

WRITTEN STATEMENT OF DISPUTE FOR MARINE CORPS AIR STATION (MCAS)  
EL TORO

I. Nature Of The Dispute:

The Department of the Navy (DON) is disputing the placement of conditions (i.e., requiring amendment of the FFA to include enforceable secondary documents/milestones and two other conditions) on the approval of its schedule extension request for MCAS El Toro, by the Environmental Protection Agency (EPA) and the State of California (as represented by the Department of Toxic Substances Control (DTSC)), despite agreement that sufficient justification exists for these extensions.

II. Issues And Positions With Respect To The Dispute:

A. Do EPA and the State have the authority to deny an extension request when the elements stated in FFA §9.1 have been satisfied?

Position: No. FFA §9.1 requires the extension of timetables, deadlines and schedules upon a timely request for which sufficient justification (i.e., good cause) exists, where the party has described the extension's effect on related timetables, deadlines, and schedules. DON has satisfied these requirements. (See enclosures (1), (5), (10), (12) & (13)).

B. Did EPA and the State impose unauthorized conditions upon the approval of extension requests?

Position: Yes. Both EPA and the State conditioned their approval of DON's schedule extension request for MCAS El Toro. The conditions, among other things, require DON to amend the FFA to make interim deliverables (secondary documents/milestones) enforceable.

The FFA states no other conditions for the granting of an extension, other than those listed in FFA §9.1. The ability to impose conditions on the granting of extensions, beyond those provided for in §9, would abrogate the protection against unreasonable denials that was negotiated into the model FFA by DOD and EPA headquarters. These model FFA provisions can be found in EPA's Office of Solid Waste and Emergency Response (OSWER) Directive No. 9992.4 ("Federal Facilities Hazardous Waste Compliance Manual, 01/09/90).

C. Does the FFA provide for enforceability of secondary documents/milestones?

Position: No. FFA §7.4 (b) provides that the Project Managers will establish target dates for the completion and transmission of secondary documents. FFA §7.3 (c) clearly provides that: "...target dates do not become enforceable by their inclusion in the primary documents and are not subject to Section 8 (Deadlines), Section 9 (Extensions) or Section 13 (Enforceability)." This is model language from which we are not authorized to deviate.

The subject conditions constitute an unauthorized attempt to force DON to modify the model language of the FFA. Amendment or modification of the FFA may be pursued only under FFA §29, which requires written consent of all parties. DON has already decided at the Secretariat level that it is not willing to amend the FFA to include enforceability of secondary documents/milestones.

III. Work Affected By The Dispute:

No work is currently affected by this dispute, except that the OU #4 RI/FS Workplan deadline has passed. The Draft RFA Report and resulting RI/FS Workplan for OU#4 continue to be worked upon. Work for all other OUs continues.

IV. Discussion: Supporting Factual, Technical, & Legal Information

A. Factual Information

1. On December 13, 1991, DON requested a time extension on behalf of MCAS El Toro for Operable Unit (OU) #4's Draft Remedial Investigation/Feasibility Study (RI/FS) Work Plan submission, which was due on 15 December 1991. This letter formalized an extension request, the details of which were previously negotiated among the parties' project managers. This was to include an extension of the target date for the Draft RCRA Facility Assessment (RFA) Report, which was due on the same date. (See enclosure (1)). The extension request cited the significant increase in project scope as justification, which would satisfy the "good cause" provisions of the FFA. OU#4 was not a pre-existing OU. Rather, it was developed to receive sites that were designated for further action in the RFA Report.

2. On December 19, 1991, DTSC rejected the extension request stating that the request was not submitted in a timely manner as required by §9.1 of the FFA and that the good cause requirements in §9.2 of the FFA were not satisfied. (See enclosure (2)).

3. On December 23, 1991, the EPA responded to DON's extension request in a similar manner. EPA stated that the request was untimely and failed to establish good cause. (See enclosure (3)).

4. On December 31, 1991, the Regional Water Quality Control Board, Santa Ana Region (RWQCB) responded to DON's extension request, stating that it was untimely and that insufficient documentation was provided to satisfy the good cause provisions of the FFA. (See enclosure (4)).

5. On December 31, 1991, DON responded to the EPA's rejection of December 23, 1991. (See enclosure (5)). The DON letter rebutted the contention that the request was untimely, clearly establishing that the extension request was submitted in a timely manner, within the meaning of §4.1(d) of the FFA. The DON letter provided additional information and explanation supporting its contention that it had stated good cause for the extensions, within the meaning of §§9 and 10 of the FFA. Specifically, it explained in greater detail how OU#4's scope had increased and what impact this had on the RI/FS workplan deadline. DON notified EPA of its intent to take this issue to dispute resolution, but urged an informal resolution of the matter.

6. On January 2 and 8, 1992, DON responded to the DTSC and RWQCB letters of December 19 & 31, 1991, respectively. (See enclosures (6 & 7)). The DON letters referred to the explanation given in DON's December 31, 1991 letter to EPA and reiterated that the extension request was submitted in a timely manner and that good cause had been demonstrated. It also notified the parties of DON's intent to take the issue to dispute resolution.

7. From 9 January 1992 to 14 February 1992, the parties' project managers engaged in informal dispute resolution to address the stated issues. At this time, discussions were expanded to include extensions for OUs #1, #2, & #3, although no deadlines for these OUs were yet approaching.

