

September 30, 1992 Quarterly Update to the Historical Release Report

The following is the enclosure to the Rocky Flats Hazardous Substances Release Report for the time period of January 1992 through June, 1992. Those reports that potentially relate to the Historical Release Report are denoted by a "*". All other reports have been included in order to ensure an appropriate review. Follow-up information to the Release Reports is available for inclusion into the final HRR as deemed necessary by CDH, EPA and DOE.

HAZARDOUS SUBSTANCE RELEASES

OFFSITE REGULATORY NOTIFICATIONS

RCRA Contingency Plan Implementation Reports - January 1992 through June 1992

<u>REPORT NUMBER</u>	<u>DATE OF RELEASE</u>	<u>AMOUNT RELEASED</u>	<u>MATERIAL RELEASED and COMMENTS</u>
*92-001	1-29-92	1/2 gallon	MATERIAL RELEASED: aqueous waste A release from the primary transfer pipe (which is RCRA-regulated) into the secondary pipe between Buildings 881 and 887.
92-002	1-29-92	1 quart	MATERIAL RELEASED: battery acid A release outside Building 373 from used Ni-Cad batteries during storage prior to disposal.
92-003	2-17-92	N/A	MATERIAL RELEASED: N/A No RCRA-regulated hazardous waste was stored in the waste tanks (T-2, T-3 and T-5) in Building 444, but there is a lack of adequate secondary containment.
*92-004	2-26-92	14 filters	MATERIAL RELEASED: used oil filters Inadvertent disposal of 14 filters into the sanitary landfill. Analysis is being conducted to establish if the filters should be managed as RCRA-regulated waste.
92-005	4-16-92	35 gallons	MATERIAL RELEASED: process aqueous waste Waste within a secondary containment system for B-866 waste collection tanks (RCRA Unit Nos. 40.17, 40.18, 40.19, 40.32 and 40.33) that had not been removed within 24 hours.
92-006	4-14-92	N/A	MATERIAL RELEASED: N/A (sump in B-444/447) Lab analysis proved no RCRA-regulated waste present, but operations of RCRA-regulated tank system continue with "unfit-for-use" secondary containment.

92-007	4-24-92	< 50mL	MATERIAL RELEASED: acidic solution A release from a mixed residue tank (D1804) in B-771 containing nitric acid contaminated with Plutonium was not cleaned up within 24 hours.
92-008	4-24-92	<50 mL	MATERIAL RELEASED: acidic solution A release from a mixed residue tank (D160A) in B-371 containing hydrochloric acid and potassium hydroxide was not cleaned up within 24 hours.
92-009	4-29-92	N/A	MATERIAL RELEASED: N/A No RCRA-regulated waste present, but operations of the RCRA-regulated tank system continue in B-779 with "unfit-for-use" secondary containment.
92-010	5-8-92	< 20 mL	MATERIAL RELEASED: caustic solution A release from a mixed residue tank system (D400A and D400C) in B-371, room 1115, was not cleaned up within 24 hours. The release was captured within the double plastic wrap covering the ancillary equipment.
92-011	5-8-92	< 3 mL	MATERIAL RELEASED: N/A Lab analysis proved the release from a tank (D1414) in B-771, room 181A to be ferrous sulfate which is not a RCRA-regulated waste. The tank had been erroneously identified as a mixed residue tank; the release was not cleaned up within 24 hours even though it was contained within plastic wrap covering the ancillary equipment.
92-012	5-8-92	< 1 pint	MATERIAL RELEASED: caustic solution A release from a mixed residue tank system (D2A and D2B) in B-371, room 1115, was not cleaned up within 24 hours. The release was contained within a glovebox.
92-013	5-20-92	30 gallons	MATERIAL RELEASED: process aqueous waste (containing chromium) Operation of the RCRA regulated 90-day tank systems in B-731 with "unfit-for-use" secondary containment was continued and spill material was not removed within 24 hours.
92-014	5-24/26-92	1386 gallons	MATERIAL RELEASED: caustic solution (not RCRA-regulated hazardous waste) A release from a liquid process RCRA-regulated waste line in B-371, room 1117 was not cleaned up within 24 hours.

92-015	6-1-92	45-60 gal	MATERIAL RELEASED: process aqueous waste (not RCRA-regulated hazardous waste)
			The secondary containment system for the 90-day RCRA regulated waste collection tanks in B-528 is "unfit-for-use" due to a 2-inch crack in the fiber glass liner of the sump pit.
92-016	6-2-92	90 gallons	MATERIAL RELEASED: process aqueous waste (not RCRA-regulated hazardous waste)
			A release of process aqueous waste from RCRA-regulated ancillary equipment into the secondary containment system (the process waste transfer line within B-123). The release was not cleaned up within 24 hours.
92-017	6-10-92	50 gallons	MATERIAL RELEASED: oil/solvent mixture
			A release from a waste tank in B-774, room 210, that was not cleaned up within 24 hours.
92-018	6-16-92	67 gallons	MATERIAL RELEASED: process aqueous waste
			Accumulated liquids (process aqueous waste) were removed from the sump in B-883 and pumped into RCRA regulated tank A-24. The secondary containment for the sump had been determined to be inadequate.

Environmental Release Report to LEPC or SERC

None for January, 1992 through June, 1992.

*EPA National Response Center Notification (all of the following reports may potentially affect the Final HRR)

Reported by DOE	9-27-91	7 quart	MATERIAL RELEASED: antifreeze
			A release from a private vehicle onto asphalt surface in the Building 334 parking lot.
Reported by DOE	10-10-91	1 gallon	MATERIAL RELEASED: antifreeze
			A release from a private vehicle onto asphalt surface at the north entrance to Portal 1.
Reported by DOE	10-11-91	1-1/2gal	MATERIAL RELEASED: antifreeze
			A release onto asphalt surface from a private vehicle in the parking lot east of Building 886.

Handwritten notes:
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*all of the following should be
PACS*

93901	10-25-91	1/2 gallon	MATERIAL RELEASED: antifreeze A release from street sweeper to the pavement north of Building 331.
102789	1-14-92	1 quart	MATERIAL RELEASED: antifreeze A release from a private vehicle onto asphalt surface at the parking lot west of 904 Pad. Release is reportable under 40 CFR 302.4.
106453	2-11-92	6 quarts	MATERIAL RELEASED: antifreeze A release from a private vehicle onto the asphalt road (Central Avenue) due to a ruptured radiator hose.
106811	2-14-92	1 gallon	MATERIAL RELEASED: antifreeze A release from a private vehicle onto asphalt surface which flowed to soil between T690B and T690C.
107772	2-22-92	2 quarts	MATERIAL RELEASED: antifreeze A release from a private vehicle onto asphalt surface at the parking lot by T130D.
113123	4-5-92	< 1 gallon	MATERIAL RELEASED: diesel fuel A release from a diesel powered pump to soil and surface water at Pond B5. The release resulted in a sheen of oil on navigable water which is reportable under 40 CFR 110.10.
114891	4-20-92	1 gallon	MATERIAL RELEASED: antifreeze (2) A release from a private vehicle onto asphalt surface at parking lot east of B-119.
115386	4-22-92	2-3 gallons	MATERIAL RELEASED: antifreeze (2) A release from a front-end loader to soil at construction site.
115727	4-26-92	< 1 gallon	MATERIAL RELEASED: antifreeze (2) A release from a private vehicle onto asphalt surface in a parking lot between B-111 and B-113.
118275	5-18-92	~ 1/2 gallon	MATERIAL RELEASED: antifreeze (2) A release from a private vehicle onto asphalt surface in the 123 parking lot.
118622	5-20-92	~ 1/2 gallon	MATERIAL RELEASED: antifreeze (2) A release from a private vehicle onto asphalt surface in the parking area of B-334.

120608 6-5-92 2 quarts MATERIAL RELEASED: antifreeze (2)

A release from a private vehicle onto asphalt surface in the parking area west of B-060.

123209 6-22-92 50 gallons The National Response Center was notified of a release of possibly contaminated ground water; however, upon further investigation and analytical testing, the material was characterized as non-hazardous.

NOTE (1): All releases reportable under 40 CFR 302.4.

NOTE (2): Assume antifreeze contains 50 % ethylene glycol and 50 % water. Reportable quantity of ethylene glycol is 1 pound; therefore, the reporting level for an antifreeze mixture is 2 pounds or approximately 1 quart.

NOTE (3): Amounts listed in table are approximate estimates of quantity released.

40 CFR 302.4
State Regs 302.4
Hazardous waste 302.4
Community Right to Know Act (?)
require (reportable releases).
RCEA hotline

INTEROFFICE CORRESPONDENCE

DATE: October 16, 1992

TO: Distribution

FROM: A. L. Schubert, Waste Programs, Bldg. T130C, X5251

SUBJECT: HAZARDOUS SUBSTANCES RELEASE REPORT - 1992 SECOND QUARTER REPORT - ALS-408-92

Please find attached the Hazardous Substances Release Report for the time period of July, 1991, through June, 1992. The report is divided into four sections: 1) Offsite Regulatory Notifications, 2) Root Cause Analysis, 3) Release Graphics and 4) Special Topics. Please route this to all personnel with responsibility for release investigations and/or conducting critique meetings.

