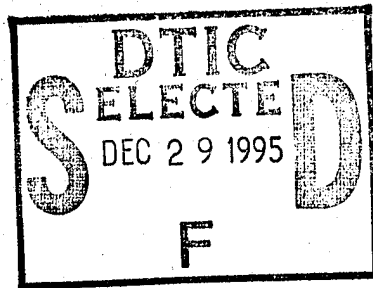


**NORTHWEST CONSTRUCTION CONTRACTORS'
SUBSTANCE ABUSE POLICIES AND PRACTICES**



**By
Darryl K. Creasy**

19951227 044

DTIC QUALITY INSPECTED

Submitted in Partial Fulfillment
of the Requirements for a
Master of Science in Engineering
from the
University of Washington
Autumn 1995

University of Washington

Abstract

**Northwest Construction Contractors'
Substance Abuse Policies and Practices**

by Darryl K. Creasy

Chairperson of the Supervisory Committee: Professor Jimmie Hinze
Department of Civil
Engineering

The purpose of this research was to gain information about the incidence of substance abuse in the Northwest construction industry and to characterize contractor company policies and practices being implemented to deter substance abuse among construction workers.

The findings show that substance abuse exists on Northwest construction sites. A large percentage of high volume construction contractors (76.9%) in the Northwest perform some type of substance abuse testing. Pre-employment and post accident testing is the most common (90% of the firms) type of drug test required. Union affiliation appears to have no major direct influence on a company's ability to conduct drug testing; however, union affiliation does influence the types of drug tests performed. The consequences of an applicant testing positive for drug use generally means no further employment consideration. For existing employees, testing positive on a drug test will be cause for termination (58% of the firms) or result in a referral to an Employee Assistance Program (29% of the firms). Large construction firms feel that substance abuse is a serious problem within the industry and have more substance abuse deterrence and management policies in place to deal with abusers.

| | |
|----------------------|-------------------------------------|
| Accession For | |
| NTIS CRA&I | <input checked="" type="checkbox"/> |
| DTIC TAB | <input type="checkbox"/> |
| Unannounced | <input type="checkbox"/> |
| Justification | |
| By | |
| Distribution / | |
| Availability Codes | |
| Dist | Avail and/or Special |
| A-1 | |

TABLE OF CONTENTS

| | <u>Page</u> |
|---|-------------|
| List of Figures | ii |
| List of Tables | iii |
| Chapter 1: Introduction | 1 |
| Chapter 2: Literature Review | 2 |
| 2.1 Background | 2 |
| 2.2 Perception of Substance Abuse | 2 |
| 2.3 Measures to Curb Substance Abuse in the Workplace | 3 |
| 2.4 Substance Abuse Testing | 4 |
| Chapter 3: Research Methodology | 7 |
| 3.1 Research Objective | 7 |
| 3.2 Research Method | 7 |
| 3.3 Developing the Questionnaire | 8 |
| 3.4 Selecting Interviewees | 9 |
| 3.5 Conducting Interviews | 9 |
| 3.6 Data Analysis | 10 |
| Chapter 4: Results | 11 |
| 4.1 Background | 11 |
| 4.2 Contractor Profile | 11 |
| 4.3 Perception of Substance Abuse | 13 |
| 4.4 Substance Abuse Testing | 14 |
| 4.5 Substance Abuse Deterrence and Management | 25 |
| 4.5 Comparison of Large and Small Firms | 26 |
| Chapter 5: Conclusions and Recommendations | 30 |
| 5.1 Conclusions | 30 |
| 5.2 Recommendations | 31 |
| List of References | 32 |
| Appendix A: Contractor List | 33 |
| Appendix B. Questionnaire | 38 |

LIST OF FIGURES

| <u>Number</u> | | <u>Page</u> |
|---------------|---|-------------|
| 1 | Percent of Contracts Requiring Drug Testing | 16 |
| 2 | Types of Drug Tests Performed | 17 |
| 3 | Percent of Applicants Testing Positive | 20 |
| 4 | Percent of Employees Testing Positive For Cause | 22 |

LIST OF TABLES

| <u>Number</u> | | <u>Page</u> |
|---------------|--|-------------|
| 1 | Contractor Profile of Participating Firms | 12 |
| 2 | Perception of Substance Abuse | 13 |
| 3 | Comparison of Companies Performing Drug Testing | 15 |
| 4 | Comparison of Drug Test Types Performed by Contractors | 18 |
| 5 | Drug Testing Methodology Comparison | 19 |
| 6 | Consequences of Employee Drug Use | 23 |
| 7 | Management of Drug Testing Program | 24 |
| 8 | Comparison of Contractor Programs and Policies Currently In Place or Under Development | 26 |
| 9 | Comparison of Large and Small Firms | 28 |
| 10 | Comparison of Large and Small Contractors' Programs and Policies Currently In Place or Under Development | 29 |

ACKNOWLEDGEMENTS

The author wishes to express his appreciation to the contractors who graciously participated in this research and to Professor Jimmie Hinze for his guidance and assistance as my advisor. In addition, special thanks is extended to my wife, Karen, for without her help this research would not have been completed.

CHAPTER 1 - INTRODUCTION

Few would dispute the contention that substance abuse is a problem in today's society. While addressing Congress in 1990, Labor Secretary Elizabeth Dole stated that 70% of all adult illegal drug users were also employed. Since the construction industry is a large nationwide employer, it is easy to conclude that some substance abuse occurs on construction worksites.

The construction industry has responded to the substance abuse problem by implementing various policies to deter use. These include, but are not limited to, written company policy statements, safety awareness programs, employee assistance programs and drug testing programs. Depending on the perception of the extent of abuse, individual firms will select programs which best serve their needs.

One of the most controversial forms of deterrence to substance abuse is drug testing. Those who favor testing argue that testing is the only effective means of preserving jobsite safety by identifying substance abusers and keeping them off the worksite. Opponents argue that testing is an invasion of personal privacy, has adverse effects on morale or that a substance abuse problem does not exist. During the past ten years, drug testing has become more readily accepted; however, the policies and practices concerning drug testing vary from company to company.

The goal of this research is to gain information about the incidence of substance abuse in the Northwest construction industry and to characterize contractor company policies and practices being implemented to deter substance abuse among construction workers.

CHAPTER 2 - LITERATURE REVIEW

2.1 BACKGROUND

No published literature could be found regarding the views of Northwest construction contractors towards substance abuse issues and current implemented company policies pertaining to substance abuse. In fact, only a few published articles specifically address substance abuse in the construction industry. A 1986 study entitled "Substance Abuse in Construction" by William F. Maloney of the University of Michigan is perhaps one of the most significant early publications on substance abuse in the construction industry (Maloney 1987). Additionally, other construction statistics found in a variety of sources will be shown.

2.2 INCIDENCE OF SUBSTANCE ABUSE

Specific studies have been conducted that characterize the extent and nature of substance abuse in the construction industry. In a 1995 book entitled, "Substance Abuse in the Workplace", the authors, Campbell and Langford, concluded "the construction industries appear to be less likely to have workers using hard drugs but alcohol is common". However, "apprentice workers and day hires seem to be more likely to abuse marijuana in addition to alcohol" and on larger jobs, "appear to more closely correspond to drug abuse in their area; that is, there seems to be more use of hard drugs on large sites..." (Campbell and Langford 1995).

Research findings published in August 1991 by the Bureau of Labor Statistics (BLS)

showed that 12.9% of the young construction workers (19 to 27 years old) used alcohol or illegal drugs while at work. Only the entertainment and recreation industry, at 13.9%, had a higher percentage of drug use among its young employees (Construction Labor Report (CLR) 11 September 1991). This is similar to statistics generated by the National Institute on Drug Abuse (NIDA) which estimates, in general, that one in every five workers ages 18-25 and one in every eight workers ages 26-34 uses drugs on the job (U.S. Department of Labor).

In the Maloney study, 61.8% of the contractor respondents felt that substance abuse was a serious or an extremely serious problem in the construction industry; however, only 21.8% of the contractor respondents felt that substance abuse was a serious or an extremely serious problem among their own employees.

2.3 MEASURES TO CURB SUBSTANCE ABUSE IN THE WORKPLACE

There are various measures a company can take to deter substance abuse in the workplace. These range from having Employee Assistance Programs (EAP) and written company policy statements concerning substance abuse, to implementing supervisory and safety training programs, including drug testing. Results from the 1992 Construction Industry Survey on Substance Abuse, which surveyed members of the National Association of Plumbing-Heating-Cooling Contractors (NAPHCC), indicated that 66% of the respondents had in place a formal, written policy on substance abuse. Furthermore, the survey results indicated that larger companies are more likely to have formal substance abuse policies. For those respondents employing more than 91 workers, 100% had written policies. Only 34% of the respondents with one-to-ten employees had written

policies (DeLancey 1994).

2.4 SUBSTANCE ABUSE TESTING

Drug testing policies in the workplace is probably the most controversial type of deterrent to substance abuse a company can have, primarily because of the legal issues associated with drug testing. Many companies appear to be reluctant to implement testing. Firms that implement drug testing differ primarily in the events or actions that can trigger testing. Generally, there are five instances for which companies will test:

1. Pre-employment - passing a drug test is a condition of employment.
2. Post accidents - drug test for individuals involved in accidents.
3. Cause - a drug test is conducted when supervisors have reasonable suspicion of employee impairment due to substance abuse.
4. Random - a drug test is administered to employees on a random basis.
5. Annual or periodic - drug test is performed as part of a medical examination or other annual requirement.

