



March 11, 2008

RECEIVED

MAR 12 2008

Washington State
Department of Ecology

Washington State Department of Ecology
Southwest Regional Office
P.O. Box 47775
Olympia, WA 98504-7775

Attn: Scott Rose

**RE: 35TH STREET LANDFILL
ADDITIONAL METHANE, SURFACE WATER, AND SOIL DATA**

Dear Mr. Rose:

In our meeting on February 27, 2008, we discussed existing data and potential for delisting the 35th Street Landfill site in Tacoma, Washington. Additional sampling data for surface water, soil, and methane gas has been obtained from the Tacoma-Pierce County Health Department files. This letter presents the additional data results and discusses the findings. The sampling at the site has been extensive; therefore, only significant results are presented in the text of this document. Complete results can be found in Attachment A. A vicinity map is presented on Figure 1 and a site map showing the approximately locations of historic sampling points from the 1991 environmental site assessment is presented on Figure 2.

Surface Water

The 35th Street Landfill has a steep north-facing slope that terminates in the bottom of a ravine. Several springs emanate from the toe of the fill slope. Groundwater beneath the site is anticipated to be greater than 100 ft below ground surface (below the bottom of the fill in this area). Therefore, water from the springs at the base of the slope is expected to represent water that has percolated through the fill and collected on the original ground surface soil horizon or relatively lower permeability layers below this surface.

From the existing records, it appears that surface water sampling of the springs was first conducted in 1990. Three samples were collected and analyzed. The results indicated total petroleum hydrocarbons (TPH) were not detected and pH was in the normal range for surface water (6 – 9). No other common chemical compounds typical of landfill leachate were sampled at this time (City of Tacoma 1990).

Surface water sampling was also conducted in 1991 during an environmental site assessment. Two samples were collected and analyzed for TPH, volatile organic compounds (VOCs), and priority pollutant metals (City of Tacoma 1992). The results indicated the presence of TPH, although the results are suspect because of the laboratory methodology and units¹. Arsenic was detected in one of the two samples at 13 µg/L, slightly above the MTCA cleanup standard. Xylene was the only VOC compound detected at 8.5 µg/L.

Surface water sampling was conducted annually between 1999 and 2004 (City of Tacoma 1999b, 2000, 2001a, 2001b, 2002, 2003, 2004b). Samples were analyzed for TPH during all sampling events. TPH was not detected in any surface water sample between 1999 and 2004. In addition to TPH, samples collected in 2001 and 2002 were analyzed for nitrogen, total metals (arsenic, barium, cadmium, chromium, lead, selenium, silver, and mercury), semivolatile organic compounds (SVOCs), volatile organic compounds (VOCs), and chlorinated pesticides. With the exception of several metals, none of the above-mentioned analytes were detected in the water samples. In 2001, mercury was detected at 0.012 µg/L, barium was detected at 11.0 µg/L, and lead was detected at 1.1 µg/L. In 2002, arsenic was detected at 2.6 µg/L, barium was detected at 11.4 µg/L, chromium was detected at 1.24 µg/L, and lead was detected at 2.4 µg/L. All of the results are below MTCA cleanup standards for their associated compounds.

Soil

Soil sampling was conducted during the environmental site assessment by the City in 1991 (City of Tacoma 1992). During the investigation five soil samples were collected and analyzed for TPH, priority pollutant metals (antimony, arsenic, beryllium, cadmium, chromium, copper, lead, mercury, nickel, selenium, silver, thallium, and zinc) and VOCs. The samples were collected from test pits between 12 and 15 ft BGS. Additionally, two samples were analyzed for toxicity characteristic leaching procedure (TCLP) for arsenic, chromium, and lead. All samples had detectable levels of TPH with the highest result at 1,330 mg/kg. No results for TPH exceeded the current MTCA cleanup standards. Of the 13 metals that were sampled, only arsenic had concentrations that exceeded MTCA cleanup standards. Two of the five samples (TP3 and TP9) had arsenic results at 21.7 mg/kg and 228 mg/kg respectively (see Figure 2 for the locations of TP3 and TP9). No metals were detected in the TCLP sample results. No VOC compounds were detected in any of the samples.

¹ The analytical method used to analyze TPH for the 1991 sampling event was EPA Method 418.1, which does not use a silica and acid wash to extract organics from the sample prior to analysis. Organic compounds, if not removed, can cause matrix interference and can show up as detections of TPH in a sample result that would otherwise be non-detect. Additionally, the results were reported in mg/L units not typical of more modern analytical methods which would typically report units in µg/L.

Soil sampling for TPH (including diesel-range, heavy oil-range, and gasoline-range petroleum hydrocarbons) was conducted annually from 1999 through 2001 and 2003 through 2004 (City of Tacoma 1999b, 2000, 2001a, 2003, 2004b). One grab sample was collected during each event; however, there are no associated maps showing the locations of the grab samples. Gasoline-range and diesel-range petroleum hydrocarbons were not detected in any of the samples between 1999 and 2004. Heavy oil-range petroleum hydrocarbons were detected three times with the highest result, 230 mg/kg, occurring in 2004. None of the sample results exceeds MTCA cleanup standards.

Methane

Sampling for methane was first conducted in 1990 using a bar hole sampling technique and a hand-held portable gas meter (Tacoma-Pierce County Health Department 1990a, 1990b). Sampling was conducted on two separate days in December. Bar holes ranged from 6 inches to 36 inches in depth. The highest methane levels were detected on the north side of the landfill at the top of the fill slope. Results ranged from non-detect to 40% methane. This value is 800% of the lower explosive limit (LEL). The LEL is 5% methane.

Sampling for methane gas was conducted during the environmental site assessment in 1991 (City of Tacoma 1992). The sample was collected from a temporary PVC gas monitoring probe using a tedlar bag. The result indicated the sample contained 52% methane (1040% LEL).

In 1992, methane sampling events were conducted on two city-owned properties within two blocks of the landfill site (Tacoma-Pierce County Health Department 1992a, 1992b). Neither site had detectable levels of methane in the bar holes. These results suggest that methane migration is not a significant problem.

Methane sampling was conducted annually or semi-annually from 1997 through 2006 (Tacoma-Pierce County Health Department 1997, 1998a, 1998b, 1998c, 2000, 2001, 2002a, 2002b, 2003a, 2003b, 2004; City of Tacoma 1999a, 1999b, 2004a, 2004c, 2005a, 2005b, 2006). Samples were collected from various locations at the landfill using a bar hole sampling technique and a hand-held portable gas meter. Results ranged from non-detect to 87% LEL. Overall methane levels appear to be down trending. Between 2004 and 2006 six separate sampling events were conducted with the highest sampling result being 3.12% LEL (i.e., 0.15% methane).

Summary

In summary, extensive sampling has been conducted on surface water, soil, and methane at the 35th Street Landfill site. The most recent surface water samples collected at the site were all non-detect or below their respective MTCA cleanup levels for TPH, VOCs, SVOCs, chlorinated pesticides, and metals.

Soil samples collected during the 1991 environmental site assessment and subsequent sampling events had TPH, metals, and VOC concentrations that were non-detect or below the MTCA cleanup standard, with the exception of two samples that exceeded the cleanup level for arsenic. Arsenic is an area-wide contaminant in the Tacoma area (Ecology 2008) and its presence in two samples above the 20 mg/kg cleanup level is not unexpected. All TCLP results for soil were non-detect.

Methane was being generated within the landfill. Overall the methane concentrations appear to be down trending and in recent years have been quite low (below 5% LEL). Sampling events conducted on nearby properties have not detected methane and we are not aware of any complaints associated with methane. These data suggest that the occurrence of methane is a minor problem and that methane migration is limited.

Based on the extensive sampling conducted to date, the landfill does not have contaminant issues that are a threat to human health or the environment. We recommend that the site be removed from the Contaminated and Suspected Contaminated Sites List (CSCSL).

LANDAU ASSOCIATES, INC.



Jennifer W. Wynkoop
Senior Project Scientist



Eric F. Weber, L.G.
Principal

JWW/EFW/jas

Attachments: Figure 1 – Vicinity Map
Figure 2 – Historic Sampling Locations-1991 Environmental Site Assessment
Attachment A – Sampling Data Results

References

Ecology, 2008. Internet posting. http://www.ecy.wa.gov/programs/tcp/area_wide/area_wide_hp.html
Accessed on March 7.

Tacoma, City of. 1990. Subject: *Laboratory Results - 35th Street Landfill*. From Michael Price, Utility Services Technical Support Division Manager to Robert Engle, Street Maintenance Division Manager. December 11.

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Tacoma, City of. 2005b. *35th Street Landfill Monitoring*. October 27.

Tacoma, City of. 2006. *35th Street Landfill Monitoring*. April 24.

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Tacoma-Pierce County Health Department. 1997. Subject: *Methane Monitoring*. From John Wright, Environmental Health Specialist I to City Fill (35th Street Closed Landfill) file. March 3.

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Tacoma-Pierce County Health Department. 1998b. *Inspection Report, City Closed Fill (35th Street)*. July 24.

Tacoma-Pierce County Health Department. 1998c. *Inspection Report, City Closed Fill (35th Street)*. October 20.

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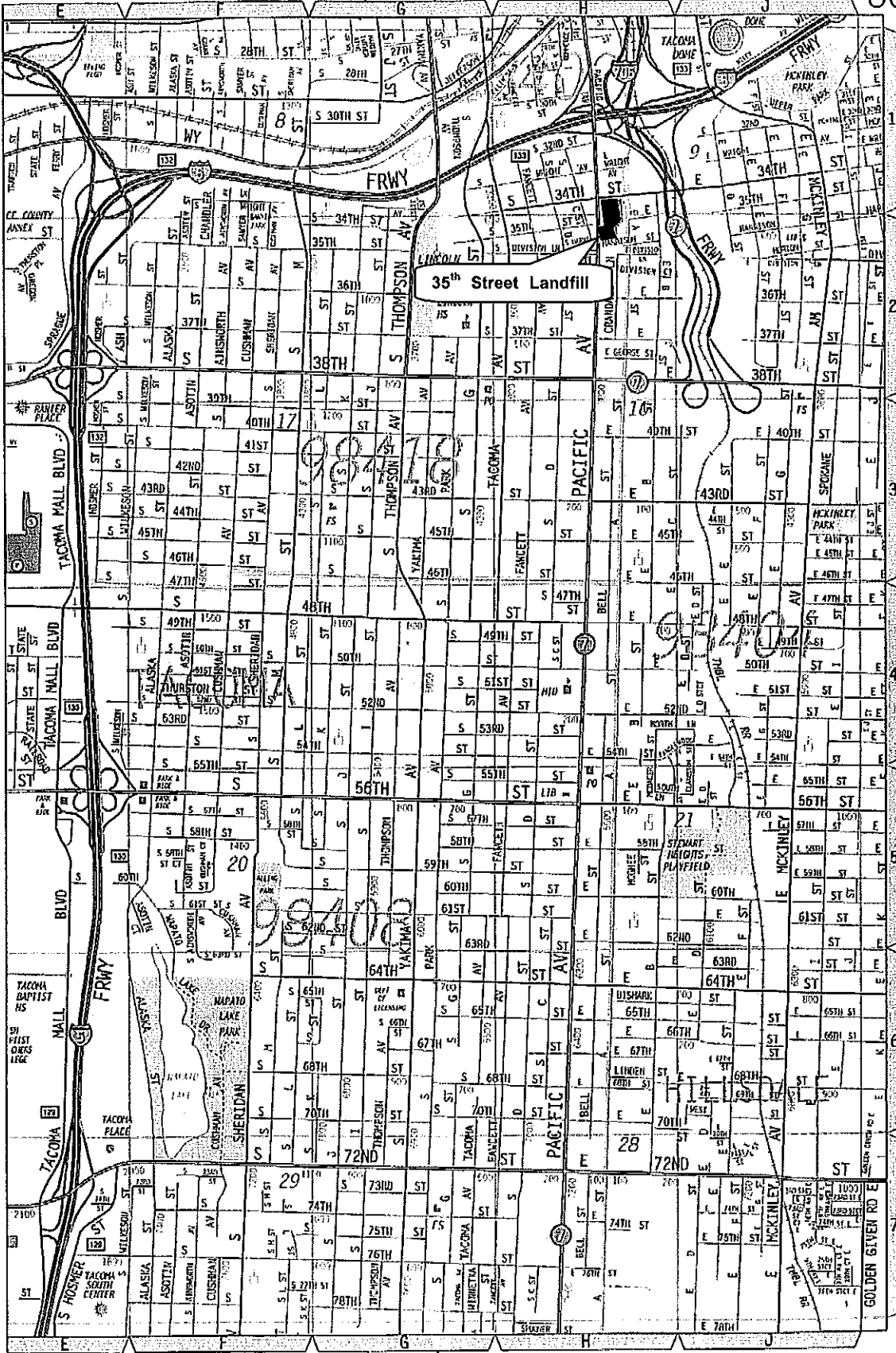
Tacoma-Pierce County Health Department. 2002a. Subject: *Site Inspection/Landfill Gas Monitoring*. From John Wright, Environmental Health Specialist I to City Fill (35th Street Closed Landfill) file. February 20.

Tacoma-Pierce County Health Department. 2002b. Subject: *Site Inspection/Landfill Gas Monitoring*. From John Wright, Environmental Health Specialist I to City Fill (35th Street Closed Landfill) file. June 25.

Tacoma-Pierce County Health Department. 2003a. Subject: *Site Inspection/Landfill Gas Monitoring*. From John Wright, Environmental Health Specialist I to City Fill (35th Street Closed Landfill) file. January 7.

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Tacoma-Pierce County Health Department. 2004. Subject: *Site Inspection/Landfill Gas Monitoring*. From John Wright, Environmental Health Specialist I to City Fill (35th Street Closed Landfill) file. January 20.



35th Street Landfill

98210

98400

See Page 11 for Downtown Map

SEE 833 MAP

0 .125 .25 .375 .5 miles 1 in. = 1900 ft.

8/7/08 Y:\094042.01\Vicinity Map.doc



35th Street Landfill
Tacoma, Washington

Vicinity Map

Figure
1



ATTACHMENT A

Sampling Data Results

1990

CITY OF TACOMA

INTER-DEPARTMENTAL COMMUNICATION

TO: Robert Engle, Street Maintenance Division Manager

FROM: Michael P. Price, Utility Services Technical Support
Division Manager

SUBJECT: Laboratory Results - 35th Street Landfill

DATE: December 11, 1990

Attached are the results of the analyses performed last week on three samples taken from the 35th Street Landfill.

Nothing contained in the analyses indicates any significant problems at the site. PH is in an acceptable range. The one high total suspended solids result appears to have been caused by digging a small depression to collect the water for sampling. FOG readings are somewhat below most normal storm water results from our City Waterway Investigation. TPH represents total petroleum hydrocarbons and all values are less than 2 mg/l. Actual BOD values are significantly less than the figures shown, since the waste strength was lower than the detection limits for that parameter in each of the three samples run. Since our storm water studies have not included analysis for COD, we have nothing with which to compare the listed COD values in this analysis. The lower value shown at location 2 is apparently the result of dilution with upstream storm water. The only value of the bacteriological results is shown in the last line of the table under fecal/fecal-strep ratio. Since the ratio is well less than one, it indicates the fecal coliform is not of human origin.

This data would appear to indicate there is minimal contamination of the site, most likely by natural organic debris such as leaf litter probably collected by Street Maintenance staff and deposited at the site along with other street debris. The results of the lab analysis would appear to indicate that the amount of organic waste in the fill is minimal and the products of anaerobic decomposition should diminish over time if no further organics are added to the fill.



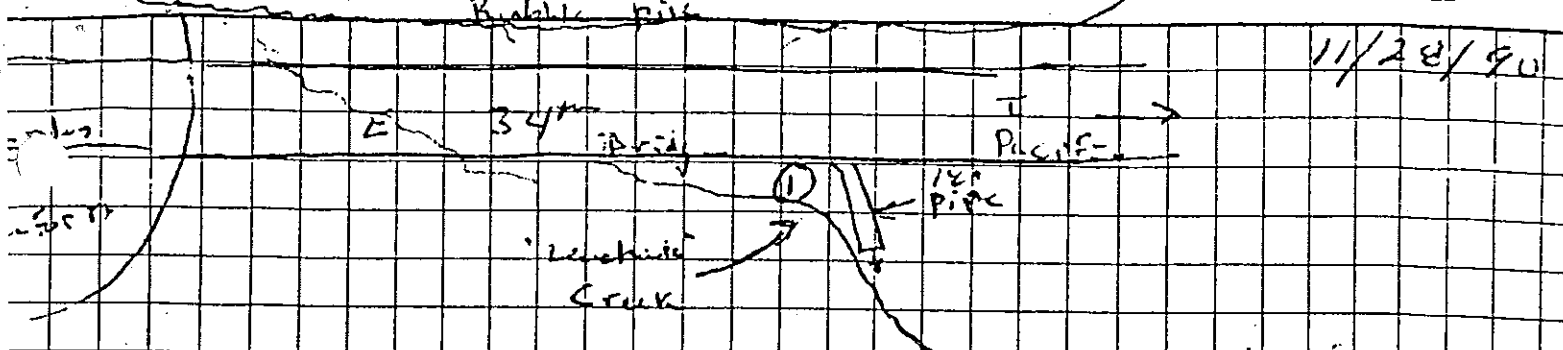
Michael P. Price, P.E.
Division Manager
Utility Services Technical Support

MPP:bls:WP0558b

File: Utility Services Technical Support

cc w/attachments: R. D. Sparling

11/28/90



Access to the top of the landfill is probably from E. 35th St.