For the purpose of this report only, the term hazardous substance includes any element, compound, mixture, solution or substance that may endanger human health or the environment including hazardous substances (which include radionuclides) as defined by 40 CFR Part 302, extremely hazardous substances as defined by 40 CFR Part 355, hazardous materials as defined by 49 CFR Part 173, hazardous waste as defined by 40 CFR Part 265, oil and petroleum products (including antifreeze), and nonhazardous substances (e.g. water) contaminated by hazardous constituents.

A release includes any spilling, leaking, pumping, pouring, emitting, emptying, discharging or dumping of a hazardous substance inside any building/containment or to the environment. Release also includes the abandonment or discarding of barrels, containers, and other closed receptacles of any hazardous substance. The discovery of accumulated liquids within secondary containment for RCRA-regulated systems, that appear to be waste-like in nature or have been analytically tested and verified to be a solid or hazardous waste, have also been included in this report.

An Internally reportable release includes all solid and liquid releases of hazardous substances equal to or greater than one pound (one pint for aqueous liquids) and all gaseous releases that occur inside or outside buildings or containments. These releases must be reported to the Shift Superintendent and the Occurrence Notification Center (ONC). In addition, all reported mercury spills (including releases less than one pound, approximately 2 1/2 teaspoons) are included in the database. Waste Regulatory Programs is then responsible for evaluating if additional reporting is required to offsite regulatory agencies.

A release reportable to the Department of Energy, Rocky Flats Office (DOE, RFO) is any release that has been categorized and reported to DOE, RFO as an Off-Normal, Unusual, or Emergency occurrence as defined by DOE Order 5000.3A.

Releases from privately owned vehicles (POVs) have been specifically identified in the charts. Releases that occur inside of a building are labeled as Bldg-XXX (reference the releases by location charts). All other spills (including releases identified Bldg-XXX Vicinity) occurred outside a building.

Offsite Regulatory Notifications

This section of the report documents the occurrences for which the RCRA Contingency Plan was implemented, an Environmental Release Report was generated or notifications were made to the EPA National Response Center (NRC), State Emergency Response Commission (SERC) and/or Local Emergency Planning Committees (LEPC). Our number one goal is to reduce these occurrences and to minimize the threat to human health and the environment.

When the RCRA Contingency Plan is implemented, a report is filed with DOE, the Colorado Department of Health (CDH), and the Environmental Protection Agency (EPA), Region VIII. The plantsite is required to implement the plan whenever there is a fire, explosion or release of hazardous waste or hazardous waste constituents which could threaten human health or the environment.

Specifically at the Rocky Flats Plant (RFP), the RCRA Contingency Plan is implemented whenever there is a release of regulated hazardous waste greater than one pound (or one pint of aqueous liquids) if the release is outside containment. For releases inside containment, the plan is implemented if more than the CERCLA equivalent quantity of regulated waste is released. The plan is also implemented if a release (of any size) from a RCRA-regulated tank system is not cleaned up within 24 hours. In addition, The RCRA Contingency Plan is implemented if there is a fire, explosion or similar event involving a hazardous waste release or an active hazardous waste management unit.

As of July 19, 1991, releases of petroleum products have been evaluated to determine if the resultant waste contained any hazardous waste constituents. If no written documentation is available to demonstrate that the specific petroleum product does not contain any hazardous waste constituents, the material resulting from clean up of a release must be managed as RCRA-regulated hazardous waste.

As of September 1, 1991, any release of ethylene glycol (including antifreeze) that equals or exceeds the reportable quantity of one pound (two pounds of a mixture of 50% antifreeze and 50% water) must be reported to the NRC. As of June 4, 1992, ethylene glycol spills that are reported to the NRC are not reportable to DOE, RFO (through the occurrence reporting process) unless 100 pounds (approximately 24 gallons of a mixture of 50% antifreeze and 50% water) or more has been released to the environment.

Cause Analysis

This section of the report is designed to assist the plantsite in reducing the number of spills/releases by improving the control systems. These control systems are divided into Personnel, Procedures and Equipment. **Not Investigated** refers to spills/releases for which insufficient information is available or manpower is not available. All spills/releases equal to or exceeding one pound liquid or solid are evaluated as to the primary failure mode. All confirmed gas releases are investigated on a case-by-case basis. A new category has been included in the cause analysis to address releases from privately owned vehicles. Typically, these occurrences were not investigated due to the nature of the occurrence. A formal root cause determination is performed by the responsible Operations Manager for all releases that were reported to DOE, RFO through the Occurrence Reporting Process.

WRP requests that Operations Managers continue to investigate the cause of every reportable release and to initiate corrective action which will preclude any recurrence. Based on the cause analysis documented in this report, 27 incidents were caused by a lack of attention and 19 incidents were caused by maintenance deficiency.

Release Graphics

This section of the report is a two-part package which displays data in three different ways for releases occurring on the plantsite. Both parts of the package sort the data according to location, substance and month. The difference in the two packages is that the first includes all of the releases of hazardous substances which were reported for the entire plantsite for a 12-month period. The second package limits the data to those releases occurring outside buildings or containment structures for the same time period.

Outside releases are immediate threats to human health and the environment and should, therefore, be targeted for serious corrective measures. The data includes releases greater than or equal to one pound (or one pint for aqueous liquids). Additionally, all known releases of mercury have been included in the database. The release graphics have been revised to specifically identify the releases from POVs.

Special Topics

This section of the report includes information clarifying release reporting requirements. For example, a buildup of crystalline material on flange connections or fittings is considered a release and may be reportable to offsite regulatory agencies if the release is associated with the RCRA interim status or 90-day storage tank system. The release must be reported to the Shift Superintendent if one pound (or one pint aqueous liquid) or more is released or a release from a RCRA-regulated waste tank system has not been cleaned up within 24 hours. All releases from RCRA interim status or 90-day storage tank systems must be cleaned up within 24 hours.

In addition, a release of liquids into plastic wrap covering ancillary equipment (e.g., piping, valves, flanges) is considered a reportable release from the primary containment if: 1) one pound (or one pint of aqueous liquids) or greater of RCRA-regulated waste is released into the plastic; or 2) if the liquid from a RCRA-regulated tank is not cleaned up within 24 hours.

Additionally, any discovery of accumulated liquids within a secondary containment for a RCRA-regulated system must be cleaned up within 24 hours. If it is not cleaned up within 24 hours, a determination must be made as to whether the liquid is a RCRA-regulated waste. If this determination cannot be made, the RCRA Contingency Plan may have to be implemented. If the accumulated liquids are known to be non-hazardous and the material has not been cleaned up within 96 hours, then this noncompliance must be reported to DOE, RFO through the Occurrence Reporting process.

A release from primary containment (e.g. piping, tanks, valves, pumps, etc.) of one pound (one pint aqueous liquids) or more of hazardous substance which is contained within a glovebox should be reported to the Shift Superintendent unless the release is associated with in-process accumulation of material.

However, a release of RCRA-regulated hazardous waste from primary containment that is fully contained within a glovebox does not require implementation of the RCRA Contingency Plan because the release did not impact health or the environment. A release of hazardous waste that is not fully contained within the glovebox may require implementation of the RCRA Contingency Plan.

A release within a glovebox that results in a hazardous waste could result in a noncompliance with RCRA regulations concerning storage of hazardous waste in approved accumulation areas. A case-by-case assessment of the release must be completed by Waste Technical Support (previously known as Waste Area Engineering) to evaluate if the release resulted in noncompliant storage of a hazardous waste or if the release is associated with in-process accumulation of material.

If you have any questions or would like more information, please contact M. L. Johnson at extension 5033 or digital pager 1028, or B. B. Haynes at extension 7754. If, in the future, you do not wish to receive a copy of this report, please notify either person.

MLJ:kam

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As Stated

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HAZARDOUS SUBSTANCE RELEASES

OFFSITE REGULATORY NOTIFICATIONS

RCRA Contingency Plan Implementation Reports - July 1991 through June 1992

REPORT NUMBER	DATE OF RELEASE	AMOUNT RELEASED	<u>MATERIAL RELEASED and COMMENTS</u>
91-004	7-9-91	3 quarts	<p>MATERIAL RELEASED: spent battery acid that might contain toxic levels of cadmium (D006)</p> <p>A release from an overturned waste Ni-Cad battery outside of Building 119.</p>
91-005	7-17-91	1 quart	<p>MATERIAL RELEASED: diesel fuel (1)</p> <p>A release onto soil from an above ground storage tank located near Cooling Tower No. 109.</p>
91-006	8-5-91	1 quart	<p>MATERIAL RELEASED: gasoline (1)</p> <p>A release onto asphalt surface from a portable lighting generator in the parking area east of Building 920 Guard Post.</p>
91-007	7-28-91	2 gallons	<p>MATERIAL RELEASED: waste Kathene solution containing toxic levels of chrome (D007)</p> <p>A release from a Kathabar dehumidifier system inside Building 707, employee knocked over bucket.</p>
91-008	8-2-91	100 gallons	<p>MATERIAL RELEASED: waste Kathene solution containing toxic levels of chrome (D007)</p> <p>A release from a Kathabar dehumidifier system due to overflowing recirculation tanks inside Building 707 as a result of a malfunction during testing.</p>
91-009	8-9-91	50 gallons	<p>MATERIAL RELEASED: waste Kathene solution containing toxic levels of chrome (D007)</p> <p>A release from a Kathabar dehumidifier system due to overflowing the recirculation tanks inside Building 707 as a result of operator error.</p>

(1) As of October 31, 1991, the RCRA Contingency Plan was modified to limit reporting of release of hazardous waste. Prior to this change, release of hazardous substances that resulted in a hazardous waste required implementation of the Plan.

