrosive Wastes
2 Halogenated Organic Compounds	8 Phenolic Compounds	14 Radioactive Wastes
3 EPA Priority (Metals & Cyanide)	9 Non-Halogenated Solvents	15 Conventional Contaminants, Organic
4 Metals – Other	10 Dioxin	16 Conventional Contaminants, Inorganic
5 Polychlorinated biPhenyls (PCBs)	11 PAHs	17 Asbestos
6 Pesticides	12 Reactive Wastes	

Soil Type Surface soil imported topsoil	Slope 7-20%
Site vegetation/cover present:	
<input type="checkbox"/> Forest	<input checked="" type="checkbox"/> Pasture/Open field
<input type="checkbox"/> Bare Soil	<input type="checkbox"/> Surface Water
<input type="checkbox"/> Brush	<input type="checkbox"/> Wetlands
<input checked="" type="checkbox"/> Landscaped	<input type="checkbox"/> Pavement
	<input type="checkbox"/> Other (describe): _____
Are there any drinking water systems affected? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
If yes, what type? (Choose one): <input type="checkbox"/> Municipal <input type="checkbox"/> Private <input type="checkbox"/> Both	
How many people are estimated to be affected? _____	
Is there a potential for a release or threatened release to affect a drinking water source? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Are there monitoring wells in the vicinity? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Are there dry wells in the vicinity? <input type="checkbox"/> Yes <input type="checkbox"/> No	

CONTAMINANT PATHWAYS AND TARGETS

	Ingestion	Inhalation	Contact
Ground Water	possible	possible	possible
Surface Water			
Drinking Water	possible	possible	possible
Soil			
Sediment			
Air			

Targets possible:

Human, adult Residential Commercial

Human, children Industrial

Sensitive environments (See WARM Scoring Manual for definition): Yes No

If yes, describe: Samish River (salmon stream) is approximately 4500 feet to northeast. Also there may be eagle nesting within 2 miles of the landfill. Padilla Bay is over 2 miles away to the west. No other sensitive areas are apparent on this review.

General comments: Site is a capped, controlled access landfill so soil exposure should not occur. The landfill has a leachate collection pond open to the air that would likely have some volatile chemicals releasing to the air. The closest residences to this pond are 300-400 feet to the north. The potential air exposures from this pond have not been an area of concern for the county or Ecology Solid Waste in the past. For surface water, Joe Leary Slough is the closest body of surface water to the landfill. It lies to the northeast and is downgradient on the landsurface from the landfill and hydrogeologically from the regional aquifer. The slough is monitored annually upgradient, adjacent to, and downgradient of the landfill. No changes in water quality as a result of the landfill have been seen with the historical sampling. To address potential groundwater exposures, the wells closest to the landfill have been decommissioned and the properties are now served by PUD of Skagit County or Samish Farms (purchased PUD water). There are private wells to the southwest of the landfill. The closest is approximately 1800 feet from the parcel containing the landfill. There are no public water system sources within 2 miles of the landfill parcel.

Figure 1 – Site Photos Inman Landfill Initial Investigation site visit June 24, 2008
Photos by Polly Dubbel Page 1 of 3