Sampling Locations:

- 1) "Leachate" coming from landfill material which flows into a small stream - just uphill from storm drain pipe
- 2) Combined flow of storm drain pipe and leachate stream just before it enters the storm drain half way down the road
- 3) Road run off as it leaves the site and storm drain enters storm drain had to dig a depression in order to obtain the sample so more silt was sampled than appeared to be "naturally" occurring

Continued on Page

Read and Understood By

ZMN

Signed

Date

Signed

Date

12/14/90

Barometric Pressure
29.605"

white?
green
torquist (blue-green)

gulch ~20' down

⑥

⑤

④

③

②

①

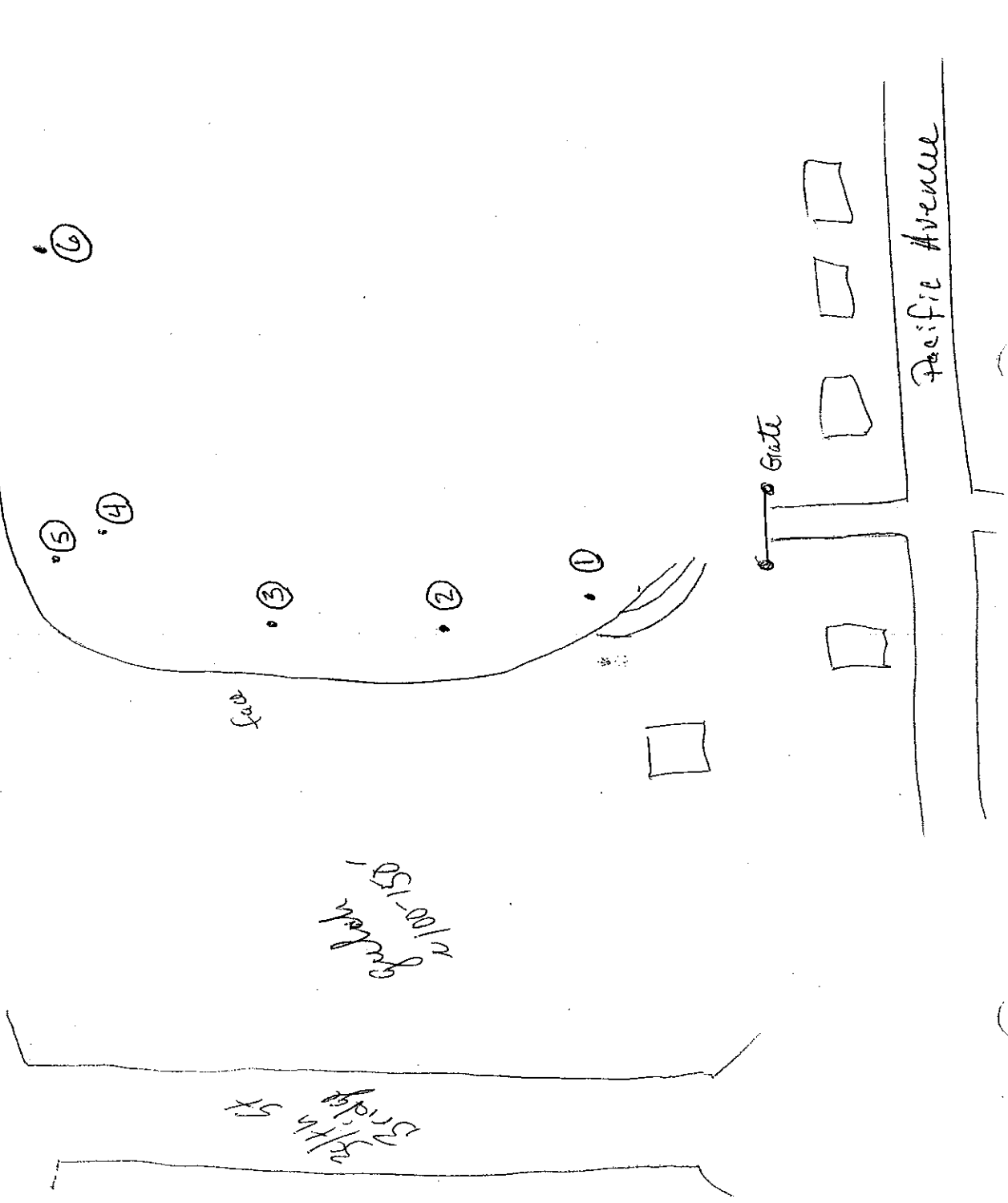
face

Gate

Pacific Avenue

gulch
#100-150'

34th St
Bridge



Solid Waste Inspection Program

Page of

Facility Name: City Joint Landfill Permit # Unpermitted Address So. 35th and Pacific Ave

DATE: 12/11/90 TECHNICIAN: Bosch BAROMETRIC PRESSURE START: 503A INSTRUMENT I.D. NUMBER: 503A

BAROMETRIC PRESSURE END: 30.30" OVM

UNIT NAME/ADDRESS	TIME	% CH ₄	% LEL	PPM	LOCATION DESCRIPTION/COMMENTS
See Attached ①			100 ⁺		Barhole 36" ; ND on OVM ; 2nd reading 100 ⁺ % LEL, after venting
②			100 ⁺		Barhole 36" ; ND on OVM ; 2nd reading 100 ⁺ % LEL
③			100 ⁺		Barhole 18" ; ND on OVM ; 2nd reading 100 ⁺ % LEL
④			100 ⁺		Barhole 36" ; NO on OVM ; 2nd reading 100 ⁺ % LEL
⑤				ND	Barhole 12" ;
⑥				ND	Barhole 18" ;
⑦				2000	Barhole 30" ; P
⑧				500	Barhole 24" ; Packed 500 ppm, then dropped to ND → back top 3"
⑨				ND	Barhole 18" ;
⑩				ND	Barhole 36" ;
⑪				500	Barhole 10" ;
⑫			100 ⁺		Barhole 18" ; 2nd reading 100 ⁺ % LEL, after venting

green house

gully ~ 20' deep

①

②

③

upper level

④

⑫

⑪

⑧

⑦

⑨

⑩

gate

house

house

house

house

house

Pacific Ave

1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12.

- Note:
- Washouts on face was evident
 - Wet day; overcast - not raining
 - Barometric pressure 30.20"
 - Procedure for 1st four borholes (1-4)
 - 1) Methane gas reading (503A)
 - 2) OVM reading
 - 3) Methane gas reading (503A)

← 34st Bridge

100-125' to bottom Face

gully

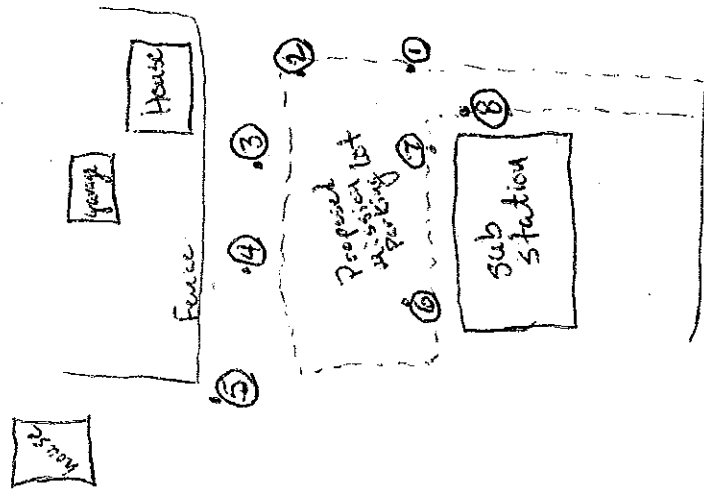
gully 100' ↑ ↑ ↑

TPCHD → John Wright + David Bosch

3pm = Standing H₂O in low areas

Boreholes conducted in higher, dryer areas

2/24/92



37th St.

BN Quality Union

Proposed Corner Bldg

Pacific Avenue

Dick Curtis 2-18-92

For 5:00 Meeting → today.

383-9694 Fax ~~to~~

Told him I sent ~~of~~ two people out to take a look - late notice, didn't know of meeting deadline.

2-18-92 4:30 called Dick Curtis

told him that our field staff came back & said it was too wet, but got two readings. Explained readings & locations, told him I would fax.

2-18-92 4:35 → Kenneth Olson Call. Told him same as above. Explained why we couldn't do more. He wanted to know if a couple of dry days would do it. I explained that it was the condition of the soil and ~~the~~ presence of standing water that is the problem. Bar hole filling w/ water or caving in, not allowing us to take readings.

He asked if we would be able to provide data next ~~Thursday~~ Tuesday. I said we could try, but wasn't sure. Could try to find more dry areas.

Kenneth asked if I'm the contact - said myself or Bob Mc.

ROUTINE FAX SHEET

PLEASE DELIVER TO:

AGENCY NAME Tacoma Utilities

PERSON Dick Curtis
Kenneth Olson

PHONE _____

DEPT/MAILSTOP _____

THIS IS PAGE #1 OF A 2 PAGE TRANSMISSION.

TIME SENT 4:30 DAY/DATE SENT 2-18-92

RECEIVED FROM G. Kato

PHONE NUMBER 591-6026

COMMENTS _____

PLEASE DISTRIBUTE ADDITIONAL COPIES OF THIS FAX TO THE FOLLOWING PERSONS AT YOUR LOCATION:

COMMENTS _____

TACOMA-PIERCE COUNTY HEALTH DEPARTMENT

3629 SOUTH "D" STREET

TACOMA, WA 98408-6897



2-18-92

DB/JW

forecast ~ 45-58°

36th

Pacific Avenue

Notes - Barholes 2-18-92

Most areas too wet to
monitor - standing water.

2 bar holes both Non Detected

Need probes or dig in soils.

Barhole - 12" deep
Non-detect

Barhole - 6" deep
Non detect

BH 12"
ND

BH 6"
ND



**TACOMA
PUBLIC
UTILITIES**

E. E. COATES, DIRECTOR
3628 South 35th Street
P.O. Box 11007
Tacoma Washington 98411
(206) 383-2471

DIVISIONS
Light
Water
Belt Line

February 14, 1992

Mr. Lou Dooley
Tacoma-Pierce County Health Dept.
3629 South D Street
Tacoma, Washington 98408

Dear Lou:

As we discussed this morning, please perform methane tests within the City-owned property shown on the attached sketch. The area is within the cross-hatched boundary. There are underground electrical facilities in this area. The survey work marking the boundaries and One Call for underground facilities will be completed by 10:00 a.m. on Tuesday, February 18. This must be done before any testing. The City Council requested the methane information at their meeting of February 11, 1992. An early response for this information would be appreciated.

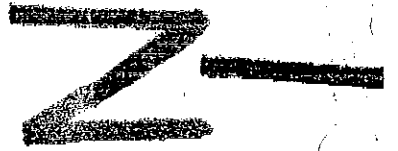
Very truly yours,

Kenneth F. Olson
Superintendent
Water Division

KFO:ri

Enc.

cc: Ted Coates
Mark Crisson
Russ Post
Dick Curtice
Mark Bubenik



W 7th Street
R. O. B. REC.
5.52 MEAS.

AVENUE

PACIFIC AVENUE

57.5
12.0
12.0
12.0
12.0

222.68

135-0 1

238.36

200

CITY OF
TACOMA

214.48 4820

128-1

84'

DND

7-5-1928
*826157
240.36

14

57.5

7

42

158.62

214.48

8

8

6

7

50

34

5

WHILE YOU WERE AWAY

FOR Candy DATE 2/18 TIME 330 A.M.
P.M.
 M. Dick Curba
 OF Tac City Dept
 PHONE AREA CODE 591 NUMBER 9772 EXTENSION
 MESSAGE Results of methane monitoring?
 SIGNED U

| | |
|-------------------------------------|--------------------|
| <input type="checkbox"/> | PHONED |
| <input type="checkbox"/> | RETURNED YOUR CALL |
| <input checked="" type="checkbox"/> | PLEASE CALL |
| <input type="checkbox"/> | WILL CALL AGAIN |
| <input type="checkbox"/> | CAME TO SEE YOU |
| <input type="checkbox"/> | WANTS TO SEE YOU |

TOPS FORM 4002

TACOMA WATER DIVISION 001

15:07

02/14/92



3628 South 35th Street
 P.O. Box 11607
 Tacoma, Washington 98411
 (206) 333-9694

**WATER DIVISION
 FAX TRANSMITTAL COVER SHEET**

TO: NAME Lou Dooley DATE 2/14/92
 COMPANY / SECTION Tacoma-Pierce County Health Dept. TIME
 FROM: NAME Ken Olson Number of pages including cover 3
 SECTION Tacoma Water DIRECT DIAL PHONE NO. OR EXT. 593-8206
 SUBJECT/COMMENTS METHANE TESTING - FOR IMMEDIATE INFORMATION

OPERATOR/SENDER

1997

**TACOMA-PIERCE COUNTY HEALTH DEPARTMENT
WASTE MANAGEMENT SECTION**

M E M O R A N D U M

DATE: March 3, 1997

TO: City Fill (35th Street Closed Landfill) file

FROM: *gw* John Wright, Environmental Health Specialist I

SUBJECT: **Methane monitoring**

I accompanied Mike Gore of Tacoma Refuse Utility to the 35th Street Closed Landfill for the purpose of conducting methane monitoring.

There is a single gas probe toward the northern end of the fill site. We both conducted methane monitoring at this probe. A level of 87% of the LEL (Lower Explosive Limit) was detected using a GasTech GT201 combustible gas detector. 5% Oxygen registered at that level. I let the probe vent longer and took a second reading. A level of 82% of the LEL was detected upon this second survey. A level of 4.3% Oxygen was noted at that level. The City of Tacoma, using a GasTech NP204 methane gas detector, detected a level of 2% methane gas by volume.

I recommend further follow-up at this site, including barhole methane monitoring of the perimeter of the fill site, especially where houses are. Other follow-up testing, etc. may be conducted as needed, including sampling of nearby water sources.

1998

**TACOMA-PIERCE COUNTY HEALTH DEPARTMENT
SOURCE PROTECTION PROGRAMS/WASTE MANAGEMENT**

M E M O R A N D U M

DATE: April 1, 1998

TO: City Closed Fill (35th Street) file

FROM: John ^{gw}Wright, Environmental Health Specialist I

SUBJECT: **Site inspection/landfill gas monitoring**

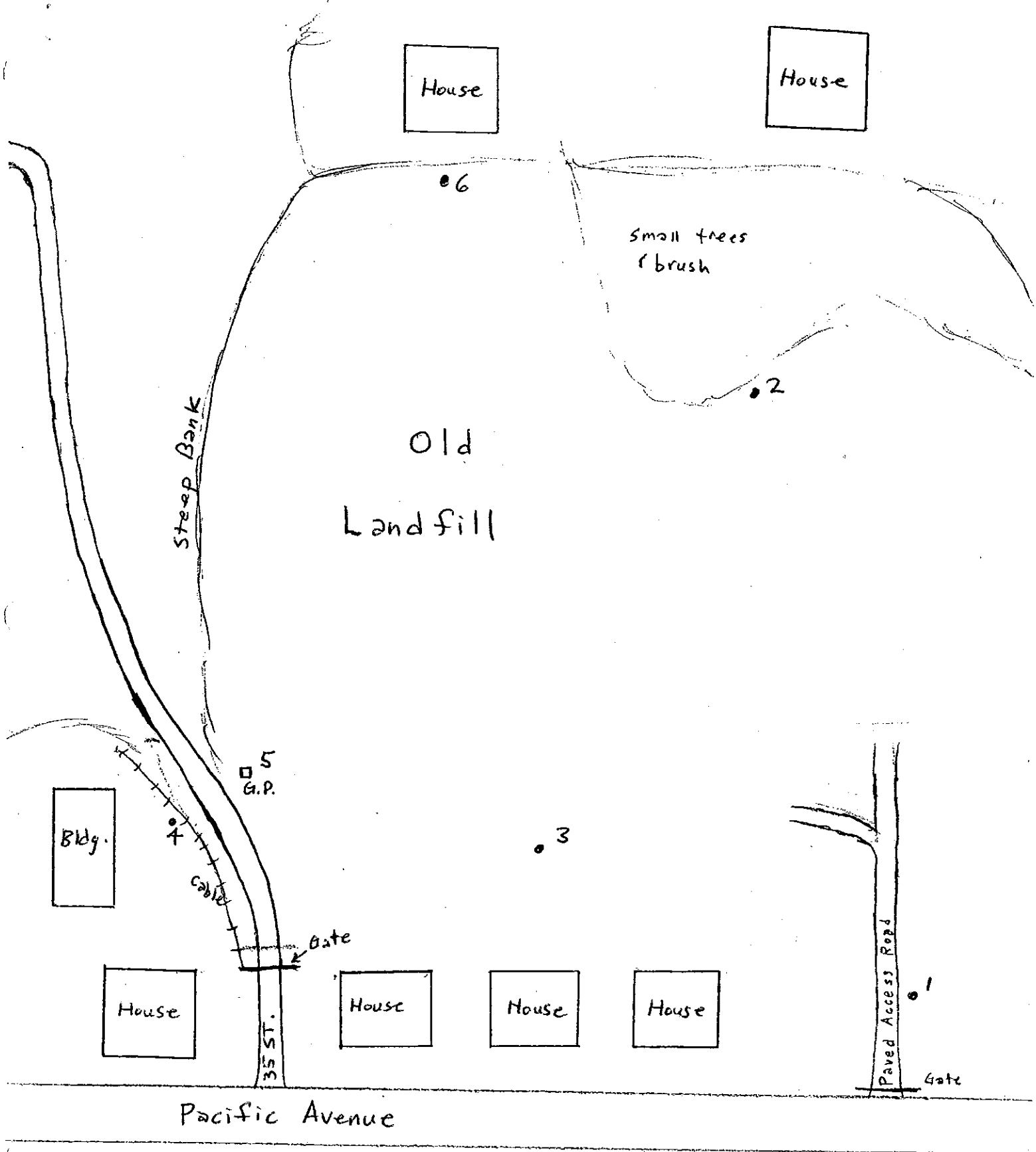
I performed a site inspection and conducted landfill gas monitoring at the closed City Fill off of 35th Street and Pacific Avenue.

I conducted landfill gas monitoring at the single gas probe on the site (near the slope at the northern boundary) as well as five additional barhole locations. Elevated levels of combustible gas were detected at two of the locations (see attached methane survey form). Residential homes surround this site to the east and west. No levels of combustible gas were detected within the explosive level for methane gas.

The City of Tacoma also monitors this site on a monthly basis. However, Tacoma only monitors the gas probe on site and does not perform barhole monitoring on-site. I recommend that the TPCHD put this on a regular monitoring schedule of at least once every three months (quarterly) due to the close proximity of residential homes to the landfill.

