SM

TO: THE CHAIRMAN AND MEMBERS OF THE WATER AND RELATED LAND MANAGEMENT ADVISORY BOARD - Meeting #1/90, March 2, 1990

FROM: J. C. MATHER, DIRECTOR, WATER RESOURCE DIVISION

RE: IMPROVED LAKEFILL QUALITY CONTROL PROGRAM - PROGRESS REVIEW

KEY ISSUE

Assessment of the achievements of the Improved Lakefill Quality Control Program during 1989 and continuation of the Program for 1990; consideration of program expansion to selected inland sites in addition to modifications to the program to improve the control of material from small, untested sites.

RECOMMENDATION

THE BOARD RECOMMENDS TO THE AUTHORITY THAT the staff be directed to continue the implementation of the Improved Lakefill Quality Control Program at a total budget of $750,000 to be funded from revenues generated from the Program;

THAT staff be directed, with respect to material from "small sites" as defined in the Manual for an Improved Lakefill Quality Control Program, to accept only suitable material from untested sites which are inspected by Authority staff prior to excavation and to place such material in areas where it is not in direct contact with water and this requirement be implemented effective May 1, 1990;

THAT the staff be directed to meet with area municipalities, the Ministry of Natural Resources, the Ministry of the Environment and the Regional Municipalities to investigate the need for a program by the Metropolitan Toronto and Region Conservation Authority to assess the quality of surplus fill material being placed in inland locations within its jurisdiction, where contaminants could be released to groundwater and surface water;

AND FURTHER THAT the staff be directed to prepare a report to the Board concerning the need for such a program, the legislative basis for such an initiative and the funding requirements.

Brian Dundas MNRCA 267-3001

BACKGROUND

The Metropolitan Toronto and Region Conservation Authority developed the Improved Lakefill Quality Control Program in 1988 at the request of the Ministry of the Environment to respond to a concern about the quality of material being utilized in lakefill.

The program has resulted in substantial improvements to the handling of surplus fill material in the Metropolitan Toronto area as summarized in the attached report entitled "A Comprehensive Review of the Improved Lakefill Quality Control Program - 1989".

One component of the Program which came into focus in 1989 was the disposal of surplus fill from "small sites" or those sites generating from one to nineteen truck loads of untested material. The Toronto Harbour Commissioners, who operate the largest lakefill location, the Leslie Street outer headland endikement project, decided to accept only fill suitable for "open water disposal". As a result, all untested fill was rejected with no alternative disposal location being provided.

At its meeting #4/89, the Authority directed staff to not accept surplus earth fill from untested sites at the Authority's waterfront projects.

The issue of the disposal of untested excavated material from "small sites" was re-opened at Authority meeting #5/89 held on July 28, 1989 due to concerns expressed by the construction industry. The Authority gave the industry more time to react by passing Resolution #159 which directed staff to accept material from small untested sites, but to investigate options to resolve the difficulty of small project loads before the next dumping season (ie. Spring 1990).

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The staff have completed a year end review of the Improved Lakefill Quality Control Program and report the following:

Major Achievements of the Program

- the Program paid for $415,000 of additional waterfront monitoring;
- testing indicates that only 8% of the material received exceeded Ministry guidelines for restricted land use;
- testing was completed for 164 projects which previously would not have been tested. These projects accounted for 84% of all fill received at lakefill sites during 1989;
- of the total applications received in 1989, 680,000 cubic metres of material was rejected by the Program as compared to 1.36 million cubic metres of material received.

Status of Existing Sites

- Toronto Harbour Commission is still only accepting "open water" fill as of last July, 1989;
- Colonel Samuel Smith Park site is closed for earth fill;
- Scarborough erosion sites are currently closed and are scheduled to open by April on a limited basis.

While the program has been very successful in relation to the waterfront sites, there is a continuing concern about the disposal of not only "small site" material, but all material which is rejected from lakefill sites.

RATIONALE

Staff have encountered continued problems relating to some small site projects resulting in more staff time to monitor quality of fill.

The chemical test results on samples from small site projects taken by Authority staff suggests improvements are required to ensure only clean fill is accepted at lakefill sites.

The material rejected from lakefill sites and all surplus material generated from construction sites outside of economical haulage distances to the waterfront goes to inland disposal sites. These sites are mainly private sites which range from a few loads in a farm field to huge former gravel pits with capacities for millions of cubic metres.

While we have noticed increased controls at some of the private sites over the past years, it appears prudent to have some auditing by a public agency of the major sites where potential exists for contamination of surface and/or groundwater.

DETAILS OF WORK TO BE DONE

As a result of the year end review of the Program, staff are recommending the following:

Suggested Improvements to the Program (at all Authority operated lakefill sites)

- only earth fill meeting the "open water disposal" category will be placed in the open lake;
- all small untested sites generating fill for a lakefill location are to be inspected prior to issuance of bills of lading. Visual inspection of small site projects prior to acceptance of material

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will confirm existing land use and provide an on-site opportunity to observe any obvious signs of contamination within the general area such as soil staining, lack of vegetation etc. Site visits by staff will assist in eliminating the past problem of applicants providing false and/or incomplete project information;

- small site projects (1-19 truck loads) that are untested, but approved as a result of prior site inspection will be designated "confined" and disposed of on land where there would be no direct contact with water. This new definition for "confined" will apply under the Program;

- the 1-5 load small site category which was previously accepted with out prior site inspection or testing will be eliminated.

Expansion of Program

- investigate expanding the program to inland sites within the Authority's jurisdiction.

Initiatives of Others Regarding Small Sites

- the City of Toronto is working on a proposal to establish a transfer station to handle untested material with the intent to test for suitability for lakefill or disposal at an inland site;

- Metropolitan Toronto has asked the Solid Waste Interim Steering Committee to include provision for disposal of contaminated fill within its plan for long term disposal of waste material within Metropolitan Toronto.

FINANCIAL DETAILS

The program is self-financing from fees charged for each load of fill received and it is anticipated that any expansion to inland areas would also be self-financing.

FUTURE BENEFITS/PROBLEMS

The principle benefits of the program would be the protection of surface and groundwater from contaminants which could be released from soils. The program would help to ensure that the future use of sites used for disposal of surplus soil would not be compromised by the placement of contaminated material. The ongoing availability of properly managed disposal sites helps to prevent illegal disposal of surplus material.

February 14, 1990

NC/gds

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A COMPREHENSIVE REVIEW OF THE

IMPROVED LAKEFILL QUALITY CONTROL PROGRAM

FOR 1989

the metropolitan toronto and region conservation authority

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A COMPREHENSIVE REVIEW OF THE IMPROVED LAKEFILL QUALITY CONTROL PROGRAM

CONTENTS

A) A HISTORY OF THE I.L.Q.C.P.

B) OPERATING PROCEDURES

C) ACHIEVEMENTS

APPENDIX) STATISTICS

I) MONTHLY BREAKDOWN OF TOTAL FILL VOLUMES RECEIVED AT EACH LAKEFILL SITE.

II) BREAKDOWN OF FILL VOLUMES RECEIVED BY DISPOSAL AREA CLASSIFICATION.

III) MONTHLY BREAKDOWN OF FILL VOLUMES RECEIVED FROM "LARGE PROJECTS " AND "SMALL PROJECTS ".

IV) RESULTS OF THE I.L.Q.C.P. INTERNAL CHEMICAL ANALYSIS AUDITING SYSTEM.

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A HISTORY OF THE IMPROVED LAKEFILL QUALITY CONTROL PROGRAM :

In 1982 The Ontario Ministry of the Environment(M.O.E.) initiated the Lakefill Quality Assurance Program(L.Q.A.P.) in order to control the quality of lakefill which was generated in specific areas of the city of Toronto. The program designated the area bounded by Queen St. to the north, Roncesvalles Ave. to the west and Leslie St. to the east as a Designated Control Area(DCA). All fill generated within this area had to be chemically tested in order to determine it's suitability for lakefilling. This particular region was singled out because of it's close proximity to the Leslie St. Spit ; it's largely industrial makeup and it's high fill content. It was hoped that since a large percentage of the lakefill material which was taken to Leslie St. was generated in this area, the general quality of the lakefill material would improve. The formation of additional Designated Control Areas was also proposed for the L.Q.A.P. but the program was replaced with the present procedures before these areas could be identified.

Particular concerns with the L.Q.A.P. were;

i) A significant percentage of material deposited as lakefill was generated in areas outside the D.C.A..

ii) Because there was no "weigh bill" used in the program it was impossible for the lakefill site operators to tell where a given load of fill had been generated.

In 1987 the M.O.E. commissioned a study of the soil quality on the Leslie St. Spit and determined that the material deposited since the inception of the L.Q.A.P. largely exceeded various parameters on the M.O.E. Open Water Disposal Guidelines. For this reason the L.Q.A.P. was replaced with the Improved Lakefill Quality Control Program(I.L.Q.C.P.) on January 1, 1989.

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B : OPERATING PROCEDURES

The Improved Lakefill Quality Control Program is based on the issuance of environmental disposal permits, "Bills of Lading ", to specific excavation projects which the M.T.R.C.A. has deemed environmentally suitable for lakefilling . The determination of this suitability is made in three different ways depending upon the volume of excavated earth material expected to be generated. For "large projects " generating 200 cubic meters of fill or more, a detailed environmental report including chemical testing analysis is required by the M.T.R.C.A. before a decision is made on environmental suitability . Acceptability for "small projects " is determined by either a pre-disposal site inspection (group A small projects, > 50 and < 200 cubic meters) or by the landuse and address of the project as indicated on the "Application for Bill of Lading " form (group B small projects, 50 cubic meters or less .

I.L.Q.C.P. operating procedures have evolved substantially since January 1, 1989 . Many of these changes in operation of the system have occurred as a result of lakefill site operators accepting or rejecting the idea of the untested "small project " site as defined in the "Manual for an Improved Lakefill Quality Control Program . Effective July 1, 1989, the Toronto Harbour Commissioners began accepting only chemically tested "open water " quality material at the Leslie St. lakefill site. Up until this time the M.T.R.C.A. had two members of the I.L.Q.C.P. staff at the Leslie St. site at all times in order to issue "Bills of Lading " to group B small projects and to visually inspect all truckloads of fill entering the site which originated from untested "small projects ". After July 1, it became possible to reduce the number of staff present at Leslie St. and therefore add to the number of staff available to police the program and/or to staff other Authority operated projects requiring excavated fill material . This addition to the number of Environmental Control Technicians available for policing of the program represented an important operational change . Increasing the number of Environmental Control Technicians allows for greater opportunity to identify violators of the I.L.Q.C.P. and site operational rules.

There are two basic activities which are carried out on a daily basis by the I.L.Q.C.P. staff . The first activity is the approval or rejection of excavation projects for lakefilling and the issuance of "Bills of Lading " and the second is the policing of the program to ensure that the construction community is compiying with the I.L.Q.C.P.. Many changes

have occurred in these two areas .

Over the course of 1989 the M.T.R.C.A. has gradually toughened the criteria required in order to receive "Bills of Lading ". For "large projects", a substantially more detailed environmental report is required at present than during the initial months of the program due to the fact that the Authority now expects consultants to be aware of the proper format for a good environmental report . Initially, incomplete reports were accepted in order to alleviate possible costly delays in projects which were underway prior to the I.L.Q.C.P. start up date . In these cases the consultants would be contacted and the proper format for a suitable environmental report would be outlined to them . At present, however , only those reports which contain all of the mandatory requirements of a good environmental report are accepted by the M.T.R.C.A.. For "small projects" only material generated from residential areas or other areas with no known present or past potential for contamination, is approved for lakefilling without chemical testing .

The second fundamental activity carried out by the I.L.Q.C.P. staff is the monitoring of applicants and contractors compliance with the regulations of the I.L.Q.C.P.. As mentioned previously, the number of I.L.Q.C.P. staff available for monitoring the system and ensuring the proper use of the "Bill of Lading " has risen since the programs inception and hence the probability of uncovering any violations has also risen .

Along with improvement in the above mentioned fundamental areas, the I.L.Q.C.P. has also improved its data processing system which allows it to keep up to date with the hundreds of excavations in progress at any given time . At the beginning of each day the "Bills of Lading " received the previous day are entered into the I.L.Q.C.P. computer . In this way the number of loads which have originated from any given site can be monitored as can the dates which those loads were received at lakefill sites . The Authority staff can then use the database to assist in identifying excavation projects which are completed. Outstanding Bills of Lading would then be certified as unacceptable and would not be accepted at the lakefill sites.

The Authority staff are currently seeking more reliable testing methods to ensure the quality of "small project " loads as they enter the lakefilling locations . This testing process would be performed in conjunction with the visual inspection which is currently performed on all "small project " loads .

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The following is a breakdown of the daily duties of each member of the I.L.Q.C.P. staff during the dumping season.

1. Coordinator, Improved Lakefill Quality Control Program - review environmental reports and issue "Bills of Lading"; prepare monthly reports which are submitted to the M.O.E.; liaison with the construction industry and environmental consultants; update lists of environmental consultants, active excavation projects and alternative fill sites; supervision of staff and co-ordination of policing effort.

2. Environmental Control Technician (Leslie St.) - receive and count "Bills of Lading"; co-ordinate policing of jobs entering the Leslie St. site; take soil samples from trucks; inspect "large project" truck loads randomly; audit site operations personnel to ensure that they are accepting only those projects whose bills are active and properly filled out; provide information to the industry.

3. Environmental Control Technician (Inspector) - perform site approval inspections for group A "small projects"; carry out policing effort; certifying "large projects" complete; monitor compliance of the Program at the Guild site.

4. Environmental Control Technician (Fishleigh Dr. site) - issuing "Bills of Lading" to group B "small projects"; inspect trucks entering the site; co-ordinate policing of jobs entering the Fishleigh Dr. site; provide information to the industry; take soil samples from trucks; receive and count the "Bills of Lading";

5. Environmental Control Technician (Enforcement) - do detailed site audits of "large projects" to ensure that the excavation is being carried out in accordance with the stipulations of the environmental report; carry out policing effort.

6. Environmental Control Technician (Bellamy Ravine site) - issuing "Bills of Lading" to group B "small projects"; inspect trucks entering the site; co-ordinate policing of jobs entering the Bellamy Ravine site; provide information to the industry; take soil samples from trucks; receive and count the "Bills of Lading".

C : ACHIEVEMENTS

The Metropolitan Toronto and Region Conservation Authority has, through it's Improved Lakefill Quality Control Program , instituted a program which effectively monitors and controls the quality of lakefill material accepted at lakefill sites within the Authoritys' jurisdiction . The program now in place, fulfills the aims and directions given in the "Manual for an Improved Lakefill Quality Control Program ". It is the staff's opinion that the quality of lakefill material deposited under the I.L.Q.C.P. has improved over the programs' predecessor, the "Lakefill Quality Assurance Program ". The major achievements for the program in 1989 were;

1.) Eighty four percent of all material deposited at lakefill sites, in 1989, was generated from 164 chemically tested "large projects".

2.) In 1989, approximately 680,000 cubic meters of material was rejected for lakefilling as a result of the I.L.Q.C.P. as compared to 1.36 million cubic meters received.

3.) All untested "small project " material was deposited in "protected " areas at designated lakefilling locations .

4.) "Small project " applicants are only issued "Bills of Lading " if their projects are residential in nature or if the material has been determined suitable by an M.T.R.C.A. Environmental Control Technician .

5.) The presence of I.L.Q.C.P. staff performing inspections of fill entering the lakefill sites has deterred haulers from attempting to deposit visually contaminated material .

6.) The test results obtained under the Authoritys' Chemical Testing Audit System have shown that only 11 of 135 samples(8%) taken, failed the Ministry of the Environments "Restricted Landuse Guideline " which ultimately determines acceptability at lakefill locations . It is the staff's opinion that these test results will improve substantially if proposed improvements regarding "small projects " are implemented.

67/135 FAILED OPEN WATER 50%

7.)The I.L.Q.C.P. paid for $415,000 of additional lakefill monitoring.

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APPENDIX : STATISTICS

I) MONTHLY BREAKDOWN OF TOTAL FILL VOLUME RECEIVED AT EACH LAKEFILL SITE .