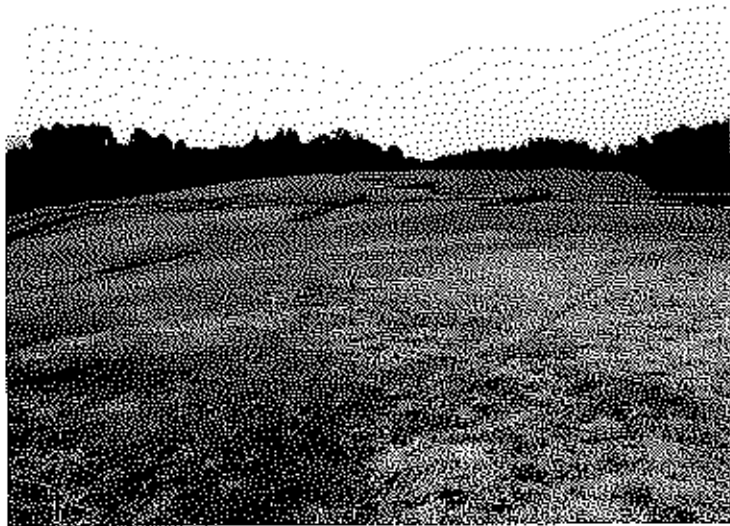


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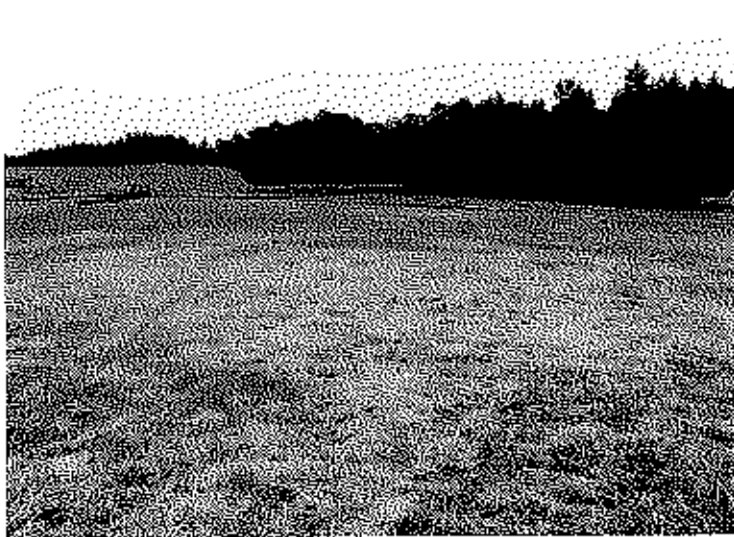
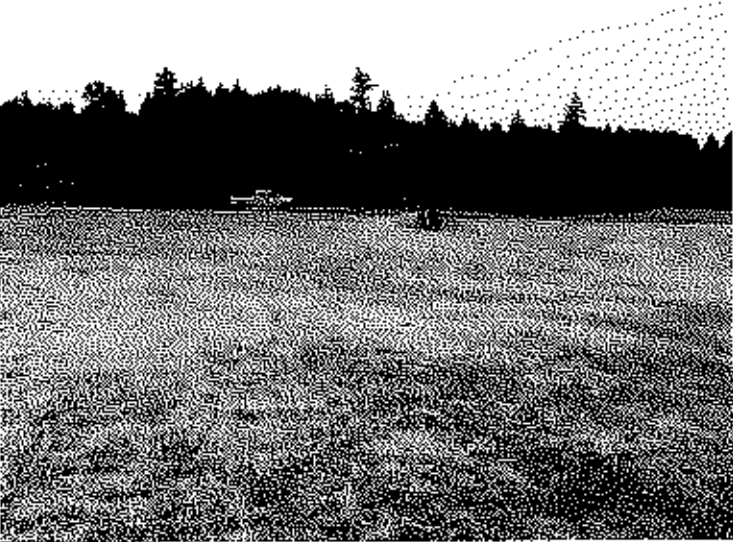
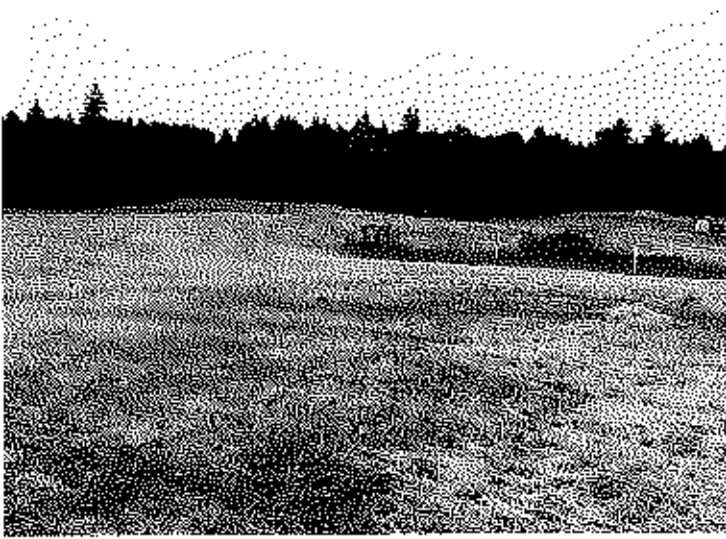