4/1/98

City Fill (35th ST.) - closed





Tacoma-Pierce County Health Department
Source Protection Programs/Waste Management



INSPECTION REPORT

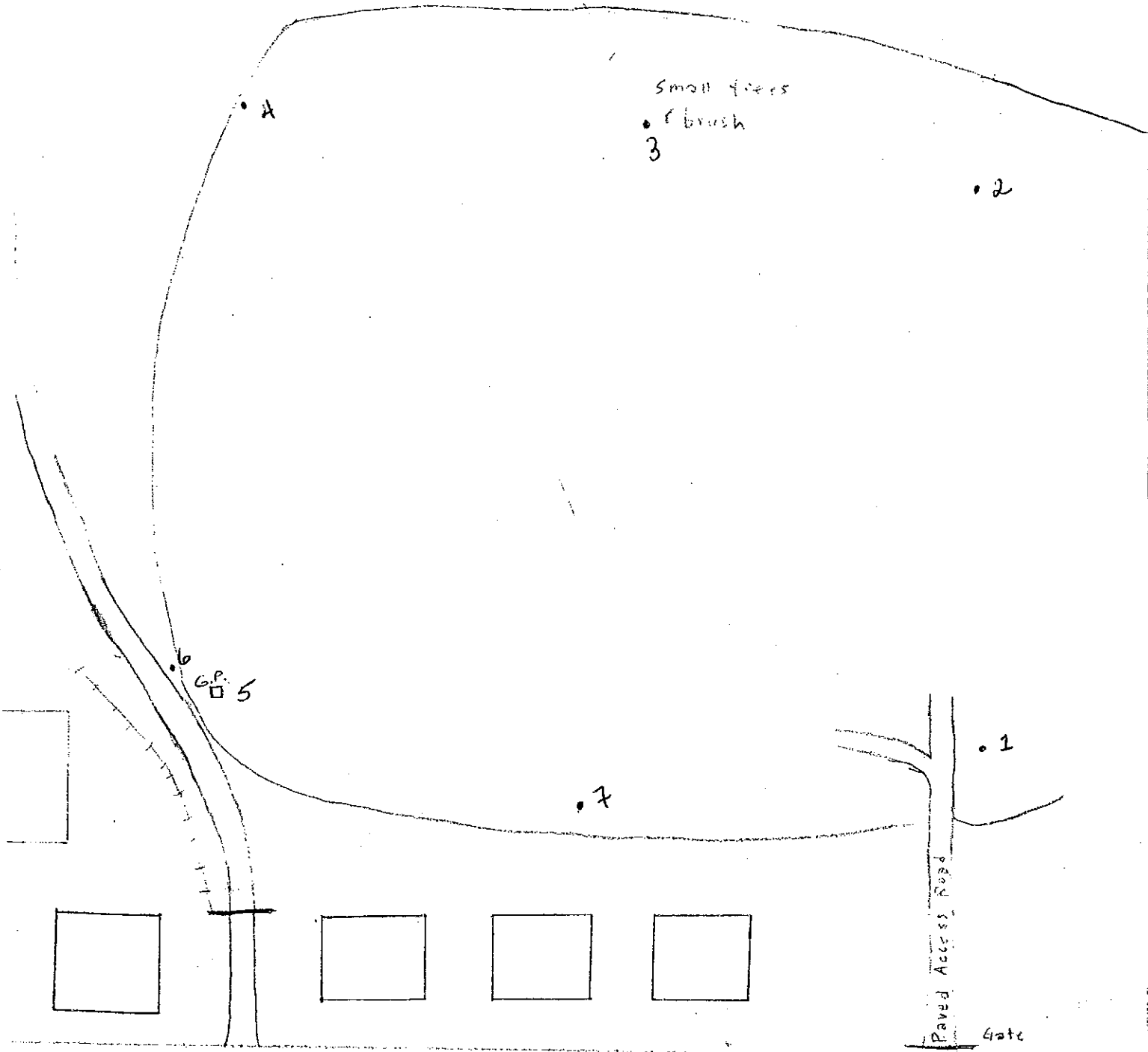
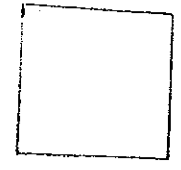
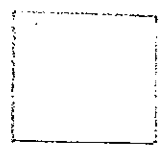
| | | | |
|---|---|-------------------------------------|------------------------------------|
| FACILITY NAME
City Closed Fill (35th Street) | | INSPECTOR
Sharon Bell <i>pub</i> | INSPECTION DATE
20 October 1998 |
| ADDRESS
35th Street and Pacific Avenue | | CITY
Tacoma | ZIP CODE |
| FACILITY CONTACT | | PHONE | PERMIT NUMBER |
| ITEM | <p>I conducted landfill gas monitoring at the closed City Fill off of 35th Street and Pacific Avenue today between 2:40 and 3:15 p.m. Weather conditions at the time of the inspection were sunny, no wind or rain, and temperatures in the mid 60's (F).</p> <p>The Gastech GT201 was used to detect methane levels at 6 barhole locations and at the single gas probe installation. The gas probe was under a vacuum and the negative draw caused the pump to continue to shut down. A barhole measurement was taken in the vicinity of the gas probe instead. Methane levels detected ranged from 80 to 1600 ppm. Please see the attached for complete results and sampling locations of the methane gas survey.</p> | | |
| | | | |

TACOMA-PIERCE COUNTY HEALTH DEPARTMENT
 LANDFILL GAS/METHANE SURVEY REPORT

SOLID WASTE INSPECTION PROGRAM

| Facility Name: <u>Closed City fill</u> | | Permit #: | | Address: <u>35th St & Pacific Ave.</u> | | |
|--|-------------|---|------|--|-------------|---|
| Date: <u>10/20/98</u> Technician: <u>S. Bell</u> | | Barometric Pressure Start: <u>29.86</u> | | Instrument I.D. Number: <u>ST201</u> | | |
| | | Barometric Pressure End: _____ | | | | |
| UNIT NAME/ADDR/PROBE# | TIME | %CH4 | %LEL | PPM | %O2 | LOCATION DESCRIPTION/COMMENTS |
| <u>See Attached #1</u> | <u>2:40</u> | | | <u>80</u> | <u>20.9</u> | <u>Burhole 24"</u> |
| <u>#2</u> | | | | <u>200</u> | <u>20.9</u> | <u>" 24"</u> |
| <u>#3</u> | | | | <u>1380</u> | <u>20.7</u> | <u>" 18"</u> |
| <u>#4</u> | | | | <u>240</u> | <u>20.9</u> | <u>" 30"</u> |
| <u>#5</u> | | | | <u>ND</u> | <u>-</u> | <u>GAS PROBE [CAN'T GET READING - VACUUM SHUTTING OFF PUMP]</u> |
| <u>#6</u> | | | | <u>380</u> | <u>20.9</u> | <u>Burhole 24"</u> |
| <u>#7</u> | <u>3:15</u> | | | <u>1600</u> | <u>19.3</u> | <u>" 14"</u> |
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10.20.98
S. Bell



PACIFIC AVE.

CLOSED CITY FILL 35th St & Pacific Ave

1999



City of Tacoma
Public Works Department

April 21, 1999

John Wright
Environmental Health Specialist I
Source Protection Programs/Waste Management
3629 South D Street
Tacoma, WA 98408-6897

Dear Mr. Wright,

Please find attached the report of sampling, analysis and Quality Control report of soil and water samples collected at the closed landfill near Pacific Avenue and 35th Street. Sampling and analysis were performed as recommended by the letter to Tom Stucker dated August 4, 1998.

Sampling was performed by the City of Tacoma Utility Services Laboratory located at 2201 Portland Ave. The analysis was subcontracted to Spectra Laboratories due to the heavy sample load at the City Lab at the time the samples were taken. Spectra Lab is accredited by the Department of Ecology for all parameters determined. In the future the City Lab will likely be performing the analysis, depending on sample load. The City Lab is accredited for the parameters of interest as well.

If you have any questions about the data please do not hesitate to call me at 253-502-2130.

Sincerely,

Christopher L. Getchell
Source Control Supervisor

cc: Tom Stucker, Street Maintenance
Sharon Bell, Health Department

RECEIVED
APR 23 1999

TACOMA-PIERCE CO. HEALTH DEPT.
WASTE MANAGEMENT



City of Tacoma
Utility Services Laboratory

Memorandum

TO: Thomas Stucker, Street Maintenance

FROM: Christopher L. Getchell, Source Control Supervisor

SUBJECT: Miscellaneous Monitoring WO #AA4424

DATE: April 21, 1999

Attached are the analysis results for the water and soil samples collected at the 35th Street Landfill on March 25, 1999. All analysis was completed from grab samples.

Analysis was performed by the Utility Services Laboratory and SPECTRA Laboratories, Inc. A detailed Quality Control Data Review report was prepared for these samples and is available for review upon request.

If you have any questions concerning these results, call me at (253)502-2130.

Christopher L. Getchell
Source Control Supervisor
Utility Services Laboratory

CLG:LAZ

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- City of Tacoma -
Utility Services Laboratory

To: Christopher L. Getchell, Source Control Supervisor

Miscellaneous Monitoring
AA4424375

Date: April 21, 1999

Lab#: 990325277

Sample ID: 35th Street Landfill

Sample Type: Soil

Sample Date: 03/25/99

| Test | Result | Units |
|----------------|--------|----------|
| CONVENTIONAL | | |
| Solids | 83.4 | per cent |
| GC/MS-TPH | | |
| WTPH-Diesel | 25 U | mg/Kg |
| WTPH-Heavy Oil | 100 U | mg/Kg |
| GC/MS-VOA | | |
| WTPH-Gasoline | 20 U J | mg/Kg |

Reviewed By: Lori A. Zporalski 4/21/99

U indicates not detected at the associated value

B indicates the value is greater than the detection limits of the method, however it is lower than the Contract Required Detection Limits

J indicates the associated value is estimated

UJ indicates not detected at the associated value, however the value should be considered estimated

- City of Tacoma -
Utility Services Laboratory

To: Christopher L. Getchell, Source Control Supervisor

Miscellaneous Monitoring

AA4424375

Date: April 21, 1999

Lab#: 990325278

Sample ID: 35th Street Landfill

Sample Type: Water

Sample Date: 03/25/99

| Test | Result | Units |
|--------------|--------|-------|
| CONVENTIONAL | | |
| TPH | 5.0 U | mg/L |

Reviewed By: Lori A. Zboralski 4/21/99

U indicates not detected at the associated value

B indicates the value is greater than the detection limits of the method, however it is lower than the Contract Required Detection Limits

J indicates the associated value is estimated

UJ indicates not detected at the associated value, however the value should be considered estimated

Quality Control Data Review

To: Christopher L. Getchell, Source Control Supervisor

From: Lori A. Zboralski, Senior Laboratory Analyst *LZ*

Date: April 21, 1999

SAMPLES

This report concerns the following samples associated with **Miscellaneous Monitoring WO # AA4425**:

| <u>Sample Description</u> | <u>Lab ID#</u> | <u>Date Sampled</u> |
|--|----------------|---------------------|
| 35 th Street Landfill (soil) | 990325277 | 03/25/99 |
| 35 th Street Landfill (water) | 990325278 | 03/25/99 |

HOLDING TIMES

These samples were analyzed within the required analytical holding times of 7 days for Total Solids and TPH-418.1, and 28 days for WTPH-Dx. **The holding time of 14 days was not met for the WTPH-G analysis. The soil sample is qualified as estimated for WTPH-G based on the holding time.**

METHODS

The analysis follows the methods outlined in the Washington State Underground Storage Tank methods.

CALIBRATION AND VERIFICATION

The TPH-418.1 calibration met method requirements for linearity and accuracy. The TPH calibration had a correlation coefficient greater than or equal to 0.995. Calibration accuracy was monitored by analyzing a independent mid-range standard (ICV and CCV). Acceptable recoveries must be within 85 to 115%.

METHOD AND CALIBRATION BLANKS

Method and calibration blanks were analyzed at the required frequencies for the methods. These blanks concentrations were less than 1/5th the amount found in the sample or the detection limit at all times.

LABORATORY CONTROL SAMPLES

Laboratory Control Samples (LCS) monitor the analytical system by carrying a standard through every step of the analytical method including extraction or digestion. All LCS recoveries were within laboratory established control limits.

DUPLICATE SAMPLE ANALYSIS

All duplicate samples had relative percent differences within the established acceptance limits.

MATRIX SPIKE ANALYSIS

All matrix spike samples had recoveries within the established spike recovery limits of 75 to 125%.

Phone: (253) 893-7713
Fax: (253) 591-5547

3510 South Mullen Street
Tacoma, WA 98408



Fax

To: John Wright **From:** Gary Kato

Fax: **Pages:** 2

Phone: **Date:** 09/29/99

Re: 35th Street Landfill **CC:** [Click here and type name]

- Urgent
 For Review
 Please Comment
 Please Reply
 Please Recycle

● **Comments:** John, attached is the info for the 35th street landfill monitoring performed by Mike Gore.

Thanks,

Gary

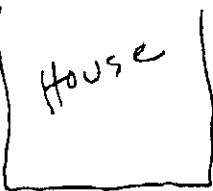
Mike Gore

9-28-99

SUNNY

30.30 bar Pi

GT 201



X \emptyset LEL
60 PPM

LEL \emptyset
PPM \emptyset

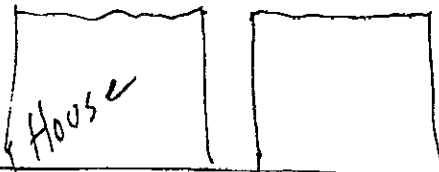
LEL \emptyset
PPM \emptyset
X

X
LEL \emptyset
PPM \emptyset

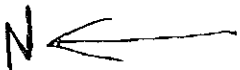
Probe station
X LEL \emptyset
PPM \emptyset 60



PPM \emptyset
LEL \emptyset
X



5x4



Pacific Ave.

City of Tacoma
35th Street Landfill Monitoring

Date: March 3, 1999

Technician: Gore/Kato

Bar. Pressure: 29.44

Instrument I.D. #: GT201 9523006

| <u>Barhole #/
Location</u> | <u>%CH₄</u> | <u>%L.E.L.</u> | <u>Barhole Depth</u> | <u>Comments</u> |
|--------------------------------|------------------------|----------------|----------------------|-----------------|
| #1 | 1 | 1 | 24-30" | |
| #2 | 1 | 1 | 24-30" | |
| #3 | 0 | 0 | 24-30" | |
| #4 | 0 | 0 | 24-30" | |
| #5 | 0 | 0 | 24-30" | |
| #6 | 0 | 0 | 24-30" | |
| #7 | 0 | 0 | 24-30" | |
| #8 | 0 | 0 | 24-30" | |
| #9 | 0 | 0 | 24-30" | |
| #10 | 0 | 0 | 24-30" | |
| #11 | 0 | 0 | 24-30" | |
| #12 | 0 | 0 | 24-30" | |
| Probe | 0 | 0 | N/A | |

RECEIVED

MAR 09 1999

TACOMA-PIERCE CO. HEALTH DEPT.
WASTE MANAGEMENT

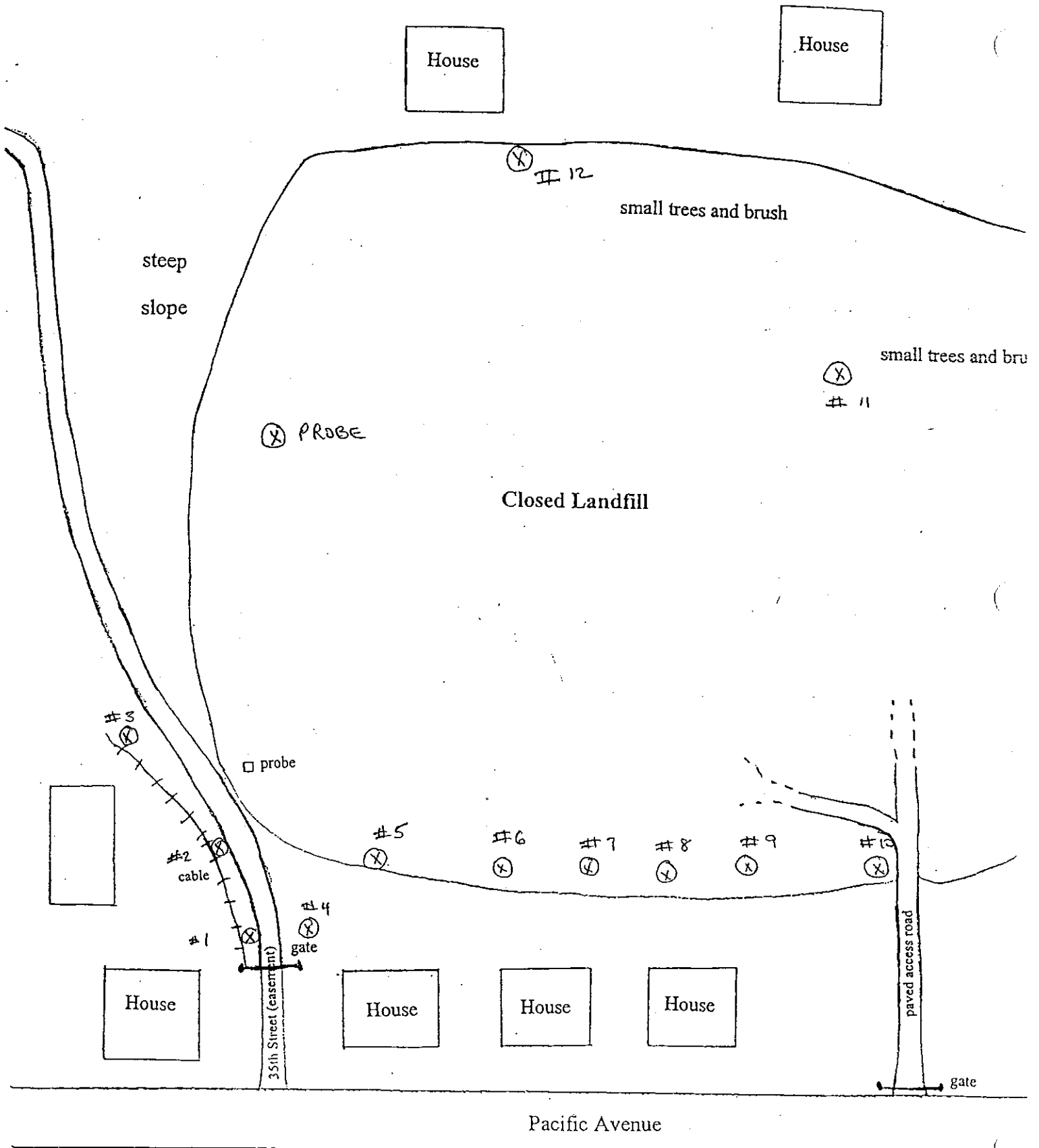


Figure 7. City Fill (35th St. Landfill)

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City of Tacoma
Utility Services Laboratory

Memorandum

TO: Tom Stucker, Street Maintenance Division
FROM: Christopher L. Getchell, Source Control Supervisor
SUBJECT: Miscellaneous Monitoring WO# GD825E
DATE: April 1, 2000

Attached are the analysis results for the samples collected March 16, 2000 from the 35th Street Landfill. All analysis was performed on grab samples.

