November 6, 1972

Publication No. 72-e19

State of Washington Department of Ecology

MEMO TO: Mike Price

FROM: Ron Devitt

SUBJECT: Huffman Woodfill - Charley Creek - Grays Harbor County - Westport Road

Objective

To establish stations to sample waters around Huffman Woodfill demonstrating existing water quality at "Dry-weather Flow."

Introduction

Huffman Woodfill used by Weyerhaeuser Company, is located on Westport Road south of Aberdeen, 20 miles from Westport. Because of past water quality problems associated with this and similar areas, stations were established to compare data from periods of dry weather flow to periods of wet weather flow.

Additional sampling will be conducted after periods of prolonged precipitation to determine if the water quality of Charley Creek is affected by run-off and/or leechate from the Woodfill area.

Station Locations

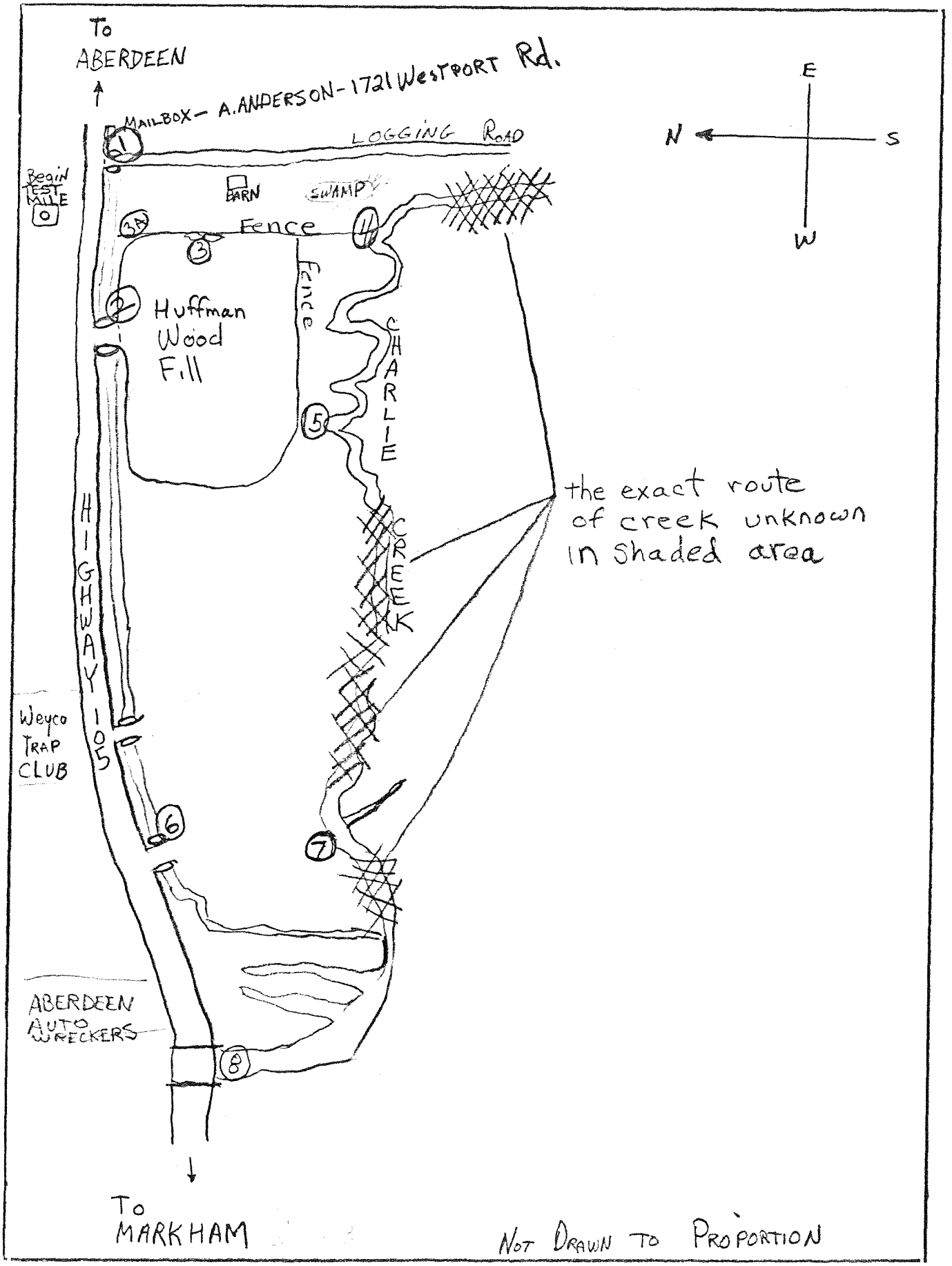
The locations of stations sampled are:

1. East-west drainage ditch upstream side culvert - near mailbox of A. Anderson, 1721 Westport Road.

2. Drainage ditch at Woodfill access road.

3. Leechate and groundwater east perimeter of Woodfill.

3a. Drainage ditch from swamp and Woodfill area - not sampled because there was no drainage.


To
ABERDEEN
MAILBOX – A. ANDERSON – 1721 WESTPORT Rd.
LOGGING ROAD
E
N
S
W
Begin TEST MILE 0
BARN
SWAMP
Fence
Fence
Huffman Wood Fill
CHARLIE CREEK
the exact route of creek unknown in shaded area
HIGHWAY 105
Weyco TRAP CLUB
ABERDEEN AUTO WRECKERS
1
2
3
3A
4
5
6
7
8
To
MARKHAM
NOT DRAWN TO PROPORTION

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4. Charley Creek due south of southeast corner of Woodfill.

5. Charley Creek near southwest corner of Woodfill.

6. Drainage ditch at western most culvert before confluence with Charley Creek.

7. Charley Creek due south of Station #6.

8. Charley Creek at Westport Road bridge.

General Drainage

Charley Creek - To the south of the fill is Charley Creek. The exact route of Charley Creek was not determined. However, traveling upstream on the logging road, we did observe the creek at the bridge at A-4000 Road. Proceeding south on the main road, before A-3200 road, ponds and standing water were observed to be associated with logs, slash, and other debris which may contribute drainage similar to the leechate from the Woodfill.

For these reasons, Station #4 was located immediately upstream and adjacent to the Woodfill and wi .l serve as the control in Charley Creek. Problems arising in the remote upstream area would require extensive sampling to identify.

Also, because the area further upstream was extensively logged, the characteristics of Charley Creek are expected to change greatly during periods of heavy precipitation.

Station #5 was established to determine if the leechate from the Woodfill enters the creek by moving southward. During periods of heavy precipitation the leechate, if retained by the earthen dike on the east, north, and south sides of the fill may enter Charley Creek between Stations #4 and #5.

Stations #7 and #8 were located to sample changes in water characteristics caused by the drainage ditch.

Drainage Ditch - The roadside ditch receives drainage from the east side of the logging road. Station #1 was considered the control station for this drainage which flows westerly between Westport Road and the north side of the fill. On the east side of the fill lies a swampy area. The swamp itself was dry, but standing water was sampled in the ditch along the toe of the dike (Station #3). Presumably during wet weather flow, runoff flows through this ditch and enters the east-west drainage ditch immediately downstream of the logging road. The south-north ditch was designated as Station #3A at the intersection with the east-west ditch although there was no flow to sample.

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Station #2 was established in the east-west ditch culvert at the access way to the fill area.

Station #6 was located at the western most culvert on the east-west ditch. It was chosen to represent the accumulated up-stream drainage before entering Charley Creek.

Stations #6, #7, and #8 are all influenced by tidal action, and samples are more meaningful at a low outgoing tide.

CHARLEY CREEK
10-18-72

STATION #	1	2	3	4	5	6	7	8
Field Results								
Temperature (°C)	8.5	8.5	9.5	8.5	8.5	10.0	9.5	10.5
pH	6.1	5.6	5.0	6.1	6.2	6.5	6.7	6.5
Dissolved Oxygen (ppm)	6.5	5.8	>1.0	9.5	9.5	-	8.1	7.0
Laboratory Results								
pH	6.9	7.1	7.4	7.2	7.2	6.9	7.4	7.8
PBI	5	0	45	0	0	18	9	5
Conductivity (μmhos/cm)	92	97	112	77	76	6400	8250	11650
Chlorides	26	13	14	10	7	2880	3980	6040
COD	11	30	370	22	4	88	44	44
*Total Coliform	2000	800	3500	250	600	700	1200	2400
*Fecal Coliform	<100	52	<400	<200	<100	<100	40	100
Total Solids	185	197	-	164	182	4450	5540	9370
Total Nonvolatile Solids	42	52	-	19	37	3720	5160	7750
Total Suspended Solids	8	9	130	2	2	53	64	23
Total Nonvolatile Solids	5	6	30	2	0	32	49	20

Coliform in colonies/100mls

Solids, COD, Chlorides in ppm

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Discussion of Data

The pH ran in the field are considerably lower than the data reported by the lab; evidently the biological activity changed the pH in the samples. There is no doubt that the field meter was functioning properly.