1-010	8-14-91	2 gallons	MATERIAL RELEASED: waste Kathene solution containing toxic levels of chrome (D007)
			A release when solution overflowed a drain inside Building 707 during transfer operations to empty tanks.
91-011	8-14-91	2 quarts	MATERIAL RELEASED: antifreeze (1)
			A release onto asphalt surface from a private vehicle in the parking lot south of Building 130D.
91-012	8-23-91	1-1/2 pint	MATERIAL RELEASED: antifreeze (1)
			A release onto asphalt surface from a private vehicle in the parking lot north of Building 771.
91-013	8-23-91	3 quart	MATERIAL RELEASED: antifreeze (1)
			A release onto asphalt surface from a private vehicle in the parking lot east of Building 111.
91-014	8-26-91	2 quarts	MATERIAL RELEASED: hydraulic oil (1)
			A release from a sub-contractor vehicle onto the soil south of Building 250.
91-015	8-26-91	1 quart	MATERIAL RELEASED: motor oil (1)
			A release in the parking lot and soil north of Guard Post, source of release is unknown.
91-016	8-28-91	750 gallons	MATERIAL RELEASED: aqueous waste (containing waste Kathene solution with toxic levels of chromium)(D007)
			A release from overfilling a RCRA-regulated process waste tank (#651) inside Building 731 due to failure of tank high level
91-017	8-29-91	1 quart	MATERIAL RELEASED: compressor oil (1)
			A release onto asphalt surface west of Building 865 from an air compressor during routine oil change.

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91-018	8-30-91	2 gallons	MATERIAL RELEASED: gasoline (1) A release from a contractor's gasoline supply vehicle onto asphalt surface north of Building 331.
91-019	9-4-91	3 gallons	MATERIAL RELEASED: transmission fluid (1) A release from a contractor vehicle onto asphalt surface east of Building 131.
91-020	9-12-91	1 gallon	MATERIAL RELEASED: hydraulic oil (1) A release from a contractor backhoe to the soil west of Building 115.
91-021	9-17-91	1 gallon	MATERIAL RELEASED: hydraulic oil (1) A release from a trash truck onto asphalt surface south of Building 125.
91-022	9-24-91	10 gallons	MATERIAL RELEASED: hydraulic oil (1) A release from a trash truck to the soil and asphalt during transit from an area southwest of the 904 Pad to the parking lot at Building 331.
91-023	9-27-91	7 quart	MATERIAL RELEASED: antifreeze (1) ✓ A release from a private vehicle onto asphalt surface in the Building 334 parking lot.
91-024	9-30-91	1/2 gallon	MATERIAL RELEASED: gasoline (1) A release from a private vehicle onto asphalt surface in the north parking lot of the 130 trailer complex.
91-025	10-10-91	1 gallon	MATERIAL RELEASED: antifreeze (1) ✓ A release from a private vehicle onto asphalt surface at the north entrance to Portal 1.

(1) As of October 31, 1991, the RCRA Contingency Plan was modified to limit reporting of release of hazardous waste. Prior to this change, release of hazardous substances that resulted in a hazardous waste required implementation of the Plan.

91-026	10-9-91	5 gallons	MATERIAL RELEASED: decontamination water (containing trace levels of solvents)(F002) A release from a tanker onto asphalt road surfaces during transport from the decontamination pad to Building 231 tanks.
91-027	10-11-91	1-1/2gallon	MATERIAL RELEASED: antifreeze (1) ✓ A release onto asphalt surface from a private vehicle in the parking lot east of Building 886.
91-028	10-17-91	1/2 gallon	MATERIAL RELEASED: gasoline (1) A release from a private vehicle onto the soil in the ditch east of the 555 power station.
91-029	10-21-91	1-1/2 gallon	MATERIAL RELEASED: motor oil (1) A release from an air compressor onto the pavement north of Building 440 due to over pressurization of the oil reservoir, forcing oil out through dipstick tube which had not been closed properly.
1-030	10-22-91	N/A	MATERIAL RELEASED: N/A Lack of adequate secondary containment of the laundry waste tank (T-4) in Building 732.
91-031	10-25-91	1/2 gallon	MATERIAL RELEASED: antifreeze (1) A release from street sweeper to the pavement north of Building 331.
91-032	10-29-91	1 quart	MATERIAL RELEASED: motor oil (1) A release from a private vehicle onto asphalt surface on the parking lot for Building 441.
91-033	10-29-91	3 gallons	MATERIAL RELEASED: automatic transmission oil (1) A release from an air compressor onto the ground northwest of Building 443.

(1) As of October 31, 1991, the RCRA Contingency Plan was modified to limit reporting of release of hazardous waste. Prior to this change, release of hazardous substances that resulted in a hazardous waste required implementation of the Plan.

91-034	10-21-91	one cup	<p>MATERIAL RELEASED: salts (caustic) (D002)</p> <p>A release was not cleaned up within 24 hours from a RCRA-regulated tank (T-2) in Building 883.</p>
91-035	12-16-91	40 gallons	<p>MATERIAL RELEASED: TRIM™SOL lubricant mixed with waste oil (generator declared hazardous waste)</p> <p>A release from a leaking drum inside a cargo container in RCRA storage unit #1.</p>
92-001	1-29-92	1/2 gallon	<p>MATERIAL RELEASED: aqueous waste that might have contained D004, D005, D007, D008, D011, F001, F002, F003, F007, F008, F009</p> <p>A release from the primary transfer pipe (which is RCRA-regulated) into the secondary pipe between Buildings 881 and 887.</p>
92-002	1-29-92	1 quart	<p>MATERIAL RELEASED: spent battery acid that might contain toxic levels of cadmium (D006)</p> <p>A release outside Building 373 from used Ni-Cad batteries during storage prior to disposal.</p>
92-003	2-17-92	N/A	<p>MATERIAL RELEASED: N/A</p> <p>Lack of adequate secondary containment for RCRA-regulated hazardous storage tanks (T-2, T-3 and T-5) in Building 444</p>
92-004	2-26-92	14 filters	<p>MATERIAL RELEASED: used oil filters containing toxic levels of lead (D008)</p> <p>Inadvertent disposal of 14 filters into the sanitary landfill. Analysis is being conducted to establish if the filters should be managed as RCRA-regulated waste.</p>
92-005	4-16-92	35 gallons	<p>MATERIAL RELEASED: accumulated liquids</p> <p>Waste within a secondary containment system for B-866 waste collection tanks (RCRA Unit Nos. 40.17, 40.18, 40.19, 40.32 and 40.33) that had not been removed within 24 hours. The waste collected in these tanks had been characterized to contain D001, D002, D004, D005, D006, D007, D008, D011, F001, F002, F003</p>

7-006	4-14-92	5-6 gallons	MATERIAL RELEASED: accumulated liquids (sump in B-444/447)
			Lab analysis proved no RCRA-regulated waste present, but operations of RCRA-regulated tank system continued with "unfit-for-use" secondary containment.
92-007	4-24-92	< 50mL	MATERIAL RELEASED: acidic solution (D002, D006, D007, D008)
			A release from a mixed residue tank (D1804) in B-771 containing nitric acid contaminated with Plutonium was not cleaned up within 24 hours.
92-008	4-24-92	<50 mL	MATERIAL RELEASED: acidic solution (D002, D006, D007, D008)
			A release from a mixed residue tank (D160A) in B-371 containing hydrochloric acid and potassium hydroxide was not cleaned up within 24 hours.
92-009	4-29-92	N/A	MATERIAL RELEASED: N/A
			No RCRA-regulated waste present, but operations of the RCRA-regulated tank system continue in B-779 with "unfit-for-use" secondary containment.
92-010	5-8-92	< 20 mL	MATERIAL RELEASED: caustic solution (D002, D006, D007, D008)
			A release from a mixed residue tank system (D400A and D400C) in B-371, room 1115, was not cleaned up within 24 hours. The release was captured within the double plastic wrap covering the ancillary equipment.
92-011	5-8-92	< 3 mL	MATERIAL RELEASED: N/A
			Process knowledge established the release from a tank (D1414) in B-771, room 181A to be ferrous sulfate which is not a RCRA-regulated waste. The tank had been erroneously identified as a mixed residue tank; the release was not cleaned up within 24 hours even though it was contained within plastic wrap covering the ancillary equipment.