The samples were analyzed entirely by the Utility Services Laboratory. A detailed Quality Control Data Review report was prepared and is available for review upon request.

If you have any questions concerning these results, call me at (253) 502-2130.

Christopher L. Getchell
Source Control Supervisor,
Utility Services Laboratory.

RECEIVED
APR 17 2000

TACOMA-PIERCE CO. HEALTH DEPT
WASTE MANAGEMENT

CLG:LAZ

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- City of Tacoma -
Utility Services Laboratory

To: Christopher L. Getchell, Source Control Supervisor

Environmental Monitoring
GD825E371

Date: April 01, 2000

Lab#: 000316132

Sample ID: 35th Street Landfill

Sample Type: Water

Sample Date: 03/16/00

| Test | Result | Units |
|------------------------------|--------|-------|
| CONVENTIONAL | | |
| SGT-HEM | 12.0 U | mg/L |
| <i>Oil/Grease test (TPH)</i> | | |

Reviewed By: *Lori A. Zboralski* *4/1/00*

RECEIVED
APR 17 2000

TACOMA-PIERCE CO. HEALTH DEPT
WASTE MANAGEMENT

- U indicates not detected at the associated value
- B indicates the value is greater than the detection limits of the method, however it is lower than the Contract Required Detection Limits
- J indicates the associated value is estimated
- UJ indicates not detected at the associated value, however the value should be considered estimated

- City of Tacoma -
Utility Services Laboratory

To: Christopher L. Getchell, Source Control Supervisor

Environmental Monitoring
GD825E371

Date: April 01, 2000

Lab#: 000316133

Sample ID: 35th Street Landfill

Sample Type: Soil

Sample Date: 03/16/00

| Test | Result | Units |
|---------------|--------|----------|
| CONVENTIONAL | | |
| Solids | 74.9 | per cent |
| GC/MS-TPH | | |
| WTPH-Diesel | 25 U | mg/Kg |
| GC/MS-VOA | | |
| WTPH-Gasoline | 5.0 U | mg/Kg |

Reviewed By: Lori A. Zboralski 4/1/00

RECEIVED
APR 17 2000

TACOMA-PIERCE CO. HEALTH DEPT
WASTE MANAGEMENT


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**TACOMA-PIERCE COUNTY HEALTH DEPARTMENT
SOURCE PROTECTION PROGRAMS/WASTE MANAGEMENT**

M E M O R A N D U M

DATE: April 25, 2000

TO: City Fill (35th Street Closed Landfill) file

FROM:  John Wright, Environmental Health Specialist I

SUBJECT: **Site inspection/landfill gas monitoring**

I performed a site inspection and conducted landfill gas monitoring at the closed City Fill off of 35th Street and Pacific Avenue. Weather conditions at the time of the inspection were partly cloudy, rain showers off and on, strong winds, and a temperature of about 55°F.

I conducted landfill gas monitoring at the single gas probe on the site (near the slope at the northern boundary) as well as five additional barhole locations. No high levels of combustible gas were detected at the site (see attached methane survey form). Residential homes surround this site to the east and west. A couple of small businesses are to the northwest.

The City of Tacoma Solid Waste Utility (TSWU) has been monitoring this site twice a year for the last couple of years. TSWU has not detected any high levels of combustible gas at the site during that time.

Recommendations:

Due to the relatively low levels of combustible gas detected at this site, the landfill does not pose a combustible gas hazard at this time. However, due to the close proximity of residential homes and small businesses to the landfill, the Health Department feels that methane monitoring should continue at this site twice a year (during the spring and fall). I will notify Gary Kato of TSWU that their twice a year monitoring at this site should continue and results forwarded to the Health Department. Based on the results obtained, the Health Department may alter or modify this schedule in the future.

cc: Tacoma Solid Waste Utility

TACOMA-PIERCE COUNTY HEALTH DEPARTMENT
 LANDFILL GAS/METHANE SURVEY REPORT

SOLID WASTE INSPECTION PROGRAM

Facility Name: 35th St. CLF (City)

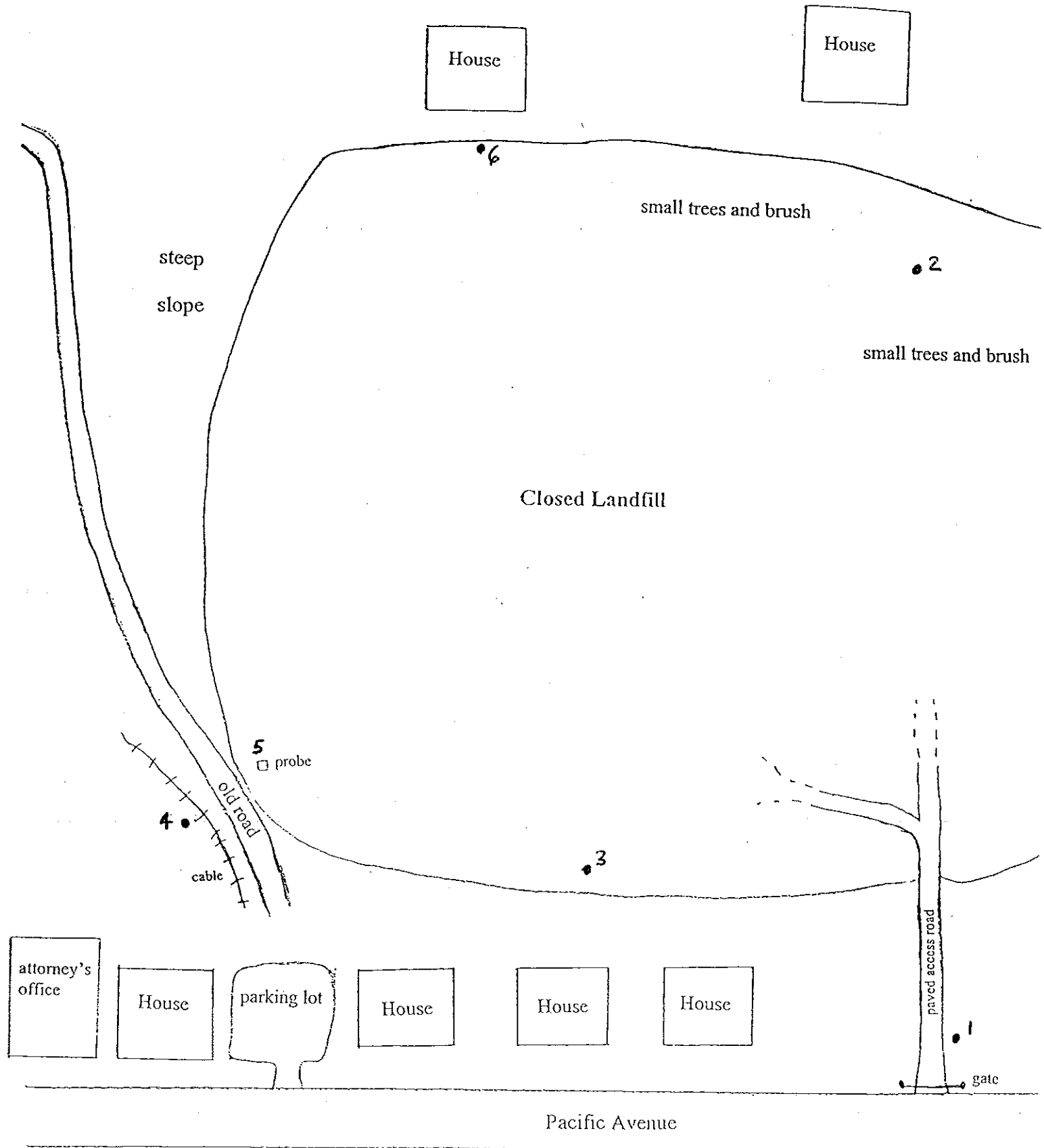
Permit #: _____ Address: _____

Date: 4/25/00 Technician: J. Wright

Barometric Pressure Start: 29.73
 Barometric Pressure End: 29.72

Instrument I.D. Number: GI201 (#2)

| UNIT NAME/ADDR/PROBE# | TIME | %CH4 | %LEL | PPM | %O2 | LOCATION DESCRIPTION/COMMENTS |
|-----------------------|-------|------|------|------|------|-------------------------------|
| See Attached #1 | 11:15 | | | 500 | 20.9 | Barhole 18" |
| #2 | | | | 1220 | 18.4 | " 36" |
| #3 | | | | 2380 | 8.2 | " 28" |
| #4 | | | | 600 | 12.4 | " 24" |
| #5 | | | | 560 | 13.1 | Gas Probe |
| #6 | | | | 920 | 17.5 | " 36" |
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City Fill (35th St. Landfill)


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**TACOMA-PIERCE COUNTY HEALTH DEPARTMENT
SOURCE PROTECTION PROGRAMS/WASTE MANAGEMENT**

M E M O R A N D U M

DATE: April 23, 2001

TO: City Fill (35th Street Closed Landfill) file

FROM:  John Wright, Environmental Health Specialist I

SUBJECT: **Site inspection/landfill gas monitoring**

I performed a site inspection and conducted landfill gas monitoring at the closed City Fill off of 35th Street and Pacific Avenue. Jim Oberlander, Water Quality Inspector for the City of Tacoma accompanied me on the inspection. Weather conditions at the time of the inspection were overcast, no rain, light winds, and a temperature of about 50°F.

Residential homes surround this site to the east and west. A couple of small businesses are to the northwest. There is no gate blocking vehicular access at the parking lot next to the attorney's office. We noted two junked vehicles on the landfill property. One, a junked van, was located near the paved access road toward the southern end of the site. There is a fairly decent sized accumulation of trash and litter around the van. The other vehicle, a Blazer, was east of the house at 3501 Pacific Avenue. We spoke to a worker for the attorney's office and he informed us that the Blazer belongs to David Knodel, the attorney he works for. It would be removed soon, according to this worker. Also according to this worker, the van belongs to the occupants of one of the houses. Both of these vehicles were wrecked and brought to this site to be used for scrap parts. While on-site, the vehicles became vandalized and stripped further. There was also what appeared to be a readerboard sign lying on the ground near the wrecked Blazer. We also noted several ecology blocks (jersey barriers) on the site. Jim indicated that he would see that these blocks be used to block vehicular access at the site. We also walked down an old dirt road to the base of the slope on the northern end of the landfill. At the base of the slope we noted a fairly good sized puddle of standing water. The water appeared to be clear, no visible contaminants were noted. We noted no other evidence of leaching along the slope or at the base of the slope.

I conducted landfill gas monitoring at the single gas probe on the site (near the slope at the northern boundary) as well as five additional barhole locations. The highest level of combustible gas detected at the site was 23% of the LEL (Lower Explosive Limit). See the attached methane survey report for complete results.

Recommendations:

The junked vehicles, trash and litter, and the old sign need to be removed from the site. The existence of these items on the site serve to attract further illegal dumping. It also would be a good idea to attempt to restrict vehicular access to the site at the northern end by the parking lot.

Due to the close proximity of residential homes and small businesses to the landfill and the fact that combustible gas is still being generated by this landfill, the Health Department recommends that methane monitoring continue at this site twice a year (during the spring and fall). The City of Tacoma Solid Waste Utility (TSWU) monitored this site twice in 1999. No results have been received from the TSWU since 1999. The TSWU was recently contacted by the TPCHD regarding the gas monitoring. The TSWU will resume the biannual monitoring in the fall of 2001. The City of Tacoma Public Works Department (TPW) will continue to perform soil and surface water sampling at the site on an annual basis.

**TACOMA-PIERCE COUNTY HEALTH DEPARTMENT
LANDFILL GAS/METHANE SURVEY REPORT**

SOLID WASTE INSPECTION PROGRAM

PAGE OF

| Facility Name: <u>35th St. CLF (City)</u> | | Permit #: | Address: | | | |
|---|--------|---|----------|---|------|-------------------------------|
| Date: <u>4/23/01</u> Technician: <u>J. Wright</u> | | Barometric Pressure Start: <u>29.94</u> | | Instrument I.D. Number: <u>GT 201 (# 2)</u> | | |
| Barometric Pressure End: _____ | | | | | | |
| UNIT NAME/ADDR/PROBE# | TIME | %CH4 | %LEL | PPM | %O2 | LOCATION DESCRIPTION/COMMENTS |
| # 1 | 1020 | | 20% | | 19.0 | Bar hole 24" no water |
| 2 | 1028 | | 6% | | 19.2 | " " " " |
| 3 | 1035 | | 23% | | 12.8 | " " " " |
| 4 | 1045 | | 8% | | 20.0 | " " " " |
| probe open | 5 1050 | | | 1640 | 17.5 | Probe (depth unk) |
| | 6 1055 | | 9% | | 19.0 | Bar hole 36" " " |
| | | | | | | |
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4/23/01

N ←

House

House

standing water

steep slope

small trees and brush

•2

small trees and brush

Closed Landfill

old road
cable

5 □ probe

•4

car

•3

Fix Gate or Block w/ Jersey Barriers

attorney's office (3419)

office (3421)

parking lot

House (3501)

House (3507)

House (3511)

•1

paved access road

gate

Pacific Avenue

City Fill (35th St. Landfill)



City of Tacoma
Environmental Services
Science and Engineering
Division

Memorandum

TO: Tom Stucker, Street Maintenance Division
FROM: Christopher L. Getchell, Source Control Supervisor
SUBJECT: Miscellaneous Monitoring WO# AA4424
DATE: May 21, 2001

RECEIVED

MAY 23 2001

Tacoma-Pierce County
Health Dept.

Attached are the analysis results for the water and soil samples collected May 7, 2001 from the 35th Street Landfill. Grab samples were analyzed for SGT-HEM, NWTPH-Dx, and NWTPH-Gx.

The Science and Engineering Division analyzed the water sample for SGT-HEM and the soil for NWTPH-Dx. SPECTRA Laboratories analyzed the soil sample for NWTPH-Gx. A detailed Quality Control Data Review report was prepared and is available for review upon request.

The value for the Heavy Oil in the soils sample is qualified as estimated based on low spike and spike duplicate recoveries.

If you have any questions concerning these results, call me at (253) 502-2130. Please note, the samples associated with this report will be discarded six months from the date of this report unless requested otherwise.

Christopher L. Getchell
Source Control Supervisor,
Science and Engineering Division.

RECEIVED
MAY 23 2001

TACOMA-PIERCE CO. HEALTH DEPT.
WASTE MANAGEMENT

CLG:LAZ

- City of Tacoma -
Science and Engineering Division

To: Christopher L. Getchell, Source Control Supervisor

Environmental Monitoring
AA4424375

Date: May 21, 2001

Lab#: 010507101

Sample ID: 35th Street Landfill

Sample Type: Water

Sample Date: 5/7/01

| Test | Result | Units |
|--------------|--------|-------|
| CONVENTIONAL | | |
| SGT-HEM | 6.0 U | mg/L |

Reviewed By: Lori A. Zboralski 5/21/01

RECEIVED
MAY 23 2001

TACOMA-PIERCE CO. HEALTH DEPT.
WASTE MANAGEMENT

- U indicates not detected at the associated value
- B indicates the value is less than the reporting limit and greater than the MDL
- J indicates the associated value is estimated
- UJ indicates not detected at the associated value, however the value should be considered estimated

- City of Tacoma -
Science and Engineering Division

To: Christopher L. Getchell, Source Control Supervisor

Environmental Monitoring
AA4424375

Date: May 21, 2001

Lab#: 010507102

Sample ID: 35th Street Landfill

Sample Type: Soil

Sample Date: 5/7/01

| Test | Result | Units |
|--------------|--------|----------|
| CONVENTIONAL | | |
| Total Solids | 67.0 | per cent |
| NWTPH-Dx | | |
| Diesel | 35 U | mg/Kg |
| Heavy Oil | 160 J | mg/Kg |
| NWTPH-G | | |
| Gasoline | 5.0 U | mg/Kg |

Reviewed By: *Lori A. Zboralski* *5/21/01*

U indicates not detected at the associated value

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City of Tacoma
Environmental Services
Science and Engineering Division

Memorandum

TO: Jim Oberlander, Water Quality Representative
FROM: Christopher L. Getchell, Source Control Supervisor
SUBJECT: 35th Street Landfill WO# AK80F2
DATE: June 4, 2001

Attached are the analytical results for the water sample flowing into the catchbasin found on the west side of the hill under the 34th Street Bridge collected on May 8, 2001. The sample was analyzed for pH, Ammonia, Total Metals, NWTPH-Dx, Semi-volatile Organics, Chlorinated Pesticides, and Volatile Organics. A Trip Blank was collected and analyzed for Volatile Organics with this sample.

The Science and Engineering Division analyzed the sample for pH, Ammonia, Total Metals, NWTPH-Dx, Semi-Volatile Organics, and Volatile Organics. Sound Analytical Services analyzed the sample for Chlorinated Pesticides. A detailed Quality Control Data Review was prepared and is available.

If you have any questions concerning this data, call me at (253) 502-2130. Please note, the samples associated with this report will be discarded six months from the date of this report, unless notified otherwise.

Christopher L. Getchell
Source Control Supervisor,
Science and Engineering Division

CLG:LAZ

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RECEIVED

JUN 25 2001

Tacoma-Pierce County
Health Dept.