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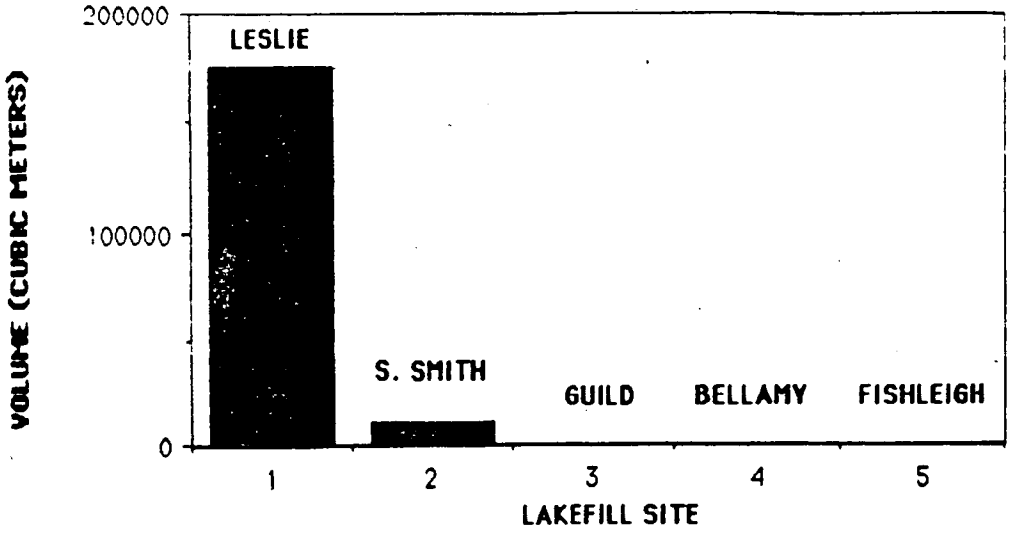
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APPENDIX I

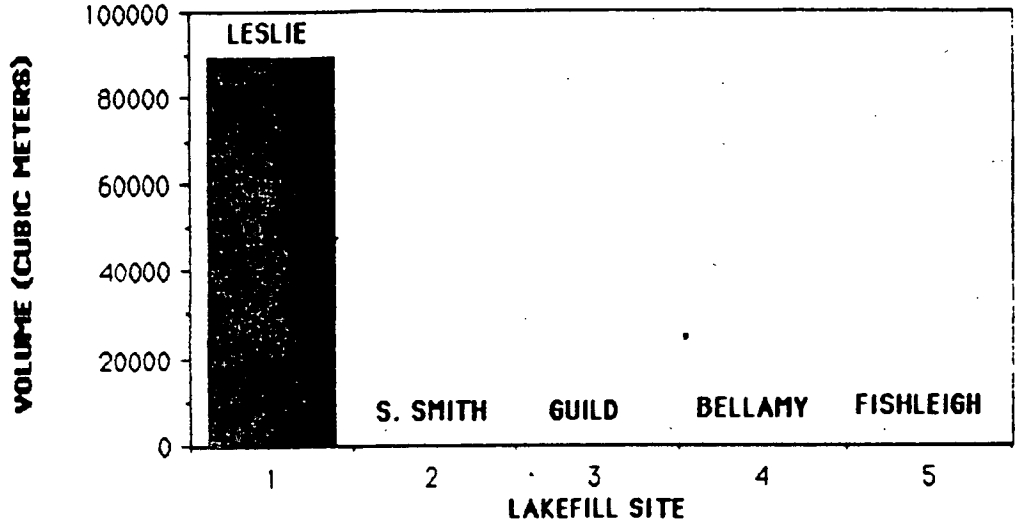
MONTHLY BREAKDOWN OF TOTAL FILL VOLUME RECIEVED AT EACH LAKEFILL SITE

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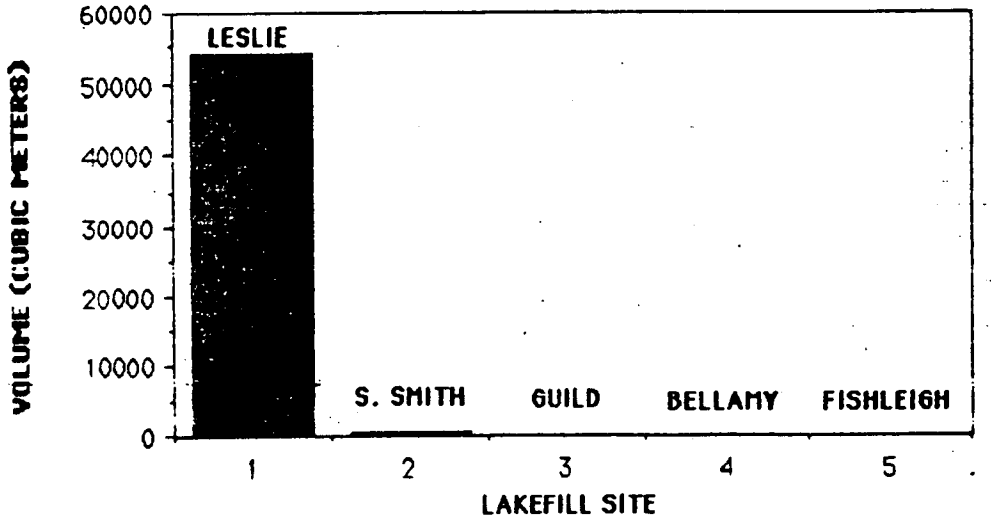
GRAPH 1 VOLUME OF FILL DEPOSITED AT EACH LAKEFILL SITE IN JANUARY 1989



GRAPH 2 : VOLUME OF FILL DEPOSITED AT EACH LAKEFILL SITE IN FEBRUARY 1989

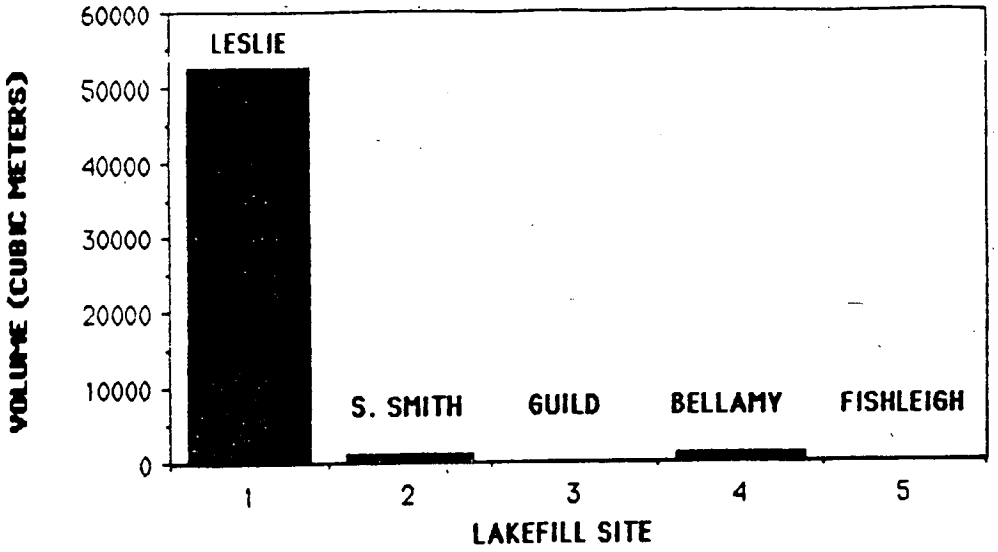


GRAPH 3 : VOLUME OF FILL RECEIVED AT EACH LAKEFILL SITE IN MARCH 1989

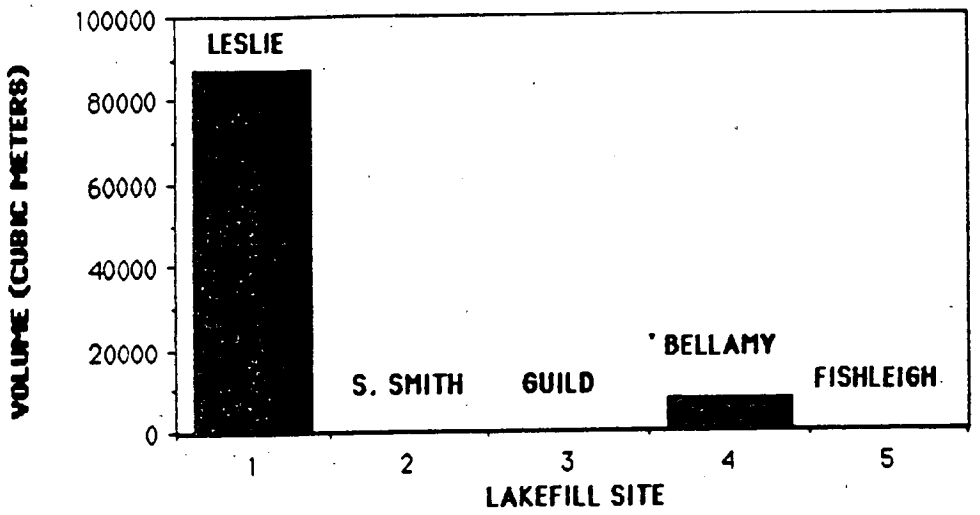


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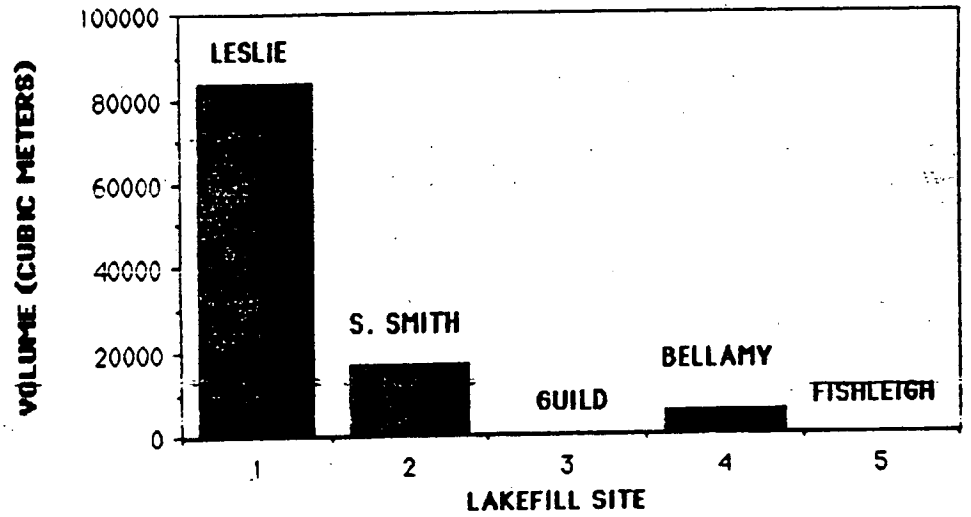
GRAPH 4 . VOLUME OF FILL RECEIVED AT EACH LAKEFILL SITE IN APRIL 1989



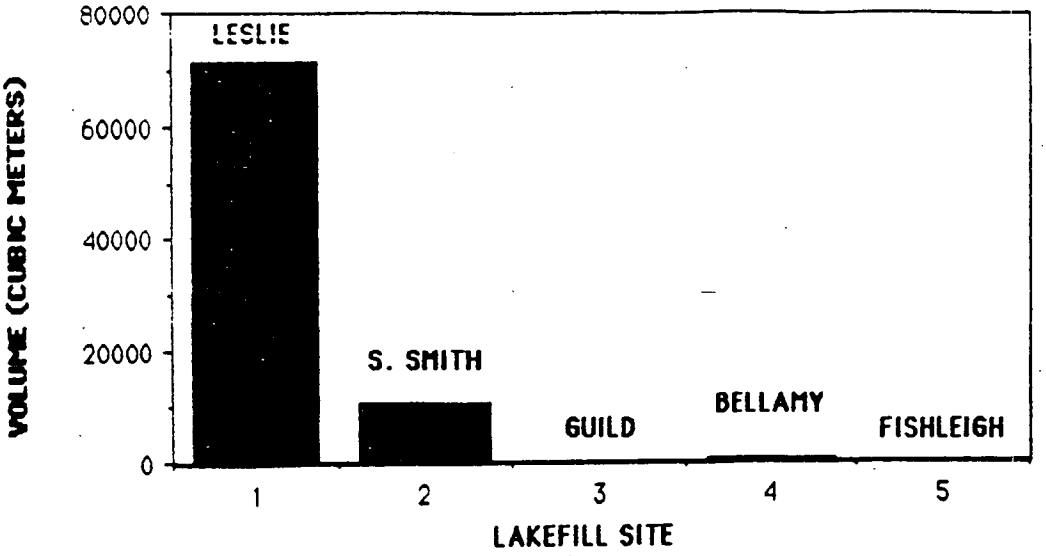
GRAPH 5 : VOLUME OF FILL RECEIVED AT EACH LAKEFILL SITE IN MAY 1989



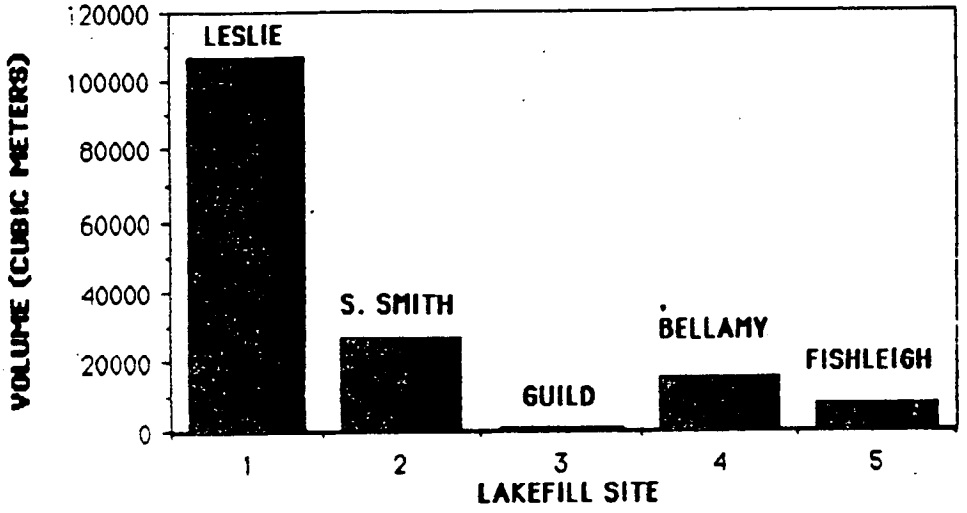
GRAPH 6 . VOLUME OF FILL DEPOSITED AT EACH LAKEFILL SITE IN JUNE 1989



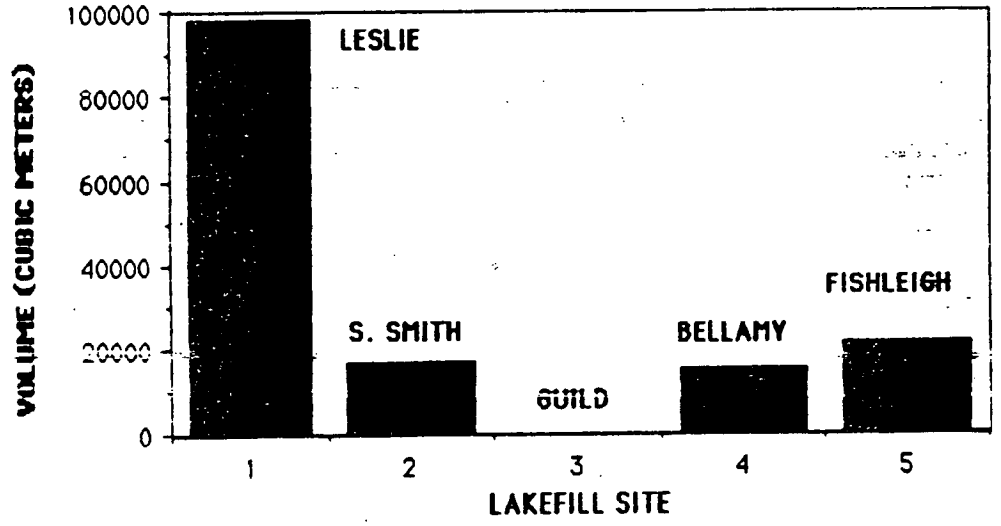
GRAPH 7 : VOLUME OF FILL DEPOSITED AT EACH LAKEFILL SITE IN JULY 1989



GRAPH 8 : VOLUME OF FILL RECEIVED AT EACH LAKEFILL SITE IN AUGUST 1989

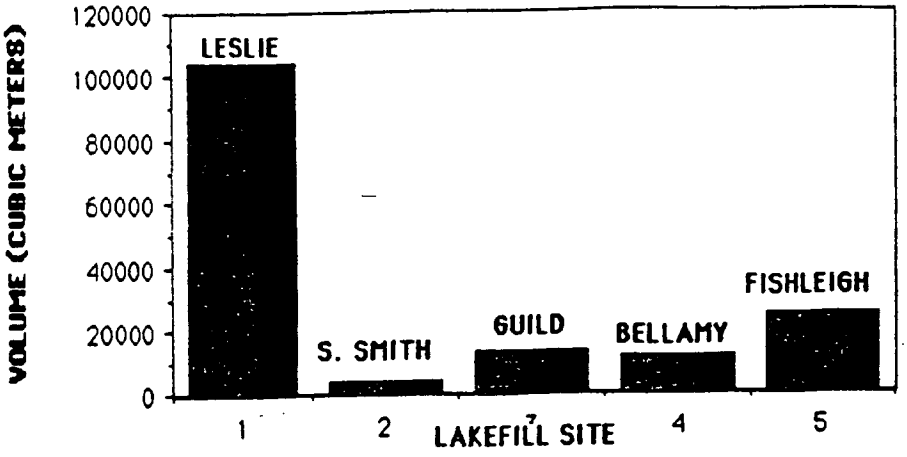


GRAPH 9 : VOLUME OF FILL RECEIVED AT EACH LAKEFILL LOCATION IN SEPTEMBER 1989

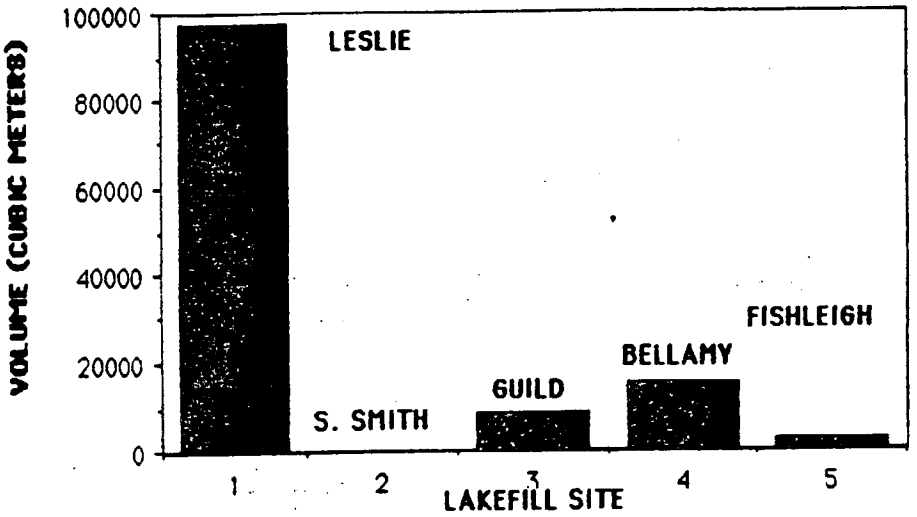


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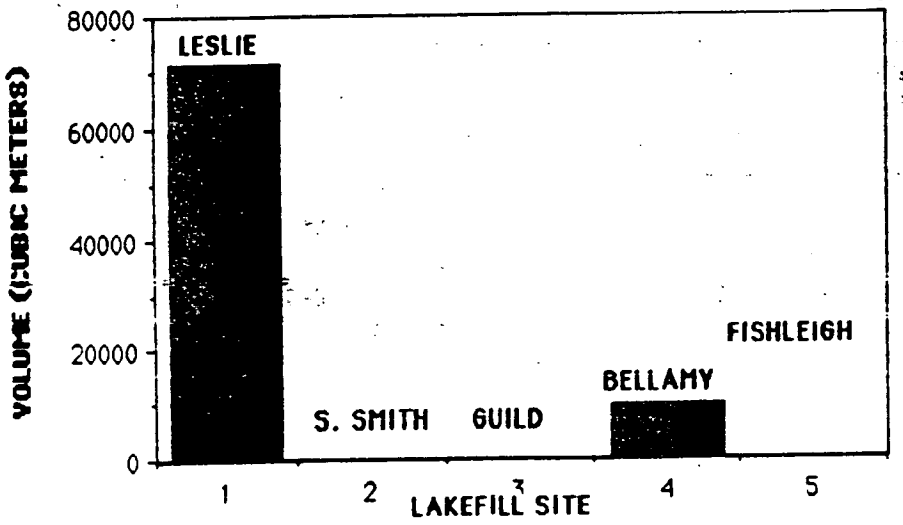
GRAPH 9b : VOLUME OF FILL RECEIVED AT EACH LAKEFILL LOCATION IN OCTOBER 1989