8. On January 17, 1992, the DON sent a letter to EPA, DTSC, and the RWQCB confirming the mutually agreed upon

extension of the date for submission of the "written statement of dispute," required under Section 12.2 of the FFA, to February 7, 1992. (See enclosure (8)).

9. On January 31, 1992, DON sent a similar letter to EPA, DTSC and the RWQCB confirming the agreement to further extend the date for submission of the written statement to February 14, 1992. (See enclosure (9)).

10. During the period of February 3, 1992 through February 13, 1992, issues concerning whether or not DON field personnel have authority to agree to the enforceability of secondary documents/milestones were elevated within DON. As a result, mixed signals may have been sent to the other FFA parties. This issue was resolved within DON by February 14, 1992.

11. On February 14, 1992, the DON sent a letter to the EPA, with copies provided to DTSC and the RWQCB. (See enclosure (10)). This letter summarized schedule revisions, which were the product of project manager consensus and that of EPA's Julie Anderson. The letter confirmed a previous mutual agreement to defer the submission of the written statement of dispute to twenty-one days after EPA's response to the DON letter of February 14, 1992. The letter formalized DON's extension request for OUs #1, #2, & #3 and requested concurrence on a proposed revised schedule for OU #4 (including the target date for the Draft RFA Report), which offered a time reduction from the OU #4 extension proposed in DON's December 13, 1991 letter. DON also stated its commitment to start a groundwater removal action, prior to the signing of the Record of Decision.

The enclosures to the letter of February 14, 1992 are significant because they supply: the proposed revisions to FFA Appendix "A" (timetables, deadlines and schedules); much greater detail (in the form of bar charts) as to the RI/FS and RFA "History of Events"; a detailed breakdown into time segments (bar chart form) of the proposed schedule revisions (*i.e.*, time extensions); additional detail in the description of good cause for the extensions requested; and a description of DON's support of groundwater remediation through the Orange County Water District Desalter Project.

12. The revised Appendix "A", enclosed in the February 14, 1992 letter, did not provide for the enforceability of secondary documents/milestones. The decision that agreement to secondary document enforceability was not possible was made at the Navy's Secretariat level,

which advised DON field personnel that agreement to such a deviation from the model FFA was not authorized.

13. On the same date, February 14, 1992, DON responded to EPA, DTSC, & RWQCB letters concerning a similar situation at Marine Corps Logistics Base (MCLB), Barstow. This letter explained that DON could not agree to the enforceability of secondary documents/milestones. (See enclosure (11)).

14. On February 21, 1992, the DTSC responded to DON's MCAS El Toro letter of February 14, 1992. (See enclosure (12)). The DTSC letter stated:

"You have demonstrated to us the technical merits of accepting your February 14, 1992 request as a reasonable schedule."

The letter also noted that DON's February 14 letter included a change to the agreement that was reached in negotiations prior to the February 14, 1992 letter (i.e., the enforceability of secondary documents/milestones). DTSC then accepted the DON extension request on the condition that DON amend the FFA to make the additional interim deliverables enforceable as primary documents. Two other conditions were also required: that DON would commit to performance of appropriate pre-ROD removal actions and to make its best effort to identify schedule reduction opportunities.

15. On February 23, 1992, EPA responded to the DON's MCAS El Toro letter of February 14, 1992. (See enclosure (13)). The EPA letter stated:

"We appreciate the effort your staff demonstrated in presenting a comprehensive justification for the extension request. We agree that the project scope has increased significantly from original projections and schedule extensions are justified. We believe your request meets the criteria listed in Section 9.1 of the FFA for granting an extension."

Despite its agreement with DON that good cause existed, EPA recognized that the enforceability of interim deadlines was not reflected in the February 14, 1992 DON letter. EPA then stated that they approved the

extension request subject to the condition that DON amends the FFA to include the interim enforceable deadlines. EPA also requested commitments to identify appropriate interim removal actions and to look for opportunities to streamline the process.

16. On March 5, 1992, DON sent a letter to EPA, the DTSC, and the RWQCB which briefly explained that DON could not agree to enforceability of secondary documents/milestones. (See enclosure (14)). The letter also suggested that the parties meet again to attempt informal dispute resolution and requested that the submission date for the written statement of dispute be postponed to a date subsequent to the informal meeting.

17. On March 11, 1992, the DON sent a letter to EPA, DTSC, and the RWQCB which confirmed a previous agreement to extend the date for submission of the written statement of dispute to March 25, 1992 and to meet on March 23, 1992 to continue informal dispute resolution. (See enclosure (15)).

18. On March 12, 1992, EPA sent a letter to DON stating that the interim enforceable deadlines are essential and that they accept DON's rejection of the condition as notification for formal dispute resolution. EPA agreed to meet on March 23, 1992 to informally discuss the dispute. It also requested that DON suggest other viable alternatives. Additionally, EPA agreed to extend the date for submission of the written statement of dispute for both MCAS El Toro and MCLB Barstow to March 25, 1992. (See enclosure (16)).

B. Pertinent Technical Information

See enclosures (1) and (10) for more detailed information regarding schedules, technical approach, and scope increases.

C. Pertinent Legal Information

EPA and DTSC have stated that the length of the project requires that interim enforceable deadlines be imposed to ensure adequate progress throughout the RI. The following discussion provides background supporting the contention that the law neither requires nor supports this viewpoint.