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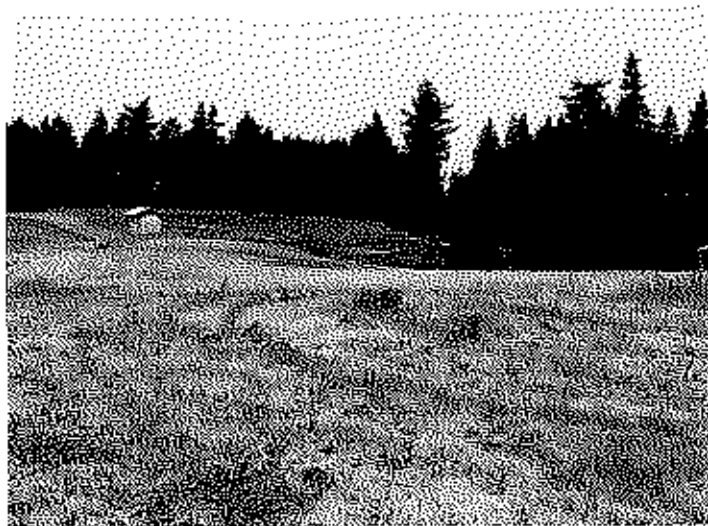
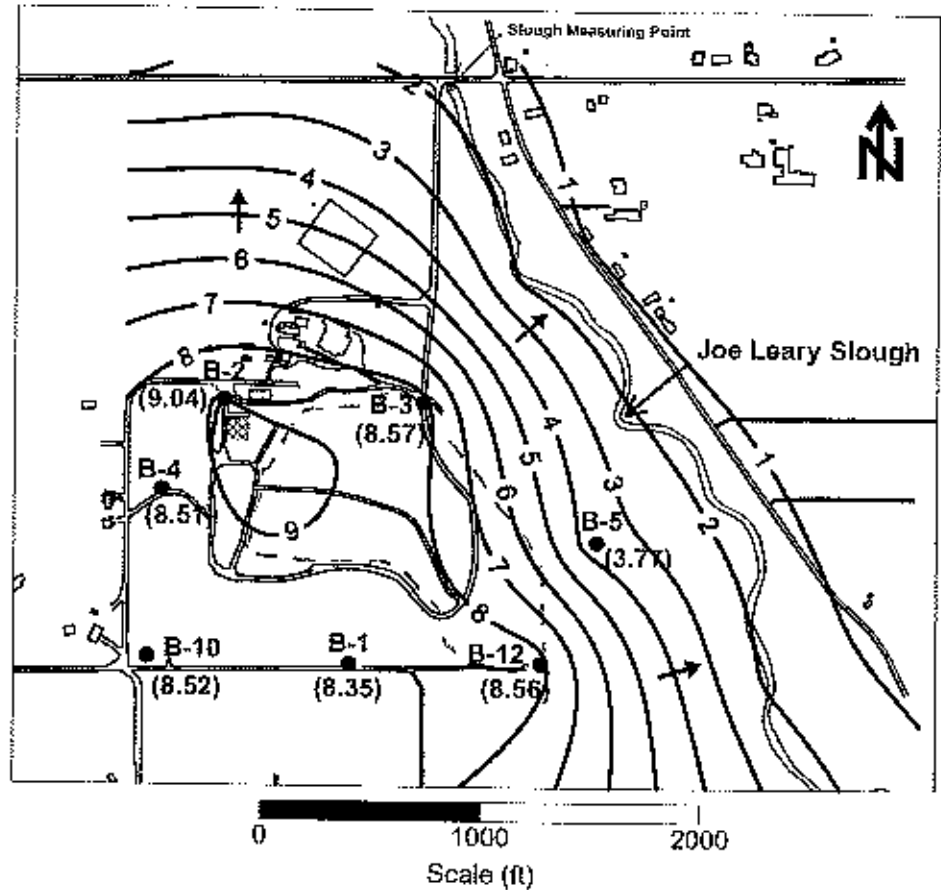