92-012	5-8-92	< 1 pint	<p>MATERIAL RELEASED: caustic solution (D002, D006, D007, D008)</p> <p>A release from a mixed residue tank system (D2A and D2B) in B-371, room 1115, was not cleaned up within 24 hours. The release was contained within a glovebox.</p>
92-013	5-20-92	30 gallons	<p>MATERIAL RELEASED: process aqueous waste (containing chromium)(D007)</p> <p>Operation of the RCRA regulated 90-day tank systems in B-731 with "unfit-for-use" secondary containment was continued and spill material was not removed within 24 hours.</p>
92-014	5-24/26-92	1386 gallons	<p>MATERIAL RELEASED: caustic solution (based on analytical results completed after release, material released was not RCRA-regulated hazardous waste)</p> <p>A release from a liquid process RCRA-regulated waste line in B-371, room 1117 was not cleaned up within 24 hours.</p>
92-015	6-1-92	45-60 gal	<p>MATERIAL RELEASED: accumulated liquid (based on analytical results completed after release, material released was not RCRA-regulated hazardous waste)</p> <p>The secondary containment system for the 90-day RCRA regulated waste collection tanks in B-528 is "unfit-for-use" due to a 2-inch crack in the fiber glass liner of the sump pit.</p>
92-016	6-2-92	2-3 gallons	<p>MATERIAL RELEASED: accumulated liquid (based on analytical results completed after release, material released was not RCRA-regulated hazardous waste)</p> <p>A release of process aqueous waste from RCRA-regulated ancillary equipment into the secondary containment system (the process waste transfer line within B-123). The release was not cleaned up within 24 hours.</p>
92-017	6-10-92	50 gallons	<p>MATERIAL RELEASED: oil/solvent mixture that might have contained D001, D004, D018, D019, D028, D029, D035, D038, D040, D043, F001, F003</p> <p>A release from a waste tank in B-774, room 210, that was not cleaned up within 24 hours.</p>

92-018 6-16-92 67 gallons MATERIAL RELEASED: accumulated liquid (based on analytical results completed after release, material released was not RCRA-regulated hazardous waste)

Accumulated liquids (process aqueous waste) were removed from the sump in B-883 and pumped into RCRA regulated tank A-24. The secondary containment for the sump had been determined to be inadequate.

Environmental Release Report to LEPC or SERC

None for July, 1991 through June, 1992.

EPA National Response Center Notification

Reported by DOE	9-27-91	7 quart	MATERIAL RELEASED: antifreeze A release from a private vehicle onto asphalt surface in the Building 334 parking lot.
Reported by DOE	10-10-91	1 gallon	MATERIAL RELEASED: antifreeze A release from a private vehicle onto asphalt surface at the north entrance to Portal 1.
Reported by DOE	10-11-91	1-1/2gal	MATERIAL RELEASED: antifreeze A release onto asphalt surface from a private vehicle in the parking lot east of Building 886.
93901	10-25-91	1/2 gallon	MATERIAL RELEASED: antifreeze A release from street sweeper to the pavement north of Building 331.
102789	1-14-92	1 quart	MATERIAL RELEASED: antifreeze A release from a private vehicle onto asphalt surface at the parking lot west of 904 Pad. Release is reportable under 40 CFR 302.4.
106453	2-11-92	6 quarts	MATERIAL RELEASED: antifreeze A release from a private vehicle onto the asphalt road (Central Avenue) due to a ruptured radiator hose.

106811	2-14-92	1 gallon	MATERIAL RELEASED: antifreeze A release from a private vehicle onto asphalt surface which flowed to soil between T690B and T690C.
107772	2-22-92	2 quarts	MATERIAL RELEASED: antifreeze A release from a private vehicle onto asphalt surface at the parking lot by T130D.
113123	4-5-92	< 1 gallon	MATERIAL RELEASED: diesel fuel A release from a diesel powered pump to soil and surface water at Pond B5. The release resulted in a sheen of oil on navigable water which is reportable under 40 CFR 110.10.
114891	4-20-92	1 gallon	MATERIAL RELEASED: antifreeze A release from a private vehicle onto asphalt surface at parking lot east of B-119.
115386	4-22-92	2-3 gallons	MATERIAL RELEASED: antifreeze A release from a front-end loader to soil at construction site.
115727	4-26-92	< 1 gallon	MATERIAL RELEASED: antifreeze A release from a private vehicle onto asphalt surface in a parking lot between B-111 and B-113.
118275	5-18-92	~ 1/2 gallon	MATERIAL RELEASED: antifreeze A release from a private vehicle onto asphalt surface in the 123 parking lot.
118622	5-20-92	~ 1/2 gallon	MATERIAL RELEASED: antifreeze A release from a private vehicle onto asphalt surface in the parking area of B-334.
120608	6-5-92	2 quarts	MATERIAL RELEASED: antifreeze A release from a private vehicle onto asphalt surface in the parking area west of B-060.

73209 6-22-92 50 gallons The National Response Center was notified of a release of possibly contaminated ground water; however, upon further investigation and analytical testing, the material was characterized as non-hazardous.

NOTE 1: All releases reportable under 40 CFR 302.4.

NOTE 2: Assume antifreeze contains 50 % ethylene glycol and 50 % water. Reportable quantity to National Response Center for ethylene glycol is 1 pound; therefore, the reporting level for an antifreeze mixture is 2 pounds or approximately 1 quart.

NOTE 3: Amounts listed in table are approximate estimates of quantity released.

CAUSE ANALYSIS

Cause Analysis seeks to identify the basic cause and effect relationship of a spill. The goal of the analysis is to prevent the possibility of future spills by eliminating the known causes of today's spills. The following is a rudimentary analysis of the 12-month period from July 1991 through June 1992. The purpose is to emphasize the weaknesses so that we can focus our collective attention on preventing future, similar incidents. It should be noted that a specific incident may have more than one root cause. In addition, a formal cause analysis is completed by the responsible Operations Manager for any release that is reportable to DOE, RFO.

<u>TYPE OF ERROR</u>	<u>NUMBER OF INCIDENTS</u>	<u>RELATIVE PERCENT</u>
<u>Personnel</u>	<u>41</u>	<u>23.8</u>
Procedure Not Followed	1	0.6
Training Deficiency	4	2.3
Lack of Attention	27	15.7
Programmatic Deficiency	5	2.9
Communication Deficiency	4	2.3
<u>Procedural</u>	<u>4</u>	<u>2.3</u>
Incomplete/Nonexistent	4	2.3
Incorrect Information	0	0.0
<u>Equipment</u>	<u>70</u>	<u>40.7</u>
Design Deficiency	14	8.1
Maintenance Deficiency	19	11.1
Premature Wearout	17	9.9
Installation/Mfg Deficiency	3	1.7
Other	17	9.9
<u>Privately Owned Vehicles</u>	<u>28</u>	<u>16.3</u>
<u>Not Investigated</u>	<u>29</u>	<u>16.9</u>

RELEASE GRAPHICS

RELEASES(1) OCCURRING INSIDE OR OUTSIDE BUILDINGS OR CONTAINMENT

- (1) Includes all reported releases greater than or equal to one pound (or one pint of aqueous liquids) of hazardous substances (i.e., CERCLA hazardous substance, RCRA hazardous waste, SARA Title III extremely hazardous substance, DOT hazardous material, petroleum products, and nonhazardous substances (e.g., water) contaminated by hazardous constituents.

NOTE: All reported mercury releases are included in data base including releases less than one pound.

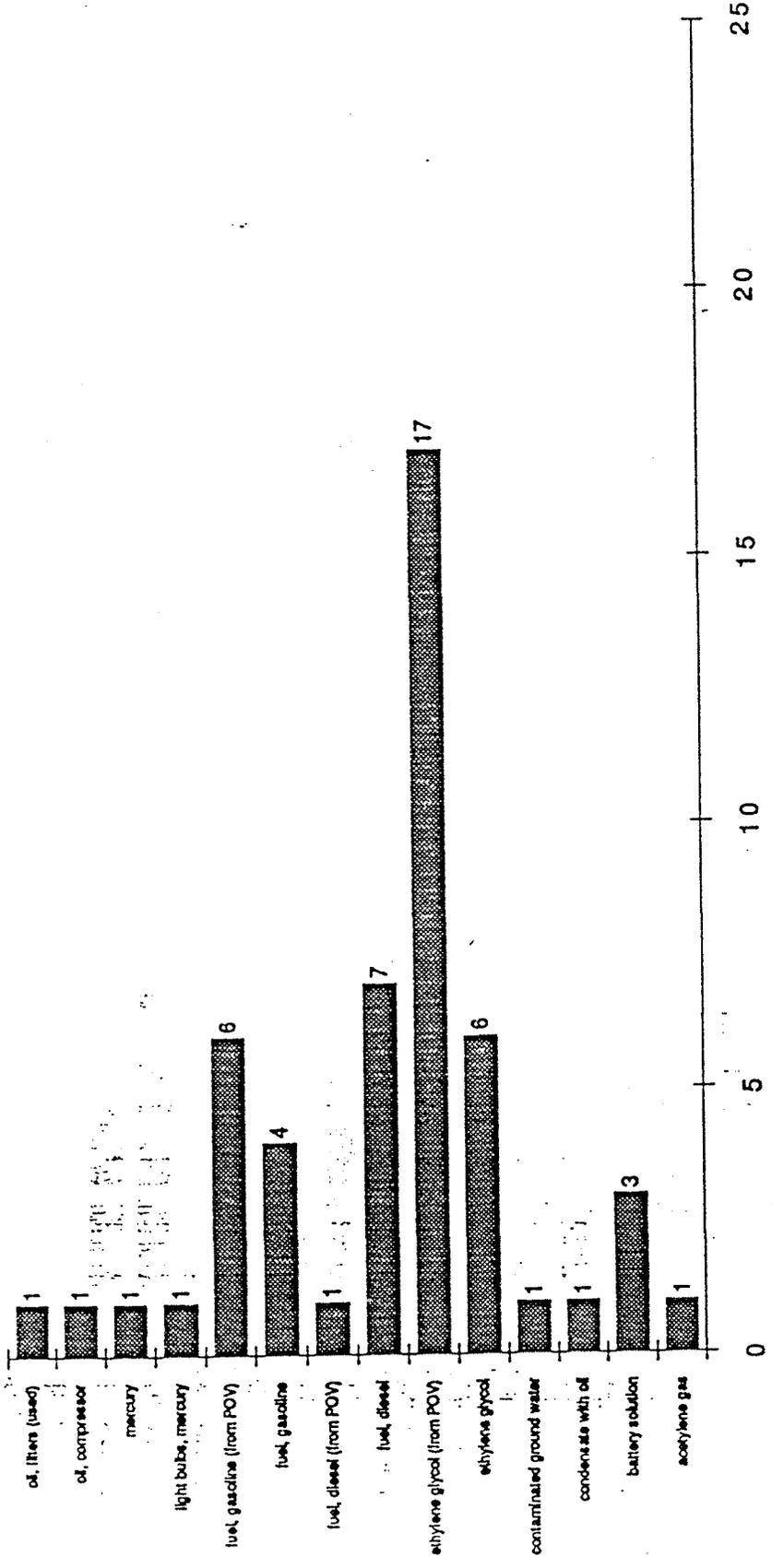
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Outside Only Releases by Location