The "Defense Environmental Restoration Program" (DERP), 10 U.S.C. §2701, *et seq.* and §120 of the Comprehensive

Environmental Response, Compensation, & Liability Act (CERCLA), 42 U.S.C. §9601, et seq. govern the investigation and cleanup of DON sites contaminated with hazardous substances, pollutants, and contaminants. With the enactment of DERP Congress evinced the intent to give special focus to DOD's Environmental Restoration Program. Paragraph (a)(2) of 10 U.S.C. §2701 reads as follows:

"(2) APPLICATION OF SECTION 120 OF CERCLA.--Activities of the program described in subsection (b)(1) shall be carried out subject to, and in a manner consistent with, section 120 (relating to Federal facilities) of...CERCLA...

DERP requires that DOD work in consultation with EPA. 10 U.S.C. §2701 (a)(3) states:

"(3) CONSULTATION WITH EPA.--The program shall be carried out in consultation with the Administrator of the Environmental Protection Agency."

10 U.S.C. §2705, entitled "Notice of environmental restoration activities," requires that EPA and State and local agencies be given prompt notice of releases to the environment and the associated threat to public health and the environment. It also requires that EPA and State and local agencies be provided the opportunity to review and comment on such notices and response action proposals.

Similarly, CERCLA §120 (e)(1), 42 U.S.C. §9620 (e)(1) requires that federal facilities on the National Priorities List (NPL) commence RI/FS within six months of listing, in consultation with the EPA Administrator and appropriate State authorities. Paragraph (e)(4) of §120 sets out the requirements for the interagency agreement. It provides for joint review of alternative remedial actions and joint selection by the federal facility head and EPA. Only if agreement can't be reached, on the selection of remedial action, does the Administrator have the statutory authority to make an overriding selection.

Paragraph (f) of §120 requires that EPA and relevant State and local officials be given the opportunity to participate in the planning and selection of remedial

action. State officials are to participate in accordance with §121 (i.e., the ARARs process).

It is DON's position that the statutory language clearly sets out a partnership, not an enforcement approach between EPA, the State, and DOD in the investigation and cleanup of DOD facilities -- especially for NPL sites. Pursuant to this partnership approach, DOD and EPA headquarters agreed to enter into FFAs earlier in the process than is required by law. However, a critical aspect of the agreement to enter into FFAs was that stipulated penalties could only be assessed for missing primary document deadlines.

And while the law requires EPA and the State to publish timetables and deadlines for the expeditious completion of the RI/FS, there is no statutory time limit on the RI/FS. In fact, the next statutory deadline is not until 180 days after EPA has reviewed the RI/FS, when EPA and the federal facility are required to enter into an interagency agreement for expeditious completion of all necessary remedial action. CERCLA §120 (e) (2). However, DON is mindful of Congress' intent to have the RI/FS phase completed expeditiously. DON is trying to complete the RI/FS as quickly as possible, but it must be recognized that the complexity and/or length of the RI/FS will vary from facility to facility due to unforeseen site conditions, number of sites, and perhaps the need to change technical approach.

Therefore, the law does appear to allow the FFA parties the flexibility to change the timetables and deadlines without negative repercussions. The process contemplates trial and error in the development of better technical approaches and treatment technologies. Indeed, enclosure (2) to DON's February 14, 1992 letter (see enclosure (10)) describes such changes in technical approach, as agreed among the project managers, which are responsible for the project's significant increase in scope.

Furthermore, EPA and DOD specifically recognized in the model FFA language that:

"...one possible basis for extension of the deadlines for completion of the Remedial Investigation and Feasibility Study Reports is the identification of significant new Site conditions during the performance of the remedial investigation."

See MCAS El Toro FFA §8.4. It is DON's position that the addition of new sites and changes in technical approach fall into the category of "new site conditions". With the expanded number of sites and changes in technical approach, a lengthy RI/FS should not be unexpected.

Finally, changes in technical direction and schedules are the natural result of entering into these agreements earlier than is required by law. The statutory requirement for an interagency agreement was based on completion of the RI/FS, where all unknowns had been addressed, site conditions had been assessed, and technical analysis of data and alternatives had been completed. Such is not the case at MCAS El Toro.



DEPARTMENT OF THE NAVY  
SOUTHWEST DIVISION  
NAVAL FACILITIES ENGINEERING COMMAND  
1220 PACIFIC HIGHWAY  
SAN DIEGO, CALIFORNIA 92132-5190

5090  
Ser 1812.AP/1637  
13 Dec 91

Ms. Julie Anderson  
Environmental Protection Agency  
Region IX  
75 Hawthorne Street  
San Francisco, CA 94105

Dear Ms. Anderson:

I am requesting time extensions for deliverables of the Draft RCRA Facility Assessment (RFA) Report and Draft Remedial Investigation/Feasibility Study (RI/FS) Work Plan for Operable Unit 4 for the Marine Corps Air Station (MCAS) El Toro in accordance with Section 9 of the FFA.

I am requesting these extensions based on "good cause" provisions of Subsection 9.2 (a) and (g) of the FFA. Since the negotiation of the FFA, the scope of work has increased significantly. The RFA which initiates Operable Unit 4, has identified 299 sites with 157 recommended for a sampling visit, much more than the 35-37 sites identified by the water control board. Added increases in scope have also occurred in the development of the Site Office and Decontamination Facilities and the Waste Management Plan which impacts the RFA efforts.