Results from the 1992 Construction Industry Survey on Substance Abuse, indicated nearly 41% of the respondents (total number unknown) conduct employee substance abuse testing. Of those conducting testing, almost 80% conduct pre-employment testing, 59% require post-accident testing and 54.5% have a policy which includes random testing. The size of the company also had

an influence on drug testing. Survey results indicated that more than 80% of those companies surveyed with more than 90 employees report drug-testing practices; 20% of the one-to-ten employee companies conduct drug testing (DeLancey 1994).

Results from a 1992 study, by Hill involving 152 construction contractors in Florida, indicated that 39.5% of the contractors performed pre-employment drug testing, 40.8% performed post accident drug testing, 40.8% tested for reasonable cause, 28.9% conducted random drug testing and 16.4% performed some form of periodic drug testing (Hill 1993).

Based on a nationwide survey conducted in 1991, the American Management Association (AMA) reported that 63% of the 1,633 companies surveyed were presently engaged in employee drug testing, a 22% increase over the previous year. While screening job applicants (pre-employment) was the most common of drug tests conducted (over 50%), random testing was the fastest growing category. Random testing grew from 5.3% in 1989 to 20.3% of respondents testing employees in 1990 (CLR 10 April 1991).

A separate 1991 national study by the Construction Labor Research Council (CLRC) showed that 70% of respondents (total number unknown) have some kind of formal drug testing program. CLRC found that a comparable number of respondents have testing language in their collective bargaining agreements, requiring testing on a project-by-project basis, or provide for testing in a document other than a labor agreement. The survey showed that pre-hire testing was the most common requirement, testing for cause was also widespread, and random testing was less common. The CLRC reported that fewer than one in five agreements permit random testing and that in most cases, this was on specific projects instead of on an area wide basis (CLR 13 March 1991).

The type or method of substance abuse test to perform has also been examined. Companies can choose between an urine sample test, a blood sample test, a hair sample test or some form of performance test. While the performance tests do not measure substance abuse use, they indicate individual impairment whether caused by such factors as drug or alcohol use, or even fatigue. The Construction Industry Survey of Substance Abuse indicated that 88.2% of the respondents conduct urine testing, 23.5% use blood tests and approximately two percent use hair samples (DeLancey 1994).

CHAPTER 3 - RESEARCH METHODOLOGY

3.1 RESEARCH OBJECTIVE

The objective of this research is to gather information about how Northwest contractors feel about substance abuse as a problem in the construction industry and about their policies and practices concerning substance abuse testing.

3.2 RESEARCH METHOD

Little published data on substance abuse issues in construction could be found specifically on the Northwest, namely the states of Washington and Oregon, so a survey questionnaire for large local contractors was developed to generate data. Mailing the survey questionnaire to contractors was considered, but since the sample size was not very large (less than 50), it was decided that performing the survey questionnaire via the telephone to increase the contractor participation rate and to gain the opportunity to record additional comments would be more beneficial. Construction Data and News provided an excellent source of contractors to contact in an article entitled "Pacific Northwest's top 50 Contractors". A copy of this list is provided in Appendix A. The goal was to interview at least 50% of the contractors on the list.

3.3 DEVELOPING THE QUESTIONNAIRE

A questionnaire was developed from three sources: a report entitled "Substance Abuse in Construction" by William F. Maloney, Professor Jim Hinze of University of Washington and the author. Questions from the Maloney report were used for two reasons: 1) they were utilized in a previous study on substance abuse that had similar research objectives, and 2) a comparison could be made with the answers provided in the earlier study. The questionnaire was developed prior to selecting the final data source. The four primary topics covered in the questionnaire were:

Contractor Profile - These questions were used to develop a profile of contractors by type of work undertaken, annual billings and union affiliation of employees.

Perception of Substance Abuse - These questions were designed to explore contractors' general opinions of substance abuse in the industry and within their own companies.

Substance Abuse Testing - These questions were asked to determine company policies regarding substance abuse testing, employment consequences of drug use, and to get some idea of the incidence of substance abuse in each company.

Substance Abuse Deterrence and Management - These questions were developed to determine what steps and policies contractors use to discourage substance abuse and how they deal with substance abusers on construction sites.

A copy of the questionnaire is included in Appendix B.

3.4 SELECTING INTERVIEWEES

Initially, contractors in the Seattle area were randomly selected from the "Pacific Northwest's Top 50 Contractors" and interviewed. After realizing there was an insufficient number of contractors in the Seattle area, the area of consideration was expanded east to Spokane, south to Portland and north to Bellingham.

3.5 CONDUCTING INTERVIEWS

All communications with the companies were conducted over the phone. Initial phone calls originated with the company safety representative. If they were not available, a return phone call was requested. Once the proper individual was contacted, they were asked the questions from the survey starting from the top of the questionnaire. Any additional comments were also recorded and are presented in chapter 4. Generally, the safety representatives were capable of answering the questions. If they were unable to answer a question, they were asked if other people within the company had the information available. If the information was unavailable, no response was recorded. Several company representatives showed enough interest in the survey to request a copy of the final results of the study. Although anonymity was not specifically stated to the interviewees, anonymity was implied due to the nature of the study. The telephone interviews were conducted during the months of July and August 1995 and lasted approximately 15 minutes.

3.6 DATA ANALYSIS

The questionnaire results and all additional comments are presented in written, graphic and tabular formats in chapter four. The responses are presented with relevant comparisons to previous study data. In depth statistical analysis was not performed because of the small sample size and type of data.

CHARTER 4 - RESULTS

4.1 BACKGROUND

A total of 26 telephone interviews were conducted with contractors primarily in the Puget Sound area but extended north to Bellingham, east to Spokane and south to Portland, Oregon. The results of the 26 interviews are presented in this chapter. Responses to all of the questions were examined, and all salient comments are included in this report. The results are grouped by the responses to the four questionnaire sections: contractor profile, perception of substance abuse, substance abuse testing and substance abuse deterrence and management.

4.2 CONTRACTOR PROFILE

Three questions were asked to develop profiles of responding companies. These related to company size, type of work undertaken and union affiliation. The first two questions were also asked in the Maloney study; however, there is little merit in providing comparisons with the earlier study as the current study included only general contractors with billings exceeding 20 million dollars (above 10 million dollars was the upper most scale for the Maloney report).

All the companies in this study provide general contractor services. Half of the contractors were open shop and half were union shop. Over half of the companies (57.7%) were in the Seattle or surrounding area. Additional information on the geographic regional breakdown and the annual business volumes of the participating contractors is provided in Table 1.

Table 1 - CONTRACTOR PROFILE OF PARTICIPATING FIRMS

| | <u>NUMBER OF</u> <u>CONTRACTORS</u> | <u>PERCENT OF</u> <u>CONTRACTORS</u> |
|------------------------------------|--|---|
| <u>REGION</u> | | |
| Seattle / surrounding area | 15 | 57.7% |
| Vancouver , WA / Portland, OR area | 4 | 15.4% |
| Tacoma / Olympia area | 3 | 11.5% |
| Spokane area | 3 | 11.5% |
| Bellingham area | 1 | 3.9% |
| <u>1994 BILLINGS</u> | | |
| Greater than \$200 million | 2 | 7.7% |
| \$100 to \$200 million | 4 | 15.4% |
| \$50 to \$100 million | 11 | 42.3% |
| \$20 to \$50 million | 9 | 34.6% |
| <u>UNION AFFILIATION</u> | | |
| Open shop | 13 | 50.0% |
| Union shop | 13 | 50.0% |

4.3 PERCEPTION OF SUBSTANCE ABUSE

Two questions were asked concerning the perception of substance abuse as a problem in the industry and within each responding company. These questions were also asked in the Maloney study and a comparison is shown in Table 2.

Table 2 - PERCEPTION OF SUBSTANCE ABUSE

| RESPONSE | SUBSTANCE ABUSE AS A CONSTRUCTION INDUSTRY PROBLEM | | SUBSTANCE ABUSE AS A COMPANY PROBLEM | |
|-------------------|--|---------|---|---------|
| | Northwest | Maloney | Northwest | Maloney |
| | Extremely serious | 2 | 11 | 0 |
| Serious | 10 | 136 | 0 | 51 |
| Not very serious | 12* | 85 | 22** | 138 |
| No problem at all | 1 | 6 | 4 | 52 |
| Did not answer | 1 | 12 | 0 | 7 |

*Includes four responses between serious and not very serious.

**Includes one response between serious and not very serious.

It is important to remember that the Maloney study was conducted in 1987 and perceptions can change with time. Additionally, a much higher percentage of companies in the Northwest study (76.9%) conduct some form of substance abuse testing compared to the Maloney study (18.4%). Since substance abuse testing is a deterrent to drug use, this is likely to reduce the

incidence of drug use within the firm. Additional comments made by respondents seem to support this theory. One respondent noted that substance abuse can be a serious problem for companies that do not test. Another respondent stated that they did not realize how bad substance abuse was until testing began, with 10% of the workers failing the drug test. One respondent commented that if subcontractors were hired or if they had a large volume of work, they would upgrade their company response to serious. One trend that does seem to apply to both studies is that most companies feel the problem is much worse in the industry than within their own company.