GRAPH 9c : VOLUME OF FILL RECEIVED AT EACH LAKEFILL LOCATION IN NOVEMBER 1989



GRAPH 9d : VOLUME OF FILL RECEIVED AT EACH LAKEFILL LOCATION IN DECEMBER 1989

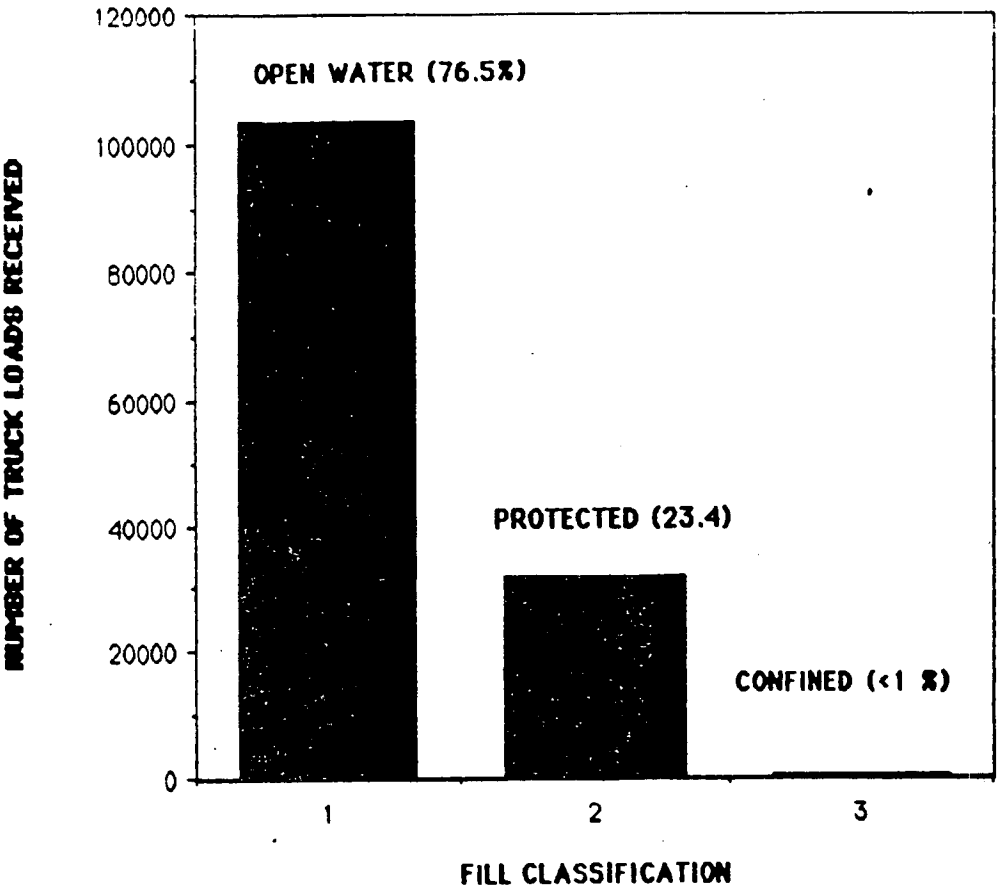


APPENDIX II

BREAKDOWN OF FILL RECEIVED BY DISPOSAL AREA CLASSIFICATION.

APPENDIX II : SOIL CLASSIFICATION BREAKDOWN

GRAPH 10 : BREAKDOWN OF TOTAL FILL RECEIVED BY SOIL CLASSIFICATION



The above graph illustrates a breakdown of fill material received at all lakefill sites from January 1 , 1989 to December 31, 1989 . The following table shows the exact numerical breakdown of this data ;

Table 1 : The total volume of fill received at all lakefill sites by disposal classification.

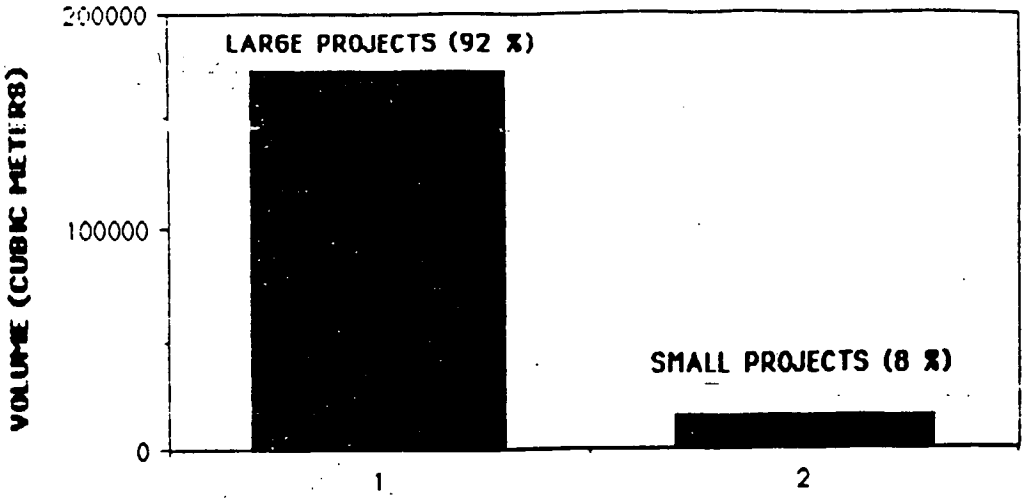
Classification	Volume	Percentage
Open Water	1,039,260	76.5
Protected	317,820	23.4
Confined	4,540	< 0.1
TOTAL	1,361,620	100

APPENDIX III

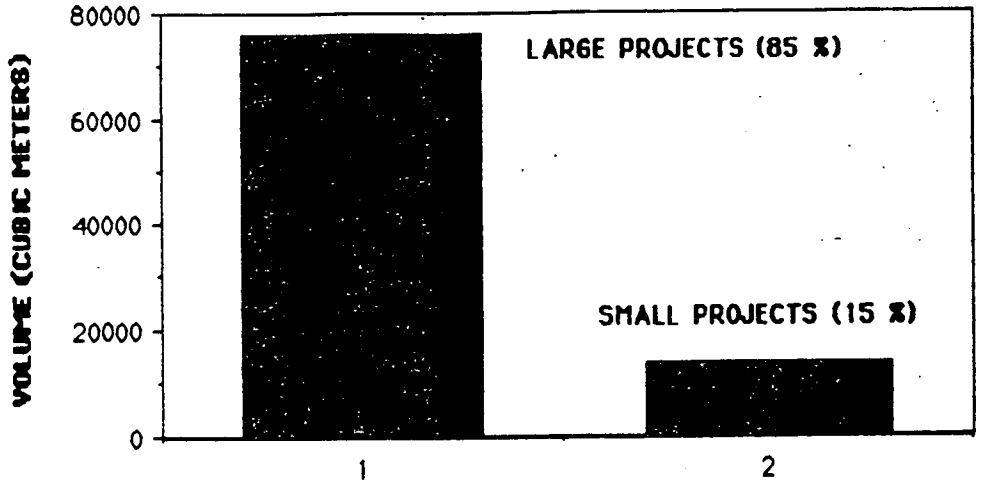
MONTHLY BREAKDOWN OF FILL VOLUMES RECEIVED AT ALL LAKEFILL SITES FROM LARGE PROJECTS AND SMALL PROJECTS.

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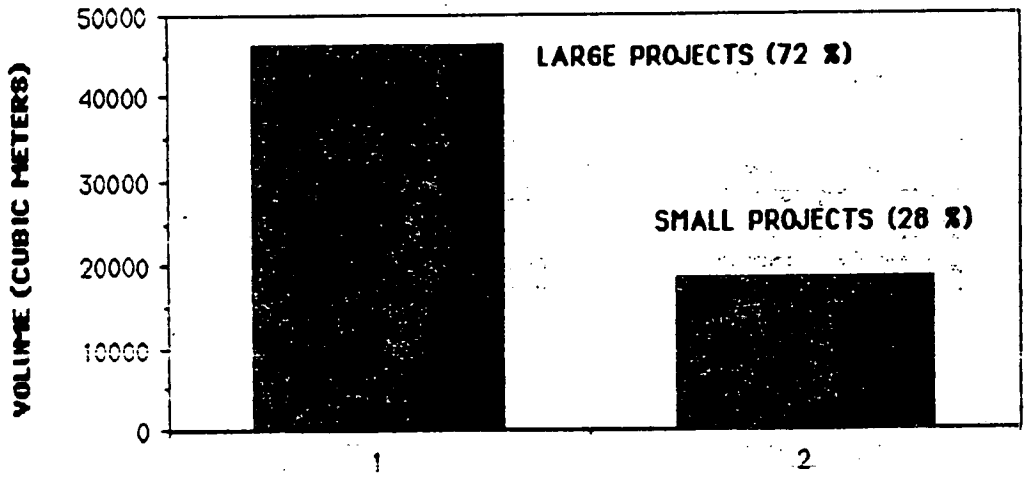
GRAPH 11 : FILL VOLUMES RECEIVED FOR LARGE AND SMALL PROJECTS IN JANUARY 1989



GRAPH 12 : FILL VOLUMES RECEIVED FOR LARGE AND SMALL PROJECTS IN FEBRUARY 1989

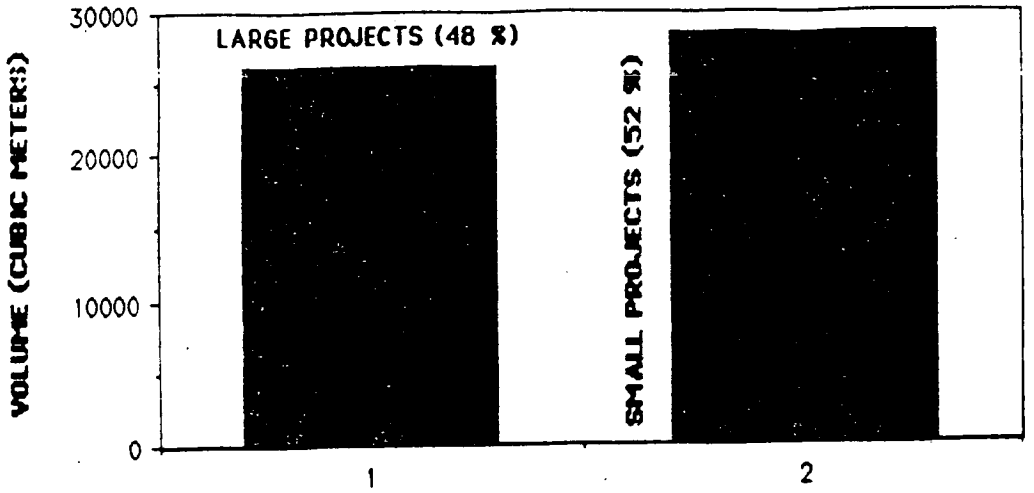


GRAPH 13 : FILL VOLUMES RECEIVED FOR LARGE AND SMALL PROJECTS IN MARCH 1989

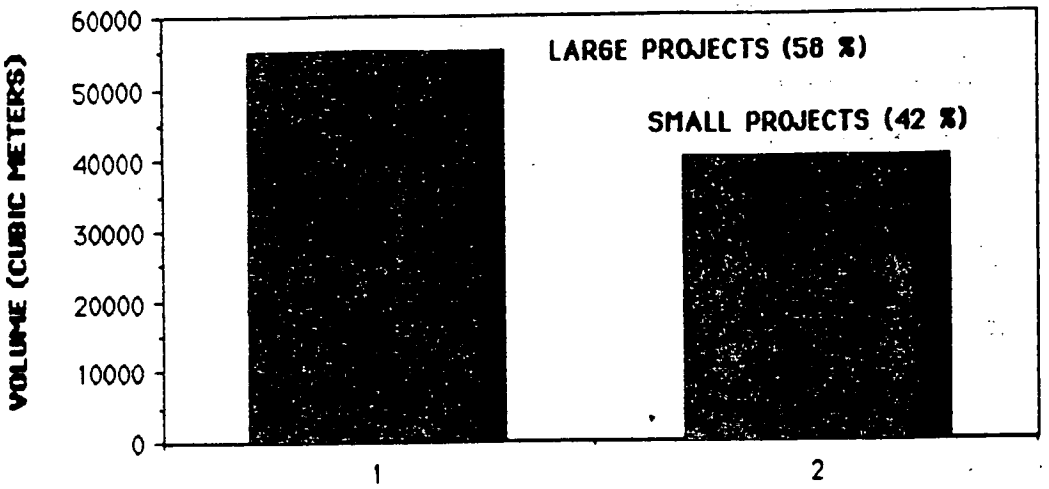


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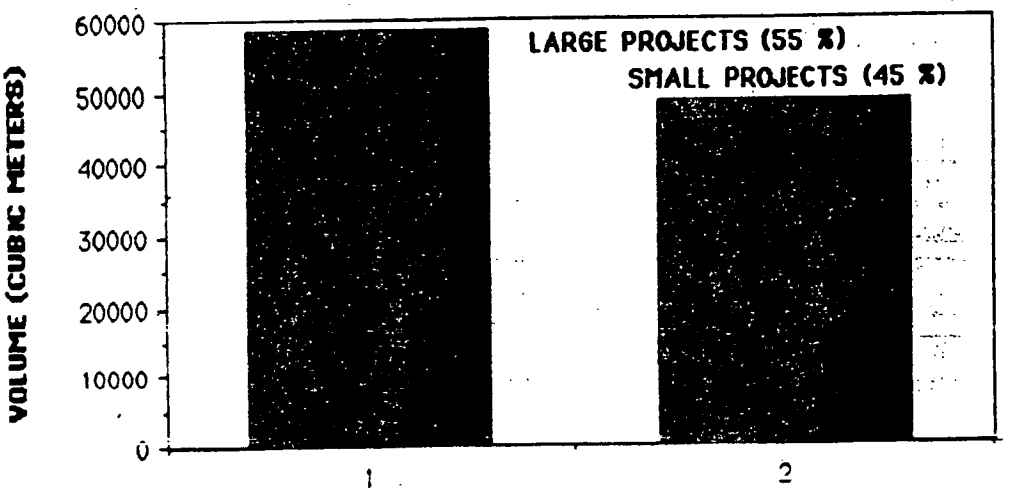
GRAPH 14 : FILL VOLUMES RECEIVED FROM LARGE AND SMALL PROJECTS IN APRIL 1989