According to Section 9.4 of the FFA, a response is required within seven days of receipt of a request for time extension. To enable the Parties of the FFA to negotiate a project schedule which is the product of consensus to the maximum extent possible, I propose not to invoke Section 9.4 of the FFA for a period of 60 days from the date of this letter.

The Draft Detailed Project Schedule, which will be sent under separate cover within seven days of this letter, will define the lengths of the extensions for each project deliverable. A similar draft schedule has been presented and discussed during project managers meetings in September and November 1991.

If there are any questions concerning this correspondence, please contact me at (619) 532-3825.

S. E. TOWER  
Commander, CEC, U.S. Navy  
Head, Facilities Management Department  
By direction of the Commanding Officer

5090  
Ser 1812.AP/1637  
13 Dec 91

**Enclosures**

- (1) Revised FFA Attachment A dated 13 December 1991
- (2) Proposal for the FFA Schedule Extension dated 13 December 1991

**Copy to:**

**Mr. John Hamill  
Environmental Protection Agency  
Region IX  
75 Hawthorne Street  
San Francisco, CA 94105**

**Mr. Manny Alonzo  
California Department of  
Toxic Substances Control  
Region 4  
245 West Broadway, Suite 350  
Long Beach, CA 90802**

**Mr. Ken Williams  
California Regional Water Quality Control Board  
Santa Ana Region  
2010 Iowa Avenue, Suite 100  
Riverside, CA 92507**

**Commandant of the Marine Corps  
Headquarters, U.S. Marine Corps (LFL)  
Washington, DC 20380-0001**

**Commanding General  
Marine Corps Air Station  
El Toro (Santa Ana), CA 92709-5001**

13 December 1991

PROPOSED REVISED APPENDIX A

DELIVERABLE OR MILESTONE	ORIGINAL COMPLETION DATE	EXTENDED COMPLETION DATE*
<b><u>Operable Unit 1</u></b>		
Draft RI/FS Work Plan	30 Sep 90	N/A
Phase I Technical Memo	N/A	(in detail sched)
Phase I Testability Study and Draft Report	N/A	(in detail sched)
Draft Phase II Work Plan	N/A	(in detail sched)
Start Phase II Fieldwork	N/A	(in detail sched)
Draft RI Report	15 Jun 92	(in detail sched)
Draft FS Report	15 Aug 92	(in detail sched)
Draft Proposed Plan	15 Nov 92	(in detail sched)
Draft Record of Decision	15 Apr 93	(in detail sched)
<b><u>Operable Unit 2 and 3</u></b>		
Draft RI/FS Work Plan	30 Sep 90	N/A
Phase I Technical Memo	N/A	(in detail sched)
Phase I Feasibility Study and Draft Report	N/A	(in detail sched)
Draft Phase II Work Plan	N/A	(in detail sched)
Start Phase II Fieldwork	N/A	(in detail sched)
Draft RI Report	15 Oct 92	(in detail sched)
Draft FS Report	15 Feb 93	(in detail sched)
Draft Proposed Plan	15 May 93	(in detail sched)
Draft Record of Decision	15 Oct 93	(in detail sched)
<b><u>RCRA Facility Assessment (RFA)</u></b>		
Draft Report on Records Search, VSI & Sample Plan	15 Mar 91	N/A
Draft RFA Report	15 Dec 91	09 Sep 93
<b><u>Operable Unit 4</u></b>		
Draft RI/FS Work Plan	15 Dec 91	01 Feb 94
Draft RI Report	15 Sep 93	TBD
Draft FS Report	15 Jan 94	TBD
Draft Proposed Plan	15 Apr 94	TBD
Draft Record of Decision	15 Sep 94	TBD

\* The extended completion dates are enforceable.

TBD: To Be Determined following approval of the RFA Report.

Enclosure (1)

13 December 1991

**PROPOSAL FOR SCHEDULE EXTENSION**

**Marine Corps Air Station El Toro**

**References**

- (a) **Project Managers' Meeting at MCAS El Toro on 12 and 13 November 1991**
- (b) **Phone call between EPA Mr. Hamill/Navy Mr. Piszkin of 25 November 1991**
- (c) **Project Managers' Conference Call EPA Mr. Hamill/EPA (SAIC) Mr. Tindall/DTSC Mr. Broderick/Santa Ana Region Water Quality Control Board Mr. Williams/MCAS El Toro LCDR Serafini/MCAS El Toro Ms. Mitchell/Navy Mr. Piszkin of 11 December 1991**

During references (a), (b), and (c), the conditions for the approval of the Navy's request for schedule extension were discussed. These conditions are summarized in the following paragraphs.