4.4 SUBSTANCE ABUSE TESTING

A series of questions were asked to determine company policies regarding substance abuse testing, to establish the consequences of drug use, and to get some idea of the incidence of substance abuse in each company. Overall, 20 of the respondents (76.9%) stated that they performed some form of substance abuse testing. Nine of the contractors (45%) were open shop and 11 of the contractors (55%) were union shop firms. A comparison with past studies is shown in Table 3.

Table 3 - COMPARISON OF COMPANIES PERFORMING DRUG TESTING

| STUDY | PERCENT THAT DRUG TEST |
|------------------|------------------------|
| NORTHWEST (1995) | 76.9% |
| CLRC (1991) | 70% |
| AMA (1991)* | 63% |
| NAPHCC (1992) | 41% |
| MALONEY (1987) | 18.4%** |

*Not construction specific.

**An additional 16.3% of the contractors were developing a drug testing program.

These statistics indicate that there has been a growing acceptance of drug testing over the past ten years. One reason why this current study on the Northwest may have such a high percentage of companies testing for drugs, could be due to the exclusion of smaller companies in the study.

The requirement to perform substance abuse testing may be placed on the contractor by the owner. For those contractors that perform drug testing, a question in the survey was directed at this issue. On average, 22% of the contracts required some form of drug testing. Four contractors had not entered contracts which required drug testing, but one contractor stated that every (100%) contract required drug testing. A further breakdown of the percentage of contracts required testing is provided in Figure 1 (frequency refers to value up to the percent shown).

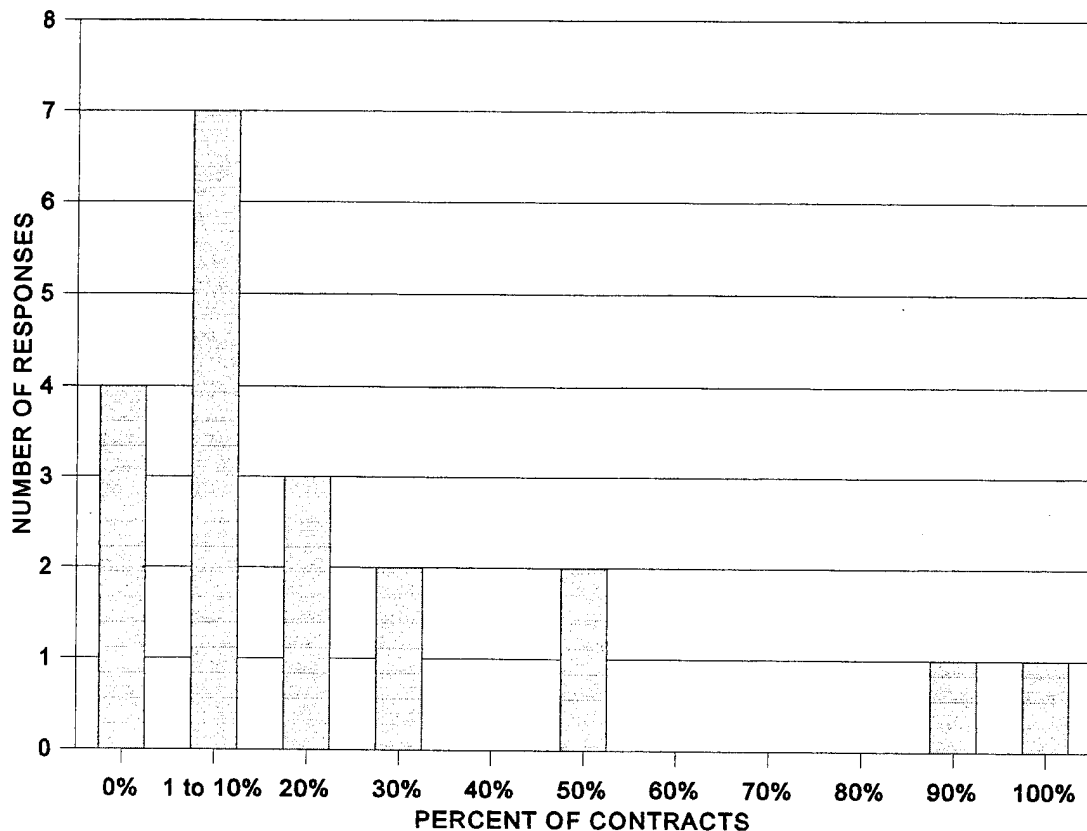


Figure 1 - PERCENT OF CONTRACTS REQUIRING DRUG TESTING

There are various types of drug tests that can be performed. The twenty contractors who conduct drug tests were asked about the types of practices related to drug testing. Results indicate that pre-employment and post accident tests are the most common with 18 of the 20 companies (90%) responding that they perform these types of tests. Two companies stated that although their official policy statements included random testing, they had not found a need to implement this form of testing. Additionally, six contractors had similar comments regarding their policy

statements concerning testing for cause. The results are summarized in Figure 2.

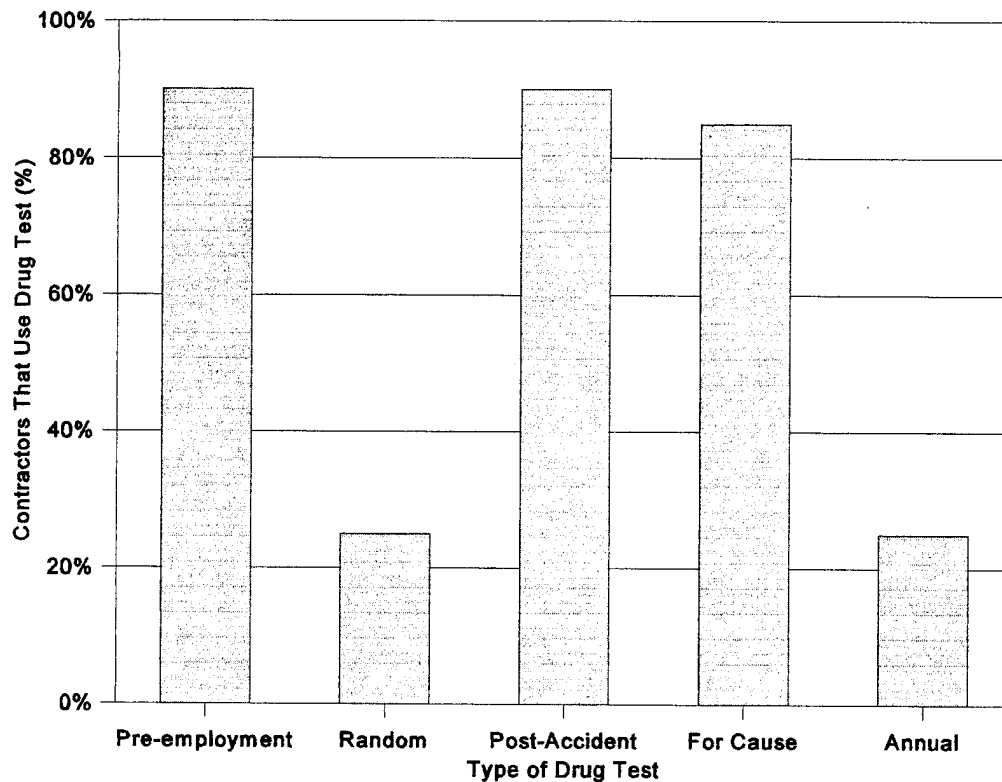


Figure 2 - TYPES OF DRUG TESTS PERFORMED

Several additional comments regarding testing were made. Two contractors (both union shop) commented that they would start random testing in the near future and one other contractor (union shop) stated that pre-employment testing would start soon. One contractor said random testing could not be performed in union shops while another respondent stated that only electricians could be tested in union shops.

When examining the results of previous studies, pre-employment tests are also the most

frequent test performed with post accident tests and testing for cause also being fairly common. Annual tests and random tests appear to be the least common. A full comparison with previous studies is provided in Table 4.

Table 4 - COMPARISON OF DRUG TEST TYPES PERFORMED BY CONTRACTORS

| TYPE OF TEST | PERCENT PERFORMING DRUG TEST | | | | |
|----------------|------------------------------|--------|-------|-------|-------------|
| | NW | NAPHCC | HILL | AMA | CLRC |
| Pre-employment | 90% | 79.6% | 39.5% | >50% | most common |
| Random | 25%* | 54.5% | 28.9% | 20.3% | less common |
| Post-Accident | 90% | 59% | 40.8% | N/A | N/A |
| For-Cause | 80% | N/A | 40.8% | N/A | wide spread |
| Annual | 25% | N/A | 16.4% | N/A | N/A |

Note: Blanket testing refers to a test procedure whereby all employees are tested at a randomly selected time. Some respondents assumed blanket testing referred to groups of employees (blanket meaning "all" employees were tested). Since the definition was not uniform, blanket testing responses were not analyzed.

All but one of the 20 companies performing drug tests conduct the tests on all employees. The company that was the exception only performed testing on craft or production employees. One company did state that annual testing was performed on staff employees while their craft

employees were tested between jobs. Another company clarified their drug testing policy by stating pre-employment testing was for staff only.

Drug testing methodology was also of interest. The results of the questionnaire reflected 100% of the respondents using urinalysis. One respondent even stated that union agreements prohibit other forms of testing. A comparison with the NAPHCC study is shown in Table 5.