GRAPH 15 : FILL VOLUMES RECIEVED FROM LARGE AND SMALL PROJECTS IN MAY 1989

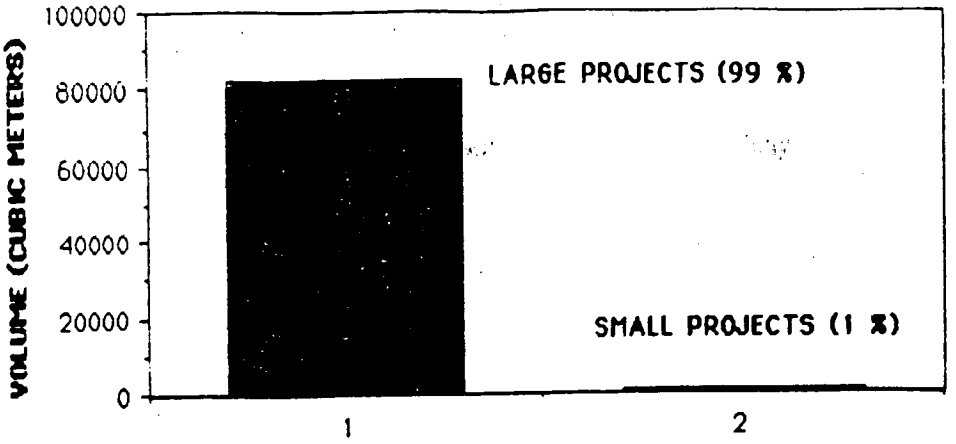


GRAPH 16 : FILL VOLUMES RECEIVED FROM LARGE AND SMALL PROJECTS IN JUNE 1989

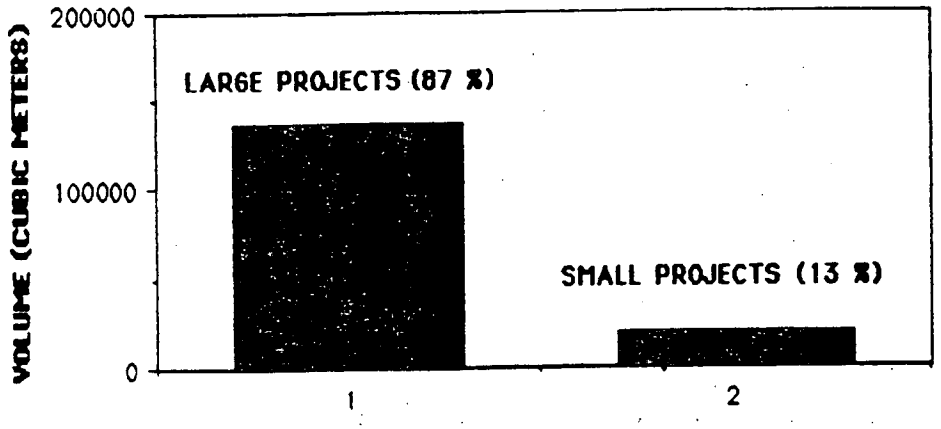


WR.19

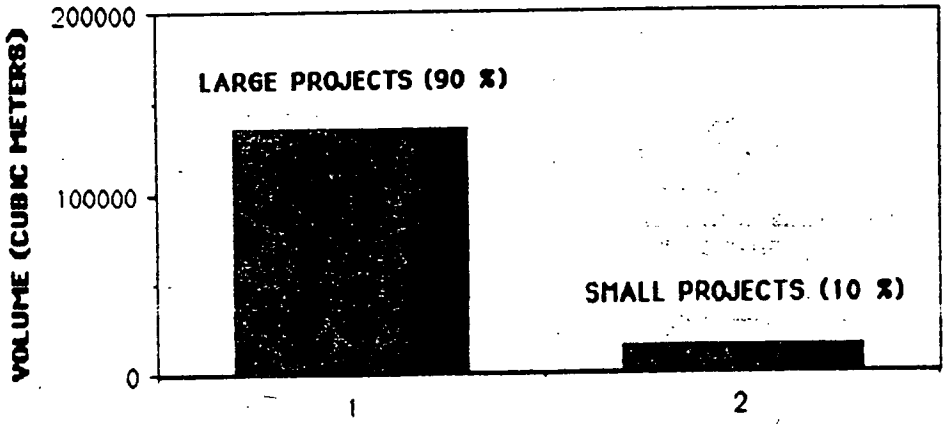
GRAPH 17 : FILL VOLUMES RECEIVED FROM LARGE AND SMALL PROJECTS IN JULY 1989



GRAPH 18 : FILL VOLUMES RECEIVED FROM LARGE AND SMALL PROJECTS IN AUGUST 1989

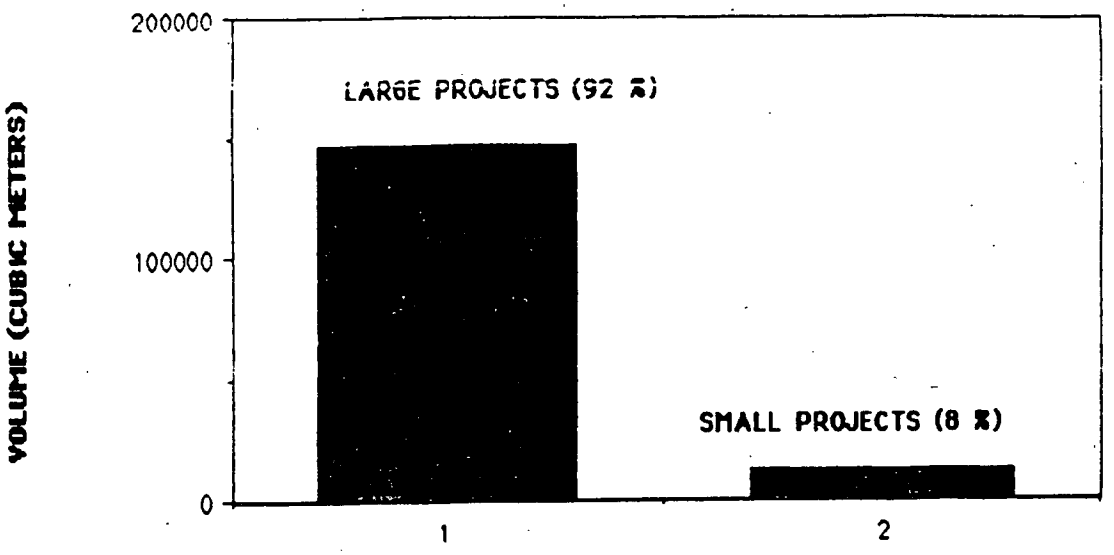


GRAPH 19 : FILL VOLUMES RECEIVED FROM LARGE AND SMALL PROJECTS IN SEPTEMBER 1989

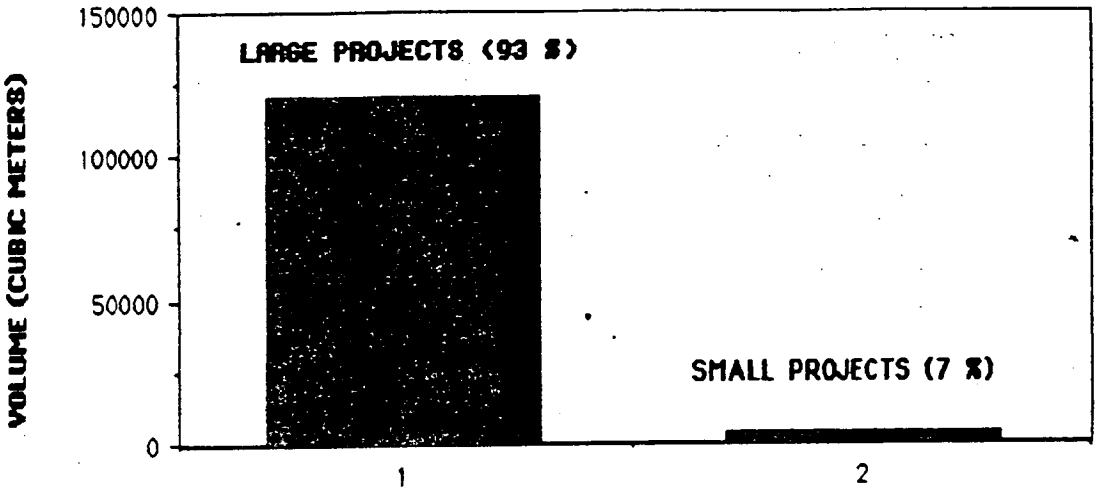


WR.20

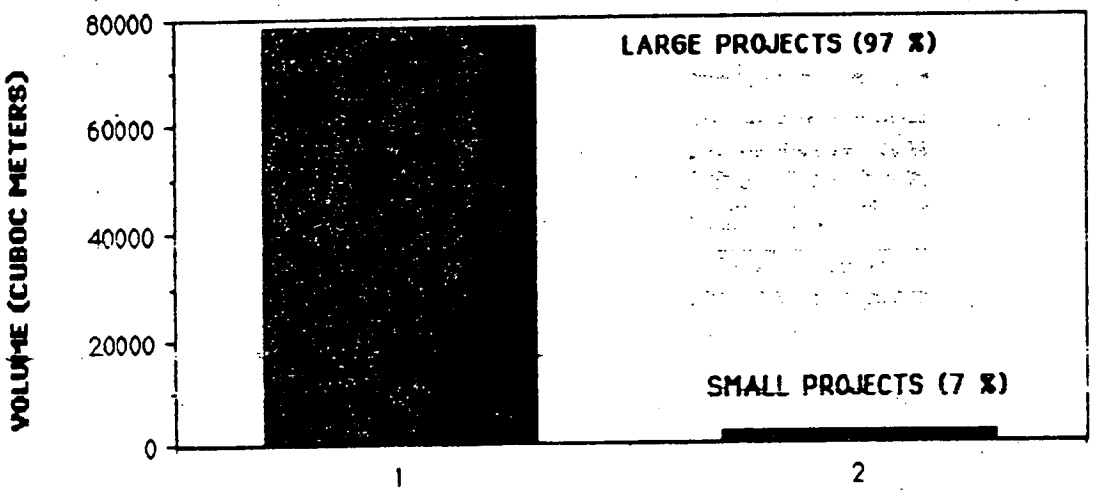
GRAPH 19b : FILL VOLUMES RECEIVED FROM LARGE AND SMALL PROJECTS IN OCTOBER 1989



GRAPH 19c : FILL VOLUMES RECEIVED FROM LARGE AND SMALL PROJECTS IN NOVEMBER 1989



GRAPH 19d : FILL VOLUMES RECEIVED FROM LARGE AND SMALL PROJECTS IN DECEMBER 1989



WR.21

APPENDIX IV

RESULTS OF THE I.L.O.C.P. INTERNAL CHEMICAL ANALYSIS AUDITING SYSTEM.

APPENDIX IV RESULTS OF THE I.L.Q.C.P. INTERNAL CHEMICAL ANALYSIS AUDITING SYSTEM

REPORT ON CHEMICAL TEST RESULTS RECEIVED AS A PART OF THE I.L.Q.C.P. INTERNAL AUDITING PROGRAM

The following table summarizes the test results received for soil samples taken by M.T.R.C.A. staff as part of the internal auditing program of the I.L.Q.C.P.. These samples were taken from trucks as they entered various lakefill sites on the waterfront. The term "failed", as seen on the table refers to samples judged not to meet the particular guideline in question using M.O.E. and M.T.R.C.A. criteria for assessing lakefill guidelines.

JOB TYPE	NUMBER OF SAMPLES TESTED	SAMPLES FAILING OPEN WATER GUIDELINE	SAMPLES FAILING RESTRICTED LAND USE GUIDELINE
RESIDENTIAL ORIGIN	52	28 54%	4 8%
COMMERCIAL ORIGIN	11	6 55%	1 9%
UNKNOWN	25	11 44%	1 4%
SMALL PROJECT TOTALS	88	45 51%	6 7%
LARGE PROJECTS	32	11 34%	4 12%
STORAGE YARDS	15	11 73%	1 7%
TOTALS	135	67 50%	11 8%

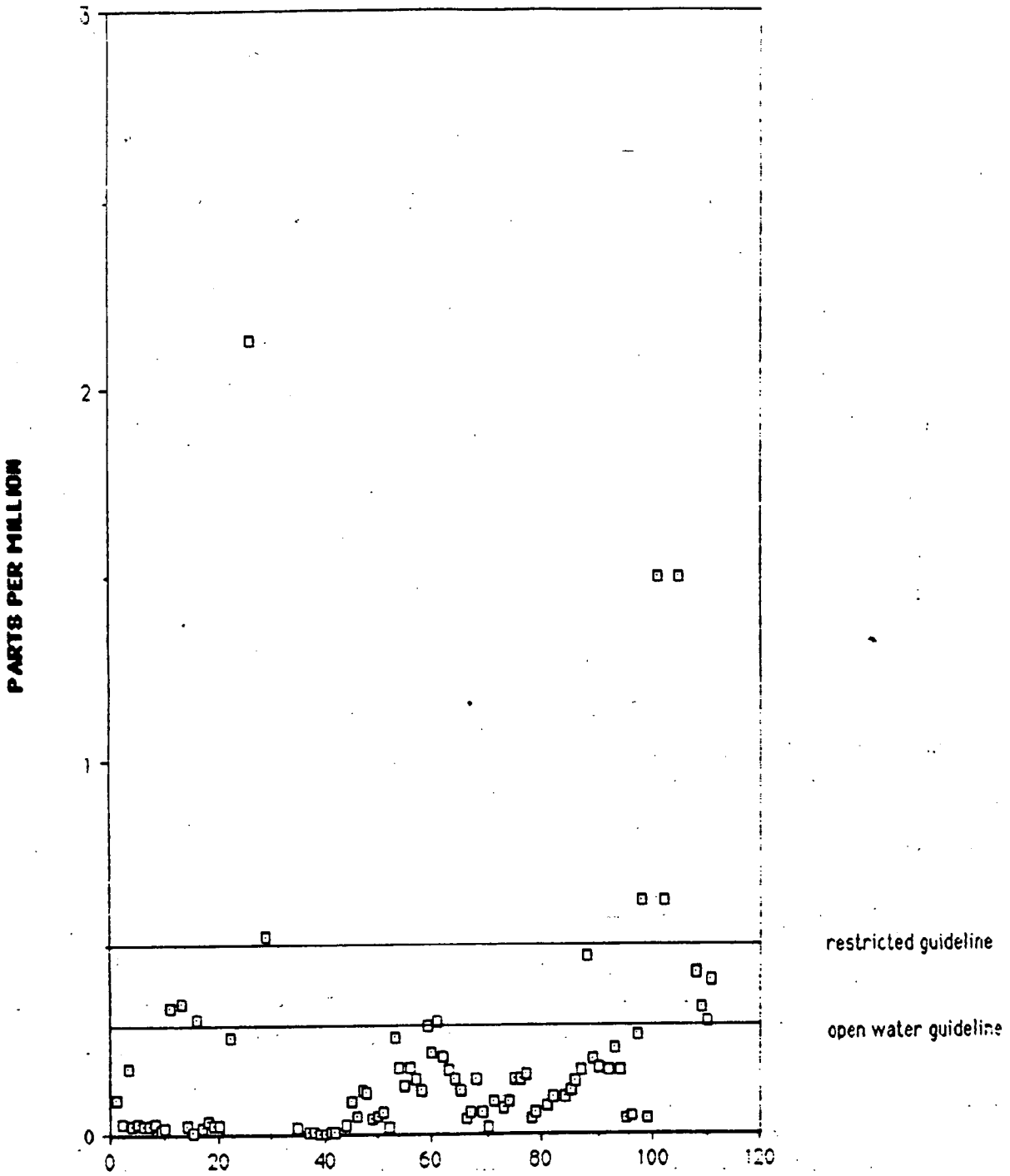
PROTOTYPE

The next eighteen pages represent a parameter by parameter analysis of the test results obtained from small untested projects throughout 1989. These graphs illustrate, among other things, which parameters on the "Open Water Disposal Guidelines" are most often exceeded.

Following the graphs of the small project results is a review of the results obtained from samples collected from large projects. In this section, scatter graphs of the type used for the small project section are not used because of the complexity involved in analyzing the large project results. For example, a successful study of these large project results requires a comparison between the results previously submitted by the applicants and consultants and the results obtained by the Authority.