- City of Tacoma -
Science and Engineering Division

To: Christopher L. Getchell, Source Control Supervisor

Jim Oberlander
 AK80F2MBD

Date: June 04, 2001

Lab#: 010508116

Sample ID: 35th Street Landfill Stream

Sample Type:

Sample Date: 5/8/01

| Test | Result | Units |
|--------------------|---------|------------|
| CONVENTIONAL | | |
| Ammonia as N | 0.070 U | mg/L |
| pH, grab | 7.4 | Std. Units |
| CV | | |
| Mercury | 0.012 | ug/L |
| GC/ECD | | |
| 4,4-DDD | 0.021 U | ug/L |
| 4,4-DDE | 0.021 U | ug/L |
| 4,4-DDT | 0.021 U | ug/L |
| Aldrin | 0.01 U | ug/L |
| alpha-BHC | 0.010 U | ug/L |
| alpha-Chlordane | 0.1 U | ug/L |
| beta-BHC | 0.01 U | ug/L |
| delta-BHC | 0.01 U | ug/L |
| Dieldrin | 0.021 U | ug/L |
| Endosulfan I | 0.01 U | ug/L |
| Endosulfan sulfate | 0.021 U | ug/L |
| Endosulfan-II | 0.021 U | ug/L |
| Endrin | 0.021 U | ug/L |
| Endrin aldehyde | 0.021 U | ug/L |
| Endrin ketone | 0.021 U | ug/L |

U indicates not detected at the associated value

B indicates the value is less than the reporting limit and greater than the MDL

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UJ indicates not detected at the associated value, however the value should be considered estimated

RECEIVED

JUN 25 2001

Tacoma-Pierce County
 Health Dept.

Lab#: 010508116

Sample ID: 35th Street Landfill Stream

Sample Type:

Sample Date: 5/8/01

| Test | Result | Units |
|----------------------------|--------|-------|
| gamma-BHC (Lindane) | 0.01 U | ug/L |
| gamma-Chlordane | 0.1 U | ug/L |
| Heptachlor | 0.01 U | ug/L |
| Heptachlor epoxide | 0.01 U | ug/L |
| Methoxychlor | 0.1 U | ug/L |
| Toxaphene | 1 U | ug/L |
| GC/MS-PHTH | | |
| bis(2-Ethylhexyl)phthalate | 1.0 U | ug/L |
| Butylbenzylphthalate | 1.0 U | ug/L |
| Di-n-butylphthalate | 1.0 U | ug/L |
| Di-n-Octyl phthalate | 1.0 U | ug/L |
| Diethylphthalate | 1.0 U | ug/L |
| Dimethyl phthalate | 1.0 U | ug/L |
| GC/MS-PNA | | |
| 2-Chloronaphthalene | 1.0 U | ug/L |
| 2-Methylnaphthalene | 1.0 U | ug/L |
| Acenaphthene | 1.0 U | ug/L |
| Acenaphthylene | 1.0 U | ug/L |
| Anthracene | 1.0 U | ug/L |
| Benzo(a)anthracene | 1.0 U | ug/L |
| Benzo(a)pyrene | 1.0 U | ug/L |
| Benzo(g,h,i)perylene | 1.0 U | ug/L |
| Benzofluoranthenes | 1.0 U | ug/L |
| Chrysene | 1.0 U | ug/L |
| Dibenz(a,h)anthracene | 1.0 U | ug/L |
| Fluoranthene | 1.0 U | ug/L |
| Fluorene | 1.0 U | ug/L |
| Indeno(1,2,3-cd)pyrene | 1.0 U | ug/L |
| Naphthalene | 1.0 U | ug/L |

U indicates not detected at the associated value

B indicates the value is less than the reporting limit and greater than the MDL

J indicates the associated value is estimated

UJ indicates not detected at the associated value, however the value should be considered estimated

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JUN 25 2001

Rockham-Pleoce County
Health Dept.

Lab#: 010508116

Sample ID: 35th Street Landfill Stream

Sample Type:

Sample Date: 5/8/01

| Test | Result | Units |
|---------------------------|--------|-------|
| Phenanthrene | 1.0 U | ug/L |
| Pyrene | 1.0 U | ug/L |
| GC/MS-VOA | | |
| 1,1,1-Trichloroethane | 1.0 U | ug/L |
| 1,1,2,2-Tetrachloroethane | 1.0 U | ug/L |
| 1,1,2-Trichloroethane | 1.0 U | ug/L |
| 1,1-Dichloroethene | 1.0 U | ug/L |
| 1,2-Dichlorobenzene | 1.0 U | ug/L |
| 1,2-Dichloroethane | 1.0 U | ug/L |
| 1,2-Dichloropropane | 1.0 U | ug/L |
| 1,3-Dichlorobenzene | 1.0 U | ug/L |
| 1,4-Dichlorobenzene | 1.0 U | ug/L |
| 2-Butanone | 10 U | ug/L |
| 2-Hexanone | 10 U | ug/L |
| 4-Methyl-2-pentanone | 10 U | ug/L |
| Acetone | 10 U | ug/L |
| Acrolein | 10 U | ug/L |
| Acrylonitrile | 10 U | ug/L |
| Benzene | 1.0 U | ug/L |
| Bromodichloromethane | 1.0 U | ug/L |
| Bromoform | 1.0 U | ug/L |
| Bromomethane | 1.0 U | ug/L |
| Carbon Disulfide | 1.0 U | ug/L |
| Carbon Tetrachloride | 1.0 U | ug/L |
| Chlorobenzene | 1.0 U | ug/L |
| Chloroethane | 1.0 U | ug/L |
| Chloroform | 1.0 U | ug/L |
| Chloromethane | 1.0 U | ug/L |
| cis 1,3-Dichloropropene | 1.0 U | ug/L |

U indicates not detected at the associated value

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J indicates the associated value is estimated

UJ indicates not detected at the associated value, however the value should be considered estimated

RECEIVED
JUN 25 2001

Tacoma-Pierce County
Health Dept.

Lab#: 010508116

Sample ID: 35th Street Landfill Stream

Sample Type:

Sample Date: 5/8/01

| Test | Result | Units |
|---------------------------|--------|-------|
| Dibromochloromethane | 1.0 U | ug/L |
| Ethylbenzene | 1.0 U | ug/L |
| Methylene Chloride | 1.0 U | ug/L |
| Styrene | 1.0 U | ug/L |
| Tetrachloroethene | 1.0 U | ug/L |
| Toluene | 1.0 U | ug/L |
| total 1,2-Dichloroethene | 1.0 U | ug/L |
| trans 1,3-Dichloropropene | 1.0 U | ug/L |
| Trichloroethene | 1.0 U | ug/L |
| Vinyl Acetate | 1.0 U | ug/L |
| Vinyl Chloride | 1.0 U | ug/L |
| Xylenes (Total) | 1.0 U | ug/L |
| ICP | | |
| Arsenic | 2.7 U | ug/L |
| Barium | 11.0 | ug/L |
| Cadmium | 0.35 U | ug/L |
| Chromium | 1.08 U | ug/L |
| Lead | 1.1 | ug/L |
| Selenium | 1.5 U | ug/L |
| Silver | 0.56 U | ug/L |
| NWTPH-Dx | | |
| Diesel | 0.20 U | mg/L |
| Heavy Oil | 0.40 U | mg/L |

Reviewed By:

Lori A. Zboralski

6/4/01

U indicates not detected at the associated value

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UJ indicates not detected at the associated value, however the value should be considered estimated

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Tacoma-Pierce County
Health Dept.

Quality Control Data Review

TO: Christopher L. Getchell, Source Control Supervisor
FROM: Lori A. Zboralski, Senior Laboratory Analyst *laz*
DATE: June 4, 2001

SAMPLES

This report concerns the following samples associated with 35th Street Landfill WO# AK80F2:

| <u>Sample Description</u> | <u>Lab ID#</u> | <u>Date Sampled</u> |
|---|----------------|---------------------|
| 35 th Street Landfill Stream | 010508116 | 05/08/01 |
| Trip Blank | 010508117 | 05/08/01 |

HOLDING TIMES

The sample was extracted within the 7-day sample collection-to-extraction holding time for NWTPH-Dx, Semi-Volatile Organics, and Chlorinated Pesticides and analyzed immediately for pH, 14 days for Volatile Organics, 28 days for Mercury, NWTPH-Dx, and Ammonia, 40 days after the extraction for Chlorinated Pesticides and Semi-Volatile Organics, and 180 days for Total Metals.

METHODS

The samples were analyzed according to SW-846 methods for conventionals, metals and organics parameters.

DAILY INSTRUMENT PERFORMANCE STANDARDS

The mass spectrometers used in the analysis of the samples were tuned and met the abundance criteria as stated in Table 4 in SW-846 method 8260 and Table 5 in SW-846 method 8270 for Bromofluorobenzene and Decafluoro-triphenylphosphine.

The Performance Evaluation Mix standards analyzed for Chlorinated Pesticides met the method requirements of less than 15% breakdown for both Endrin and DDT.

CALIBRATION AND VERIFICATION

The initial calibrations for Volatile Organics, Semi-Volatile Organics, and Chlorinated Pesticides met the method requirements with %RSD (Relative Standard Deviation) of the response factors less than 15%. The continuing calibrations met the method requirements with the %D (Difference) of the continuing calibration response factors compared to the initial calibration average response factors of less than 20%.

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Tacoma-Pierce County
Health Dept.

The ICP and FIMS calibrations met method requirements for linearity and accuracy. The FIMS calibration had a correlation coefficient of greater than 0.995. ICP and FIMS sensitivities were monitored by analysis of standards near the detection limits of the instruments. The recoveries of these standards were within the laboratory-established limits of 50 to 200% and ranged from 88 to 102%.

Independent standards were analyzed to monitor calibration accuracy. These standards were called ICV and CCV. The recoveries of these standards are required to be within 90 to 110 %. The recoveries of these standards ranged from 96 to 107%.

INTERELEMENT CORRECTION CHECK

Standard solutions containing the common interfering elements and the analytes of concern are required to be analyzed at the beginning and end of each analytical run to measure accuracy of the interelement correction factors. The recoveries of these standards are required to be within 80 to 120%. The recoveries of these solutions for the analysis of these solutions ranged from 88 to 103%.

METHOD AND CALIBRATION BLANKS

Method and Calibration blanks were analyzed at the required frequency of the methods. All of the blanks had concentrations less than the detection limits for all analytes of concern, **except for Chromium in the Method Blank at 0.5 ug/L. The sample is qualified as not detected for Chromium based on the method blank concentration.**

FIELD BLANKS

A Trip Blank was collected and analyzed with this sample. There were no compounds detected in the Trip Blank.

SURROGATES

Three surrogate compounds are added to the Volatile Organics and two surrogate compounds are added to each of the NWTPH-Dx, Semi-Volatile Organics, and the Chlorinated Pesticides. The recoveries of the surrogate compounds for all of the organics analyses were within the methods' limits.

LABORATORY CONTROL SAMPLES

Laboratory Control samples for each method were analyzed with these samples. The recoveries of the LCS were within method limits for all parameters.

DUPLICATE SAMPLE ANALYSIS

Duplicate samples were analyzed for Total Metals. The concentrations of Arsenic, Cadmium, Chromium, Lead, Selenium, and Silver in the sample were less than 5 times the detection limits. The absolute differences for these analytes were less than the reporting limits. The relative percent difference for Boron was less than the 20% limit at 4.6.

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Tacoma-Pierce County
Health Dept.

2003



City of Tacoma
Environmental Services
Science and Engineering Division

Memorandum

TO: Tom Stucker, Street Maintenance Division
FROM: Christopher L. Getchell, Source Control Supervisor
SUBJECT: Miscellaneous Monitoring WO# AA4424
DATE: October 18, 2002

Attached are the analysis results for the water sample collected September 10, 2002 from the 35th Street Landfill. Grab samples were analyzed for pH, Ammonia, Total Metals, NWTPH-Dx, Volatile Organics, Semi-Volatile Organics, and Chlorinated Pesticides. A Trip Blank for Volatile Organics was collected with this sample.

The Science and Engineering Division analyzed the sample for pH, Ammonia, Total Metals, NWTPH-Dx, Volatile Organics, and Semi-Volatile Organics. STL-Seattle analyzed the sample for Chlorinated Pesticides. A detailed Quality Control Data Review report was prepared and is available for review upon request.

If you have any questions concerning these results, call me at (253) 502-2130. Please note that the samples associated with this report will be discarded six months from the date of this report unless requested otherwise.

Christopher L. Getchell
Source Control Supervisor,
Science and Engineering Division.

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JUN 26 2003

TACOMA-PIERCE CO. HEALTH DEPT.
WASTE MANAGEMENT

CLG:LAZ



City of Tacoma

Science and Engineering Division

2201 Portland Avenue Tacoma WA 98421

Phone: 253.591.5588 Fax: 253.502.2170

Project: Miscellaneous Monitoring
AK80F2MBD
Date: October 18, 2002

Lab#: 20020910053
Sample ID: 35th Street Landfill
Sample Type: Surface water
Sample Date: 9/10/2002

| Test | Result | Units |
|--------------------|---------|------------|
| CONVENTIONAL | | |
| Ammonia as N | 0.18 U | mg/L |
| pH | 7.60 | Std. Units |
| CV | | |
| Mercury | 0.050 U | ug/L |
| GC/ECD-PEST | | |
| 4,4-DDD | 0.02 U | ug/L |
| 4,4-DDE | 0.02 U | ug/L |
| 4,4-DDT | 0.02 U | ug/L |
| Aldrin | 0.01 U | ug/L |
| alpha-BHC | 0.01 U | ug/L |
| alpha-Chlordane | 0.01 U | ug/L |
| beta-BHC | 0.01 U | ug/L |
| delta-BHC | 0.01 U | ug/L |
| Dieldrin | 0.02 U | ug/L |
| Endosulfan I | 0.01 U | ug/L |
| Endosulfan sulfate | 0.02 U | ug/L |
| Endosulfan-II | 0.02 U | ug/L |
| Endrin | 0.02 U | ug/L |
| Endrin aldehyde | 0.02 U | ug/L |

Flags: U: The value is less than detection limit
UJ: The value is less than detection limit and considered estimated
J: The value is considered estimated
B: The value is less than the reporting limit but greater than detection limit

Lab#: 20020910053
Sample ID: 35th Street Landfill
Sample Type: Surface water
Sample Date: 9/10/2002

| Test | Result | Units |
|----------------------------|--------|-------|
| Endrin ketone | 0.02 U | ug/L |
| gamma-BHC (Lindane) | 0.01 U | ug/L |
| gamma-Chlordane | 0.01 U | ug/L |
| Heptachlor | 0.01 U | ug/L |
| Heptachlor epoxide | 0.01 U | ug/L |
| Methoxychlor | 0.1 U | ug/L |
| Toxaphene | 1 U | ug/L |
| GC/MS-BNA | | |
| 2-Methylnaphthalene | 1.0 U | ug/L |
| Acenaphthene | 1.0 U | ug/L |
| Acenaphthylene | 1.0 U | ug/L |
| Anthracene | 1.0 U | ug/L |
| Benzo(a)anthracene | 1.0 U | ug/L |
| Benzo(a)pyrene | 1.0 U | ug/L |
| Benzo(g,h,i)perylene | 1.0 U | ug/L |
| Benzofluoranthenes | 1.0 U | ug/L |
| bis(2-Ethylhexyl)phthalate | 1.0 U | ug/L |
| Butylbenzylphthalate | 1.0 U | ug/L |
| Chrysene | 1.0 U | ug/L |
| Dibenz(a,h)anthracene | 1.0 U | ug/L |
| Diethylphthalate | 1.0 U | ug/L |
| Dimethyl phthalate | 1.0 U | ug/L |
| Di-n-butylphthalate | 1.0 U | ug/L |
| Di-n-Octyl phthalate | 1.0 U | ug/L |
| Fluoranthene | 1.0 U | ug/L |
| Fluorene | 1.0 U | ug/L |
| Indeno(1,2,3-cd)pyrene | 1.0 U | ug/L |
| Naphthalene | 1.0 U | ug/L |
| Phenanthrene | 1.0 U | ug/L |
| Pyrene | 1.0 U | ug/L |

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Lab#: 20020910053
Sample ID: 35th Street Landfill
Sample Type: Surface water
Sample Date: 9/10/2002

| Test | Result | Units |
|---------------------------|--------|-------|
| GC/MS-TPH | | |
| NWTPH-Diesel | 0.20 U | mg/L |
| NWTPH-Heavy Oil | 0.40 U | mg/L |
| GC/MS-VOA | | |
| 1,1,1-Trichloroethane | 1.0 U | ug/L |
| 1,1,2,2-Tetrachloroethane | 1.0 U | ug/L |
| 1,1,2-Trichloroethane | 1.0 U | ug/L |
| 1,1-Dichloroethane | 1.0 U | ug/L |
| 1,1-Dichloroethene | 1.0 U | ug/L |
| 1,2-Dichlorobenzene | 1.0 U | ug/L |
| 1,2-Dichloroethane | 1.0 U | ug/L |
| 1,2-Dichloropropane | 1.0 U | ug/L |
| 1,3-Dichlorobenzene | 1.0 U | ug/L |
| 1,4-Dichlorobenzene | 1.0 U | ug/L |
| 2-Butanone | 10 U | ug/L |
| 2-Hexanone | 10 U | ug/L |
| 4-Methyl-2-pentanone | 10 U | ug/L |
| Acetone | 10 U | ug/L |
| Acrolein | 10 U | ug/L |
| Acrylonitrile | 10 U | ug/L |
| Benzene | 1.0 U | ug/L |
| Bromodichloromethane | 1.0 U | ug/L |
| Bromoform | 1.0 U | ug/L |
| Bromomethane | 1.0 U | ug/L |
| Carbon Disulfide | 1.0 U | ug/L |
| Carbon Tetrachloride | 1.0 U | ug/L |
| Chlorobenzene | 1.0 U | ug/L |
| Chloroethane | 1.0 U | ug/L |
| Chloroform | 1.0 U | ug/L |
| Chloromethane | 1.0 U | ug/L |

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**TACOMA-PIERCE COUNTY HEALTH DEPARTMENT
ENVIRONMENTAL HEALTH PROGRAM/WASTE MANAGEMENT
M E M O R A N D U M**

DATE: June 25, 2002

TO: City Fill (35th Street Closed Landfill) file

FROM: *JW*
John Wright, Environmental Health Specialist I

SUBJECT: **Site inspection/landfill gas monitoring**

I performed a site inspection and conducted landfill gas monitoring at the closed City Fill off of 35th Street and Pacific Avenue. Weather conditions at the time of the inspection were clear, no rain, light winds, and a temperature of about 82°F.