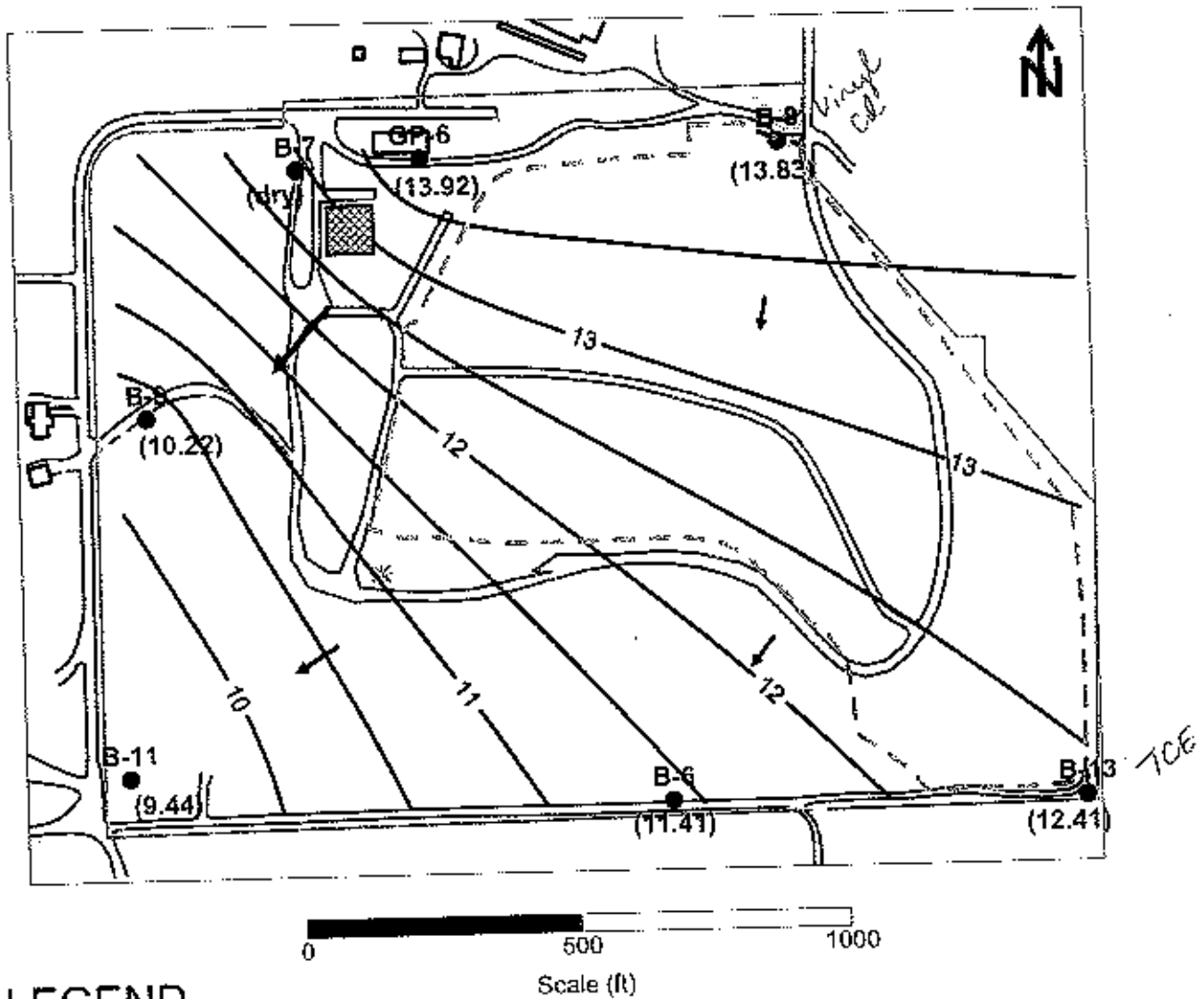
Figure 2. Potentiometric Surface Map for Landfill Area, Regional Aquifer, March 2001



LEGEND

- B-10 Monitoring Well
- 8 — Potentiometric Surface Contour (in feet above MSL)
- (8.35) Measured Static Water-Level Elevation (in feet above MSL)
- ← Direction of Groundwater Flow
- - - Approximate Landfill Boundary
- ▨ Leachate Pond