WR.23

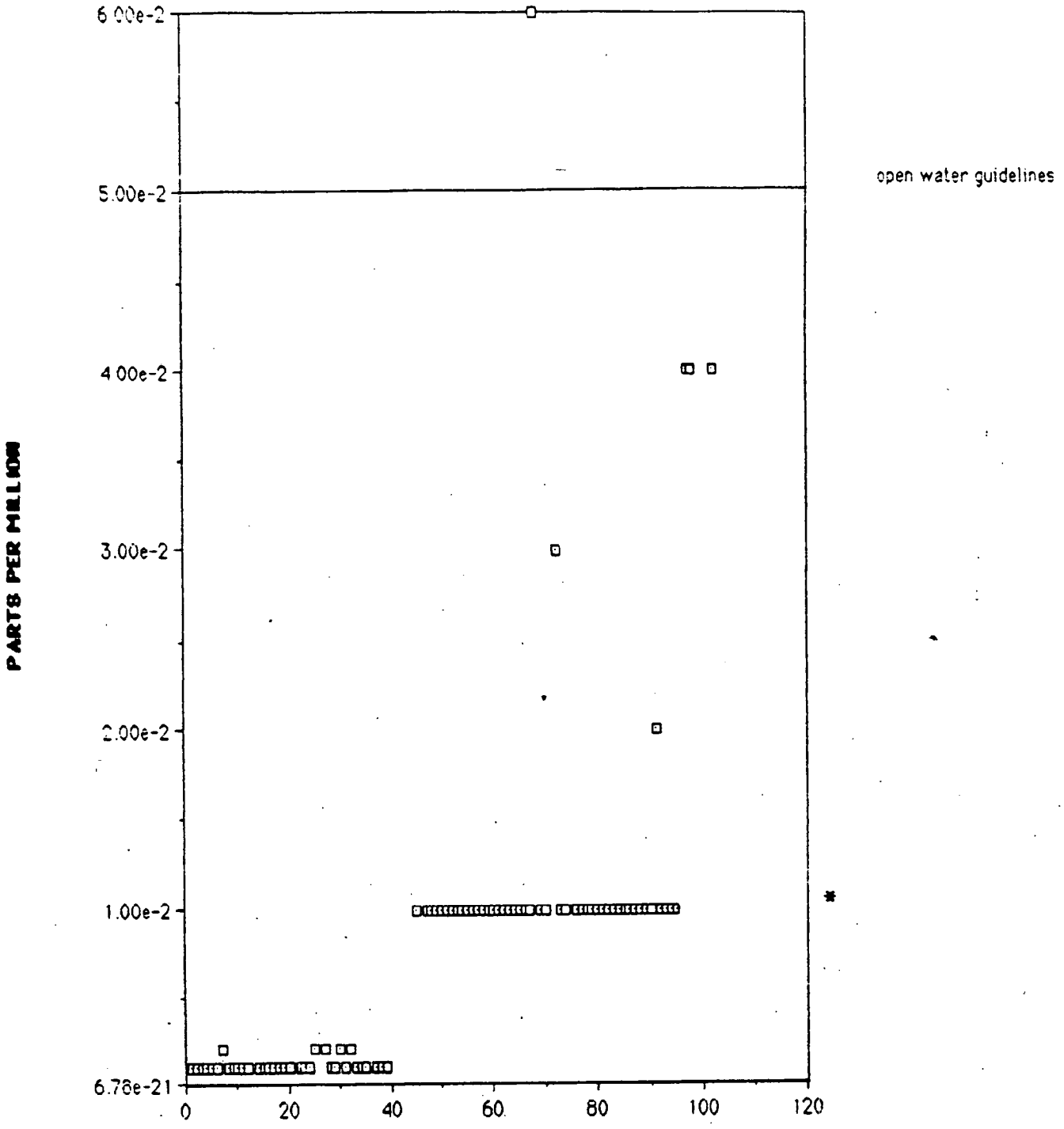
MERCURY



WR. 24

PCB

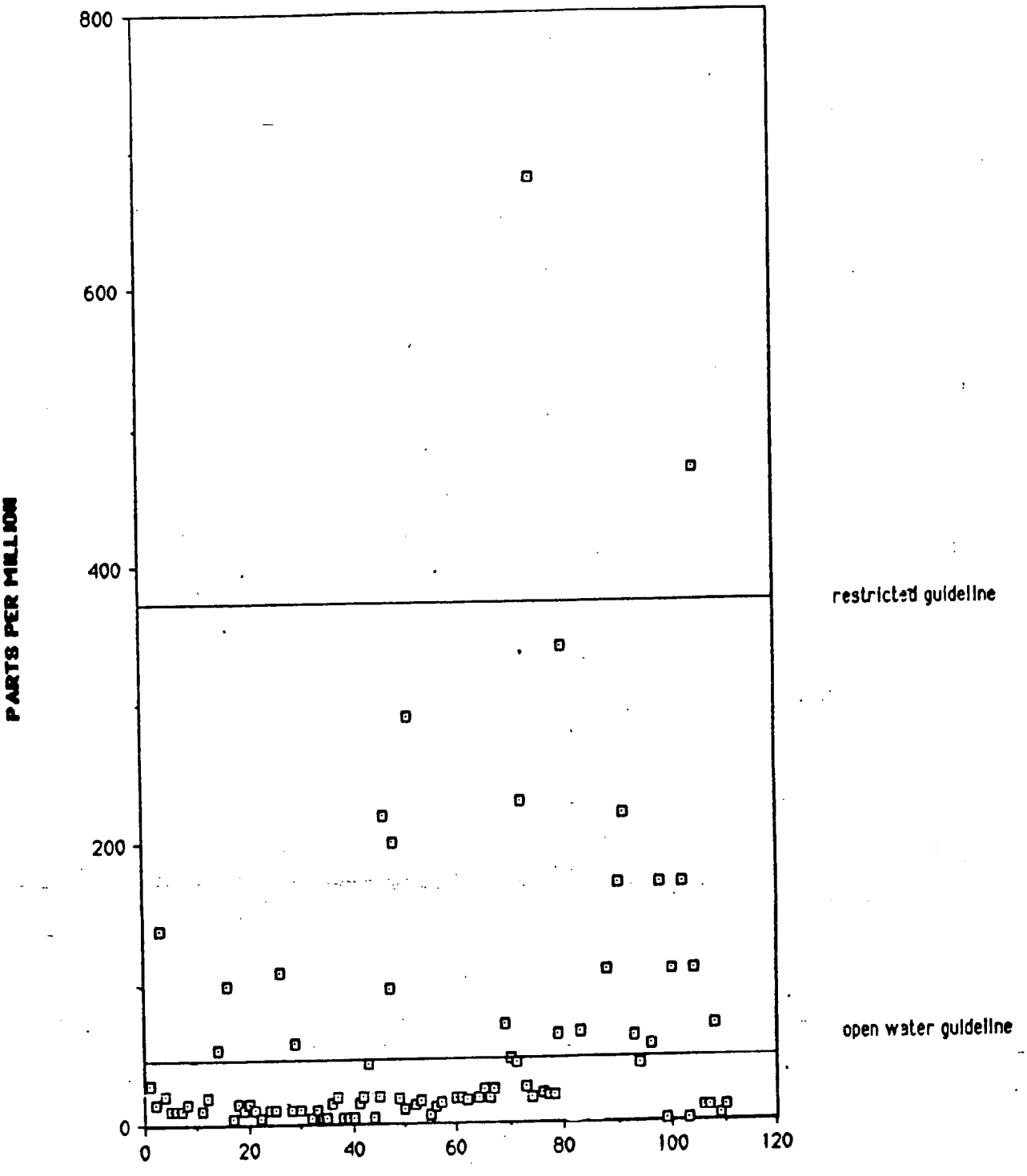
note : restricted guideline equals 2. 0 ppm



* RESULTS REPRESENT THE LAB DETECTION LIMIT . RESULTS REPORTED AS "< .01 PPM " IN MOST CASES

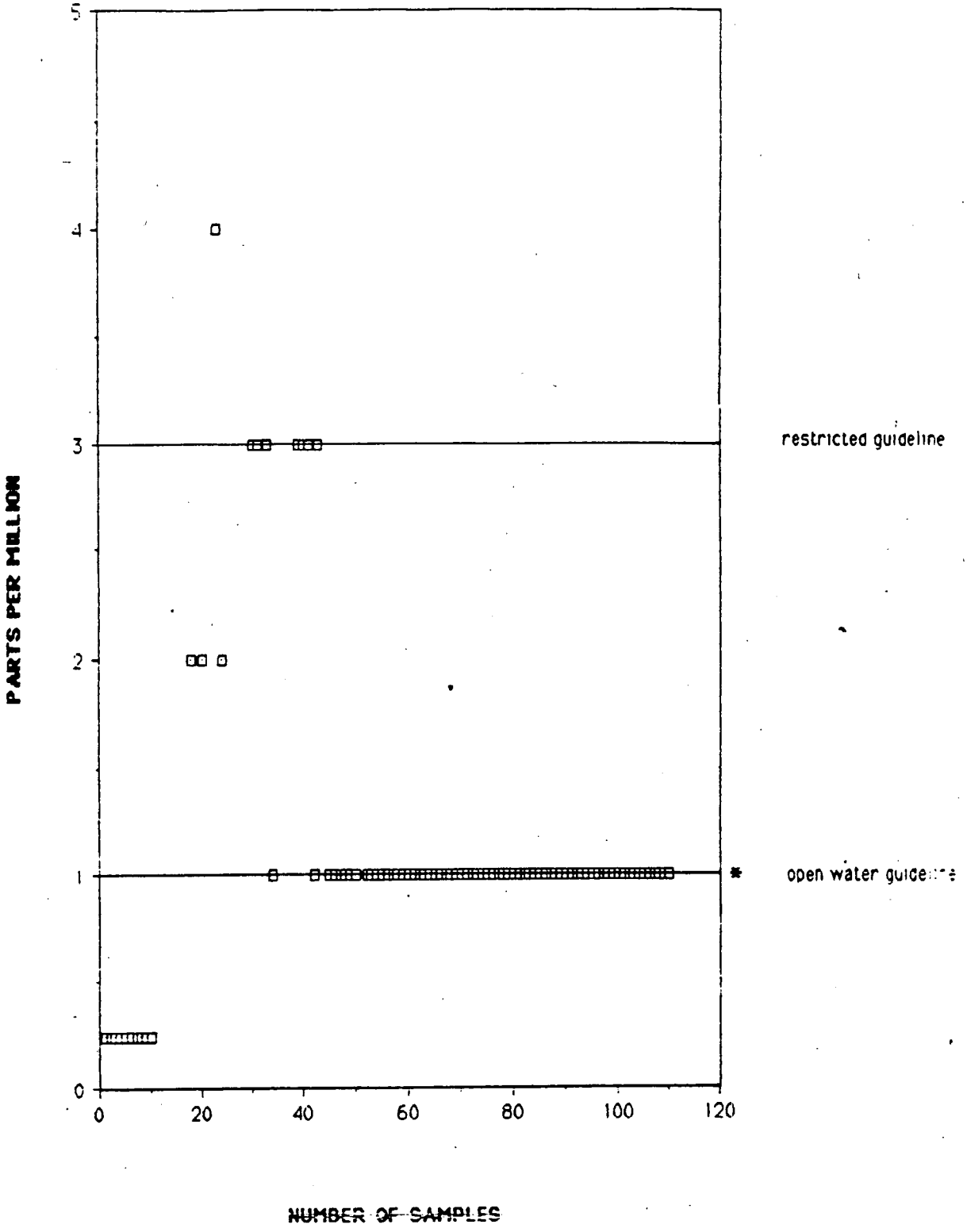
WR.25

LEAD


800
600
400
200
0
PARTS PER MILLION
0
20
40
60
80
100
120
NUMBER OF SAMPLES
restricted guideline
open water guideline

WR.26

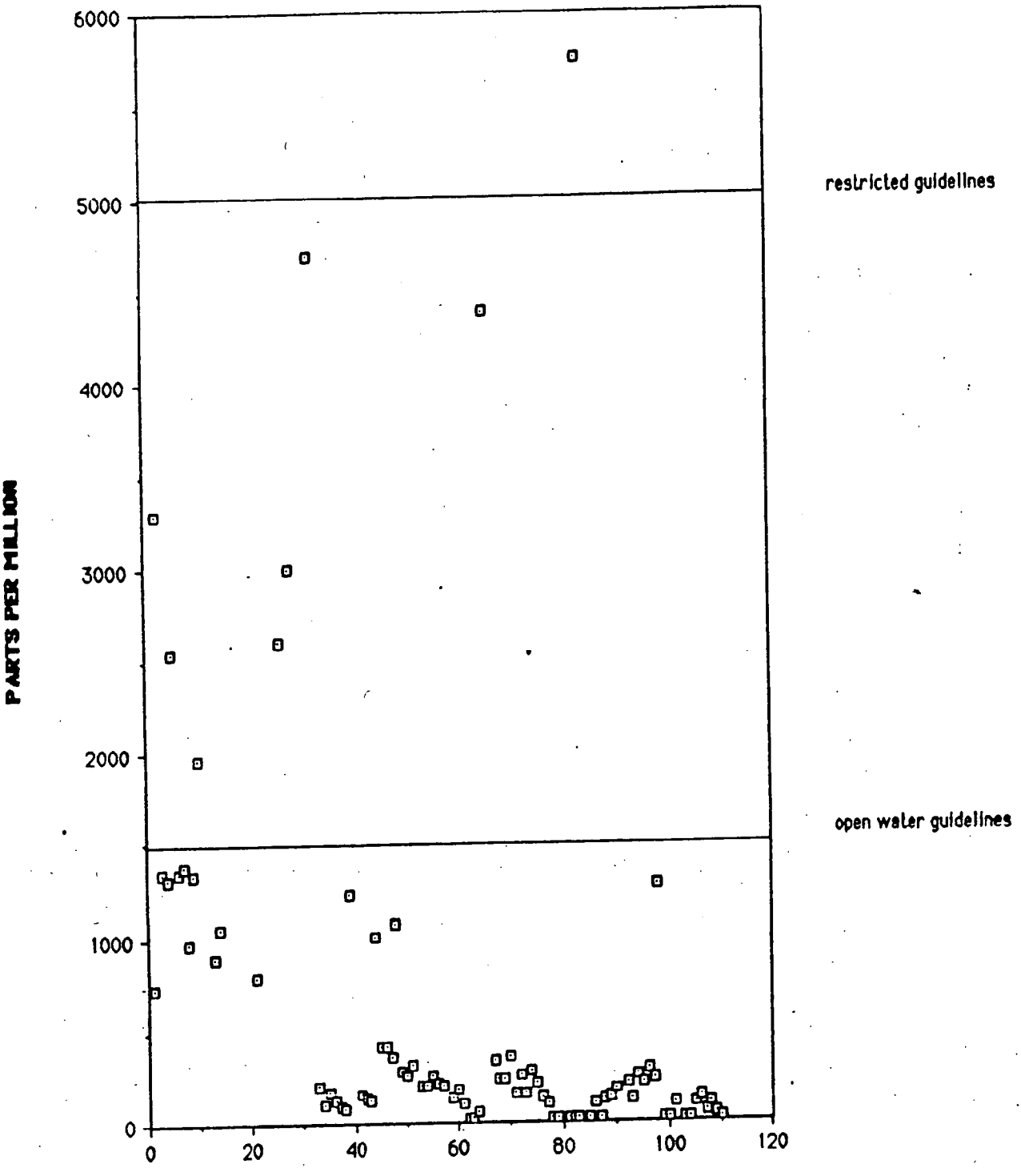
CADMIUM



* RESULTS REPRESENT THE LAB DETECTION LIMIT . RESULTS REPORTED AS "< 1 PPM .