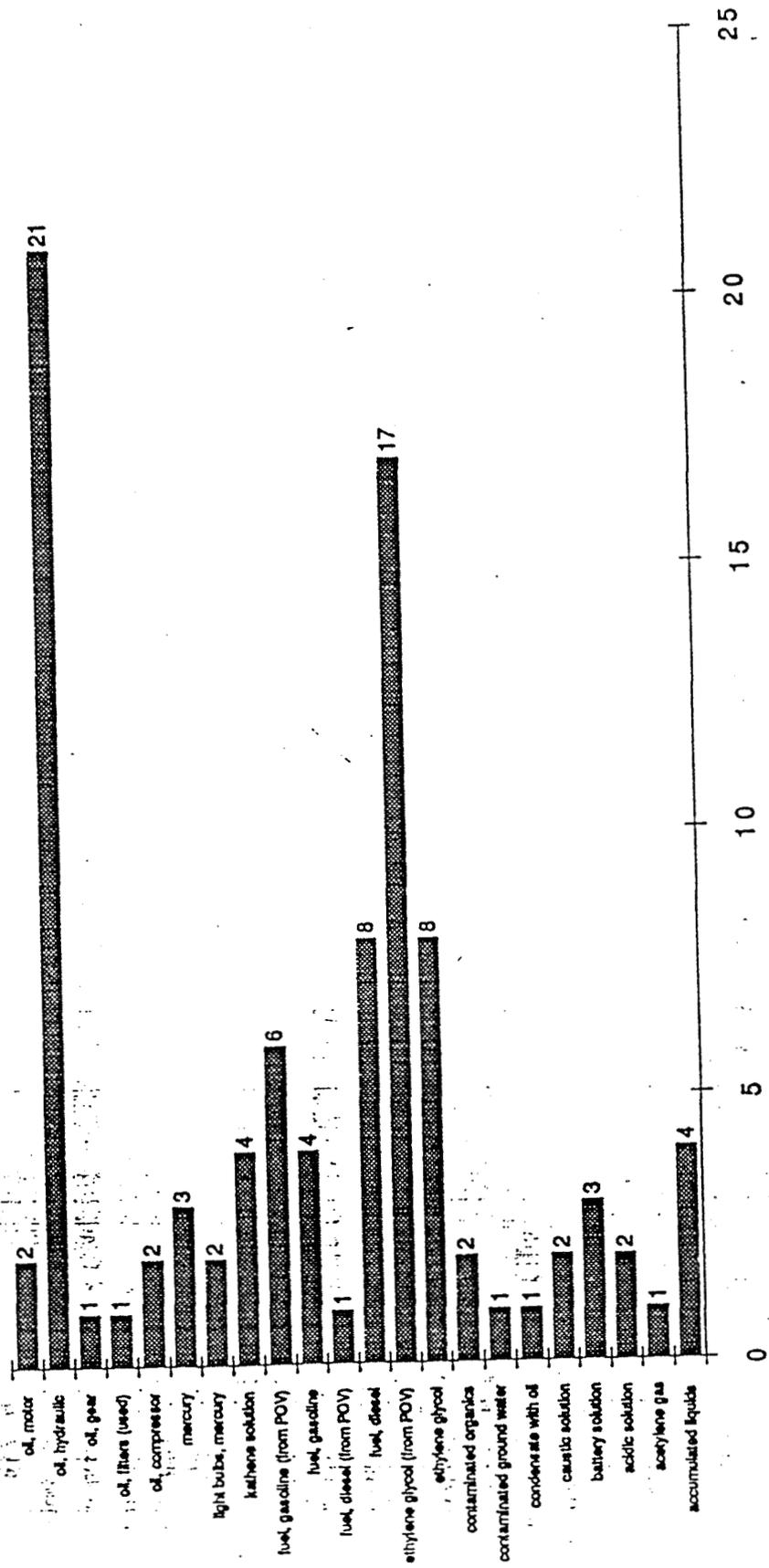
Number of Releases during July 1991 through June 1992

Outside Only Releases by Substance Type



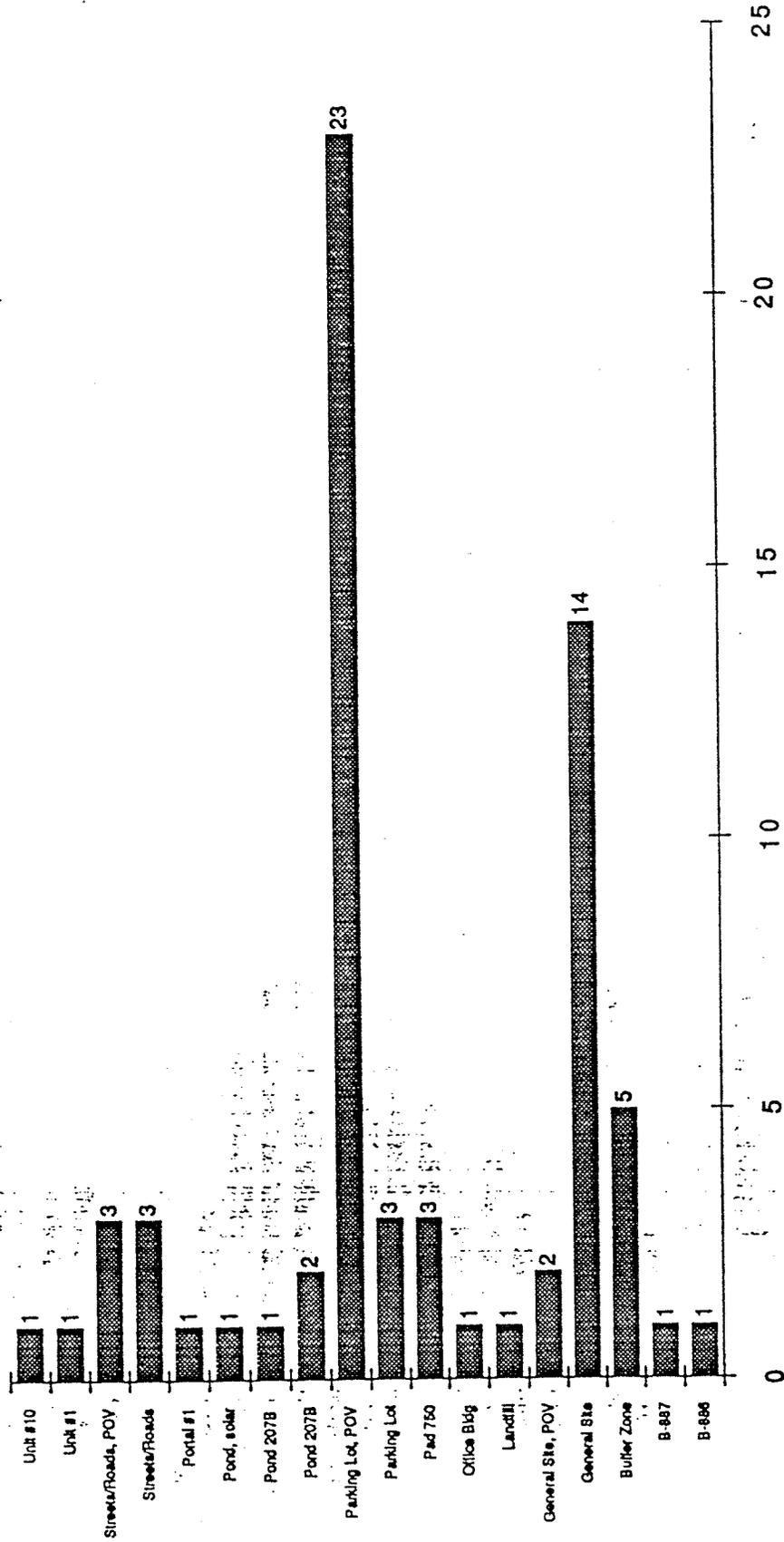
Number of Releases during July 1991 through June 1992