Residential homes surround this site to the east and west. A couple of small businesses are to the northwest. There is no gate blocking vehicular access at the parking lot next to the attorney's office, ecology blocks (jersey barriers) block most of the entrance to the landfill. A dirt road that descends into the ravine is still unblocked. Some stumps and other wood have been placed along the side of this road further restricting access to the upper portion of the landfill. I noted what appeared to be a readerboard sign still lying on the ground near the entrance to the site. This item was on-site during the last site inspection. There had also been several blankets and sleeping bags out in the open towards the southern end of the site during the last inspection. These items were no longer on-site. I performed barhole #1 near the southwest corner of the site. As I headed east from that location into some scotchbroom and brush, there had been a tent and other living quarters during the last inspection. I noted some old items in the brush, but it did not appear that anybody had recently used the site for temporary living quarters. I conducted landfill gas monitoring at the single gas probe on the site (near the slope at the northern boundary) as well as four barhole locations. The highest level of combustible gas detected at the site was 320 parts per million (ppm). See the attached methane survey report for complete results.

Recommendations:

The old sign should be removed from the site. The existence of this item and other litter on-site could serve to attract further illegal dumping. It does not appear that vehicular traffic into the site is occurring.

Due to the close proximity of residential homes and small businesses to the landfill and the fact that combustible gas is still being generated by this landfill, the TPCHD recommends that methane monitoring continue at this site on a quarterly basis. The City of Tacoma Solid Waste Utility (TSWU) monitored this site twice in 1999. No results have been received from the TSWU since 1999. The TSWU was contacted by the TPCHD regarding the gas monitoring but at this time does not appear to be accepting responsibility for the gas monitoring. The TPCHD will continue to perform methane monitoring and inspections at this site. The City of Tacoma Public Works Department (TPW) will continue to perform soil and surface water sampling at the site on an annual basis.

6/25/02

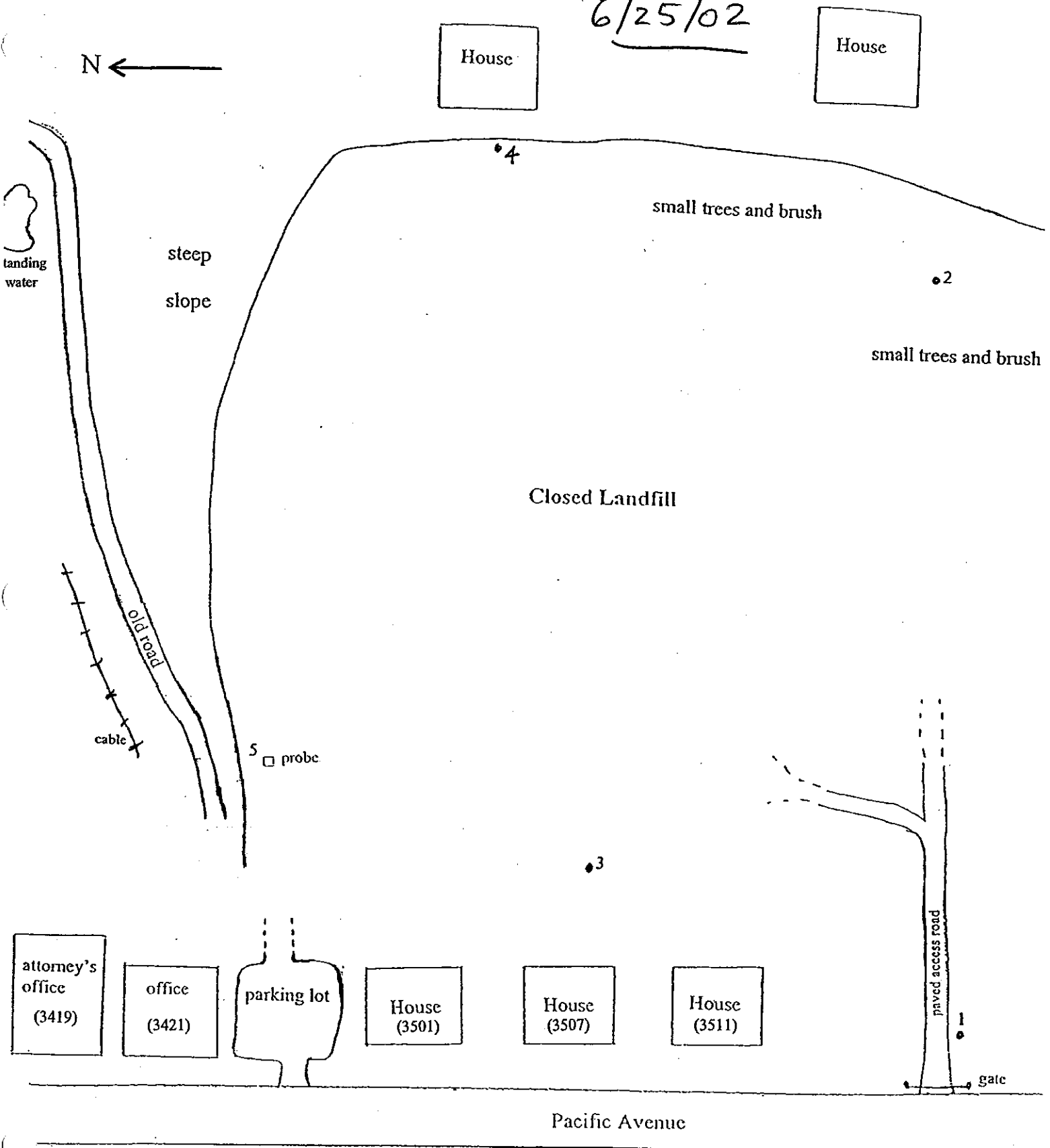


Figure 7. City Fill (35th St. Landfill)

*** TX REPORT ***

TRANSMISSION OK

TX/RX NO 2704
CONNECTION TEL 915032272209
SUB-ADDRESS
CONNECTION ID
ST. TIME 06/12 09:30
USAGE T 01'24
PGS. 5
RESULT OK



FAX COVER SHEET

Tacoma-Pierce County Health Department
Source Protection Programs
3629 South "D" Street
Tacoma WA 98418-6813

Date: 6/12/02

of Pages Including Cover: 5

Please deliver this document to the following person.

To:

Person: Mike O'Connor - (503) 796-0717
Company: Hahn & Associates
Fax Number: (503) 227-2209

From:

Person: John Wright
Program: Waste Management
Phone Number: (253) 798-6457
Fax Number: (253) 798-6498

Message:

Here is the section of 35th St. Fill
from our closed Landfill Report.

**TACOMA-PIERCE COUNTY HEALTH DEPARTMENT
ENVIRONMENTAL HEALTH PROGRAM/WASTE MANAGEMENT**

M E M O R A N D U M

DATE: May 9, 2002

TO: City Fill (35th Street Closed Landfill) file

FROM: *JW* John Wright, Environmental Health Specialist I

SUBJECT: **Phone correspondence**

I received a voice mail from Rick Brush (591-5505) of the City of Tacoma's Asset Management Section. I was off on family leave when Rick called. In the message Rick indicated that the city is looking for a place to store dirt from the Tacoma Dome dirt bike events. A place under consideration is the 35th Street closed landfill.

I returned Rick's call on May 13, 2002. Rick indicated at that time that the 35th Street closed landfill was no longer being considered for the storage of the dirt. Access to the site is not sufficient for this activity. I indicated to Rick that if any future questions arise regarding this landfill that I am the contact person for that site at the TPCHD.

2/20/02

From: John Wright
To: Joberlan@cityoftacoma.org
Subject: 35th Street Landfill site - Squatters?

Jim:


As we spoke of on the phone, I conducted a routine inspection and performed methane gas monitoring at the closed City of Tacoma dumpsite near 35th Street and Pacific Avenue. As I walked the site, I noticed several blankets and sleeping bags in an open area near the southern end of the site. Later, I also noticed a tent and other living quarters in the brush further to the east. I did not approach the tent once I saw it. It would appear that squatters are using this property. I thought someone from the City of Tacoma might be interested in this. I hadn't seen any evidence of people squatting on this property in previous inspections at this site. Let me know if you need any further information about this situation. Thanks.

John W.

**TACOMA-PIERCE COUNTY HEALTH DEPARTMENT
ENVIRONMENTAL HEALTH PROGRAM/WASTE MANAGEMENT
M E M O R A N D U M**

DATE: February 20, 2002

TO: City Fill (35th Street Closed Landfill) file

FROM:  John Wright, Environmental Health Specialist I

SUBJECT: **Site inspection/landfill gas monitoring**

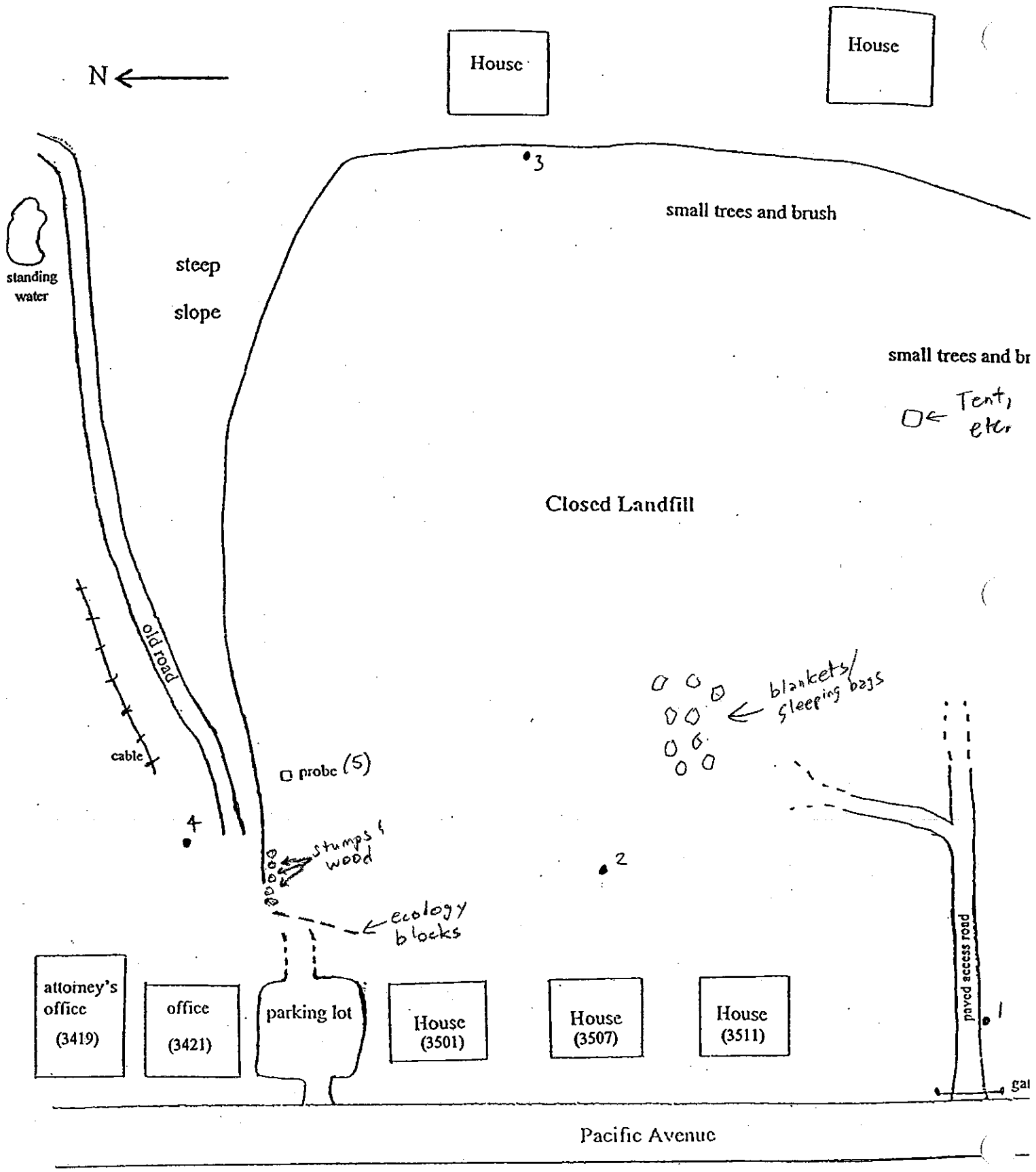
I performed a site inspection and conducted landfill gas monitoring at the closed City Fill off of 35th Street and Pacific Avenue. Weather conditions at the time of the inspection were clear, no rain, light winds, and a temperature of about 50°F.

Residential homes surround this site to the east and west. A couple of small businesses are to the northwest. There is no gate blocking vehicular access at the parking lot next to the attorney's office, however, recently some ecology blocks (jersey barriers) were placed across most of the entrance to the landfill. A dirt road that descends into the ravine is still unblocked. Some stumps and other wood have been placed along the side of this road further restricting access to the upper portion of the landfill. I noted no junked vehicles at the site. The hulks that were on-site during my last methane monitoring survey of this site have been removed. There was what appeared to be a readerboard sign lying on the ground near the entrance to the site. This item was on-site during the last site inspection. I also noted several blankets and sleeping bags out in the open towards the southern end of the site. Other minor litter was noted in this area. I noted that there were several decent-sized puddles of water on the surface of the landfill. I performed barhole #1 near the southwest corner of the site. As I headed east from that location into some scotchbroom and brush, I noted a tent and other living quarters. I did not approach the tent once it came into view. I did not perform a barhole at the site that was #2 on the previous methane monitoring survey. It would appear that squatters are using this site. I conducted landfill gas monitoring at the single gas probe on the site (near the slope at the northern boundary) as well as four additional barhole locations. The highest level of combustible gas detected at the site was 38% of the LEL (Lower Explosive Limit). See the attached methane survey report for complete results.

Recommendations:

The old sign and the other items associated with possible squatters using the site should be removed from the site. The existence of these items and/or squatters on the site serve to attract further illegal dumping and further squatting. It does not appear that vehicular traffic into the site is occurring. After this inspection, I phoned Jim Oberlander, Water Quality Inspector for the City of Tacoma Public Works Department. Jim suggested that I send him an e-mail summarizing my findings. Jim would then attempt to contact the appropriate official with the City of Tacoma to address this potential problem.

Due to the close proximity of residential homes and small businesses to the landfill and the fact that combustible gas is still being generated by this landfill, the TPCHD recommends that methane monitoring continue at this site twice a year (during the spring and fall). The City of Tacoma Solid Waste Utility (TSWU) monitored this site twice in 1999. No results have been received from the TSWU since 1999. The TSWU was contacted by the TPCHD regarding the gas monitoring but at this time does not appear to be accepting responsibility for the gas monitoring. The TPCHD will continue to perform methane monitoring and inspections at this site. The City of Tacoma Public Works Department (TPW) will continue to perform soil and surface water sampling at the site on an annual basis.



City Fill (35th St. Landfill)

3003



City of Tacoma
Environmental Services
Science and Engineering Division

Memorandum

TO: Tom Stucker, Street Maintenance Division
FROM: Christopher L. Getchell, Source Control Supervisor
SUBJECT: Miscellaneous Monitoring WO# AK80D1
DATE: August 8, 2003

Attached are the analysis results for the water and soil samples collected July 23, 2003 from the 35th Street Landfill. Grab samples were analyzed for NWTPH-Dx.

The Science and Engineering Division analyzed the samples for NWTPH-Dx. A detailed Quality Control Data Review report was prepared and is available for review upon request.

If you have any questions concerning these results, call me at (253) 502-2130. Please note that the samples associated with this report will be discarded six months from the date of this report unless requested otherwise.

A handwritten signature in black ink that reads "Christopher L. Getchell".

Christopher L. Getchell
Source Control Supervisor,
Science and Engineering Division.

RECEIVED
AUG 12 2003

TACOMA-PIERCE CO. HEALTH DEPT.
WASTE MANAGEMENT

CLG:LAZ



City of Tacoma

Science and Engineering Division

2201 Portland Avenue Tacoma WA 98421

Phone: 253.591.5588 Fax: 253.502.2170

Project: Miscellaneous Monitoring

AK80D1MMD

Date

August 08, 2003

Lab#: 20030723138

Sample ID: 35th St Landfill

Sample Type: Soil

Sample Date: 7/23/2003

| Test | Result | Units |
|-----------------|--------|----------|
| CONVENTIONAL | | |
| Solids | 24.4 | per cent |
| GC/MS-TPH | | |
| NWTPH-Diesel | 20 U | mg/Kg |
| NWTPH-Heavy Oil | 110 | mg/Kg |

Lori A. Zboralski August 8, 2003

Reviewed By:

Date

- Flags:
- U: The value is less than detection limit
 - UJ: The value is less than detection limit and considered estimated
 - J: The value is considered estimated
 - B: The value is less than the reporting limit but greater than detection limit

**TACOMA-PIERCE COUNTY HEALTH DEPARTMENT
ENVIRONMENTAL HEALTH PROGRAM/WASTE MANAGEMENT
M E M O R A N D U M**

DATE: June 18, 2003

TO: City Fill (35th Street Closed Landfill) file

FROM: *JW* John Wright, Environmental Health Specialist I

SUBJECT: **Site inspection/landfill gas monitoring**

I performed a site inspection and conducted landfill gas monitoring at the closed City Fill off of 35th Street and Pacific Avenue. Weather conditions at the time of the inspection were overcast, no rain, moderate winds, and a temperature of about 62°F.

Residential homes surround this site to the east and west. A couple of small businesses are to the northwest. A parking lot to the businesses is directly in front of the entrance area to the site. From the parking lot it is possible to drive to a gravel landing area just west of the landfill.

Ecology blocks restrict vehicular access to the landfill. A dirt road that descends into the ravine is blocked with a cable. Some stumps and other wood have been placed along the side of this road further restricting access to the upper portion of the landfill. In previous inspections, I had noted a readerboard sign lying on the ground near the entrance to the site. This readerboard was not noted during this inspection and appears to have been removed. I did not note any new illegally dumped materials on the site. The only refuse I noted was in remote areas that appeared to have been shelters from squatters. These did not appear fresh and I did not note any persons around the site.

I conducted methane monitoring at four barhole locations and the gas probe on-site. It was difficult to penetrate the ground in most areas of this site. I performed barhole #1 near the southwest corner of the site. There were some old materials left behind by squatters that was covered by grasses and sod. Near barhole #2 was more blankets and other trash and debris but no persons. Again, the stuff appeared to be old. I conducted two more barholes at the site and also conducted landfill gas monitoring at the single gas probe on the site (near the slope at the northern boundary). The highest level of combustible gas detected at the site was 360 parts per million (ppm). The other sites monitored had lower levels of combustible gas detected. There was no detection at the gas probe. I noticed that the solid fiberglass probe would not go all of the way down into the pipe. An open/close valve had been on top of the pipe but is now gone. It appears that the probe has become plugged with material and may not be effective anymore.