- (1) **The Navy must establish enforceable interim deadlines for the RI/FS process such as Phase I Technical Memoranda and Phase II Draft Work Plan.**

*The Navy has proposed four interim milestones for Operable Units 1, 2, and 3 which are listed on the revised Attachment A. Those interim completion dates are enforceable.*

- (2) **For Operable Unit 1, the Navy must agree to implement a groundwater removal action prior to the signing of the Record of Decision.**

*The Navy and Marine Corps Air Station El Toro are currently in the process of framing a Memorandum of Agreement with the Orange County Water District (OCWD) on the OCWD Desalter Project that is scheduled to begin operations in November 1993.*

- (3) **The Navy should reduce the time period to complete the Draft ROD on all Operable Units by six months.**

*The Navy has reviewed the detailed project schedule and has determined that a six month reduction in the ROD schedule for all Operable Units is not practical. The original FFA milestones were negotiated prior to the*

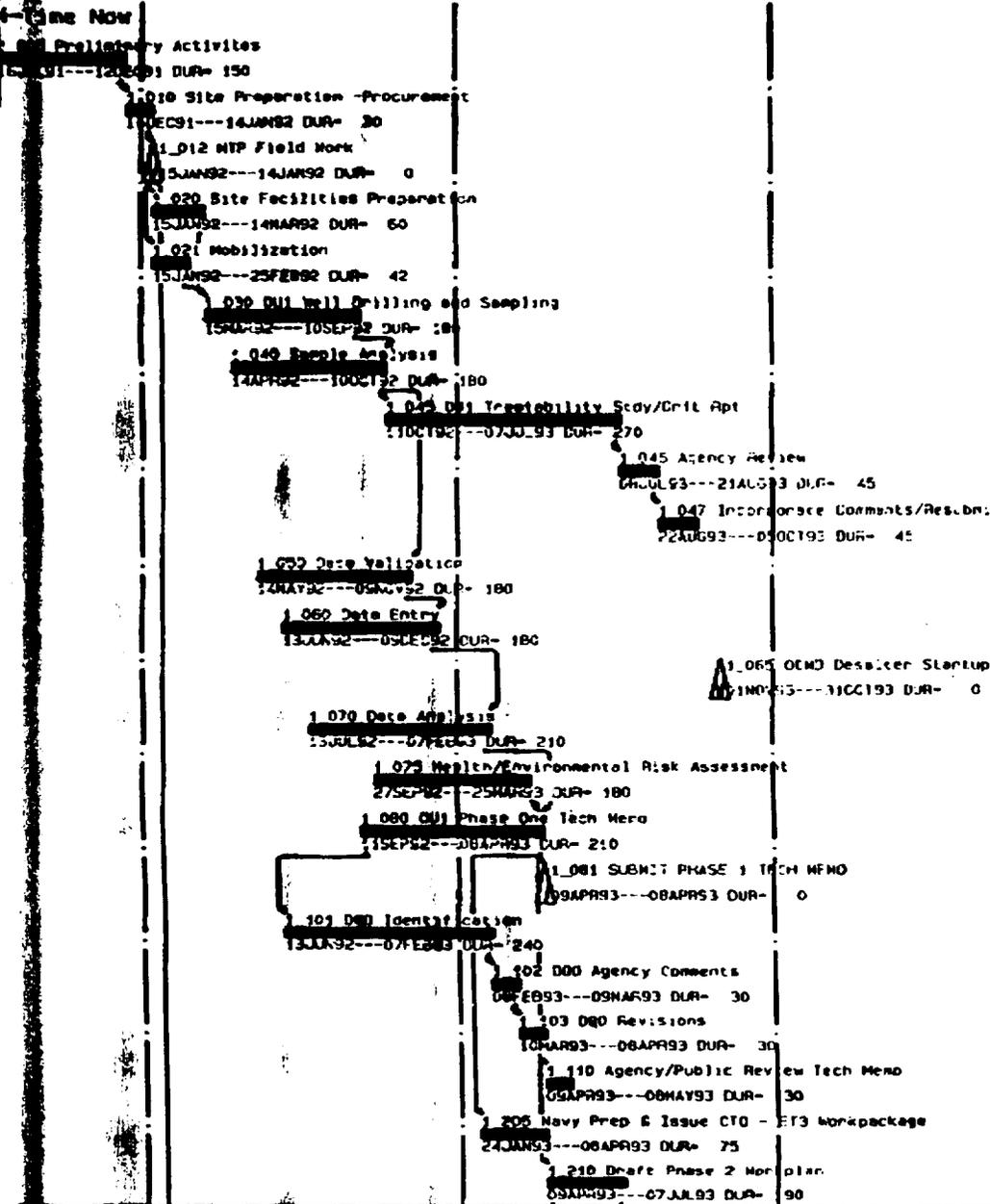
13 December 1991

completion of the Draft Final RI/FS Work Plan and Sampling and Analysis Plan (SAP) dated 28 February 1991. Since the FFA was negotiated, the scope of work has increased significantly. Between the SAP of September 1990 and the SAP of February 1991, the number of proposed monitoring wells increased from 95 to 126 and the total number of samples required increased from approximately 498 to 875. Additional increases in scope have occurred in developing the Site Office and Decontamination Facilities and the Waste Management Plan. The RFA which initiates Operable Unit 4, has identified 299 sites with 157 recommended for a sampling visit. With an increase in scope comes an increase in cost and time. The additional cost of work has a direct impact on the Navy's contract procurement process. When a contract's value becomes greater than \$5,000,000, Naval Facility Engineering Command (NAVFAC) Headquarters must approve all Pre-Business and Post Business Clearances; this extra approval process takes time and was not anticipated at the time the FFA was negotiated. The Navy's proposed extended schedule provides for the completion of the currently known level of effort and contractual requirements.