Because there was no runoff from Station #3, Stations #1 and #2 are very similar in all parameters tested, excepting pH and dissolved oxygen. These differences are explained in that the velocity is slower at Station #2. Stations #4 and #5 (in Charley Creek) are also very similar for all parameters. Stations #7 and #8 (in Charley Creek) differ significantly because of varying effects due to tidal influence. The drainage ditch was also influenced by the salt water. On the day of the survey, the ditch was not degrading the water quality of Charley Creek.

Summary

Samples were taken around the Huffman Woodfill area. The drainage ditch which flows past the fill and to Charley Creek was found to exhibit little change in the fill area and have no degrading effect on the creek.


Cow Point
Piling
Light
Piling
Piling
PACIFIC
BDY
CITY
ABERDEEN
17
16
Grays Harbor College
Borrow Pit
Borrow Pit
Borrow Pit
Vista
VABM
GOLF COURSE
22
21
20
Charley
Creek
Books Ranch
Newskah
Creek

STATE OF WASHINGTON

DEPARTMENT OF ECOLOGY

WATER QUALITY LABORATORY

ORIGINAL TO: R. Devitt

COPIES TO:

LAB FILES

DATA SUMMARY

Source: Charlie Creek

Collected By: RcD

Date Collected: 10-18-72

Goal, Pro./Obj.: 3.2.21

Log Number: 7240-	88	89	90	91	92	93	94	95			STORET
Station:	1	2	3	4	5	6	7	8			
pH	6.9	7.1	7.4	7.2	7.2	6.9	7.4	7.8			00403
Turbidity (JTU)											00070
Conductivity (umhos/cm)@25C	92.	97.	112.	77.	76.	6400.	8250.	11,650			00095
COD	11	30	370	22	4	88	44	44			00340
BOD (5 day)											00310
Total Coliform (Col./100ml)	2000	800	3500	250	600	700	1200	2400			31504
Fecal Coliform (Col./100ml)	<100	52	<400	<200	<100	<100	40	100			31616
NO3-N (Filtered)											00620
NO2-N (Filtered)											00615
NH3-N (Unfiltered)											00610
T. Kjeldahl-N (Unfiltered)											00625
O-PO4-P (Filtered)											00671
Total Phos.-P (Unfiltered)											00665
Total Solids	185.	192.		164.	182.	4450.	5540	9370.			00500
Total Non Vol. Solids	42.	52.		19.	37.	3720.	5160	7750.			
Total Suspended Solids	9	9	130.	2.	2.	53.	64.	23.			00530
Total Sus. Non Vol. Solids	5	6	30.	2.	0.	32.	49.	20.			
PBI	5	0	45	0	0	18	9	5			
Chlorides	26	13	14	10	7	2880.	3980.	6040.			

Note: All results are in PPM unless otherwise specified. ND is "None Detected"
Convert those marked with a * to PPB (PPM X 10^3) prior to entry into STORET

Summary By: Stephen D. Ralli Date: 10-31-72

September 28, 1972

MEMO TO: PETE HILDEBRANDT, RON PINE & FILES

FROM: M. P. PRICE MP

SUBJECT: Survey of Huffman Wood Waste Fill, Grays Harbor County

Objective: To determine base water quality parameters in the adjacent waterways prior to development of leachate problems which we anticipate this winter from the subject wood waste fill.

The fill covers approximately 40 acres to a depth of 3-8 feet. Last winter the fill leached into an adjacent drain ditch and eventually into Charlie Creek, causing pH, D.O. and bacterial violations.

Weyerhaeuser Company has since placed a retaining dike of dubious value along the north and east sides of the fill, and it will be necessary to analyze its value during the rainy season.