Table 5 - DRUG TESTING METHODOLOGY COMPARISON

| METHOD | PERCENT OF TESTS | |
|------------|------------------|--------|
| | NORTHWEST | NAPHCC |
| URINALYSIS | 100% | 88.2% |
| BLOOD | 0% | 23.5% |
| HAIR | 0% | 2% |

4.4.1 PRE-EMPLOYMENT TESTING

Two questions were asked to gain additional information on pre-employment testing policies. The first question inquired about the percentage of people who tested positive during pre-employment testing. On average, 4.1% of the applicants had tested positive. The response range was from 0% to 15% of the employment applicants testing positive. A further breakdown of the percentage of applicants testing positive is provided in Figure 3.

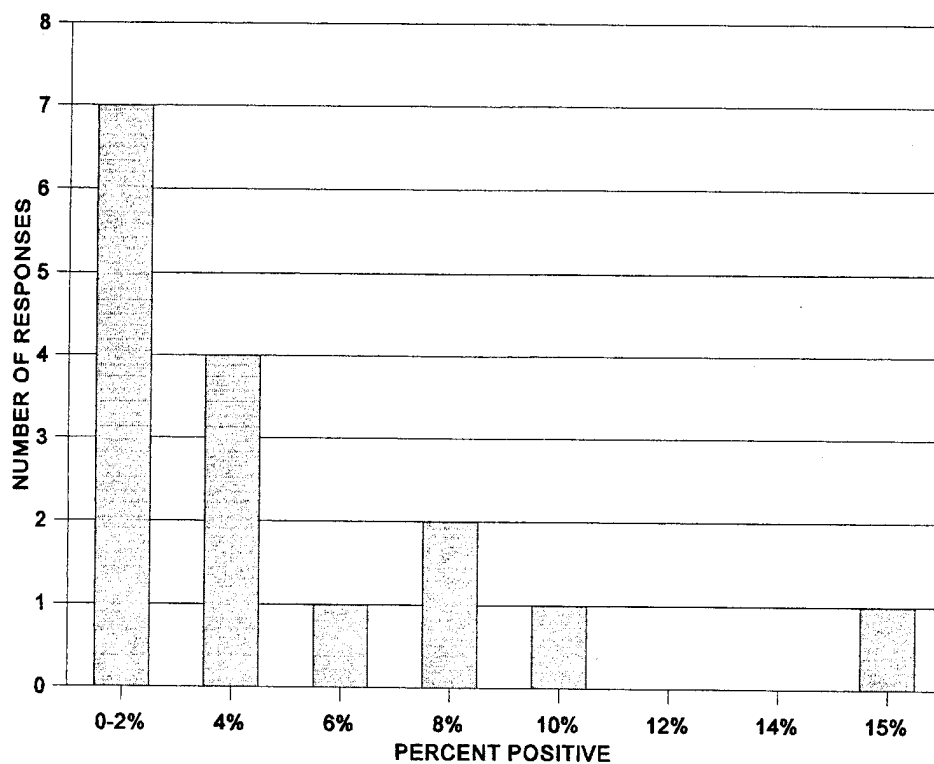


Figure 3 - PERCENT OF APPLICANTS TESTING POSITIVE

A second question was asked to determine the consequences of failing a pre-employment drug test. Of the 18 respondents, 17 stated that the individual would not be hired. One respondent added that the individual could reapply in 30 days. One company stated that the individual would be hired and directed to a rehabilitation program.

4.4.2 RANDOM TESTING

Since few companies conduct random testing (5 of 20 respondents or 25%), little data on the percent of employees testing positive was collected. Five companies (all open shop) had random testing in their company policies, but only three were currently performing random drug tests. Of the three companies that are conducting random drug tests, one company stated 5% of those being randomly selected tested positive, another stated 3% tested positive and the third company stated they did not know for sure, but it was low. Each company had a different way of deciding who or what group to include in the random drug test and what circumstances would justify a random test. For one company, the project and safety supervisors would decide, based on accident rates and having high accident rates was the justification. For another company, the medical review officer would decide who to test and this would include 25% of the employees in its random tests each year. The third company uses a computerized random system to decide and performs drug tests on 10% of the employees on each job site monthly on a set time schedule.

4.4.3 TESTING FOR CAUSE

Although having testing for cause in the company drug testing policy is quite popular (17 of 20 respondents or 85%), many companies had not yet found a need to test for cause (6 of 20 respondents or 30%). Of those that did test for cause, a wide range of employees testing positive for drug use was reported. The response range was from 0% to 100% testing positive with one company stating they did not know. No indication was given concerning the number of employees

who had been tested for cause. A breakdown of the percentage of employees testing positive for drug use when tested for cause is provided in Figure 4.

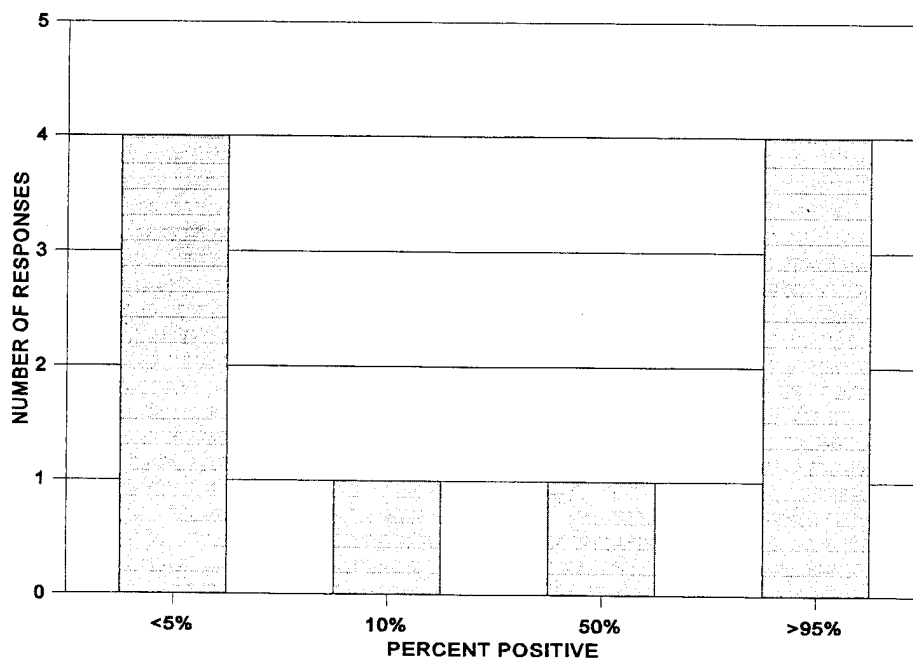


Figure 4 - PERCENT OF EMPLOYEES TESTING POSITIVE FOR CAUSE

4.4.4 CONSEQUENCES OF EMPLOYEE DRUG USE

The consequences of employees testing positive on a drug test is quite different than an applicant testing positive on a pre-employment drug test. For 58% of the contractors (10 of 17), employees testing positive are fired and they become eligible for rehire in 30 to 45 days. For 29% of the firms (5 of 17), an employee is directed to an EAP or some other form of "last chance" arrangement. One respondent stated the employee would be directed to a rehabilitation program at

the union expense. One company had a policy of firing craft employees while sending staff employees to an EAP. Another company simply removed the employee from the project, automatically retested and allowed the individual back to work upon testing negative. Four companies were either unsure (case by case basis), only performed pre-employment testing, or tested for accidents and had no incidents. Table 6 has a summary of the responses.

Table 6 - CONSEQUENCES OF EMPLOYEE DRUG USE

| RESPONSE | NUMBER OF RESPONSES |
|------------------------------------|----------------------------|
| Fired | 10 |
| Directed to EAP | 5 |
| Directed to Rehabilitation program | 1 |
| Other | 1* |

*Removed from project, auto retested and allowed back to work upon negative test.

4.4.5 DRUG TEST MANAGEMENT

It was also of interest to determine if companies manage their drug testing programs in house or if they contract out their management and administration. Because of the confusion on this question, an additional response of "joint effort" was added after the survey had been started. Those companies that out sourced testing but managed the in house review and direction of the program were listed as joint effort (see Table 7).

Table 7 - MANAGEMENT OF DRUG TESTING PROGRAM

| RESPONSE | NUMBER OF RESPONSES |
|-----------------|----------------------------|
| In house | 5 |
| Out sourced | 8 |
| Joint effort | 7 |

4.4.6 REASONS FOR NOT PERFORMING DRUG TESTS

For the six companies that did not administer drug tests, several reasons were stated, namely why they do not test for drugs. Two companies felt that drug tests were not needed because substance abuse was simply not a problem. Another company did not want to pay the costs of maintaining a drug testing program. One company had not yet determined how to make a drug testing program work. They stated that unions dispatched different workers depending on job location and the high turnover rate made drug testing impractical, but they planned on implementing a drug testing program within three years. Employee rights infringement was a concern for another contractor. One respondent was unsure of the companies reasons. Four of the companies were open shop while two were union shop.

4.5 SUBSTANCE ABUSE DETERRENCE AND MANAGEMENT

There are a number of steps and policies contractors can implement to discourage substance abuse and to deal with substance abusers on construction sites. Over 75% of the companies had safety programs addressing substance abuse, company policy statements concerning substance abuse, employee assistance programs to help abusers (internal or contracted), supervisory training to recognize and deal with potential abusers, and substance abuse testing programs. The least common type of programs were law enforcement liaison and search and seizure policies. A comparison to the Maloney study is provided in Table 8.