Inside and Outside Releases by Substance Type



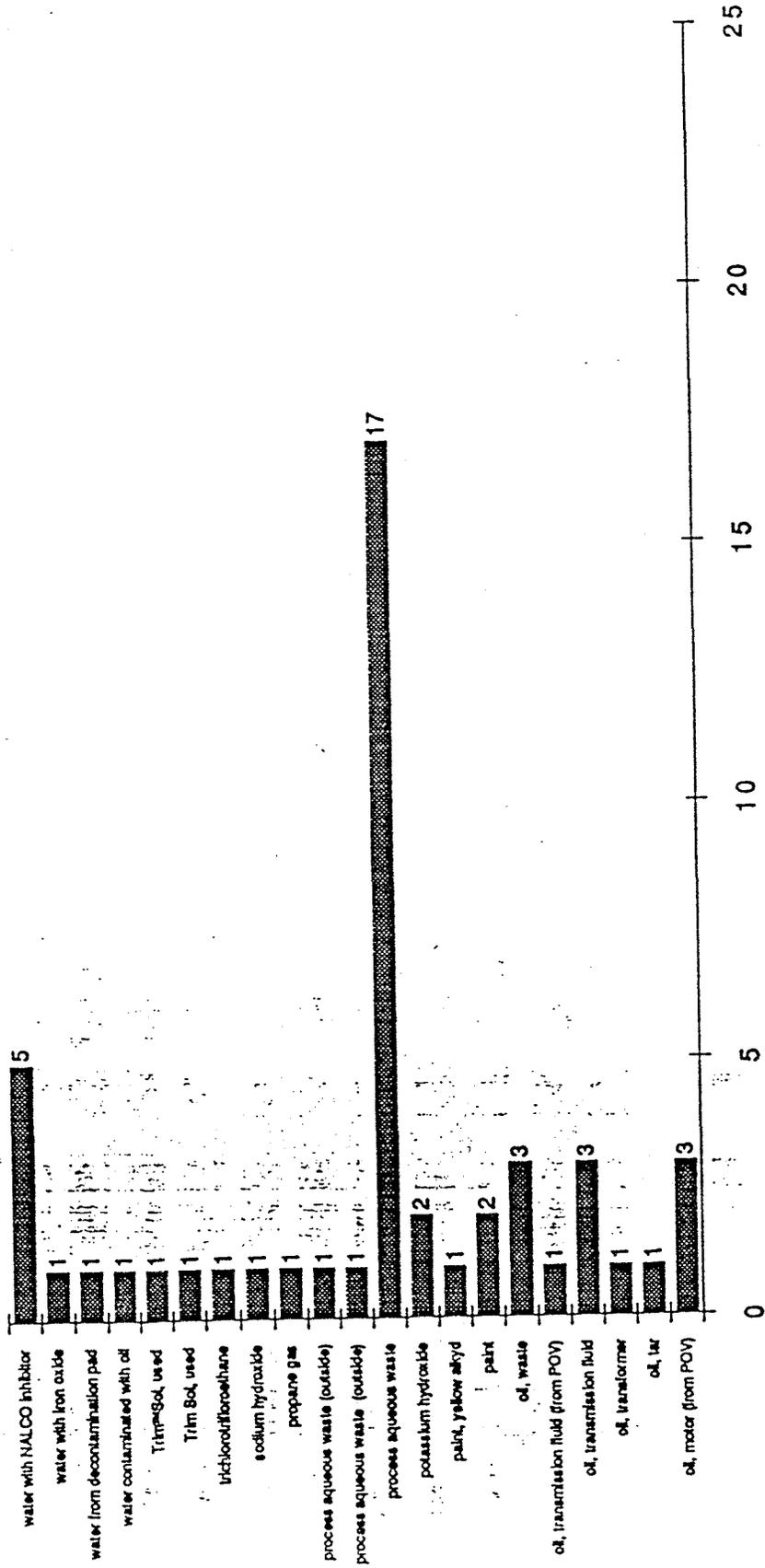
Number of Releases during July 1991 through June 1992

Inside and Outside Releases by Location



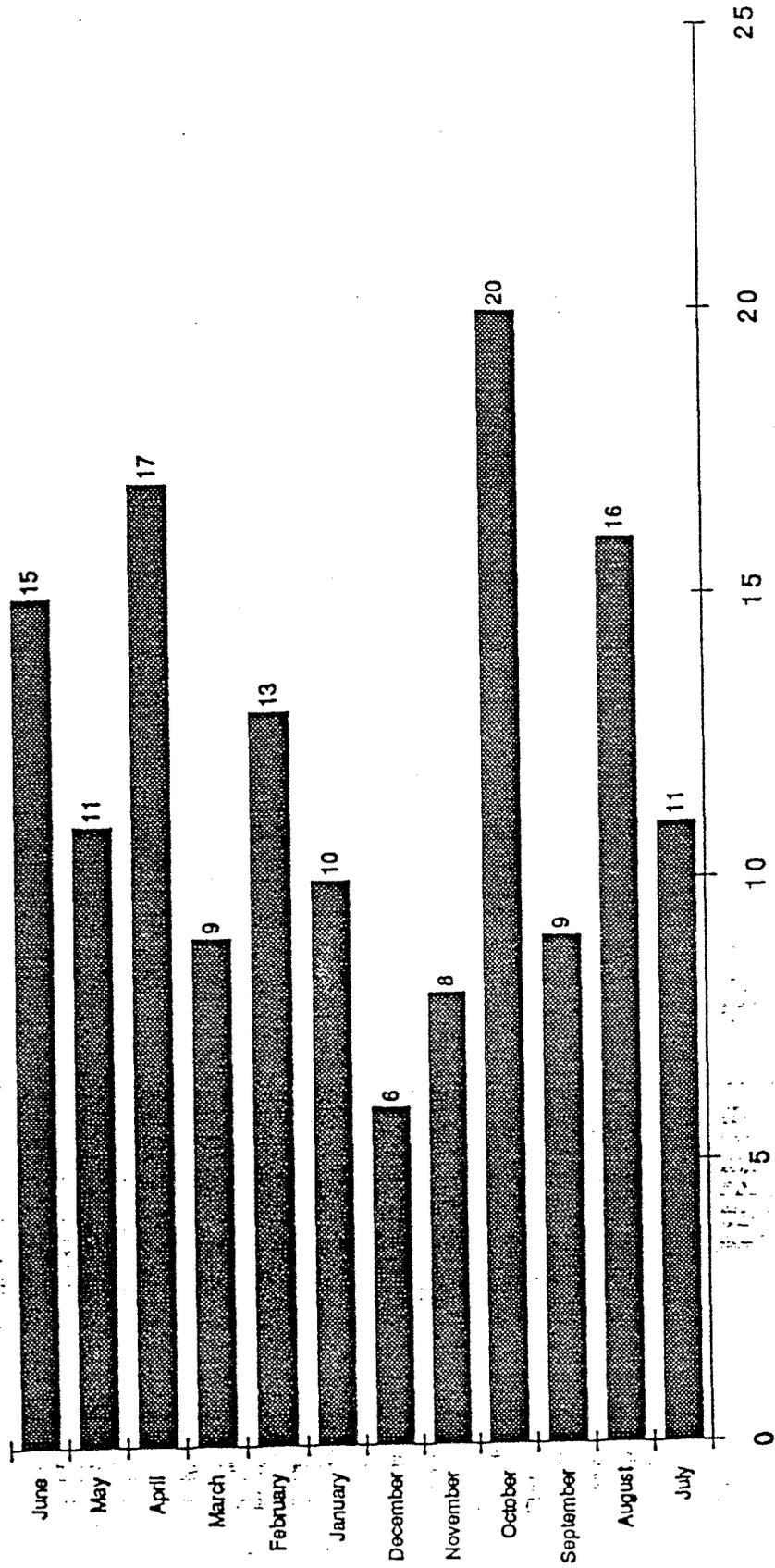
Number of Releases during July 1991 through June 1992