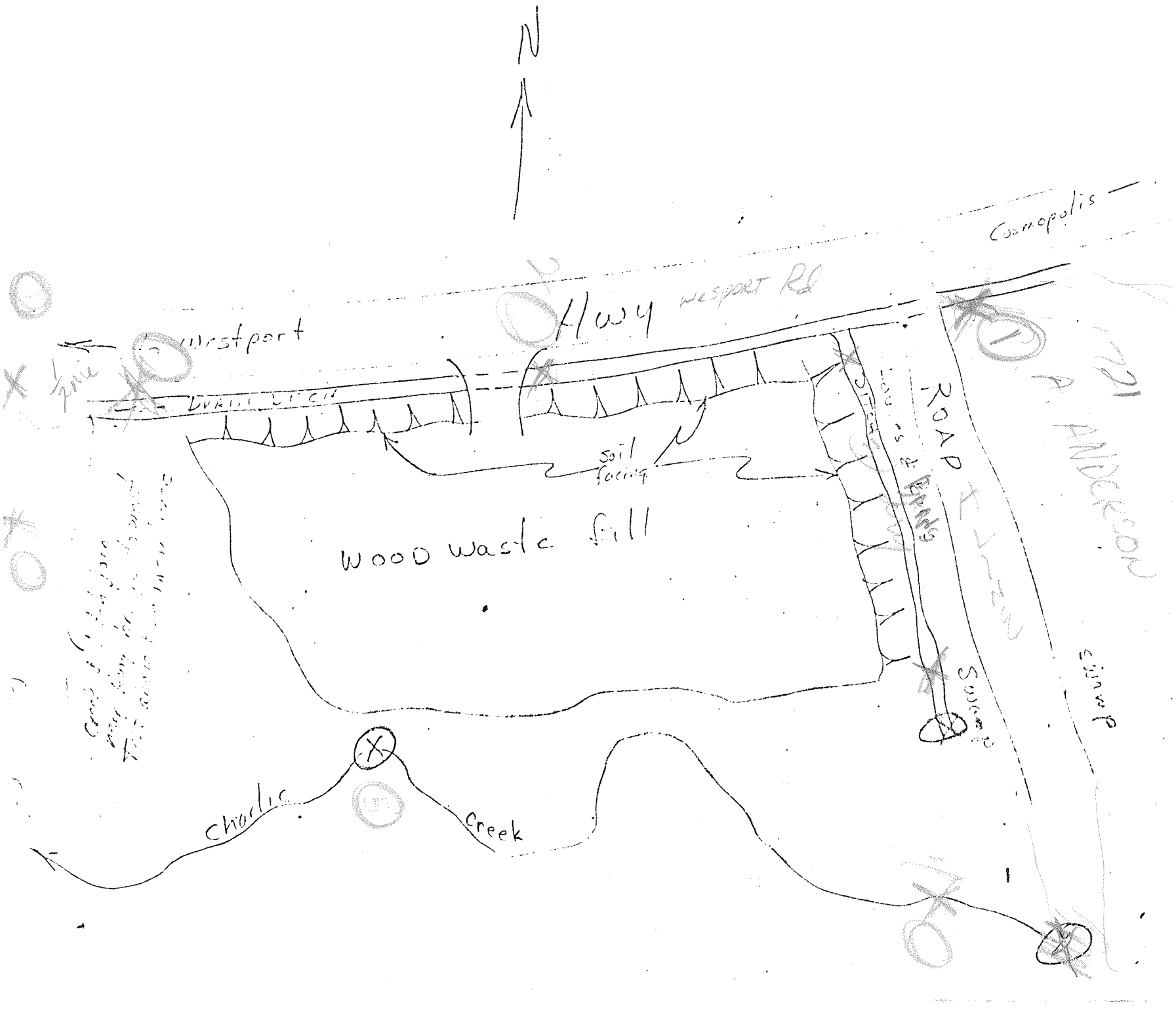
The situation is complicated by adjacent swampy areas and manure deposits which may be contributing to the enrichment of the stream and ditch. If possible, these effects should be separated out.

The fill site is owned by Mr. Carl Huffman (Huffman Motors) Aberdeen (533-0522 - office); Weyco is the only one using the fill site.

I feel we need a carefully designed survey to fully isolate the effects of the leachate. This information could very likely be needed in a court hearing, and should be developed accordingly.

I might suggest the possibility of some live-box studies later in the winter if it would be appropriate. However, the immediate need is to determine water quality while the fill is more or less dormant.

MPP:as
(961 964/1)


N
Cosmopolis
Westport Rd
K/way
Westport
½ mile
Drill Line
soil facing
wood waste fill
Ditch
Road
Swamp
Swamp
Charlie
Creek