**Table 8 - COMPARISON OF CONTRACTOR PROGRAMS AND POLICIES
CURRENTLY IN PLACE OR UNDER DEVELOPMENT**

| RESPONSE | PERCENT OF RESPONSES* | |
|-----------------------------|-----------------------|---------|
| | NORTHWEST | MALONEY |
| Internal EAP | 30.8% | 27.5% |
| Contracted EAP | 50.0% | 20.5% |
| Company Policy | 88.5% | 79.3% |
| Supervisory Training | 76.9% | 59.3% |
| Labor/Management Agreements | 65.4% | 51.6% |
| Health Promotion | 53.8% | 41.0% |
| Prevention/Education | 57.7% | 47.1% |
| Search & Seizures | 7.7% | 17.9% |
| Testing | 76.9% | 34.7% |
| Safety Programs | 92.3% | 80.6% |
| Law Liaison | 3.8% | 20.6% |
| Employee Rehabilitation | 57.7% | 32.6% |

*Sums do not total 100% as all variables are independent.

4.6 COMPARISON OF LARGE AND SMALL FIRMS

Although all the firms in this study are fairly large (annual billings exceed 20 million dollars), a comparison of those firms with billings exceeding 100 million dollars (six large firms) was made with those firms with billings below 50 million dollars (nine small firms). Overall, 66.7% of the large firms were union shops compared to 33.3% of the small firms. A total of 66.7% of the

large firms responded that the substance abuse problem in the construction industry was either extremely serious or serious compared to only 33.3% of the small firms. Respondents from large and small firms felt that the substance abuse problem within their firms was not very serious. All of the large firms (100%) performed drug testing while only 66.7% of the smaller firms tested for drugs. Of the three small firms that did not perform drug testing, two were open shop and one was a union shop. A further comparison, including type of drug tests performed, is shown in Table 9.

Table 9 - COMPARISON OF LARGE AND SMALL FIRMS

| | LARGE FIRMS | SMALL FIRMS |
|--|--------------------|--------------------|
| <u>UNION AFFILIATION</u> | | |
| Open | 2 (33.3%) | 6 (66.7%) |
| Union | 4 (66.7%) | 3 (33.3%) |
| PERCEPTION ABOUT SUBSTANCE | | |
| <u>ABUSE AS A PROBLEM IN THE INDUSTRY</u> | | |
| Extremely serious | 2 (33.3%) | 0 |
| Serious | 2 (33.3%) | 3 (33.3%) |
| Not very serious | 2 (33.3%) | 5 (55.6%) |
| No problem | 0 | 1 (11.1%) |
| <u>PERFORM DRUG TESTS</u> | | |
| Yes | 6 (100%) | 6 (66.7%) |
| No | 0 | 3 (33.3%) |
| <u>TYPE OF TESTS PERFORMED</u> | | |
| Pre-employment | 6 (100%) | 5 (83.3%)* |
| Random | 1 (26.7%)* | 2 (33.3%)** |
| Post-accidents | 6 (100%) | 5 (83.3%) |
| For cause | 5 (83.3%) | 5 (83.3%) |
| Annual | 3 (50.0%) | 1 (16.7%) |

*One additional firm plans to start this type of testing in the near future.

**One firm has this in their company policy, but has not implemented testing.

In addition to performing drug testing, all of the large firms addressed substance abuse in their company policies, supervisor training and safety programs. Most (88.9%) of the small firms addressed substance abuse in their company policies, 66.7% in their supervisor training, and 100% in their safety programs. A comparison of the substance abuse deterrence and management programs is provided in Table 10.

Table 10 - COMPARISON OF LARGE AND SMALL CONTRACTORS' PROGRAMS AND POLICIES CURRENTLY IN PLACE OR UNDER DEVELOPMENT

| RESPONSE | NUMBER OF RESPONSES* | |
|-----------------------------|----------------------|-----------|
| | LARGE | SMALL |
| Internal EAP | 2 (33.3%) | 2 (22.2%) |
| Contracted EAP | 5 (83.3%) | 3 (33.3%) |
| Company Policy | 6 (100%) | 8 (88.9%) |
| Supervisory Training | 6 (100%) | 6 (66.7%) |
| Labor/Management Agreements | 4 (66.7%) | 5 (55.6%) |
| Health Promotion | 4 (66.7%) | 4 (44.4%) |
| Prevention/Education | 5 (83.3%) | 5 (55.6%) |
| Search & Seizures | 1 (16.7%) | 0 (0%) |
| Testing | 6 (100%) | 6 (66.7%) |
| Safety Programs | 6 (100%) | 9 (100%) |
| Law Liaison | 0 (0%) | 0 (0%) |
| Employee Rehabilitation | 5 (83.3%) | 4 (44.4%) |

*Sums do not total 100% as all variables are independent.

CHAPTER 5 - CONCLUSIONS AND RECOMMENDATIONS

5.1 CONCLUSIONS

The findings presented in this research provide an overall view of Northwest construction contractor policies and practices being implemented to deter substance abuse among construction workers. When comparing the results of this study to previous studies, the reader must keep in mind that this study used only general contractors with large annual work volumes (the top 50 contractors in the Northwest). Consistent with other regions within the United States, a large percentage of high volume construction contractors (76.9%) in the Northwest perform some type of substance abuse testing. Pre-employment and post accident tests are the most common types of drug tests required (90%), while random and annual testing are the least common type (25%). The fact that so many companies perform substance abuse testing is likely the primary reason there is a lower perception of substance abuse in the Northwest study when compared to the Maloney study. It is reasonable to conclude from table 3, that since 1987, substance abuse testing has become a more accepted deterrent to drug use. Union affiliation appears to have no major direct influence on a company's ability to conduct drug testing, although it may influence the type of testing performed (e.g., no random testing or random testing for electricians only). The consequences of an applicant testing positive for drug use means no further consideration for employment. For an existing employee, testing positive on a drug test will get them fired (58% of the firms) or referred to an EAP (29% of the firms). Large companies, when compared to small companies, feel substance abuse is a more serious problem in the construction industry. This is probably the reason

why more large companies perform drug tests (100% of large firms vs. 66.7% of small firms) and why large companies have more substance abuse deterrence and management policies. As in the rest of the country, there are substance abusers on Northwest construction sites, but possibly fewer than in other sections of the U.S. Although drug testing has a positive effect in curtailing substance abuse in the workforce, substance abuse continues to be a major concern. No authoritative conclusions can be made concerning the percentage of workers testing positive on drug tests.

5.2 RECOMMENDATIONS

For many contractors, completing a construction project safely, timely and within budget is their definition of a successful project. Since substance abuse can have an effect on all three issues, having a thorough and complete company substance abuse policy is beneficial. It is recommended that contractors recognize that substance abuse is prevalent on most construction sites and they should have policies to deter this abuse. The use of EAP's to educate workers regarding substance abuse is encouraged.

A shortcoming of this research is that specifics of certain issues, such as the type of drugs that are tested for or the prevalent drug that is abused, are not known. For the academic community, the development of program elements on random testing that are most effective is encouraged. Further data collection and analysis are required to determine how the construction industry can best implement such policies. Additionally, further research into law liasion and search and seizure policies is needed to determine their effectiveness in deterring substance abuse on the worksite.

LIST OF REFERENCES

Campbell, Reginald L. and Langford, R. Everett, *Substance Abuse in the Workplace*, Boca Raton: CRC Press, 1995.

Construction Labor Report (CLR), published by the Bureau of National Affairs, 13 March 1991 issue, p. 77.

Construction Labor Report, published by the Bureau of National Affairs, 10 April 1991 issue, p. 147.

Construction Labor Report, published by the Bureau of National Affairs, 11 September 1991 issue, p.782.

DeLancey, Marci M. *Does Drug Testing Work?*, published by the Institute for a Drug-Free Workplace, 1994.

Hill, S. *Drug-Free Workplace Policies and Their Acceptance in the Construction Industry*, Master's Thesis, University of Florida, Gainesville, FL, December 1993.

Maloney, William F., *Substance Abuse in Construction*, Report submitted to the Construction Industry Institute, 1987.

What Works: Workplaces Without Drugs, published by the U.S. Department of Labor.