- (4) The Navy must complete a comprehensive scoping effort for all RCRA Facility Assessment (RFA) sites for the purpose of preparing a toxicological screening assessment for each site. Each site is to be classified as "high" risk, "low" risk, or "no" risk. After the RFA Report is completed, the milestone schedule of Operable Unit 4 will be negotiated.

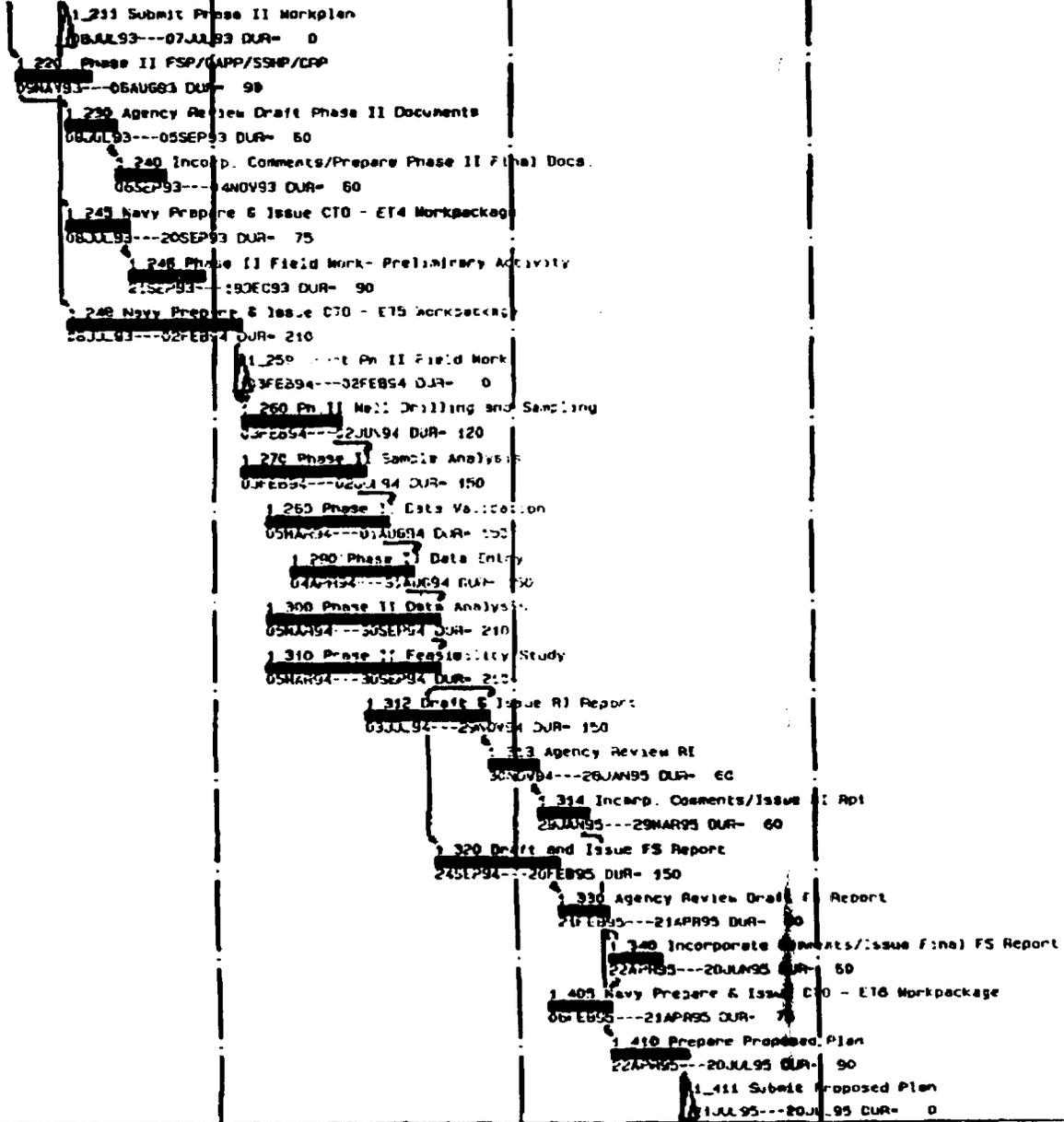
The Draft RFA Report will include the classification of all RFA sites and recommendations for Operable Unit 4 sites. Following the approval of the RFA Report, an enforceable project schedule for Operable Unit 4 will be developed and incorporated into the Federal Facility Agreement.