Inside and Outside Releases by Substance Type



Number of Releases during July 1991 through June 1992

Inside and Outside Releases by Month



Number of Releases during July 1991 through June 1992

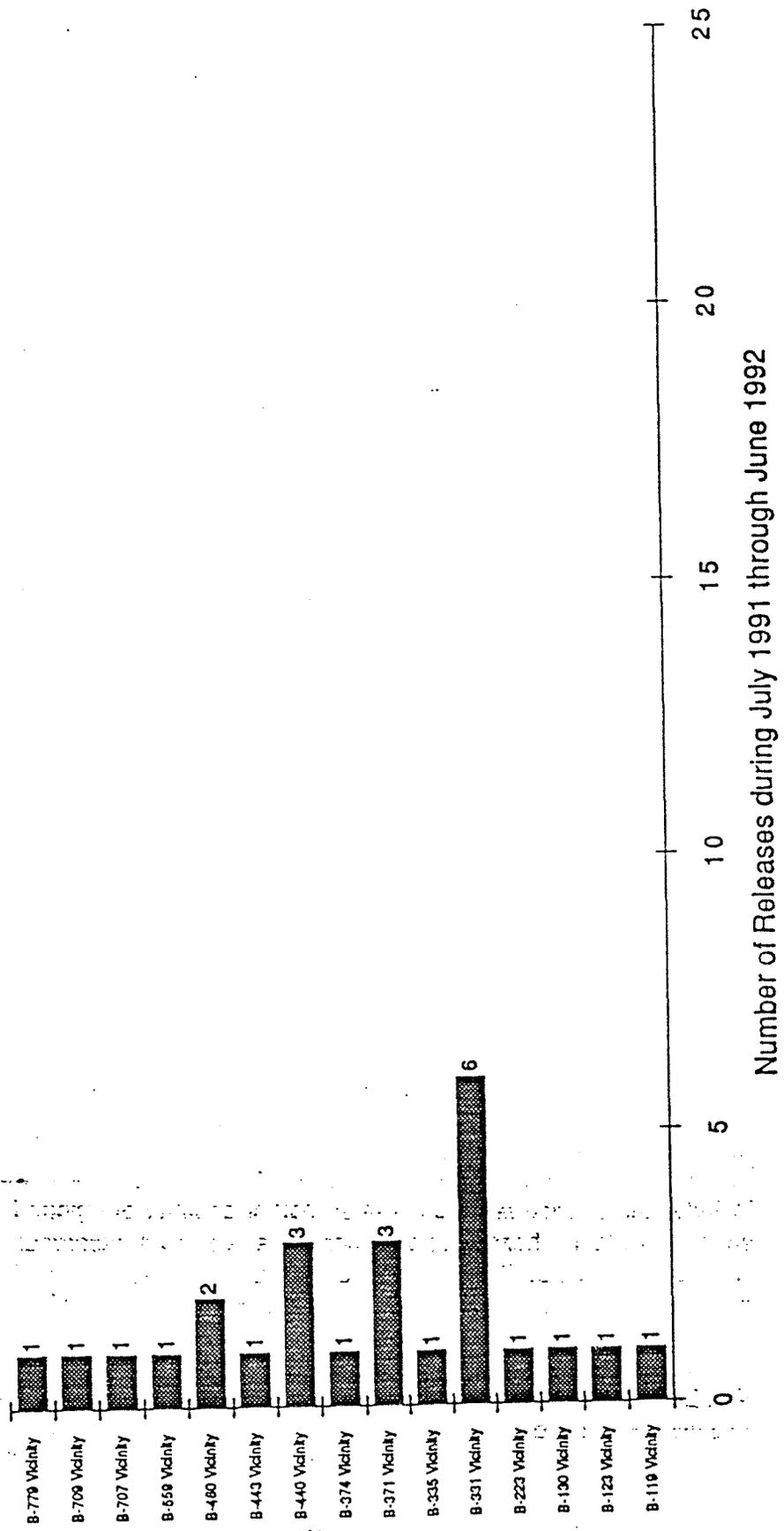
RELEASE GRAPHICS

RELEASES(1) OCCURRING OUTSIDE BUILDINGS OR CONTAINMENT ONLY

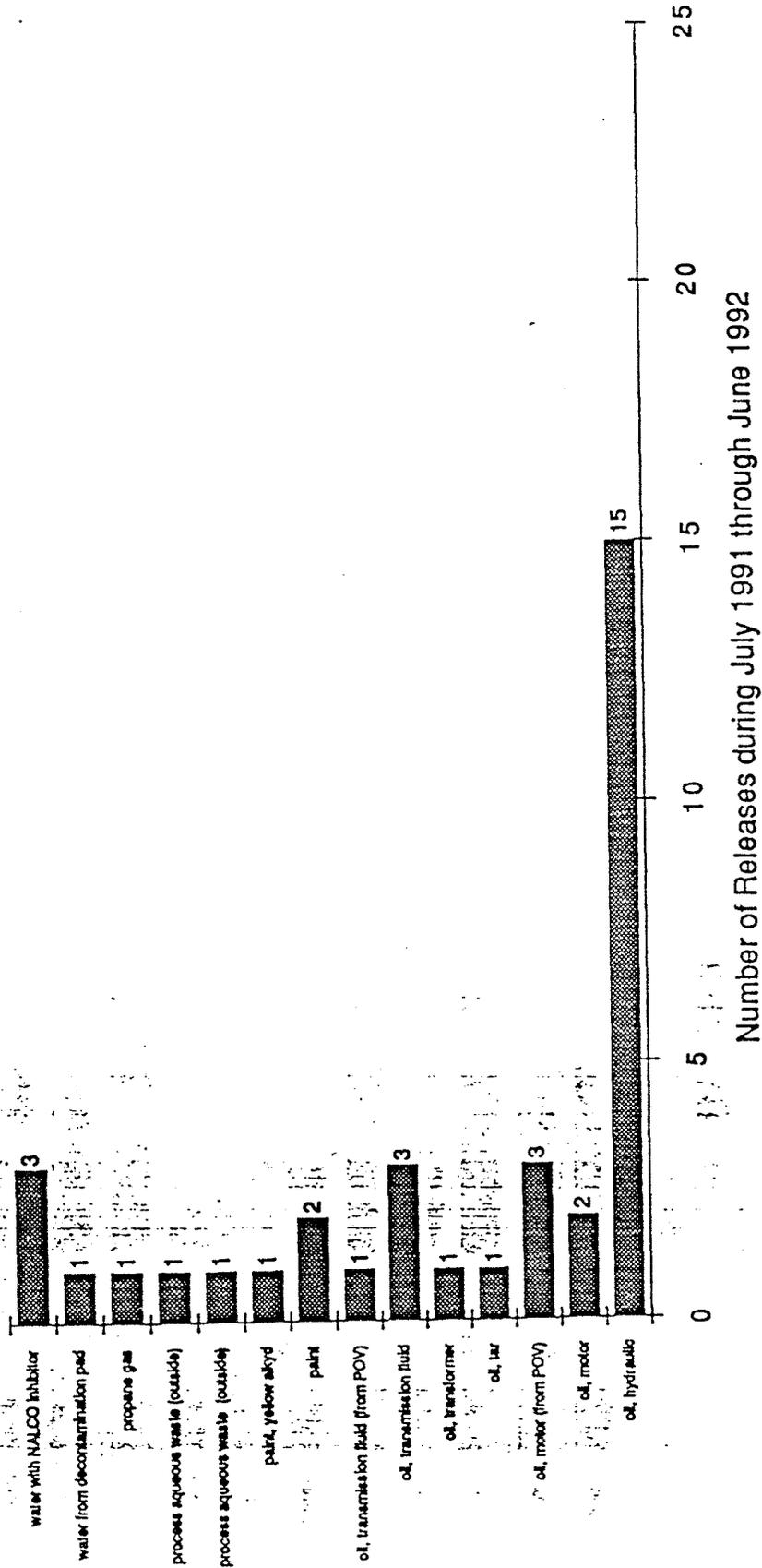
- (1) Includes all reported releases greater than or equal to one pound (or one pint of aqueous liquids) of hazardous substances (i.e., CERCLA hazardous substance, RCRA hazardous waste, SARA Title III extremely hazardous substance, DOT hazardous material, petroleum products, and nonhazardous substances (e.g., water) contaminated by hazardous constituents.

NOTE: All reported mercury releases are included in data base including releases less than one pound.