Appendix A - CONTRACTOR LIST

Pacific Northwest's Top 50 Contractors

Ranked by Estimated '94 billings for Washington, Oregon & Alaska

| RANK | Company Name/Address | 1994 Billings | EMPLOYEES | About the Firm: |
|------|---|-----------------|-----------|---|
| | | | | |
| 1 | Hoffman Construction Co. P.O. Box 1300 Portland, OR 97207 (503) 221-8811 | \$363 million | 500 | Established in 1922, Hoffman Construction has grown into one of the region's largest and most diversified construction companies. The firm provides construction management and general contractor services for industrial, commercial and institutional projects ranging from \$500,000 to \$100 million. Hoffman recently completed construction of the Boeing Customer Service Training Center in Renton, the SeaTac Airport Parking expansion and the Oregon Convention Center in Portland. |
| 2 | Baugh Enterprises 900 Poplar Place South Seattle, WA 98114 (206) 726-8000 | \$294.2 million | 860 | With offices in Seattle and Portland, Baugh Enterprises has been able to land several of the Pacific Northwest's largest construction contracts. Most recently the company completed work for the Group Health Olympia Medical Center, Whatcom Falls Park Reservoir No. 2 in Bellingham and the Boeing 14-01 Propulsion Division Relocation in Seattle. Baugh provides general contracting, preconstruction and construction management services for commercial, industrial and institutional clients. |
| 3 | M.A. Mortenson Co. 10900 NE 8th Street/Suite 810 Bellevue, WA 98004 (206) 451-1305 | \$170 million | 400 | In 12 short years since its arrival in the Puget Sound, M.A. Mortenson has emerged as one of the area's largest firms. Headquartered in Minneapolis, Mortenson offers preconstruction, construction management and design/build services for a wide range of project types. The company recently completed the Physics and Astronomy Building for the University of Washington, Seattle Center Community College work and the Boeing 40-56 Paint Hangar in Everett. |
| 4 | SDL Corporation 3150 Richards Road SE Bellevue, WA 98005 (206) 649-9000 | \$150 million | 450 | SDL Corporation, a subsidiary of McCarthy Building Companies, offers general construction and construction management services to a wide range of clients. Since its establishment in 1976, SDL has landed some of the area's most visible projects. Most recently, the firm built the Harbor Steps in Seattle, Washington Mutual in Redmond and the Everett Mutual Tower. SDL is located in Bellevue and offers construction services throughout the Pacific Northwest. |
| 5 | Donald M. Drake Co. 1740 NW Flander Portland, OR 97209 (503) 226-3991 | \$115 million | 160 | Donald M. Drake Construction, headquartered in Portland, offers general construction and construction management services to a wide range of clients. Established in 1921, the firm emphasis commercial, institutional and industrial construction. Drake has constructed the \$8.6-million Sheridan Federal Prison, Nationwide Insurance Remodel in Portland and a \$5.5 million Weyerhaeuser Pulp Expansion in Longview. |
| | Sellen Construction Co. 228 Ninth Avenue North Seattle, WA 98109 (206) 682-7770 | \$115 million | 400 | Headquartered in Seattle since 1944, Sellen Construction has a long resume of Northwest projects. The firm provides general construction and construction management services for healthcare, office, high-tech, food processing, industrial, residential and retail clients. Sellen recently completed construction of the West Lake Union Center in Seattle, Pacific Detroit Diesel Facility in Kent and the Swedish 1101 Madison Medical Tower in Seattle. |
| 7 | Robert E. Bayley Construction 205 Columbia Street Seattle, WA 98104 (206) 621-8884 | \$108.9 million | 228 | Robert E. Bayley Construction Inc., is a full service general contractor offering preconstruction, construction management and general contracting services for commercial, industrial and institutional clients. Established in 1963, the family-owned business is headquartered in Seattle with a regional office in Orange, California. Bayley recently completed construction of the Port of Seattle Headquarters Building on Pier 69, the Seattle Supersonics Training Facility and the Nordstrom Addition at Bellevue Square. |
| 8 | H.C. Price Co. 301 West Northern Lights #300 Anchorage, AK 99503 (907) 278-4400 | \$106 million | 800 | Specializing in the construction of power plants, pipelines, petroleum processing facilities and minesites, H.C. Price has emerged as one of Alaska's largest construction companies. Headquartered in Dallas, Texas, the firm has regional offices throughout the U.S. The Anchorage office has built the Point McIntyre Pipeline System in Prudhoe Bay, Alyeska Pump Station Desalter and the Alyeska Vapor Recovery Valdez Marine Terminal. |
| 9 | Wilder Construction Co. 2006 North State Street Bellingham, WA 98177 (206) 733-2060 | \$105 million | 550 | Headquartered in Bellingham, Wilder Construction is one of the oldest and largest construction companies in the Pacific Northwest. Since 1911, Wilder has been specializing in heavy civil construction including highway, airport, bridge, dock and environmental remediation. The firm focuses on construction in Washington and Alaska. Recently, Wilder completed the construction of a portion of the Seward Highway in Alaska and the Morton-Elbe highway in Washington. |
| 10 | Lease Crutcher Lewis 107 Spring Street, Suite 500 Seattle, WA 98104 (206) 622-0500 | \$100 million | 300 | Lease Crutcher Lewis provides construction and construction management services to clients throughout Washington and Oregon. Established in 1886, the firm specializes in the construction of commercial, light industrial, medical and biomedical facilities. Most recently Lease Crutcher Lewis completed work on the Children's Hospital additions and alterations in Seattle, ZymoGenetics Corporate Headquarters in Seattle and the Bellevue Athletic Club Hotel addition. |

Pacific Northwest's Top 50 Contractors

Ranked by Estimated '94 billings for Washington, Oregon & Alaska

| RANK | Company Name/Address | 1994 Billings | EMPLOYEES | About the Firm: |
|------|---|----------------|-----------|--|
| | | | | |
| 11 | Ellis-Don Construction Co. 3245 146th Place SE, Suite 350 Bellevue, WA 98007 (206) 562-7006 | \$95.1 million | 200 | Ellis-Don Construction, based in London, Ontario, opened its first U.S. office in Bellevue in 1989. Since that time, Ellis-Don has emerged as one of the Pacific Northwest's largest construction companies. The firm specializes in general construction and construction management services. In the past few years, Ellis-Don has completed construction of the Boeing Customer Services Training Center Support Facility, and the University of Washington Biomedical Research Facility and Chemistry Building. |
| 12 | Turner Construction Co. 601 Union Street, Suite 450 Seattle, WA 98101 (206) 224-4343 | \$94 million | 450 | With offices throughout the U.S., Turner Construction is one of the nation's largest construction companies. The firm offers preconstruction, construction and construction administrative services for public, private and institutional clients, including office/retail, residential highrise, industrial, tenant improvements, educational facilities, high-tech and sports facilities. Turner has completed construction of the McNeil Island Inmate Housing Complex and Boeing's Spares Distribution Building in SeaTac. |
| 13 | Fletcher Wright, Inc. P.O. Box 3764 Seattle, WA 98124 (206) 447-7654 | \$77.5 million | 300 | Established in 1885, Fletcher Wright has constructed some of the area's most visible landmarks. The firm provides general construction services for all types of commercial construction. Headquartered in Seattle, Fletcher Wright recently completed Microsoft Building Number 25 at the software giant's Redmond campus, the Oregon Arena Parking Garage in Portland and the Kirkland Library and Parking Garage. |
| 14 | PCL Construction Services 275 118th Avenue SE, Suite 105 Bellevue, WA 98005 (206) 454-8020 | \$75.3 million | 250 | PCL Construction Services arrived in Seattle in 1992. Since that time they have constructed the McNeil Island Corrections Facility in Steilacoom, the Boeing Flight Test Center in Seattle and the Highway Licenses Building in Olympia. In addition, the firm is currently re-building the \$74 million Seattle Center Coliseum project. The all-service firm provides general contracting in both public and private sectors, construction management and preconstruction services. |
| 15 | GLY Construction 100 - 116th Avenue SE Bellevue, WA 98008 (206) 451-8877 | \$72 million | 175 | Since its establishment in 1967, GLY Construction has been providing general construction, construction management and preconstruction services which includes planning and constructability reviews, estimating, scheduling, value engineering and CAD modeling. The firm recently built the University of Washington Medical Center - Roosevelt, Quinton Instruments Corporate Headquarters in Bothell and Frontier Bank Building in Everett. |
| 16 | S.D. Deacon Corporation 6443 SE Beaverton-Hillsdale Portland, OR 97225 (503) 297-8791 | \$69.9 million | 175 | S.D. Deacon Corporation specializes in the construction of retail, high-tech, renovation, education and light industrial buildings throughout the Pacific Northwest. Headquartered in Portland, the firm recently completed construction of the Washington Square remodel in Tigard, SEH America - EPI expansion in Vancouver and the Incredible Universe in Auburn. S.D. Deacon has been providing construction, construction management and preconstruction services in the area since 1981. |
| 17 | Absher Construction Co. 8121 Shaw Road SE Puyallup, WA 98372 (206) 845-9544 | \$68 million | 150 | Absher Construction offers commercial preconstruction, construction and management services for private and public clients. Headquartered in Puyallup, Absher has been providing construction services since 1940. In recent years, the firm has completed construction of the new Issaquah High School in eastern King County, P.L.U. Music Center in Parkland and the Clallam County Juvenile Detention Center in Port Angeles. |
| 18 | Lydig Construction, Inc North 603 Havana Street Spokane, WA 99202 (509) 534-0451 | \$66 million | 187 | With offices in Seattle and Spokane, Lydig Construction has become one of Washington's largest contractors. The firm offers construction and management services to a wide variety of clients. Recently, Lydig has completed construction of Harpers Manufacturing Facility in Post Falls, Idaho, Wenatchee's new Wal-Mart store and the Mukogawa Library and Cultural Center in Spokane. Lydig Construction was established in Spokane in 1966. |
| 19 | Andersen Construction Co. 6712 North Cutter Circle Portland, OR 97217 (503) 283-6712 | \$65 million | 250 | Portland-based, Andersen Construction offers general construction and construction management services for general building projects. Since 1950, Andersen has been constructing commercial, institutional and industrial projects around the state of Oregon. Recently, the firm completed construction of the St. Vincent West Pavilion and Parking Structure in Portland, the Sunset Medical Center Building in Portland and Hewlett Packard Buildings 6 and 8 and Energy Center in Corvallis. |
| 20 | Ferguson Construction 7433 Fifth Avenue South Seattle, WA 98108 (206) 767-3810 | \$56.6 million | 135 | Ferguson Construction is a Seattle-based general contractor emphasizing commercial, industrial, retail, office and manufacturing buildings. In addition, Ferguson specializes in site development, renovation and tenant improvement work. The company constructed the new Costco Warehouse in Issaquah, the Northwest Metal Products industrial building in Fife and the GM Nameplate Building Addition in Seattle. |