91 92 93 94 95 96 97

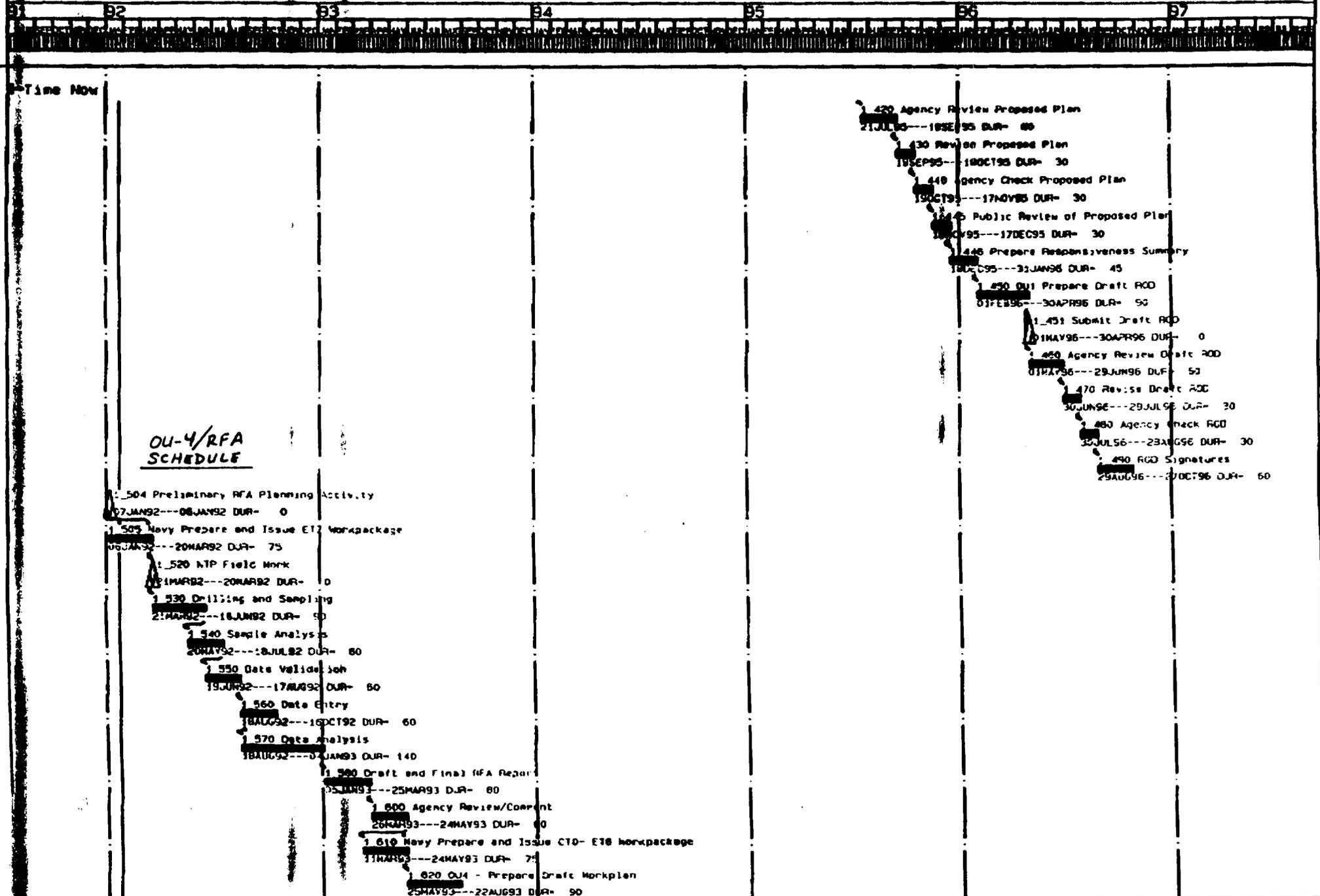




Time Now



MCAS El Toro - RI/FS Implementation (OU1, SRFA Interface)  Progress  Critical  Planned



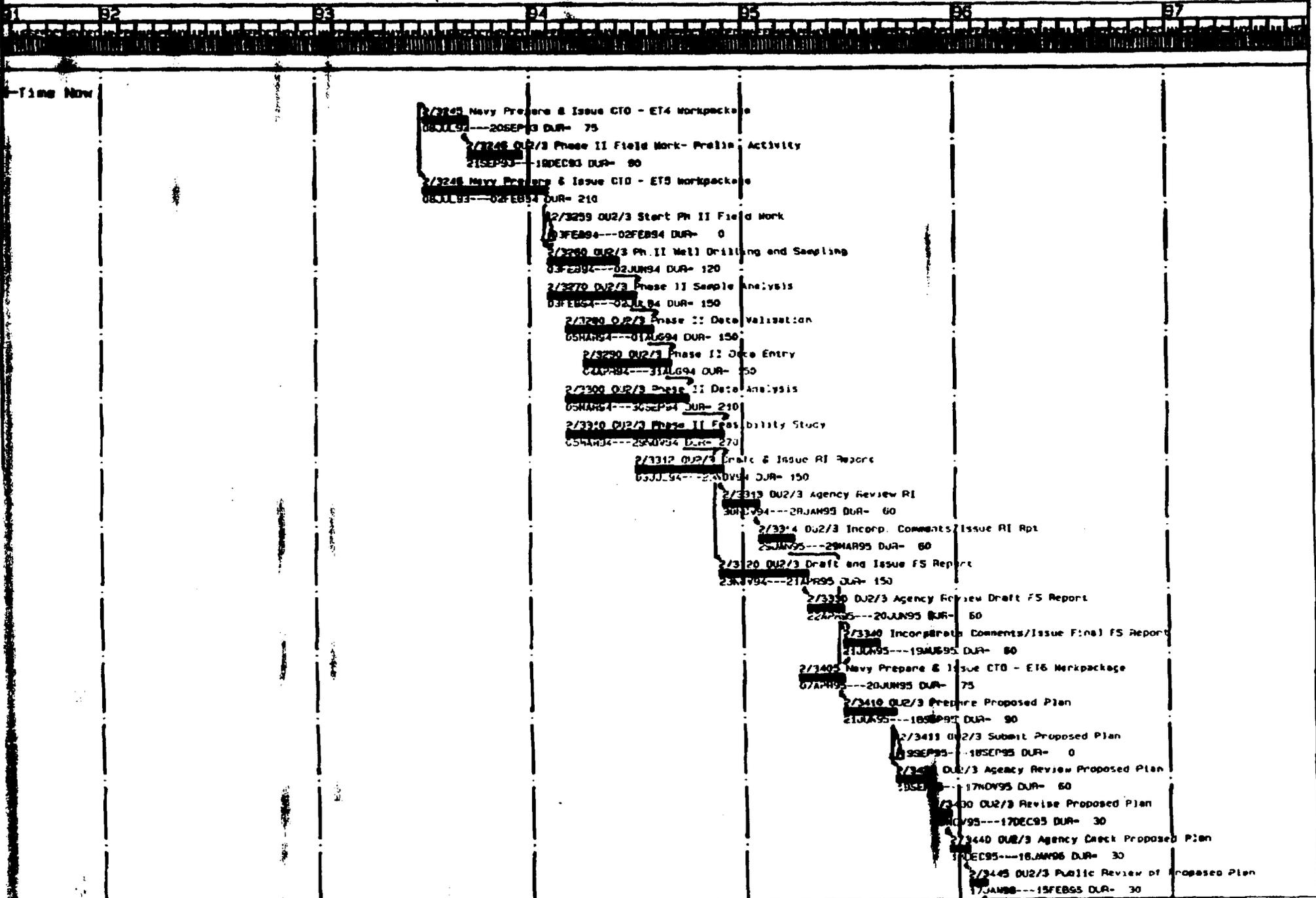
91	92	93	94	95	96	97
----	----	----	----	----	----	----