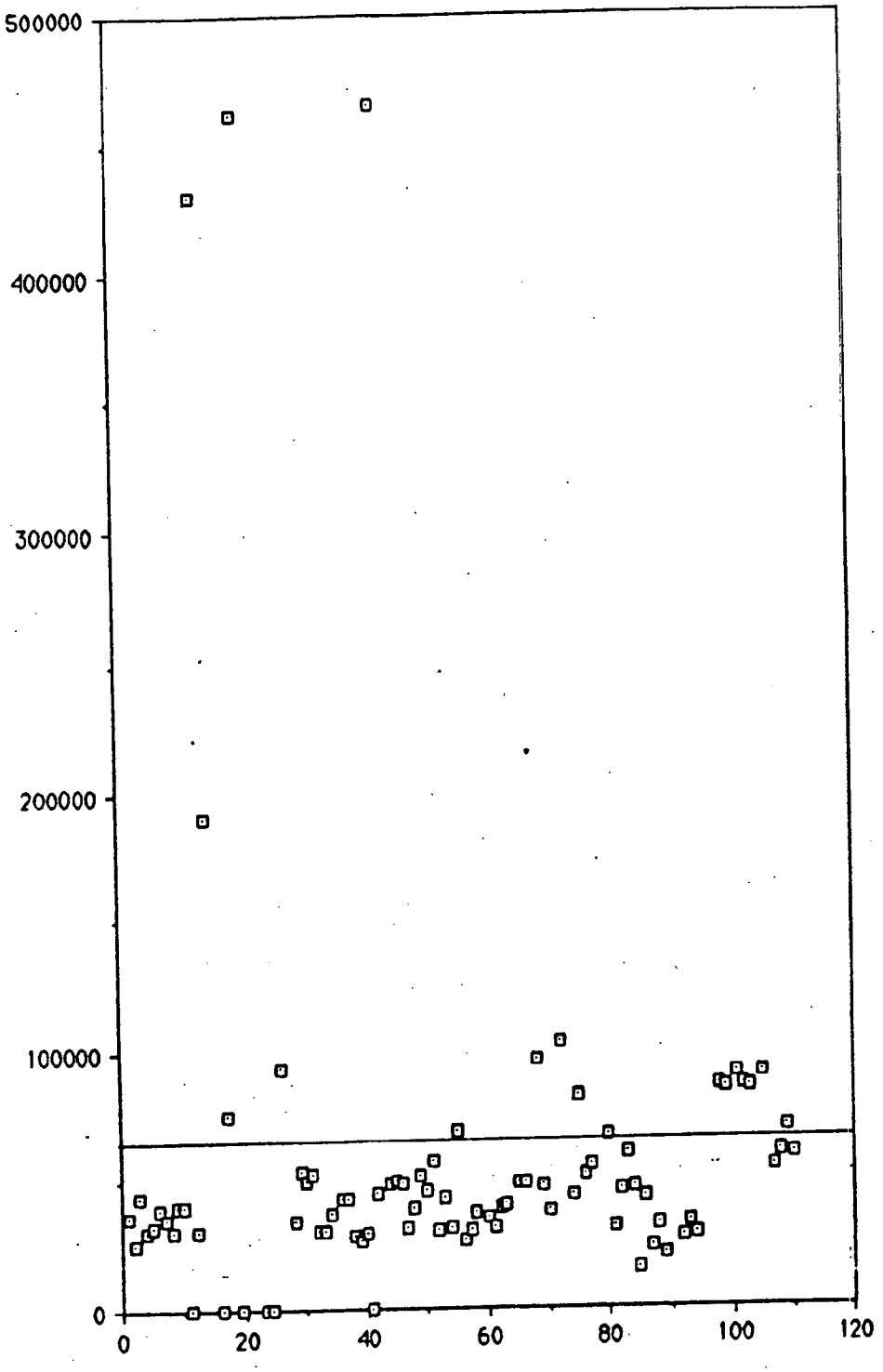
WR·27

OIL AND GREASE



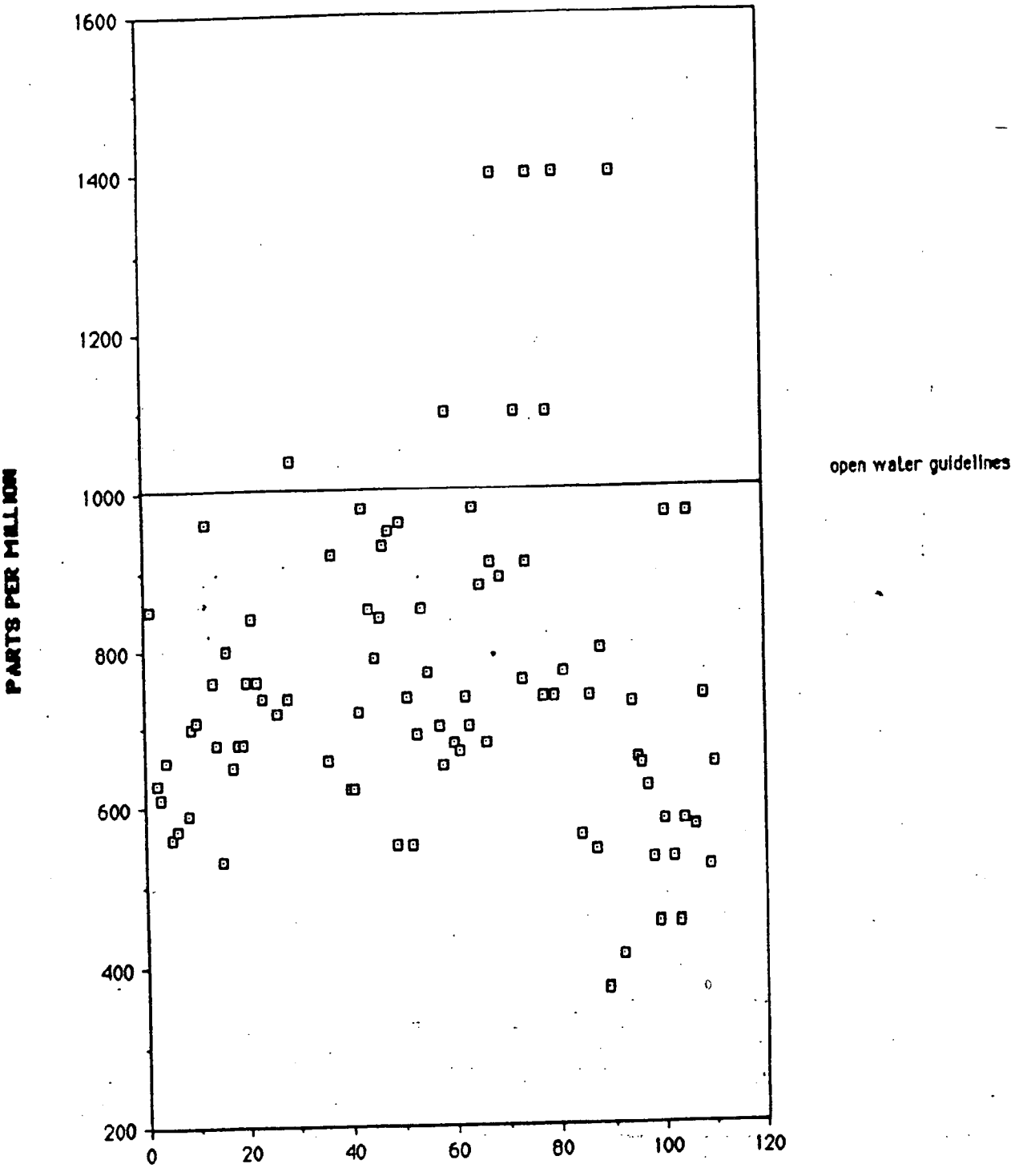
WR.28

VOLATILE SOLIDS



WR.29

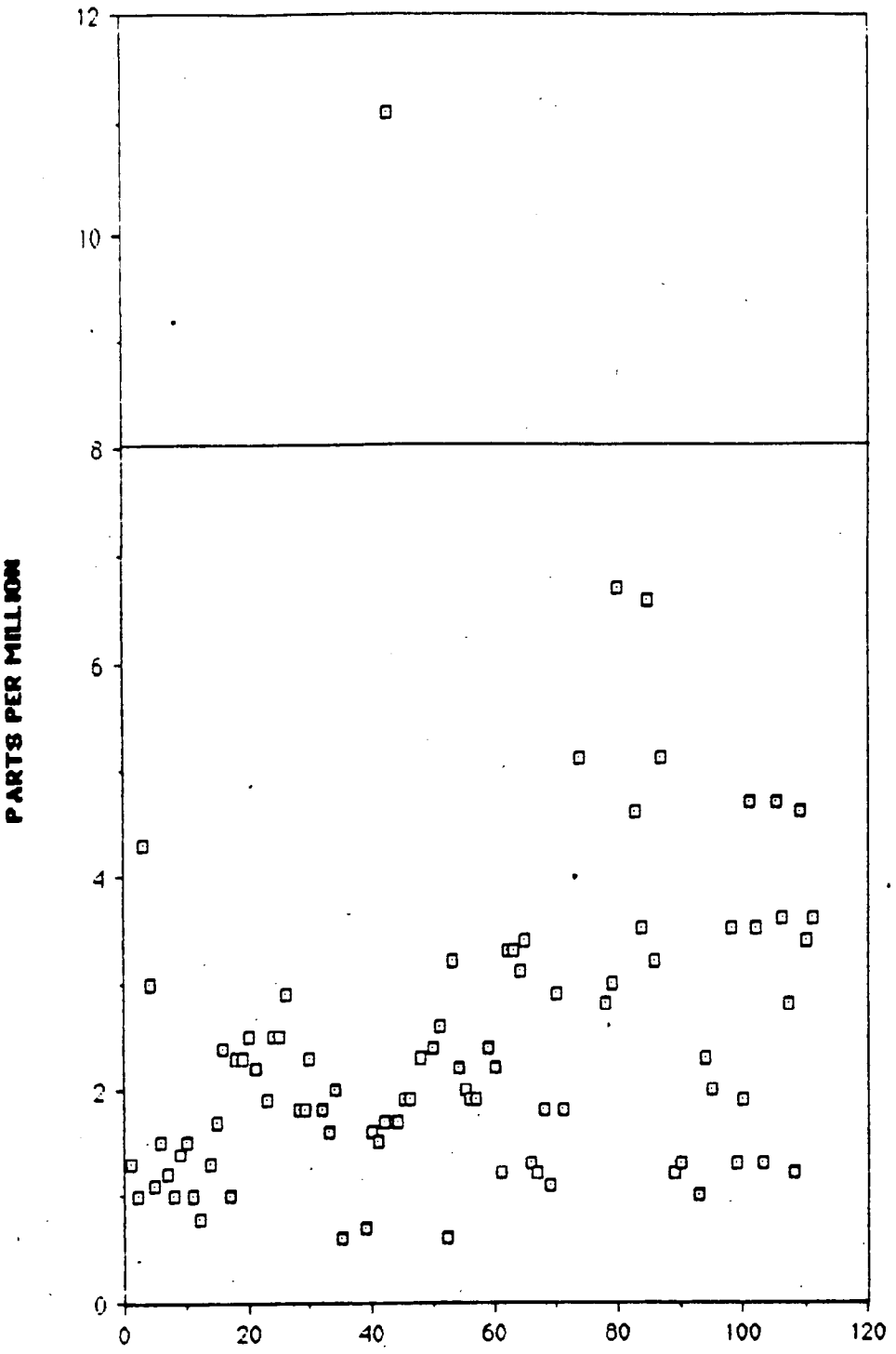
PHOSPHORUS



ARSENIC

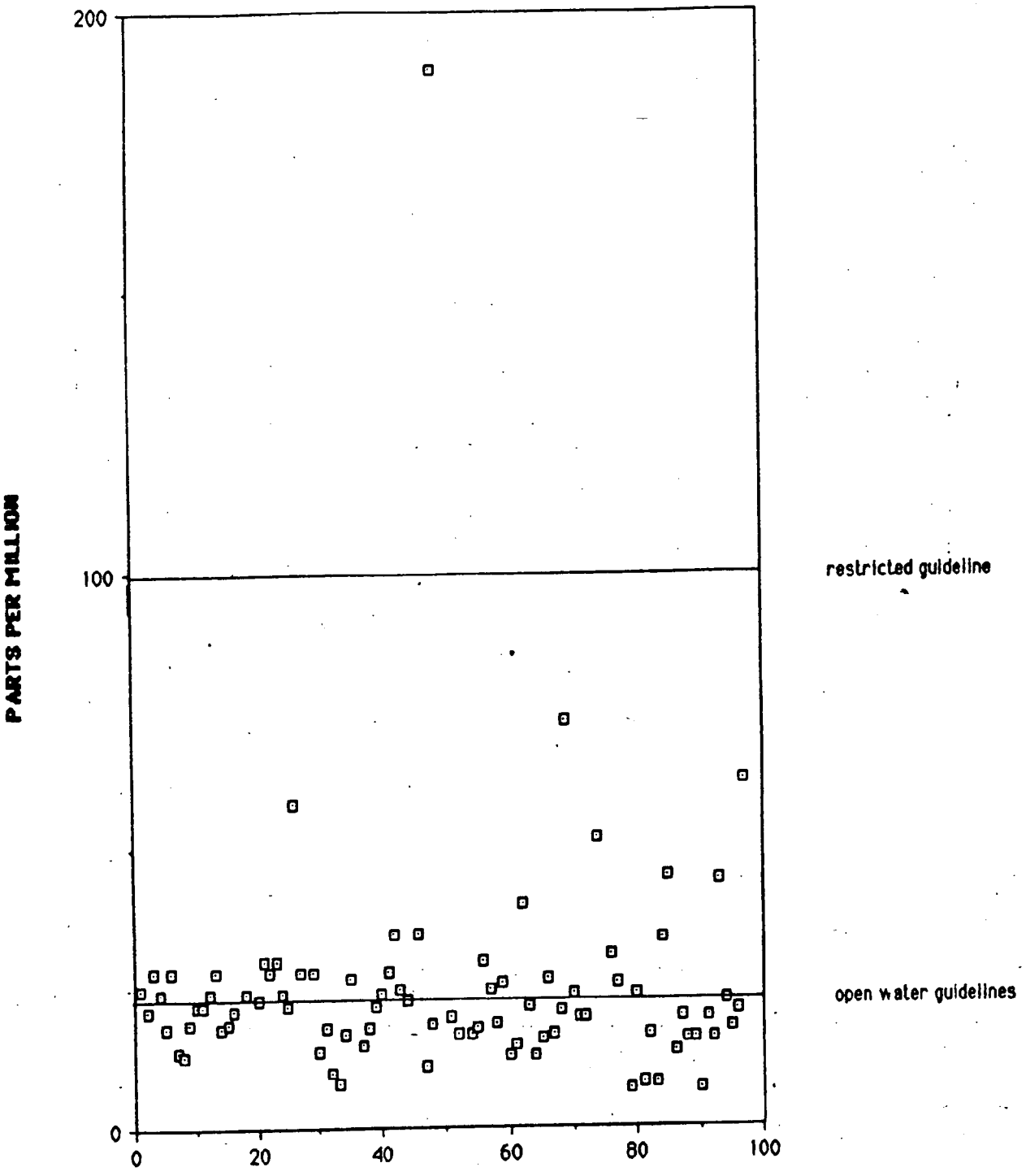
WR. 3c

note : Restricted Guideline equals 20 ppm .



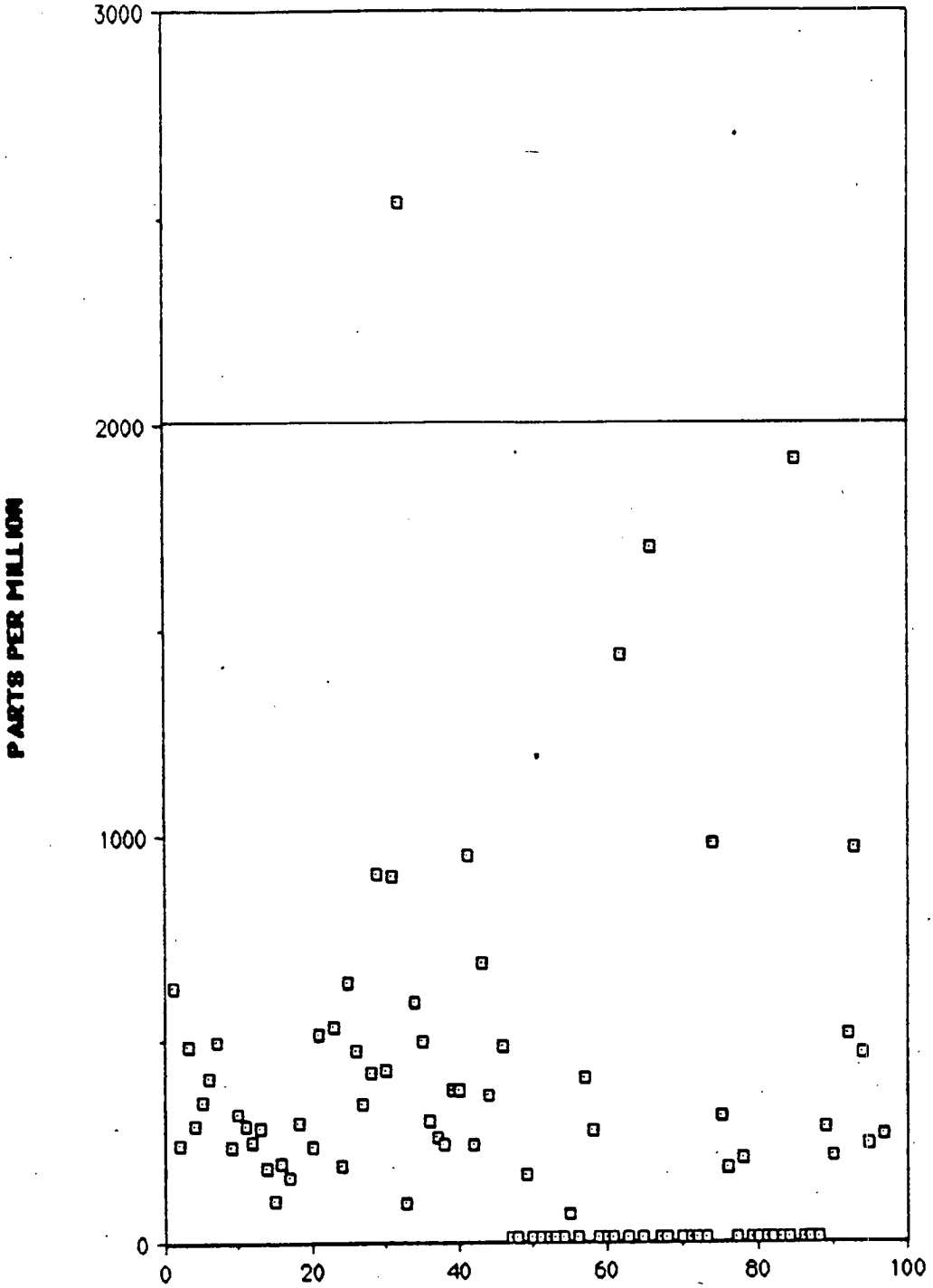
WR.31

COPPER


200
100
0
0
20
40
60
80
100
PARTS PER MILLION
NUMBER OF SAMPLES
restricted guideline
open water guidelines