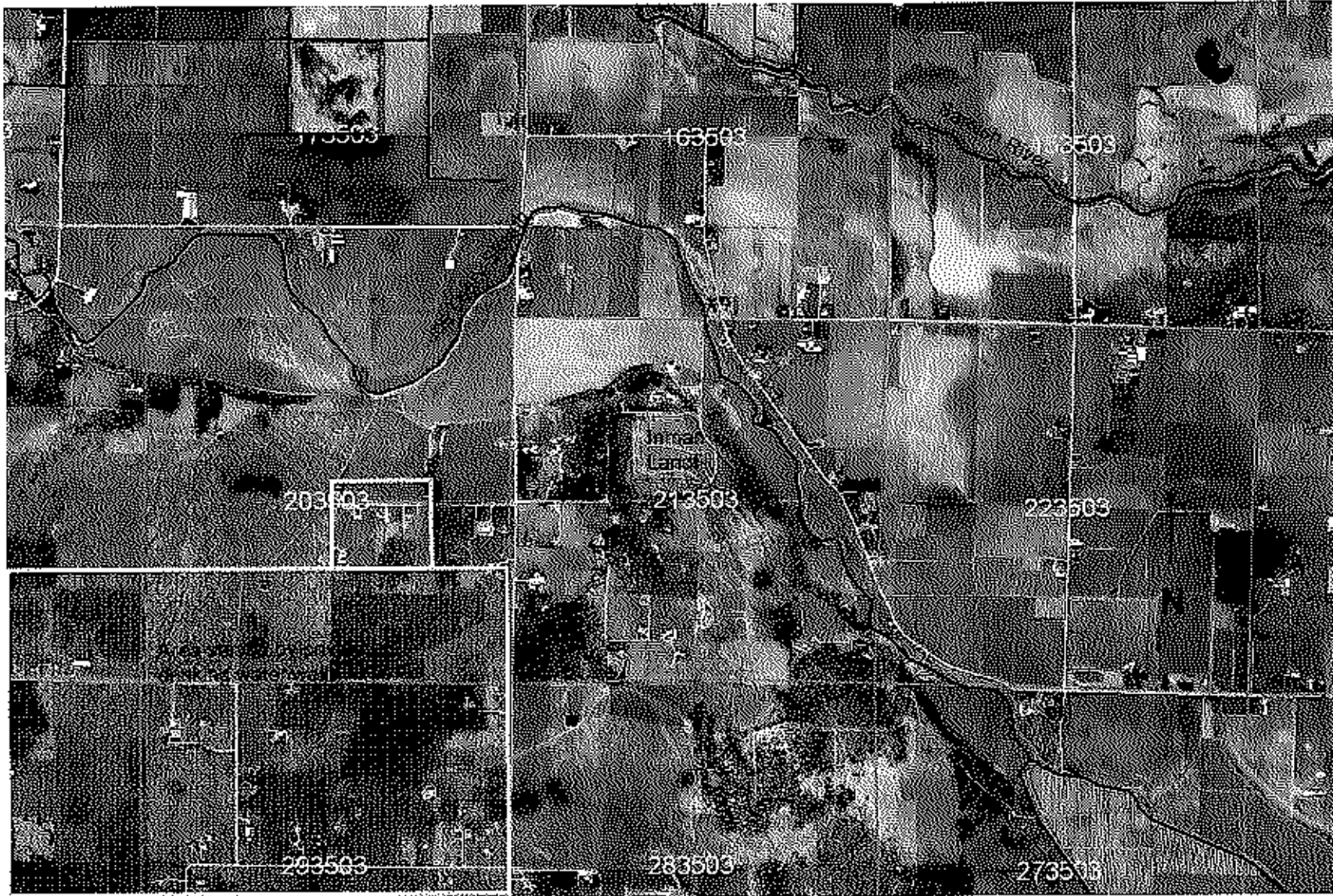
Figure 3 Water Table Surface Map, Perched Aquifer, March 2007.



LEGEND

- B-6 Monitoring Well
- 12 — Potentiometric Surface Contour
- ← Direction of Groundwater Flow
- (9.47) Measured Static Water-Level Elevation (feet above MSL)
- - - - - Approximate Landfill Boundary
- ▨ Leachate Pond

Figure 4 – Inman Landfill Initial Investigation
Aerial Map from Skagit View 2008 by Polly Dubbel



Areas outlined in pink are NOT served by public water. The remainder of the map area is served by either PUD of Skagit County or Samish Farms Public Drinking Water. No public water system sources are within 2 miles of the landfill.