Pacific Northwest's Top 50 Contractors

Ranked by Estimated '94 billings for Washington, Oregon & Alaska

| R A N K | Company Name/Address | 1994 Billings | EMPLOYEES | About the Firm: |
|------------------|---|------------------|-----------|--|
| | | | | |
| 21 | W.G. Clark Construction Co. 408 Aurora Avenue North Seattle, WA 98109 (206) 624-5244 | \$54 million | 219 | Seattle-based W.G. Clark Construction is a general contractor working in the private sector of healthcare, long-term care, non-profit, industrial, retail, office and multifamily construction. In recent years the firm has expanded services into other states. Clark constructed the Konoike, L.A. Distribution Facility in Wilmington, California, Crista Shores Retirement Community in Silverdale and Issaquah's Village Theatre. |
| 22 | Walsh Construction Co. 3015 SW First Avenue Portland, OR 97201 (503) 222-4375 | \$53.5 million | 220 | Walsh Construction of Portland is a general building contractor specializing in wood and concrete housing and light commercial construction. Recently, the company completed the Eastern Washington University Student Union Building; Oregon Health Sciences University Physician's Pavilion; Elderhope Housing Complex and the Port Ludlow Inn. Since 1963, Walsh has been constructing projects in Washington and Oregon. |
| 23 | Berschauer/Phillips Co. 2823 - 29th Avenue SW, Suite A Tumwater, WA 98512 (206) 754-5788 | \$53.1 million | 130 | Berschauer Phillips Construction Company is a wholly owned subsidiary of Berschauer Phillips offering complete design/build construction services and project specific business, financial and architectural planning of new or renovated facilities anywhere in the Western United States. Headquartered in Olympia, Berschauer Phillips recently completed construction of the Downtown Olympia Transit Center, Islander Middle School in Mercer Island and the Kennewick General Hospital Expansion. |
| 24 | Garco Construction East 4114 Broadway Spokane, WA 99202 (509) 535-4688 | \$51.5 million | 270 | Spokane-based Garco Construction is a full-service contractor specializing in design/build commercial and industrial projects. Established in 1978, Garco is one of the Inland Northwest's largest construction companies. In recent years, the company has completed construction of the Wherry Housing Renovation on Spokane's Fairchild Air Force Base, Colville High School Renovation and Thermoguard Equipment in Spokane. |
| 25 | Robinson Construction Co. 21360 NW Cornell Road Hillsboro, OR 97124 (503) 645-8531 | \$50 million | 130 | Robinson Construction Company is a general contracting firm with over forty years of diverse experience in educational, medical, institutional, retail and industrial construction markets. The firm has in-house resources to provide project management, demolition, earthwork, site utilities, structural/ architectural concrete, concrete flat work, rough carpentry, finish carpentry and miscellaneous specialties. Robinson specializes in partnering to provide consistent high quality, high value work. |
| 26 | Osborne Construction Co. 10628 NE 38th Place, Suite 110 Kirkland, WA 98033 (206) 827-4221 | \$42.5 million | 220 | Osborne Construction Company is a general construction company specializing in a wide variety of commercial, industrial, civil, design/build, residential and military projects throughout Alaska and Washington. Based in Kirkland, the Northwest firm recently completed Aircraft Wester Shelters for at Eielson Air Force Base in Alaska, New and Renovated Military Housing at Fort Richardson and Fort Wainwright, Alaska and several housing units for various remote Alaska communities. |
| 27 | R & H Construction Co. 1530 SW Taylor Street Portland, OR 97205 (503) 228-7177 | \$42.4 million | 160 | R & H Construction is a Northwest building contractor staffed to handle both large and small jobs. These jobs range from commercial remodels to the construction of multi-million dollar office buildings, multi-family complexes, shopping centers and golf course clubhouses. Recently, R & H completed the Suburban Medical Clinic in Portland, Creekside Apartment Complex in Hillsboro and Red Lion Restaurant Remodel at Portland's International Airport. |
| 28 | Levernier Construction P.O. Box 13419 Spokane, WA 99213 (509) 927-3000 | \$40 million | 100 | Spokane-based Levernier Construction provides general construction services for commercial, institutional and industrial clients. Since 1986, the year the company was formed, Levernier has been concentrating on the Eastern Washington market. In the last couple of years, the company has completed construction of the Pasco Civic Center in the Tri-Cities and most recently, the Chase Middle School in Spokane. |
| 29 | Gaston & Associates 8511 Hartzell Road Anchorage, AK 99507 (907) 344-1717 | \$39.7 million | 150 | Gaston and Associates is an Anchorage-based general contractor offering construction services for public and private clients. With 150 employees during peak construction periods, Gaston is one of Alaska's largest construction companies. The company recently completed construction of the Alaska Commercial Store in Nome. In addition, Gaston constructed the Clear Air Force Base Dormitory Renovation and a Kodiak Fishmeal Plant. |
| 30 | Rain Company 4010 Lake Washington Blvd, #301 Kirkland, WA 98033 (206) 828-0800 | \$38 million | 120 | Rain Construction is a general construction company specializing in the construction of retail, restaurant, multi-family and new commercial buildings. The firm also offers preconstruction and construction management services. Established in 1978, Rain has completed several Starbucks Coffee Shops and Cucina! Cucina! restaurants in the greater Seattle area. Most recently, the firm renovated the Coliseum Theatre and Monte Cristo Hotel. |

Pacific Northwest's Top 50 Contractors

Ranked by Estimated '94 billings for Washington, Oregon & Alaska

| R A N K | Company Name/Address | 1994 Billings | EMPLOYEES | About the Firm: |
|------------------|--|------------------|-----------|--|
| | | | | |
| 31 | The Austin Company 800 SW 16th Street Renton, WA 98055 (206) 226-8860 | \$34 million | 420 | The Austin Company provides consulting, project management, design, engineering, systems and construction services. The firm specializes in the design and construction of a wide-variety of project types including: research and testing facilities, manufacturing, process facilities, food processing, pharmaceutical, newspaper, air transportation, broadcasting, distribution, operations, office buildings, financial, international, high-tech and governmental facilities. |
| 32 | Contractors, Inc. P.O. Box 637 Tualatin, OR 97062 (503) 692-0100 | \$32 million | 100 | Located in Tualatin, Contractors Incorporated, specializes in general and heavy construction with an emphasis in building wastewater treatment plants, schools, hospitals, jails and other institutional construction. Established in 1958, Contractors Incorporated recently constructed wastewater treatment plants in Durham and Gresham, Oregon. Most recently, the company constructed the Rock Creek treatment plant in Hillsboro. |
| * | J.R. Abbott Construction Co. P.O. Box 84048 Seattle, WA 98124 (206) 467-8550 | \$32 million | 151 | Seattle-based, J. R. Abbott Construction Company, provides general construction and construction management services. The firm specializes in retail and commercial construction. A list of recently completed projects include: South Hill Mall Expansion in Puyallup; Classic Helicopter headquarters building in Seattle; and the Olympicview Ice Arena in Lynnwood. J. R. Abbott Construction was established in 1983. |
| 34 | Kiewit Construction Co. 1577 "C" Street, Suite 101 Anchorage, AK 99501 (907) 263-9950 | \$31.2 million | 150 | Kiewit Construction Company is one of the nation's oldest and largest general contractors. Headquartered in Omaha, Nebraska the company's district office is located in Seattle. Kiewit specializes in general construction and construction management services. Recently completed construction projects include: Alyeska Prince Hotel in Girdwood, Alaska; Organizational Maintenance Shop and National Guard Armory in Fort Richardson; and the Alaska Center for the Performing Arts in Anchorage. |
| 35 | James E. John Construction Co. 1705 SE Columbia River Drive Vancouver, WA 98661 (206) 696-0837 | \$30.8 million | 150 | James E. John Construction is a general contractor specializing in development and construction of retail shopping centers, office buildings and restaurants. Current projects are located throughout the Western United States. The company's emphasis is being a full-service provider of development, value engineering and cost effective construction. James E. John constructed the Columbia Shores Development in Vancouver, Farmington Shopping Center in Beaverton and a Cub Grocery Store in Reno. |
| 36 | Emerick Construction 8850 SE Otty Road Portland, OR 97266 (503) 777-5531 | \$30 million | 65 | Emerick Construction is a full-service contractor emphasizing general construction of high-tech complexes, office buildings, seismic upgrades, historic restorations, higher education facilities, hospitals and laboratory space and recreational facilities. Emerick recently completed construction of the Crater Lake Lodge rehabilitation, Alifan Pavilion - Oregon Shakespeare Festival and the Memorial Coliseum Seismic Upgrade. |
| 37 | Wick Constructors 720 North 35th Street Seattle, WA 98103 (206) 634-1550 | \$29.8 million | 75 | Seattle-based, Wick Constructors, is a general contractor specializing in institutional, military and public facility construction. Since 1951, Wick has built several area schools, dormitories and federal buildings. Most recently, the company has constructed the Northshore Middle School in north Seattle, the Federal Aviation Administration Offices and the University of Alaska Student Recreation Center in Anchorage. |
| 38 | Rushforth Construction Co. 1308 Alexander Avenue East Tacoma, WA 98424 (206) 922-1884 | \$28.2 million | 108 | Rushforth Construction Company offers general construction services with an emphasis in the construction of healthcare facilities, retail buildings, office complexes, industrial buildings and tenant improvement work. The firm was established in 1951 and is headquartered in Tacoma. A list of recently completed projects include: Linden Grove Care Center in Puyallup; Circuit City Distribution Facility in Chehalis; and Puget Power's Office/Engineering Building in Olympia. |
| 39 | Westwood Construction Co. 3030 SW Moody Avenue Portland, OR 97201 (503) 222-2000 | \$26 million | 90 | Westwood Construction Company is a general construction firm specializing in commercial and institutional construction. The firm builds retail centers, offices, warehouses, flex space, industrial buildings, multi-family dwellings, hospitality buildings and medical offices throughout Oregon. In recent years the company completed the Homelife Complex in Tigard, Westside Elementary School in Hood River and Siltec EPI Bridge in Salem. |
| 40 | Koll Construction 11130 NE 33rd Place Bellevue, WA 98004 (206) 889-8200 | \$25.5 million | 35 | With offices in Seattle and Portland, Koll Construction provides general contracting, construction management, design/build and tenant improvement services to a number of clients throughout the Pacific Northwest. Koll is headquartered in Seal Beach, California. Recently the company completed construction of the Emerald Heights Senior Housing Community, Canyon Park Tract 29 Business Center and The Lakeshore Senior Community. |