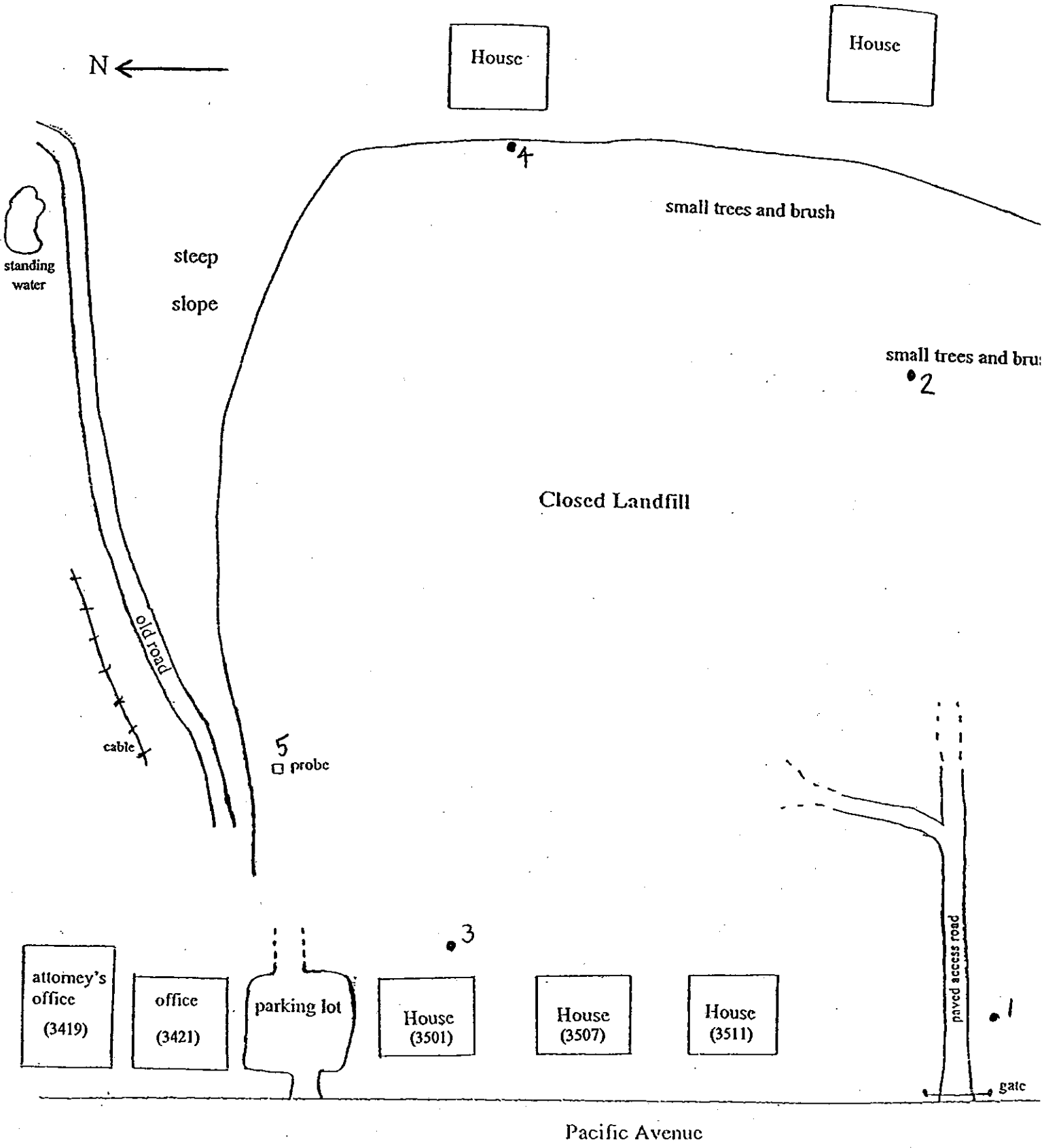
See the attached methane survey report for complete results.

Recommendations:

Due to the close proximity of residential homes and small businesses to the landfill methane gas is still a concern. However, it is almost impossible to conduct barhole methane monitoring at the site due to the hardness of the ground. Also, it appears that the gas probe may no longer be functional.

I will contact Gary Kato to find out if Tacoma Solid Waste Utility has any future plans regarding gas monitoring at this site. Also, I will contact the City of Tacoma Public Works Department (TPW) to find out when will soil and surface water sampling at the site will again be conducted. In our files, the last record of sampling was in 2001. It was supposed to be conducted on an annual basis.

6/18/03



City Fill (35th St. Landfill)

**TACOMA-PIERCE COUNTY HEALTH DEPARTMENT
ENVIRONMENTAL HEALTH PROGRAM/WASTE MANAGEMENT
M E M O R A N D U M**

DATE: January 7, 2003

TO: City Fill (35th Street Closed Landfill) file

FROM: *JW* John Wright, Environmental Health Specialist I

SUBJECT: **Site inspection/landfill gas monitoring**

I performed a site inspection and conducted landfill gas monitoring at the closed City Fill off of 35th Street and Pacific Avenue. Weather conditions at the time of the inspection were clear, no rain, light winds, and a temperature of about 52°F.

Residential homes surround this site to the east and west. A couple of small businesses are to the northwest. A parking lot to the businesses is directly in front of the entrance area to the site. From the parking lot it is possible to drive to a gravel landing area just west of the landfill (and the dirt road leading to the ravine below the landfill). Ecology blocks block vehicular access to the landfill. A dirt road that descends into the ravine is blocked with a cable. Some stumps and other wood have been placed along the side of this road further restricting access to the upper portion of the landfill. A resident of the house at 3501 Pacific Avenue approached me when I arrived at the site. The resident indicated to me that he has noted homeless shelters down in the ravine under the bridge of 34th Street. The resident indicated that a lot of trash is associated with these shelters. We walked to the center of the landfill where the resident said tarps could be seen down below. I did not see the shelters from that location. I indicated to this man that I would forward this information to the City of Tacoma.

I noted what appeared to be a readerboard sign still lying on the ground near the entrance to the site. This item has been on-site for over a year now. I performed barhole #1 near the southwest corner of the site. I noted a sleeping bag and other trash in this area. I did not note any persons in the area. Near barhole #2 was more blankets and other trash and debris but no persons. I could not tell how recently anybody had been there. There were no shelters from the elements in these apparent temporary living quarters. I conducted two more barholes at the site and also conducted landfill gas monitoring at the single gas probe on the site (near the slope at the northern boundary). The highest level of combustible gas detected at the site was 10% of the Lower Explosive Limit (LEL). The other sites monitored had lower levels of combustible gas detected. See the attached methane survey report for complete results.

Recommendations:

The old sign should be removed from the site. The existence of this item and other litter on-site could serve to attract further illegal dumping. It does not appear that vehicular traffic into the site is occurring.

Due to the close proximity of residential homes and small businesses to the landfill and the fact that combustible gas is still being generated by this landfill, the TPCHD recommends that methane monitoring continue at this site at least twice annually. The TPCHD will continue to perform methane monitoring and inspections at this site. The City of Tacoma Public Works Department (TPW) will continue to perform soil and surface water sampling at the site on an annual basis.

I sent an e-mail to Jim Oberlander, Water Quality Inspector for the City of Tacoma Public Works Department. I described my findings in the e-mail and asked if Jim could forward the info to the City of Tacoma official responsible for this site.

1/7/03

N ←

House

House

standing water

steep slope

small trees and brush

• 2 small trees and brush

Closed Landfill

old road
cable

5 □ probe

• 3

attorney's office
(3419)

office
(3421)

parking lot

House
(3501)

House
(3507)

House
(3511)

paved access road

• 1

gate

Pacific Avenue

City Fill (35th St. Landfill)

2008

JOHN -

ATTACHED ARE THE WATER
AND SOIL SAMPLE RESULTS FOR
35TH ST. LANDFILL.

THE SAMPLES WERE COLLECTED
BY CITY LAB PERSONNEL.

GARY



City of Tacoma
Environmental Services
Science and Engineering Division

Memorandum

TO: Gary Kato, Asst. Division Manager, Solid Waste

FROM: Christopher L. Getchell, Sr. Environmental Specialist

SUBJECT: Miscellaneous Monitoring CC 521400

DATE: October 7, 2004

Attached are the analytical results for the soil and surface water samples collected from 35th St. Landfill on September 21, 2004. The samples were analyzed for Solids and NWTPH-Dx.

The Science and Engineering Division analyzed the samples. A Quality Control Data Review report was prepared and is available for review upon request.

If you have any questions concerning this data, call me at (253) 502-2130. Please note that the remaining portions of the samples associated with this report will be discarded six months from the date of this report, unless notified otherwise.

A handwritten signature in black ink, appearing to read "Christopher L. Getchell".

Christopher L. Getchell
Sr. Environmental Specialist,
Science and Engineering Division

CC: Jim Oberlander

CLG:BJP

L:\LABGROUP\QCGROUP\Sharedwd\2004\cvr\tr\40921155.doc



City of Tacoma

Science and Engineering Division

2201 Portland Avenue Tacoma WA 98421
Phone: 253.591.5588 Fax: 253.502.2170

Project: Miscellaneous Monitoring
AK80D1MMD
Date: October 07, 2004

Lab#: 20040921156
Sample ID: 35th St. Landfill
Sample Type: Soil
Sample Date: 9/21/2004

| Test | Result | Units |
|-----------------|--------|----------|
| CONVENTIONAL | | |
| Solids | 27.2 | per cent |
| GC/MS-TPH | | |
| NWTPH-Diesel | 25 U | mg/Kg |
| NWTPH-Heavy Oil | 230 | mg/Kg |

Barbara Kimberston October 7, 2004
Reviewed By: Date

- Flags: U: The analyte was not detected at or above the reported value
UJ: The analyte was not detected at or above the reported estimated value
NJ: There is evidence the analyte is present. The associated value is an estimate
J: The analyte was positively identified. The associated value is an estimate
B: The analyte was detected but is less than the reporting limit goal

**TACOMA-PIERCE COUNTY HEALTH DEPARTMENT
ENVIRONMENTAL HEALTH PROGRAM/WASTE MANAGEMENT
M E M O R A N D U M**

DATE: January 20, 2004

TO: City Fill (35th Street Closed Landfill) file

FROM: *gw* John Wright, Environmental Health Specialist I

SUBJECT: **Site inspection/landfill gas monitoring**

I performed a site inspection and conducted landfill gas monitoring at the closed City Fill off of 35th Street and Pacific Avenue. Weather conditions at the time of the inspection were overcast, no rain, light winds, and a temperature of about 42°F.

Residential homes surround this site to the east and west. A couple of small businesses are to the northwest. A parking lot to the businesses is directly in front of the entrance area to the site. From the parking lot it is possible to drive to a gravel landing area just west of the landfill.

Ecology blocks restrict vehicular access to the landfill. A dirt road that descends into the ravine is blocked with a cable. Some stumps and other wood have been placed along the side of this road further restricting access to the upper portion of the landfill. I did not note any new illegally dumped materials on the site with the exception of one Christmas tree about 50 feet past the ecology blocks. The only refuse I noted was in remote areas that appeared to have been shelters from squatters. These did not appear fresh and I did not note any persons around the site.

I conducted methane monitoring at four barhole locations and the gas probe on-site. It was difficult to penetrate the ground in most areas of this site. I performed barhole #1 near the southwest corner of the site. There were some old materials left behind by squatters that was covered by grasses and sod. Near barhole #2 was more blankets and other trash and debris but no persons. Again, the stuff appeared to be old. I conducted two more barholes at the site and also conducted landfill gas monitoring at the single gas probe on the site (near the slope at the northern boundary). The highest level of combustible gas detected at the site was 1560 parts per million (ppm). The other sites monitored had lower levels of combustible gas detected. At the gas probe, I noticed that the solid fiberglass probe would not go all of the way down into the pipe. An open/close valve had been on top of the pipe but is now gone. It appears that the probe may have become plugged with material although I still detected a reading of 300 ppm at the probe.

See the attached methane survey report for complete results.

Recommendations:

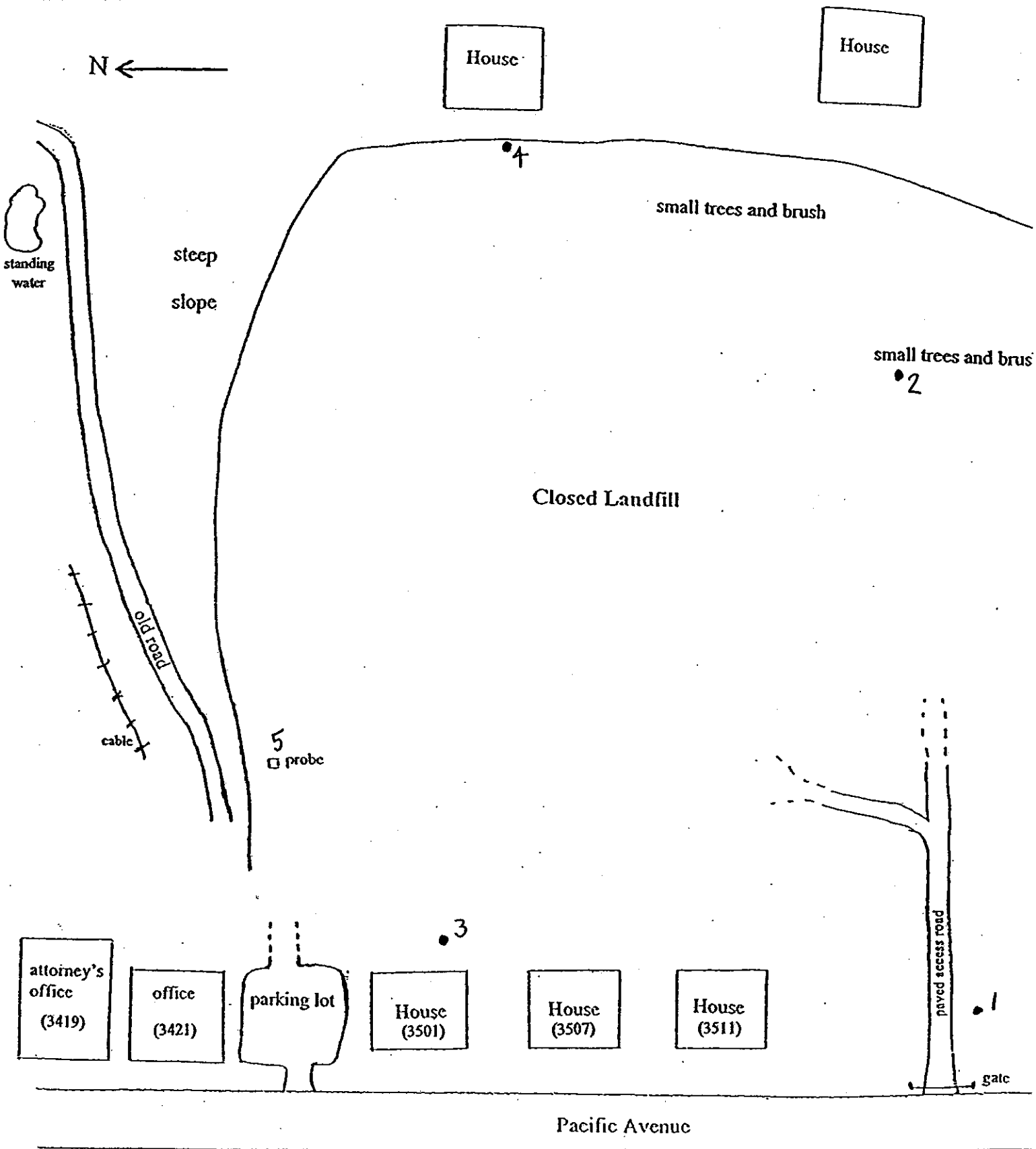
Due to the close proximity of residential homes and small businesses to the landfill methane gas is still a concern. However, it has become difficult to conduct barhole methane monitoring at the site due to the hardness of the ground. Also, the effectiveness of the gas probe could be in question. The TPCHD will continue to monitor this site on a bi-annual basis.