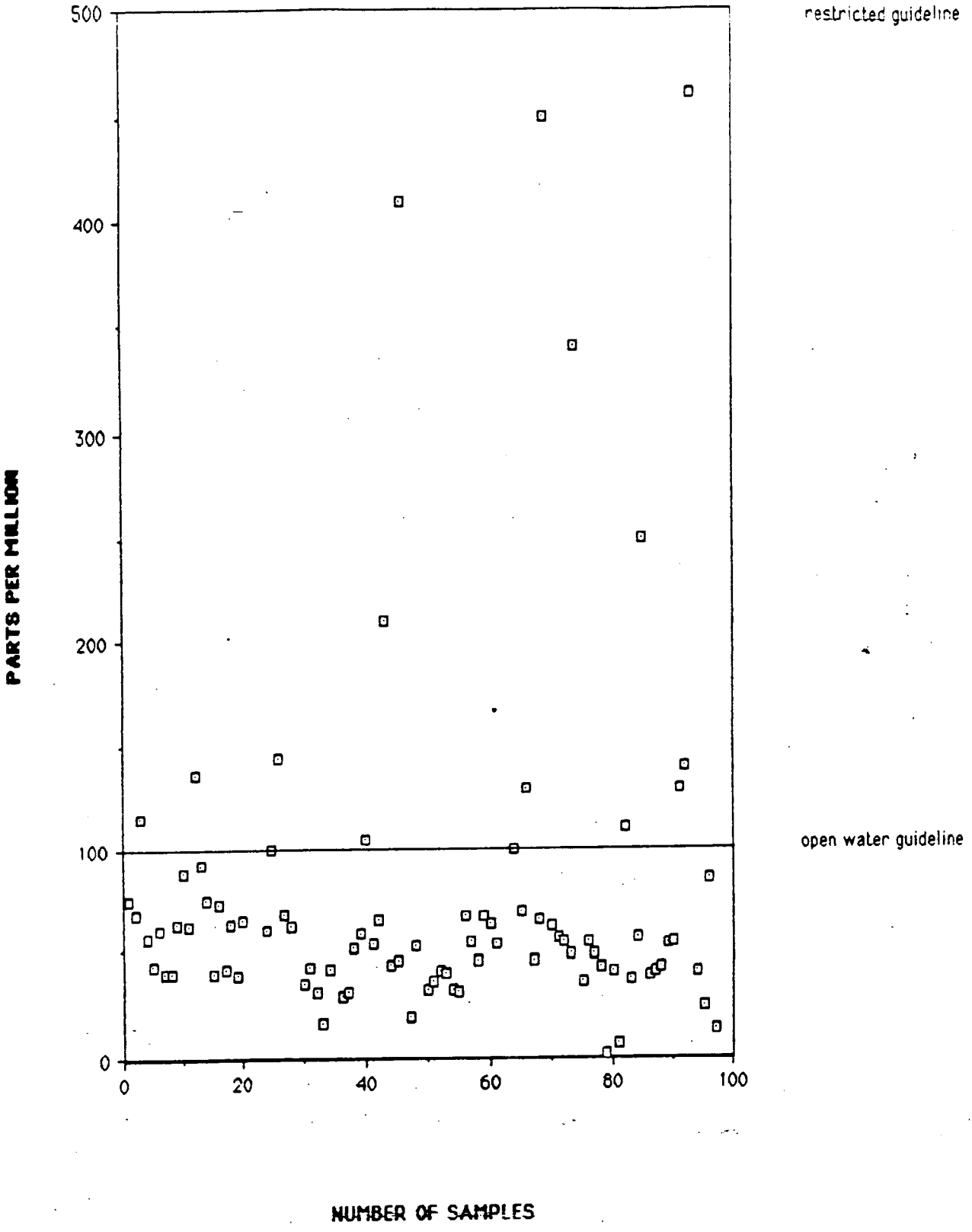
WR.32

NITROGEN



WR.33

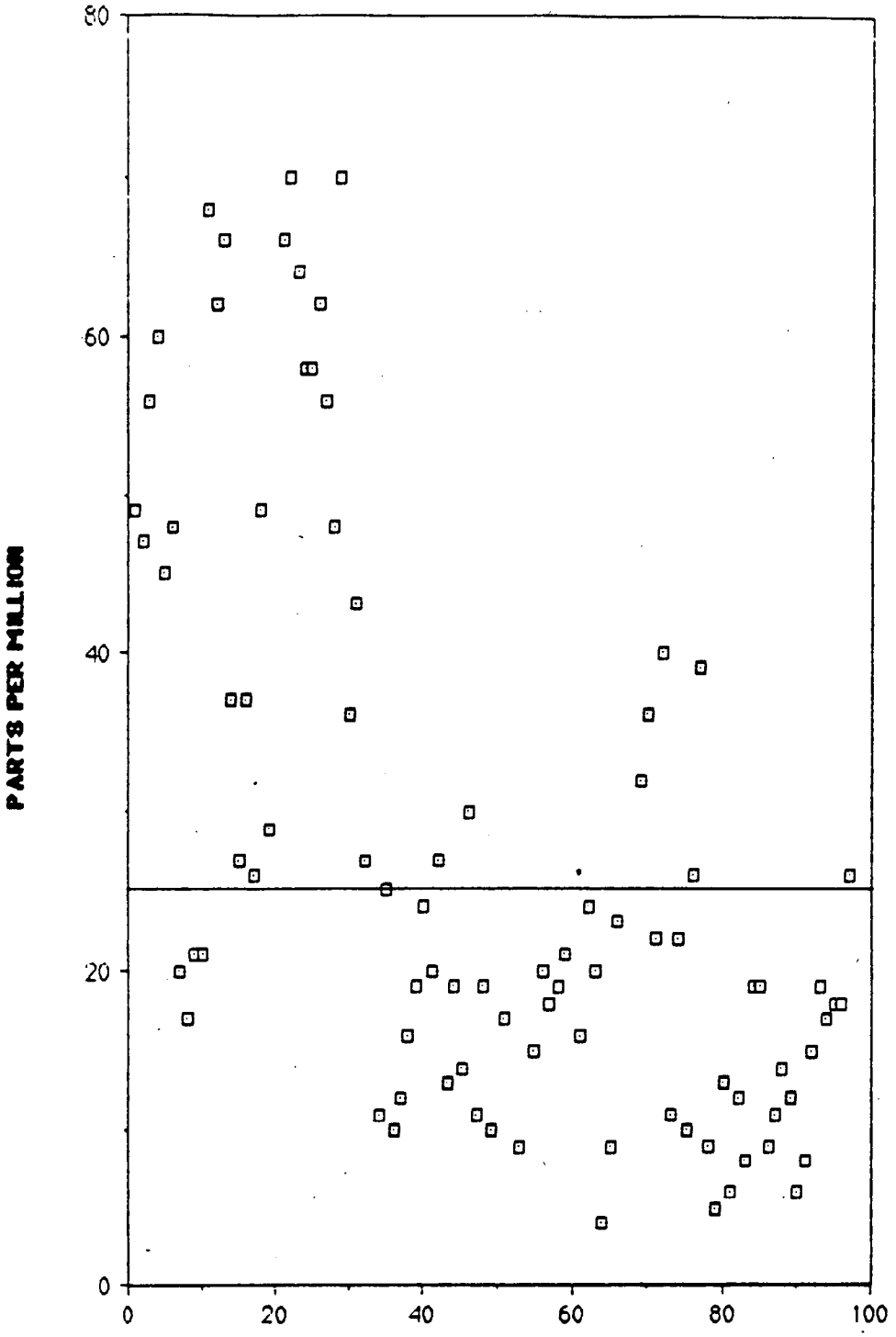
ZINC


500
400
300
200
100
0
0
20
40
60
80
100
PARTS PER MILLION
NUMBER OF SAMPLES
restricted guideline
open water guideline

CHROMIUM

WR. 34

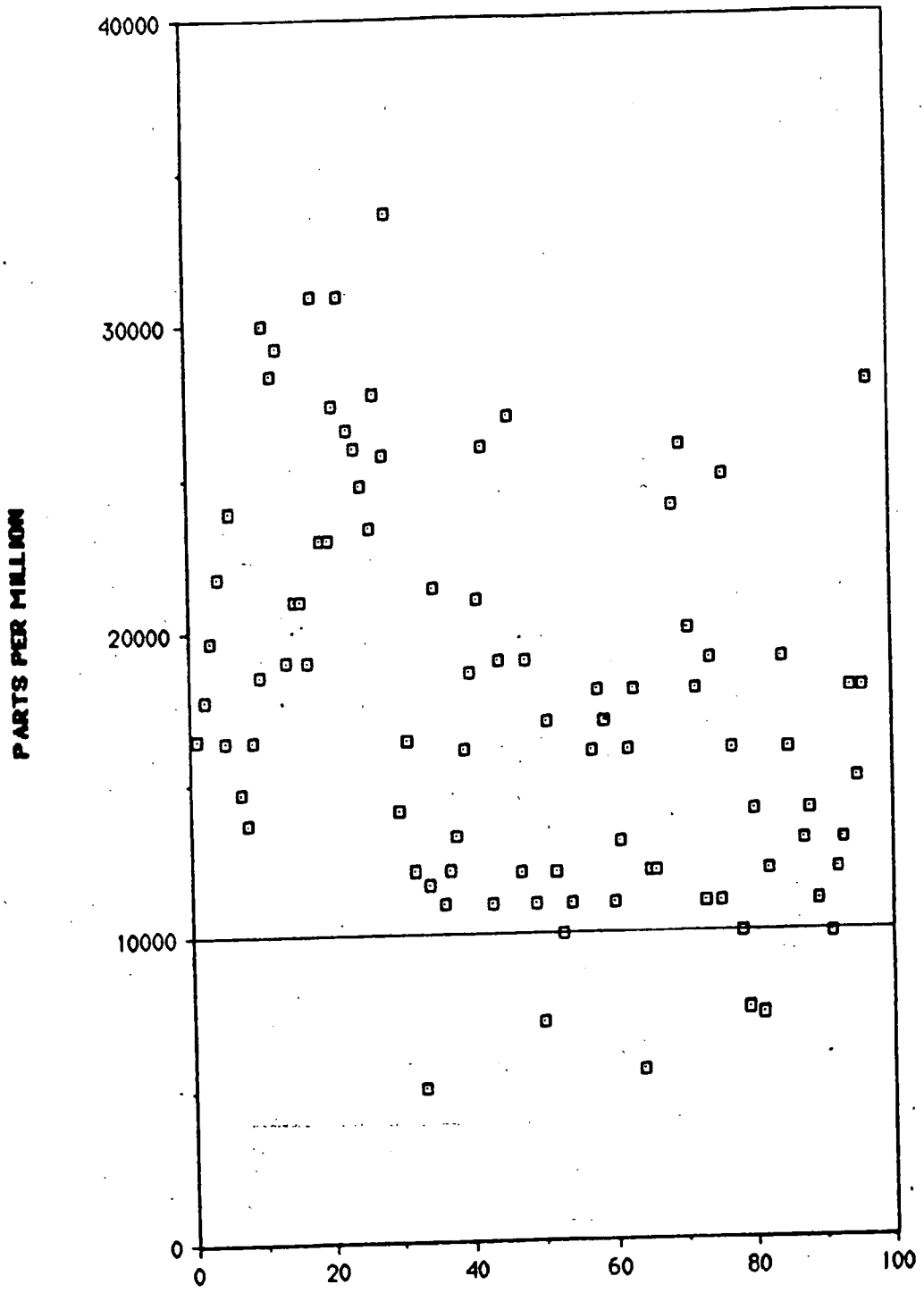
note : Restricted Guideline equals 120 ppm .



open water guidelines

WR.35

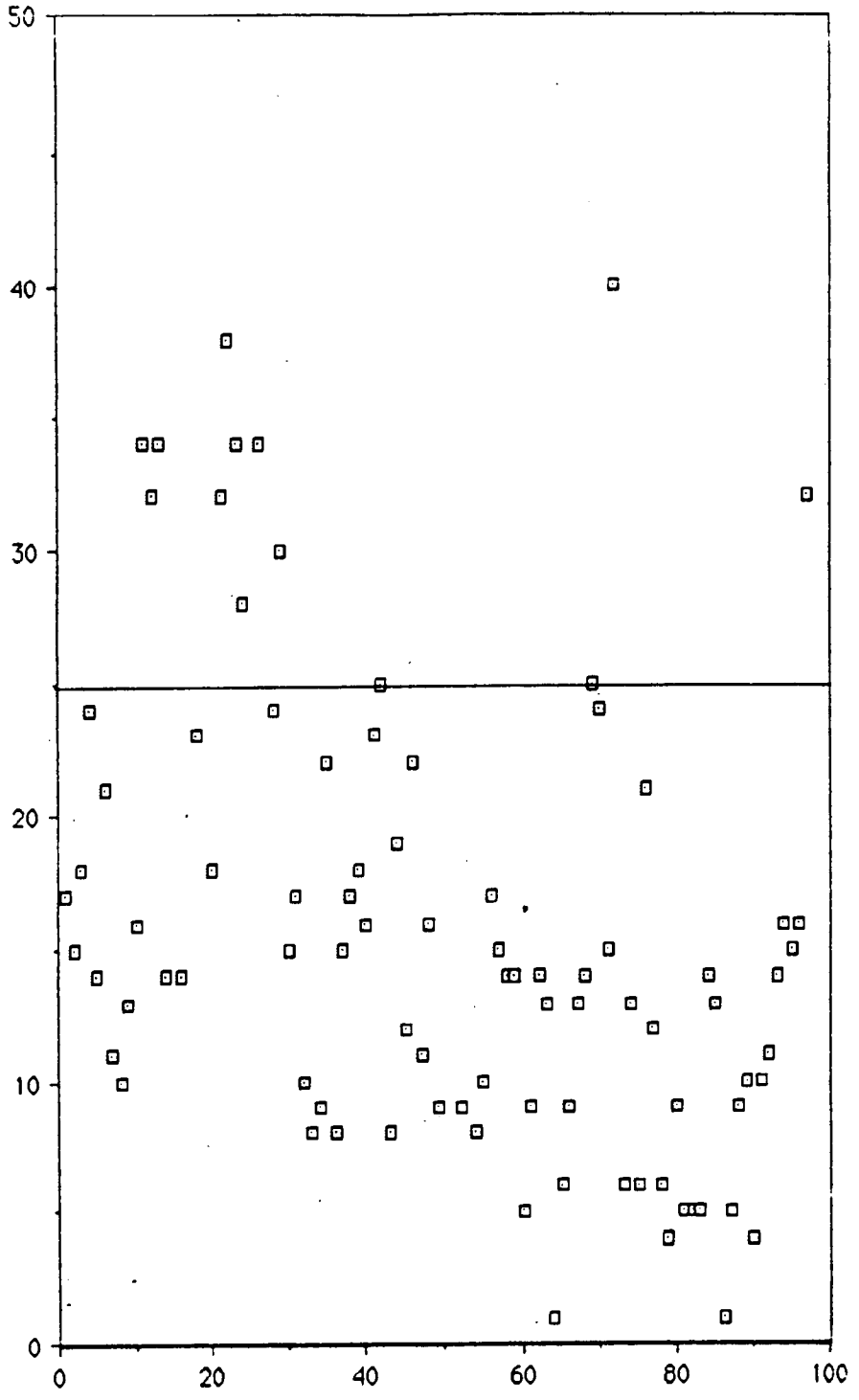
IRON


40000
30000
20000
10000
0
PARTS PER MILLION
0
20
40
60
80
100
NUMBER OF SAMPLES
open water guidelines