Pacific Northwest's Top 50 Contractors

Ranked by Estimated '94 billings for Washington, Oregon & Alaska

| RANK | Company Name/Address | 1994 Billings | EMPLOYEES | About the Firm: |
|------|---|----------------|-----------|--|
| 41 | CSI Construction Co. 7515 NE Ambassador Place, Suite E Portland, OR 97220 (503) 288-0304 | \$25.2 million | 30 | C.S.I. Construction Company offers general contracting, construction management and design/build services to a wide variety of clients in the Pacific Northwest. The firm has specialized in retail construction and recently completed the construction of a new Safeway Grocery Store in Bremerton, a Wal-Mart Store in Redmond, Oregon and an Ernst in Bend. C.S.I. Construction was established in 1978 and is headquartered in Portland. |
| 42 | Ken Brady Construction Co. 4001 Turnagain Blvd. Anchorage, AK 99517 (907) 243-4604 | \$25 million | 70 | Anchorage-based Ken Brady Construction Company specializes in commercial and industrial construction. The company was formed in 1954 by Ken Brady and current president Michael Brady has diversified the company's projects. In recent years the firm has constructed the Westridge Natural Science Facility in Fairbanks, Wal-Mart Store No. 2071 in Anchorage and the Anchorage Courthouse Expansion. |
| 43 | Wade Perrow Construction P.O. Box 1728 Gig Harbor, WA 98335 (206) 851-9309 | \$24.1 million | 110 | Wade Perrow Construction offers design/build and general construction services to a number of clients in Western Washington. With offices in Gig Harbor, Wade Perrow has built a strong reputation since they first opened their doors in 1979. The company recently completed construction of a General Education Building in Fort Lewis, a U.S. Post Office in Bremerton and the Minter Creek Fish Hatchery Facility. |
| 44 | Titan Construction Co. 11061 NE Second, Suite 200 Bellevue, WA 98004 (206) 454-8120 | \$24 million | 45 | Bellevue-based Titan Construction specializes in general construction of multi-family dwellings; apartments and condominiums; mixed use commercial and multi-family; retail and office buildings; and industrial facilities. In recent years, the company has constructed the McKee Condominiums in Bellevue, the Park Highlands in Bellevue and the Black River Corporate Park in Renton. Titan also constructs projects in southern Idaho. |
| 45 | Brockamp & Jaeger 15796 South Boardwalk Oregon City, OR 97045 (503) 655-9151 | \$23.5 million | 70 | Brockamp and Jaeger Construction specializes in general construction and construction management services. Based in Oregon City, the multi-faceted firm specializes in the construction of offices, industrial, processing and religious facilities. Recently Brockamp and Jaeger Construction completed work on the Freightliner Truck Plant, Kaiser Processing Center and Saint Mary's Church in Mount Angel, Oregon. |
| 46 | P & C Construction Co. P.O. Box 410 Gresham, OR 97030 (503) 665-0165 | \$23 million | 100 | P & C Construction Company, based in Gresham, offers general construction services to clients throughout Oregon. The firm specializes in the construction of multi-family developments. Established in 1961, P & C employs over 100 people during peak construction periods. In recent years the company has constructed the Morrison Street Apartment Complex, the Creekside Six Apartments and Leopold and Stevens Building. |
| 47 | Dorman Construction P.O. Box 1468 Springfield, OR 97477 (503) 744-0012 | \$22 million | 80 | Dorman Construction offers general contracting services with an emphasis in new commercial construction and renovation work. The company was formed in 1990, and since that time has landed several visible projects in western Oregon. Dorman recently completed construction of the King Estate Winery in Lorane, Oregon, Villagillespie School in Eugene, and the Pacific Continental Bank, also in Eugene. |
| 48 | Marlon Construction Co. P.O. Box 12218 Salem, OR 97309 (503) 581-1920 | \$21.5 million | 110 | Salem-based Marlon Construction specializes in the construction of schools, offices, reservoirs, high-rise buildings, treatment plants, industrial plants, commercial buildings, public buildings, warehouses and bridges. The company recently completed construction of the Department of Motor Vehicles Facility in Salem, Centennial Middle School in Gresham and a Commercial Bank Building in Salem. Marlon Construction was established in 1961. |
| 49 | Poe Construction 1519 West Valley Highway, #103 Auburn, WA 98001 (206) 833-2400 | \$21 million | 70 | Poe Construction Company specializes in the construction of manufacturing, distribution, retail, office buildings, financial institutions, medical/dental offices, healthcare facilities and tenant improvement work. Established in 1973 by Fred Poe, the Auburn-based company has constructed a number of projects in the Puget Sound area. Work was recently completed on the Kirkland Safeway Store, the Fred Meyer Distribution Center in Puyallup and the Younker Nissan Addition in Renton. |
| 50 | Grady Harper 2945 NE Argyle Portland, OR 97211 (503) 284-9151 | \$20 million | 39 | Grady Harper and Carlson Inc. is a full-service contractor specializing in building warehouse distribution projects, retail buildings and industrial buildings. The firm emphasizes concrete tilt-up and pre-engineered steel buildings. The Portland-based contractor recently completed the construction of Columbia Sports Warehouse, a Tyco Toys Store and a new building for Smiths Home Furnishings. Grady Harper and Carlson was established in 1949. |

The Construction Data Top 50 was compiled from respondents to survey forms sent to area general contractors. Construction Data makes every attempt to publish accurate information, however, accuracy cannot be guaranteed.
* Reflects Alaska Billings Only

Appendix B - QUESTIONNAIRE

SUBSTANCE ABUSE QUESTIONS

Questions to be asked to Contractors.

1. What type of contractor are you?

- General
- Mechanical
- Electrical
- Insulation
- Sheet Metal
- Other (describe)

2. What is your approximate annual volume of business?

- <\$500,000
- \$500,000-\$1,000,000
- \$1,000,000-\$2,500,000
- \$2,500,000-\$5,000,000
- \$5,000,000-\$10,000,000
- >\$10,000,000

3. Are you an open or union shop?

Questions for groups:

1. How serious a problem is substance abuse in the construction industry?

- Extremely serious
- Serious
- Not very serious
- No problem at all

2. How serious a problem is substance abuse in your company?

- Extremely serious
- Serious
- Not very serious
- No problem at all

3. Do you perform drug testing on employees? (If no, go to question 15)

4. What percentage of your contracts are you contractually required to conduct drug testing?

5. If you use drug testing, please indicate when you test and which groups of employees are tested.

Pre-employment

Random

Blanket (everyone gets tested)

Accidents

Cause

Annual

None

Groups of employees

All

Craft or Production

Professional and Management

Clerical

6. What type of test do you use?

urinalysis

blood

hair

other

7. If you do pre-employment testing, what percentage of people test positive?

8. If applicants test positive, what happens to them?

Not hired

Hired

Hired and directed to Employee Assistance Program

Hired and directed to Rehabilitation Program

Other

9. If you do random testing, what percentage of people test positive?

10. How do you decide who to random test?

11. What would justify a random test?

12. If you test for cause, what percentage of people tested are positive?

13. What happens to employees that test positive?

Fired

Directed to Employee Assistance Program

Directed to Rehabilitation Program

Other

14. How is your drug testing managed?

In house

Out sourced

(skip question 15 if drug testing is performed)

15. Why don't you perform drug testing?

Do not feel it is required because drug use isn't a problem

Do not want to pay the costs of a drug testing program

Do not want to deal with the legal issues of drug testing

Other reasons (describe)

16. Please indicate if you now have or are considering any of the following ways of dealing with substance abuse in the work place.

Internal EAP

Contracted EAP

Company Policy

Supervisory Training

Labor/Management Agreements

Health Promotion

Prevention/Education

Search & Seizures

Testing

Safety Programs

Law Liaison

Employee Rehabilitation