cc: Cydney Ketchum, City of Tacoma, General Services Department

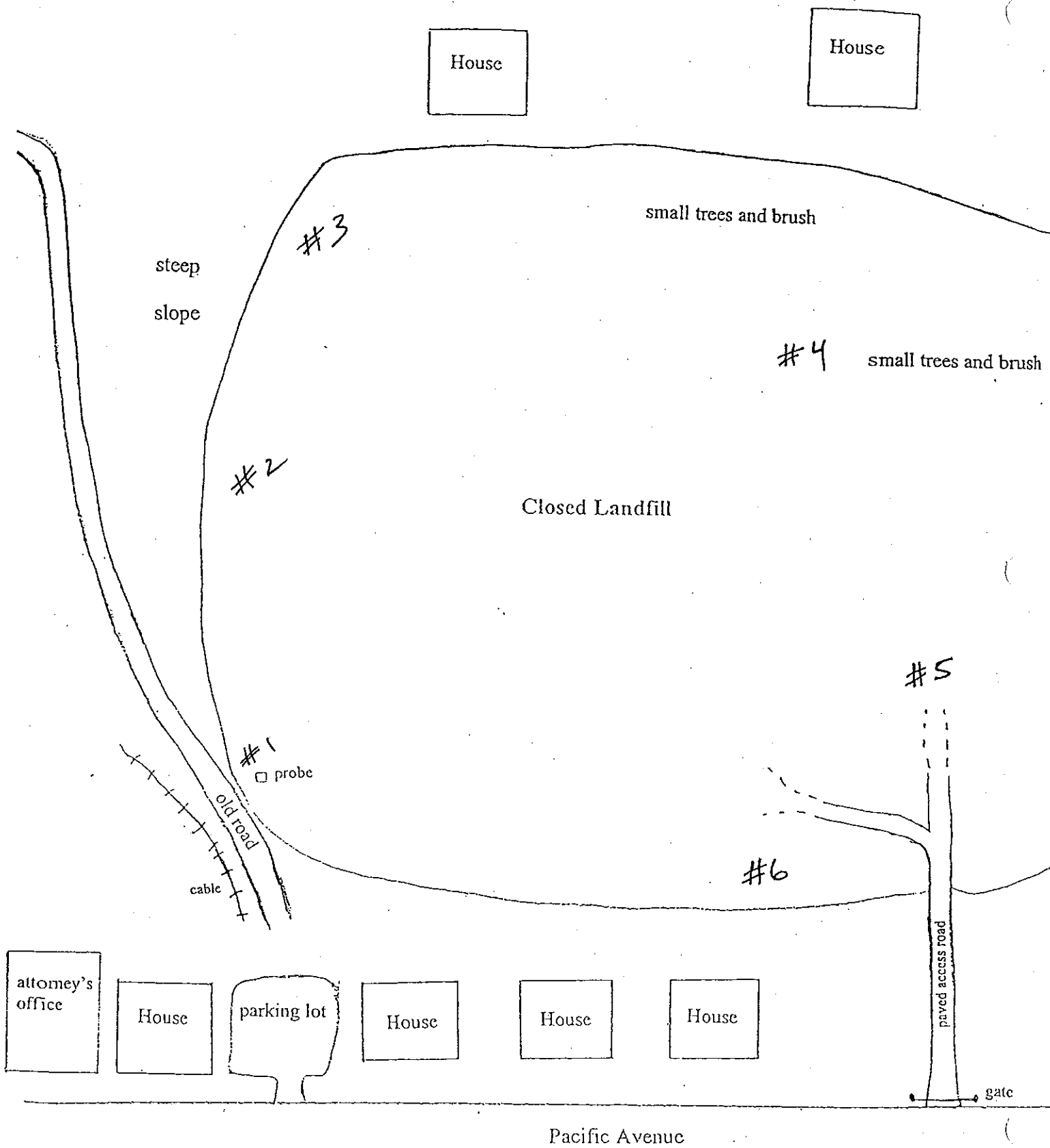
**TACOMA-PIERCE COUNTY HEALTH DEPARTMENT
LANDFILL GAS/METHANE SURVEY REPORT**

| SOLID WASTE INSPECTION PROGRAM PAGE ___ OF ___ | | | | | | |
|---|------|--------------------------------|------|--|------|-------------------------------|
| Facility Name: 35th St. CLF (City) | | Permit #: | | Address: | | |
| Date: 1/20/04 | | Technician: J. Wright | | Instrument I.D. Number: Innova LS | | |
| Barometric Pressure Start: _____ | | Barometric Pressure End: _____ | | | | |
| UNIT NAME/ADDR/PROBE# | TIME | %CH4 | %LEL | PPM | %O2 | LOCATION DESCRIPTION/COMMENTS |
| See Attached #1 | 1430 | | | 1560 | 20.1 | Barhole 18" |
| " #2 | | | | 440 | 14.4 | " 36" |
| " #3 | | | | 1160 | 19.0 | " 18" |
| " #4 | | | | 880 | 20.5 | " 36" |
| " #5 | | | | 300 | 19.1 | Gas Probe |
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1/20/04

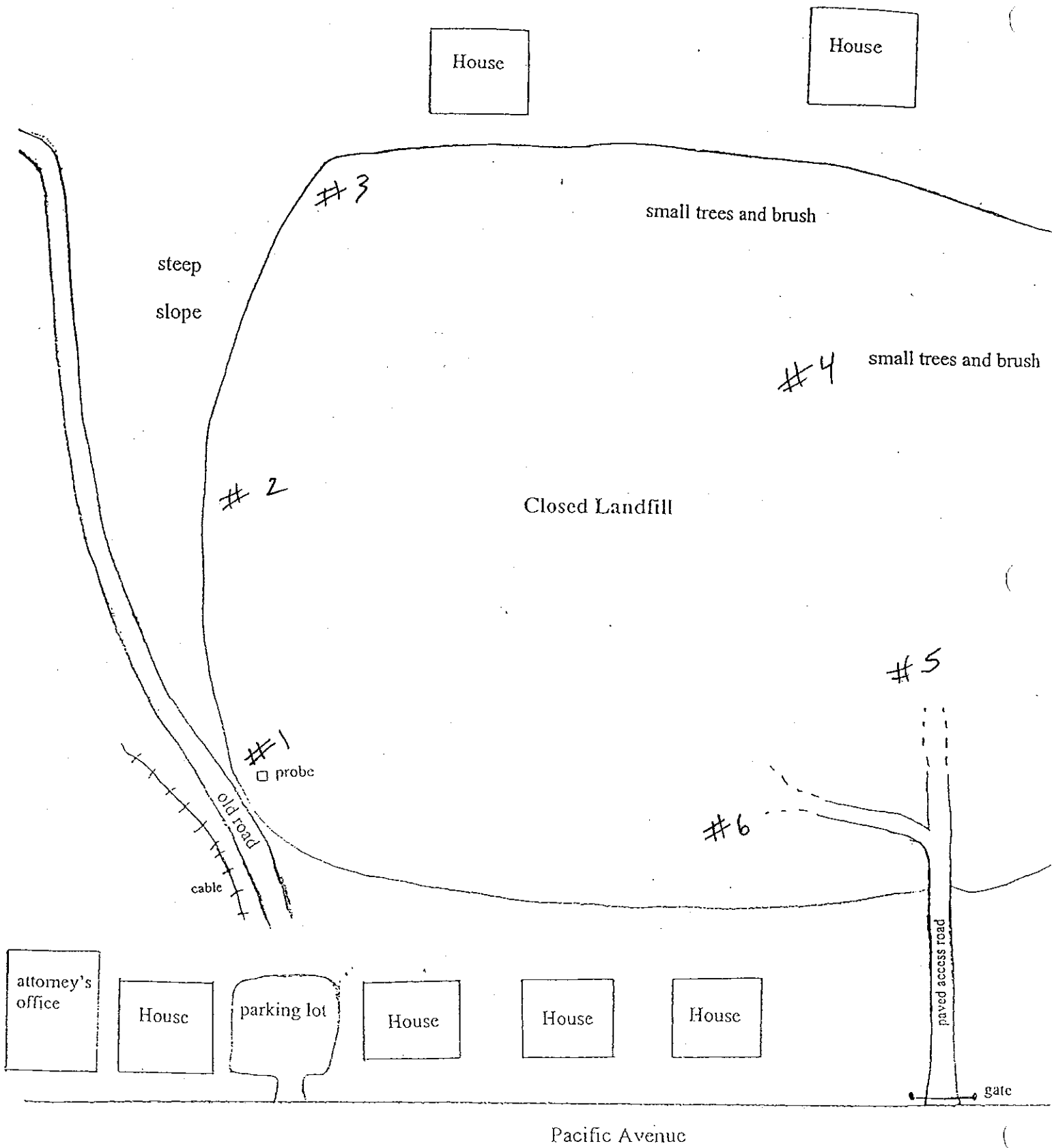


City Fill (35th St. Landfill)



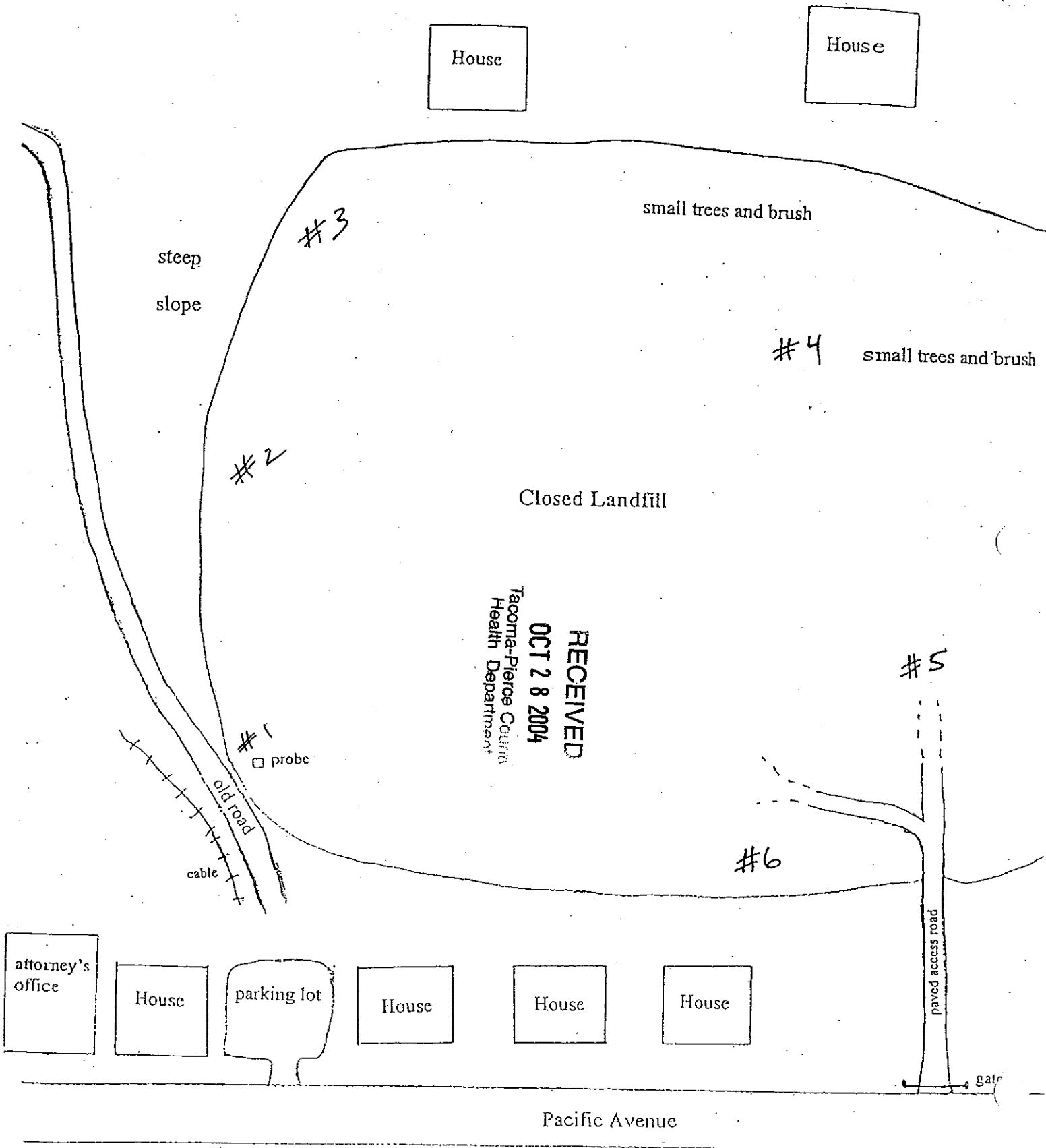
City Fill (35th St. Landfill)

500E



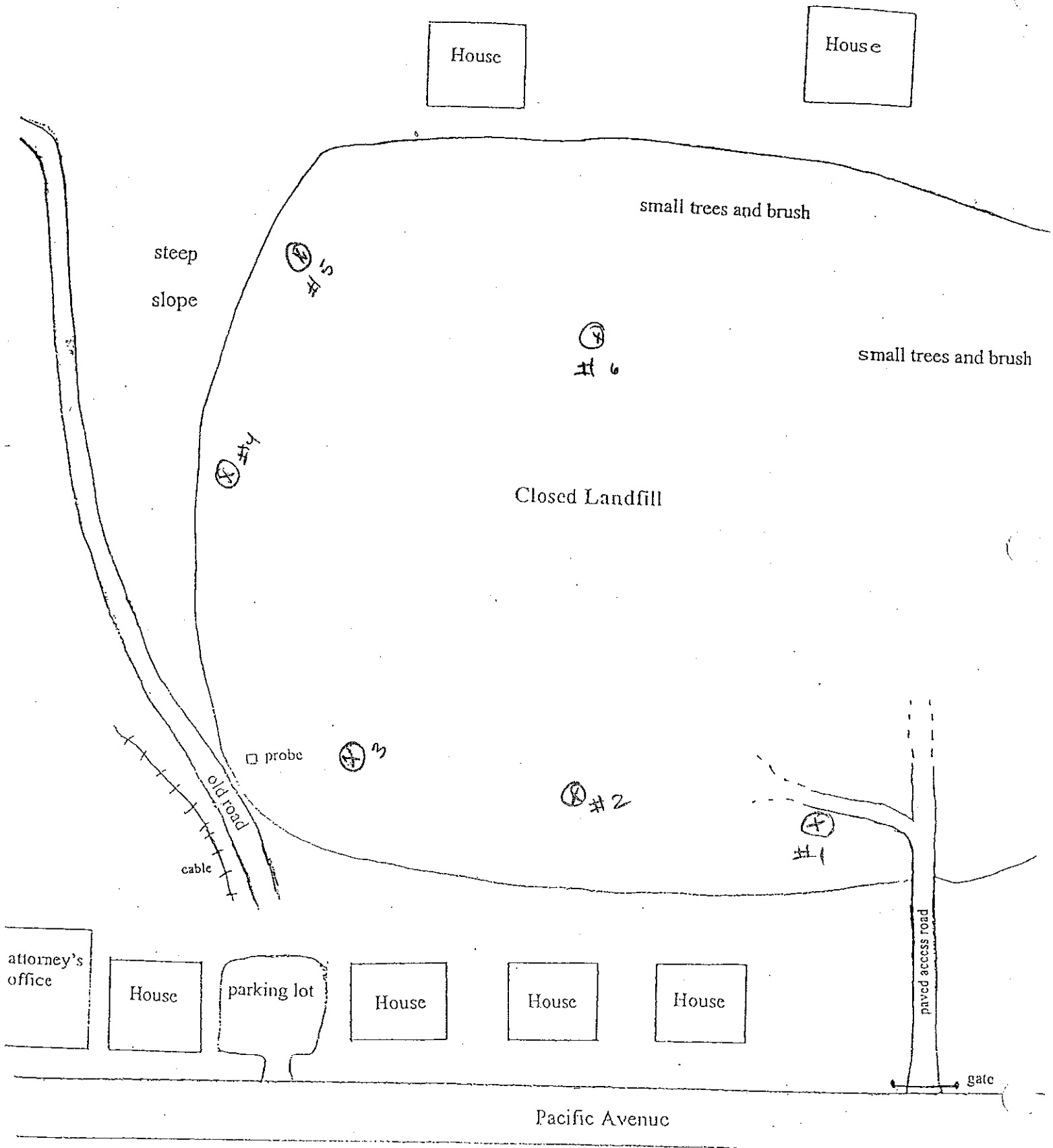
City Fill (35th St. Landfill)

N ←

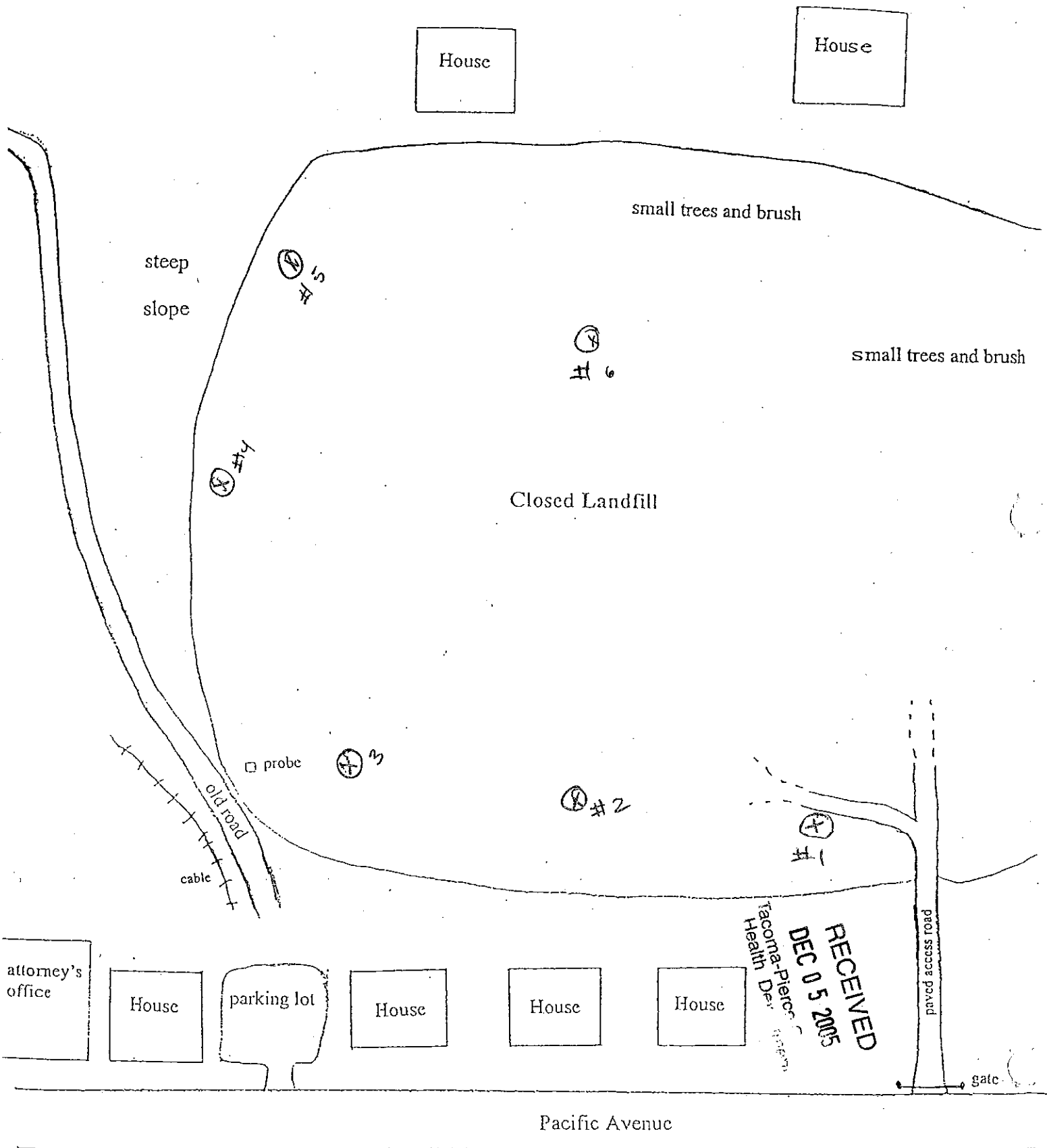


City Fill (35th St. Landfill)

2006



City Fill (35th St. Landfill)



Tacoma-Pierce
Health Dept.
RECEIVED
DEC 05 2005

City Fill (35th St. Landfill)