NICKEL

WR. 36

note : Restricted Guideline equals 60 ppm

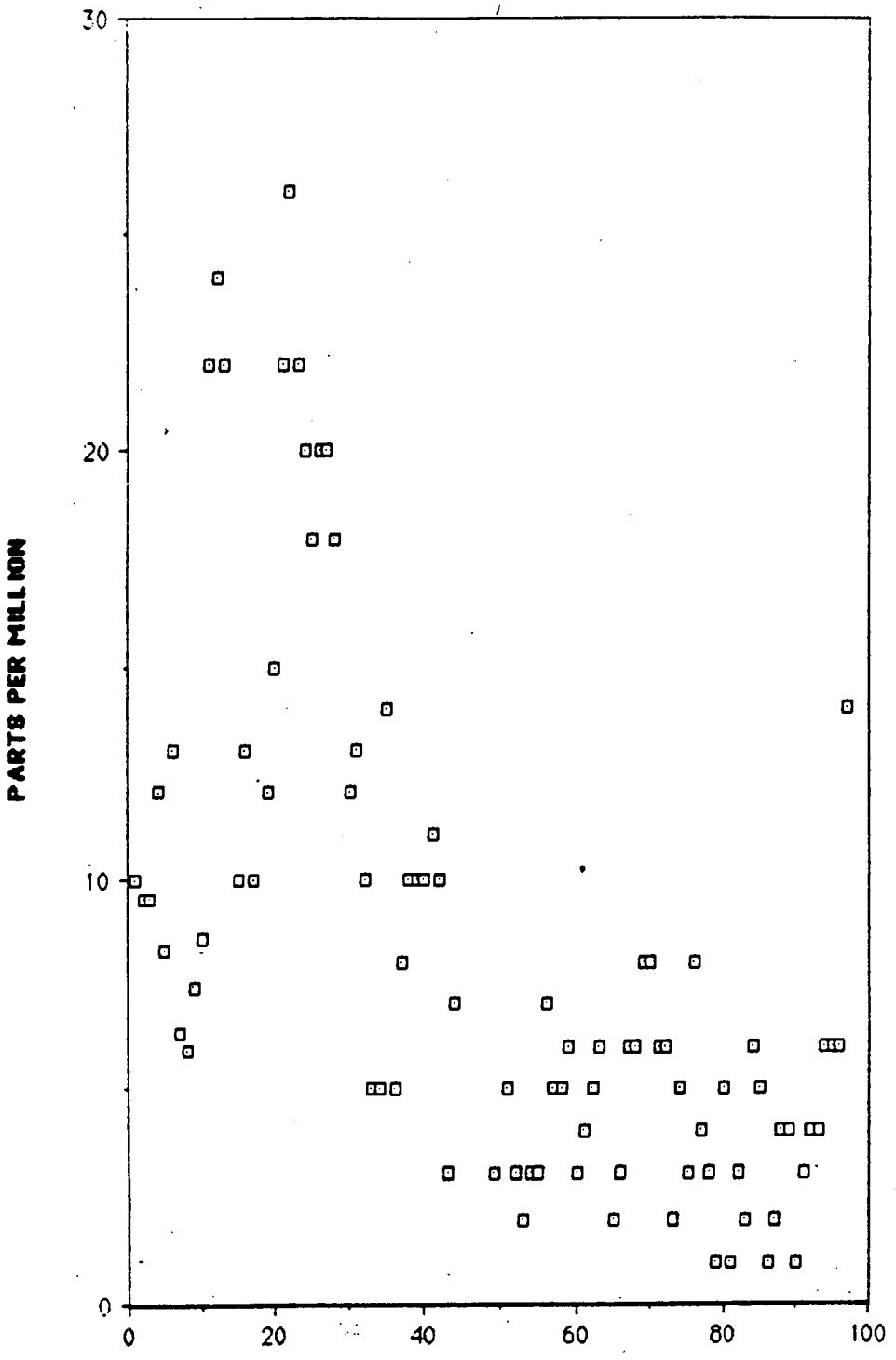


open water guidelines

WR.37

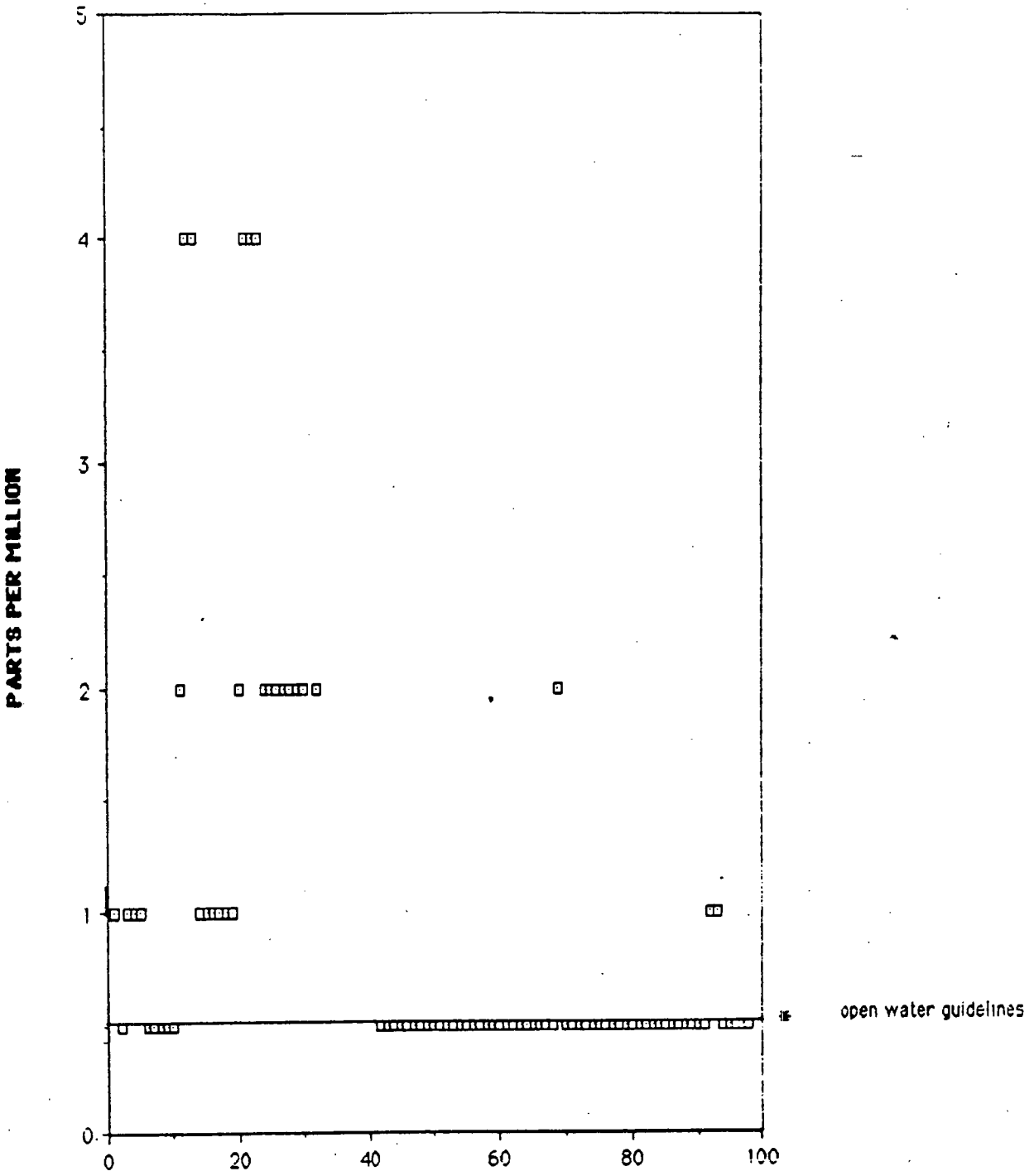
COBALT

note : Open Water Guideline equals 50 ppm



WR.38

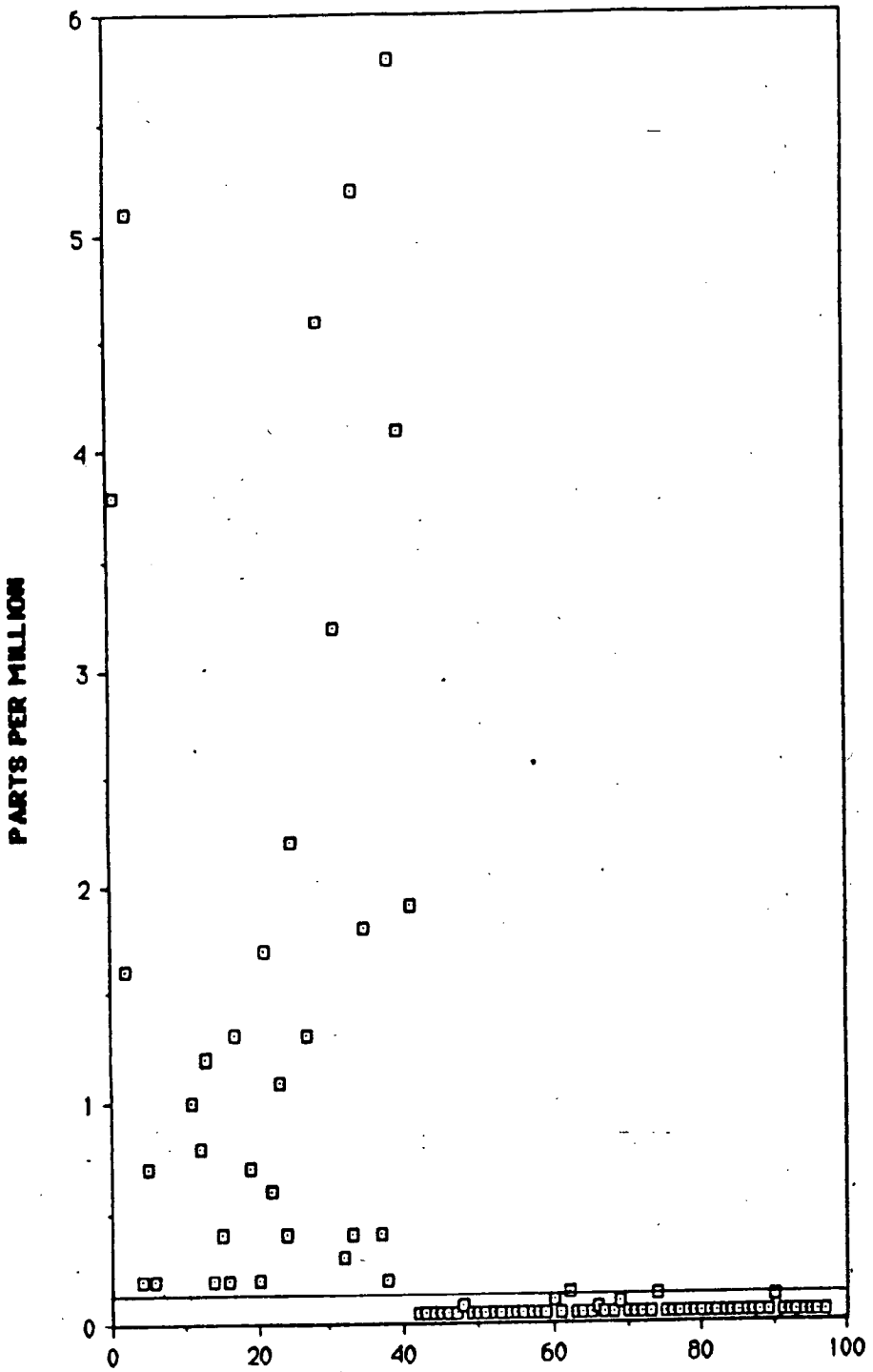
SILVER



* RESULTS REPRESENT LAB DETECTION LIMIT . RESULTS REPORTED AS "< 10 PPM " IN MOST CASES .

WR.39

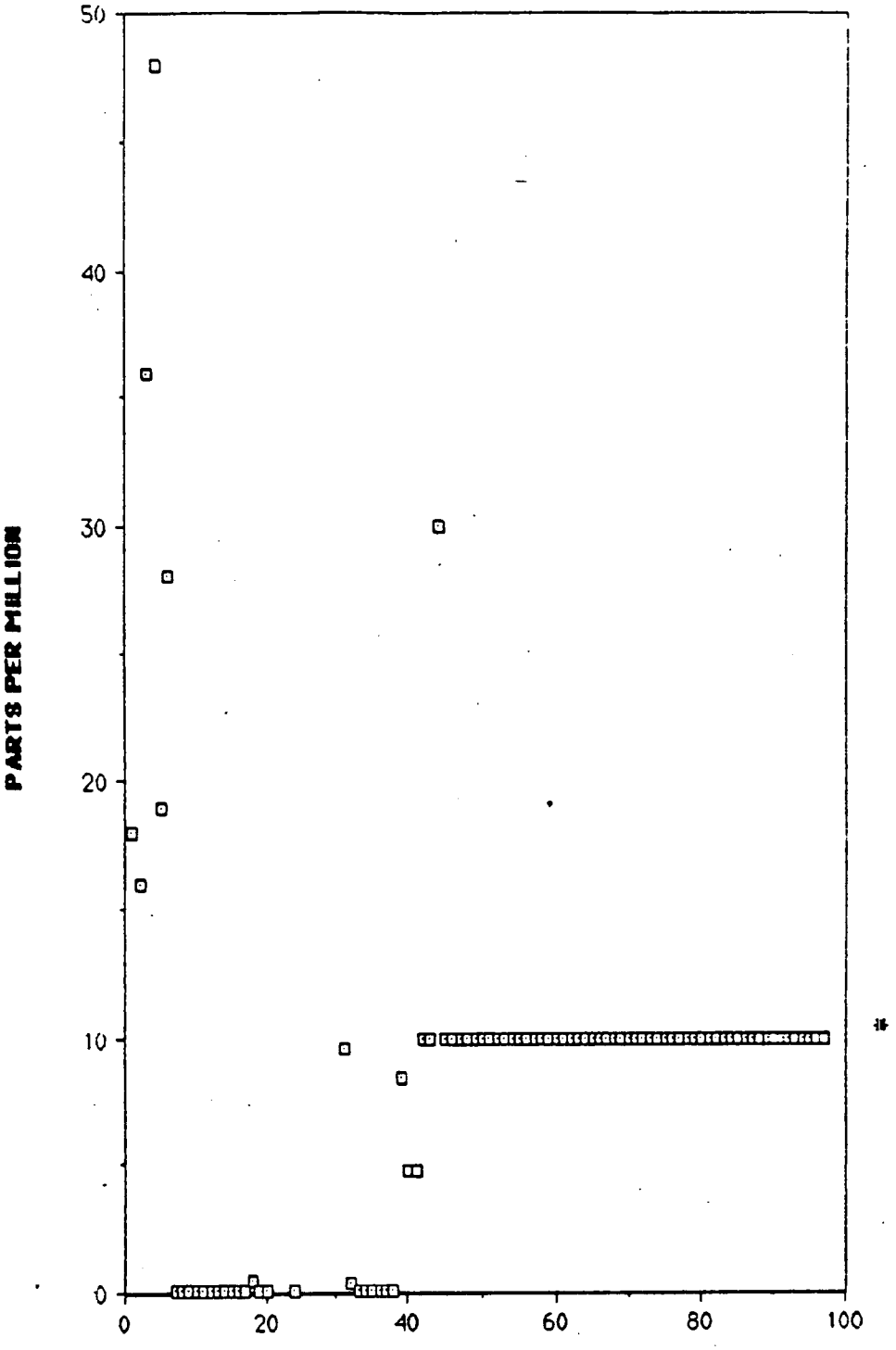
CYANIDE



AMMONIA

WR.40

note : Ocean Water Guideline equals 100 ppm .



* RESULTS REPRESENT LAB DETECTION LIMIT . RESULTS REPORTED AS "< 10 PPM " IN MOST CASES .

WR.41

LARGE PROJECT RESULTS FROM THE I.L.Q.C.P. CHEMICAL ANALYSIS AUDITING SYSTEM :

The following is a review of the test results received for soil samples obtained from trucks carrying fill from previously tested "large projects ". Of the twenty-nine samples taken from trucks with Bills of Lading marked "open water", twenty-one samples met the guidelines and eight samples exceeded the guidelines. Only two of these eight samples exceeded the Restricted Land Use Guidelines which is the ultimate determination of acceptance at lakefill sites. In both cases the exceedance was marginal. The Authority staff feel that these results are encouraging for a number of reasons;

28%

i) Four of the failing samples were obtained from projects that were given Bills of Lading during the I.L.Q.C.P. phase in period.

ii) 72 % of the samples passed the Open Water Guidelines and hence concurred with the findings of the original environmental report.

iii) When analyzing individual sample results, no averaging is possible; however, approved procedures allow for averaging of test results for the low priority parameters. Therefore, many of the samples judged to have failed because of exceedances of low priority parameters may have satisfied the requirements if more samples of the job site had been taken and averaged .

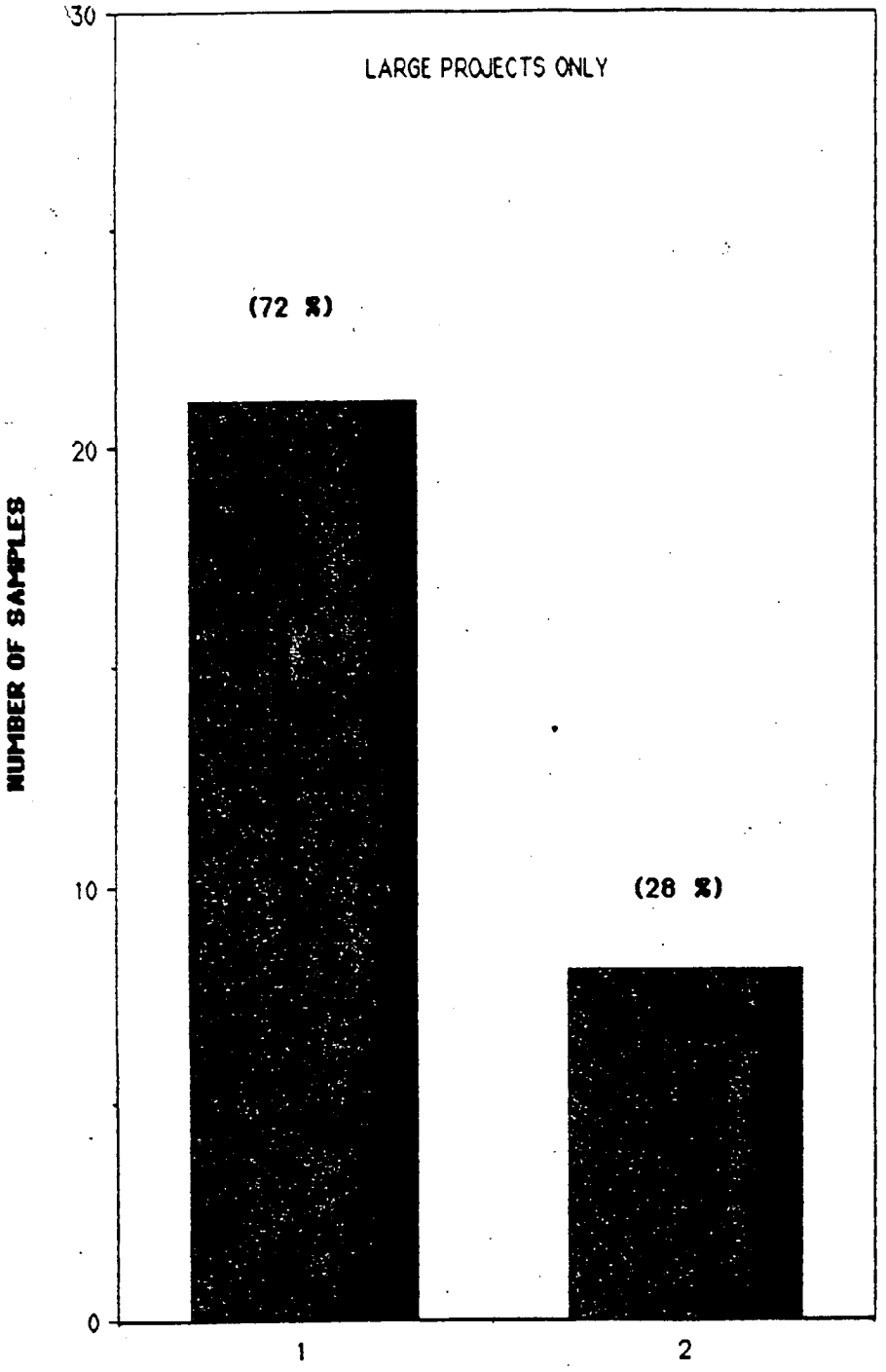
These results indicate that in a majority of cases the audit samples taken by the authority staff concur with the findings of the original environmental report . It is predicted that this percentage will increase as more and more high quality environmental reports are submitted and the "watering down " effects of the early, inadequately tested large projects are eliminated as these excavations are completed .

IMPLIES 3 LARGE PROJECTS GOING TO "CONFINED AREAS". SEE PG. 22 11 OF 32 FAILED

WR.42

GRAPH 20 : TEST RESULTS FOR SAMPLES OBTAINED FROM TRUCKS

PRESENTING "OPEN WATER " BILLS OF LADING



WR.43

GRAPH 21 : HIGH PRIORITY PARAMETERS MOST OFTEN EXCEEDED