Outside Only Releases by Location

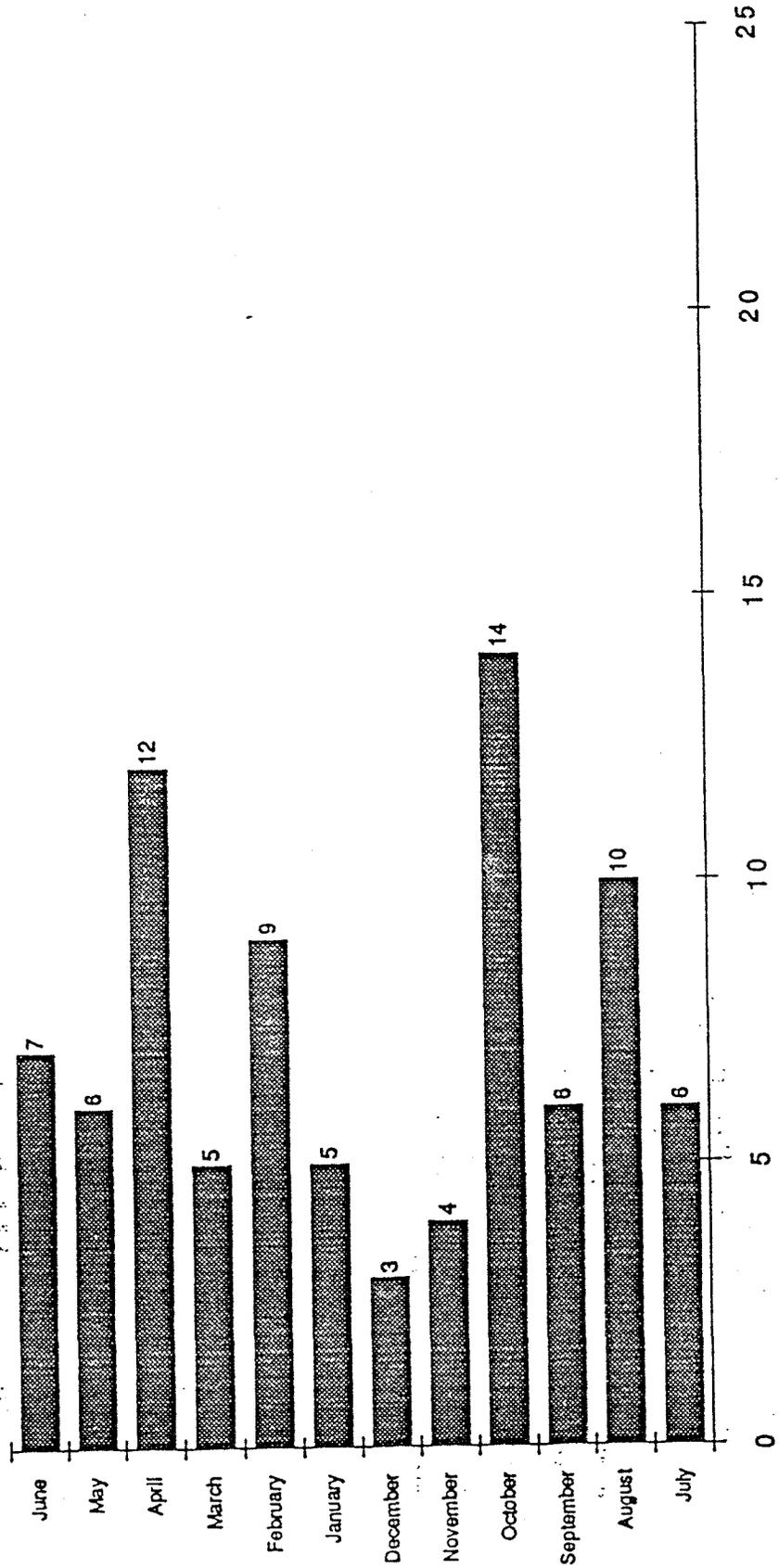


Outside Only Releases by Substance Type



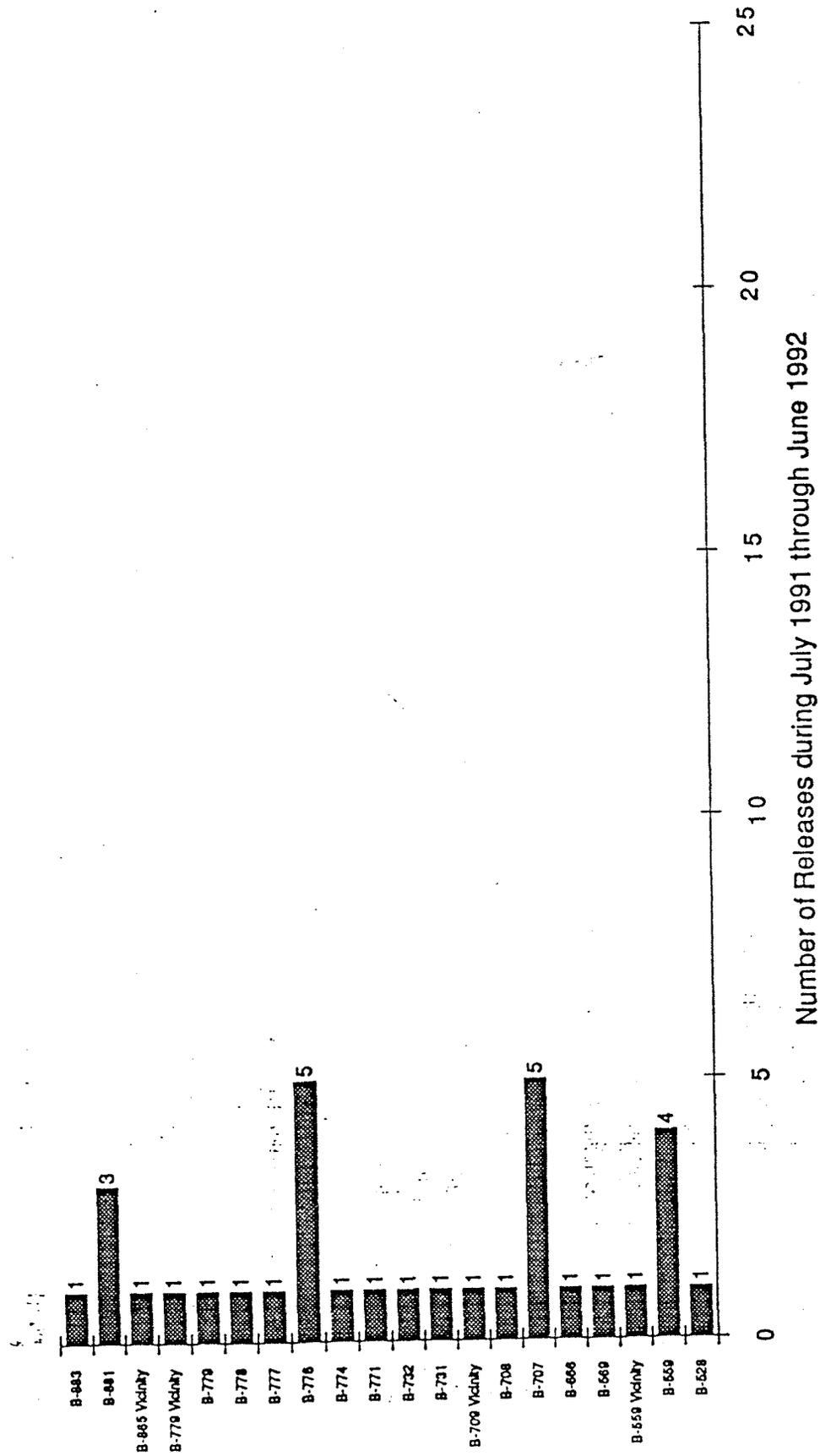
Number of Releases during July 1991 through June 1992

Outside Only Releases by Month



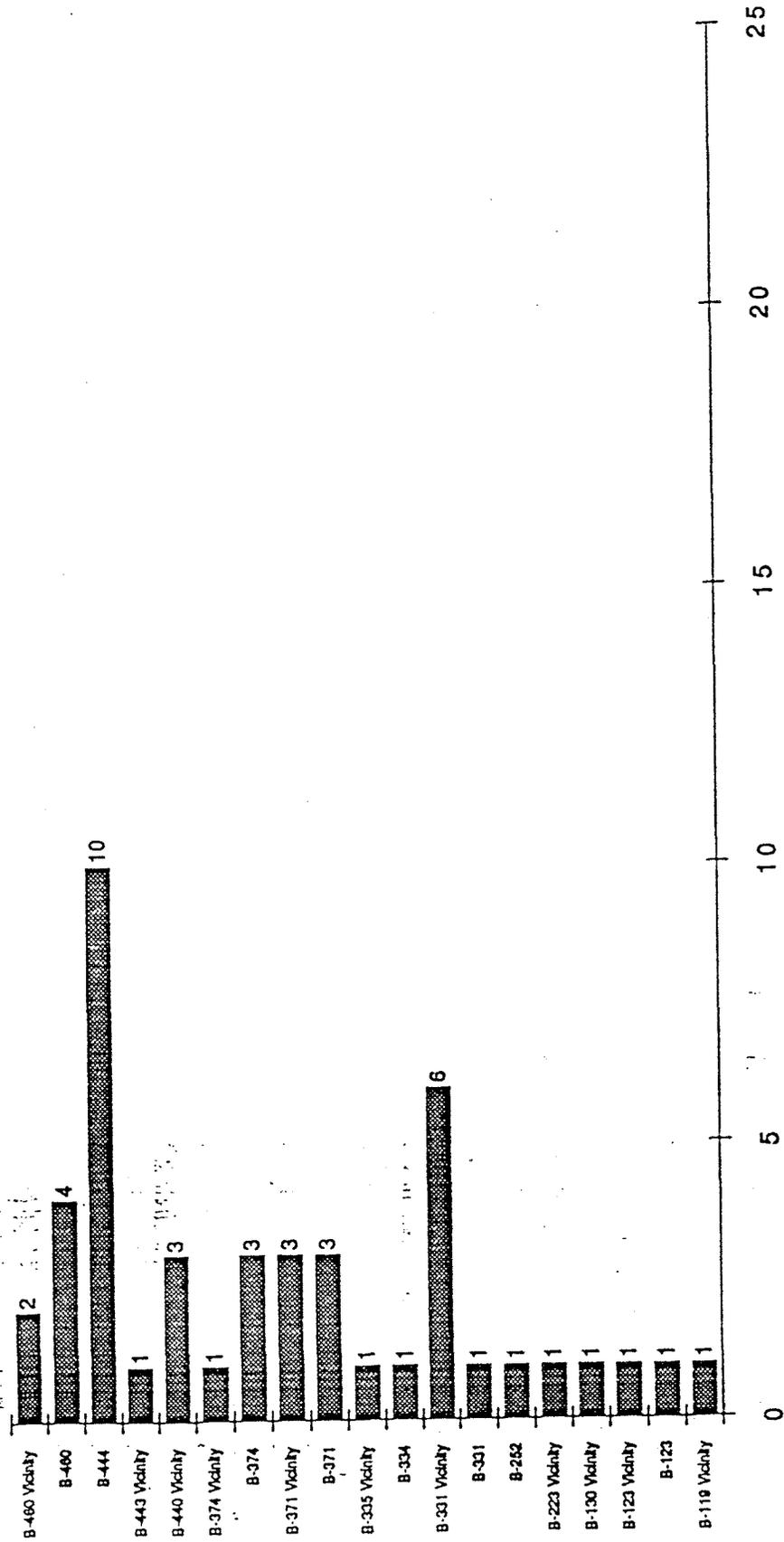
Number of Releases during July 1991 through June 1992

Inside and Outside Releases by Location



Number of Releases during July 1991 through June 1992

Inside and Outside Releases by Location



Number of Releases during July 1991 through June 1992