Time Now

			1_E30 OJ4 - Submit Draft Workplan 2AUG93---2AUG93 DUR= 0			
2/3012 NTP Field Work 15JAN92---14JAN92 DUR= 0						
2/3020 Site Facilities Preparation 15JAN92---14MAR92 DUR= 60						
2/3021 Mobilization 15JAN92---25FEB92 DUR= 42						
2/3030 OJ2/3 Well Drilling and Sampling 15AUG92---10SEP92 DUR= 180						
2/3040 OJ2/3 Sample Analysis 14AUG92---15OCT92 DUR= 180						
2/3050 OJ2/3 Data Validation 14OCT92---30NOV92 DUR= 180						
2/3060 OJ2/3 Data Entry 15JAN92---06AUG92 DUR= 180						
2/3070 OJ2/3 Data Analysis 13JUL92---07FEB93 DUR= 210						
2/3075 OJ2/3 Health/Environmental Risk Assessment 27SEP92---27MAR93 DUR= 180						
2/3080 OJ2/3 Phase One Tech Memos 11SEP92---08APR93 DUR= 210						
2/3081 OJ2/3 SUBMIT PHASE 1 TECH MEMO 09APR93---08APR93 DUR= 0						
2/3090 OJ2/3 Phase 1 Feasibility Study 11SEP92---07JUN93 DUR= 180						
2/3101 OJ2/3 DOD Identification 15JUN92---07FEB93 DUR= 240						
2/3102 OJ2/3 DOD Agency Comments 08FEB93---09MAR93 DUR= 30						
2/3103 OJ2/3 DOD Revisions 10MAR93---08APR93 DUR= 30						
2/3110 OJ2/3 Agency/Public Review Tech Memos 09APR93---08MAY93 DUR= 30						
2/3120 OJ2/3 Navy Prep & Issue CTO - ET3 Workpackage 24JAN93---08APR93 DUR= 75						
2/3210 OJ2/3 Draft Phase 2 Workplan 09APR93---07JUL93 DUR= 90						
2/3211 OJ2/3 Submit Phase II Workplan 08JUL93---07JUL93 DUR= 0						
2/3220 OJ2/3 Phase II FSP/BAFP/SSHP/CRP 08MAY93---08AUG93 DUR= 90						
2/3230 OJ2/3 Agency Review Draft Phase II Documents 08JUL93---05SEP93 DUR= 60						
2/3240 Incorp. Comments/Prepare Phase II Final Docs. 06SEP93---24NOV93 DUR= 60						

# MCAS El Toro - RI/FS Implementation (OU 2/3,)

■ Progress ■ Critical ■ Planned



MCAS El Toro - RI/FS Implementation (OU 2/3)

■ Progress ■ Critical ■ Planned

91	92	93	94	95	96	97
----	----	----	----	----	----	----

Time Now						
						7/3448 OU2/3 Prepare Responsiveness Summary 16FEB96--33MAR96 DUR= 45 7/3450 OU2/3 Prepare Draft ROD 01APR96--29JUN96 DUR= 90 2/3451 OU2/3 Submit Draft ROD 20JUN96--29JUN96 DUR= 0 7/3460 OU2/3 Agency Review Draft ROD 30JUN96--28AUG96 DUR= 60 7/3470 OU2/3 Revise Draft ROD 25AUG96--27SEP96 DUR= 30 7/3480 OU2/3 Agency Check ROD 28SEP96--27OCT96 DUR= 30 7/3490 OU2/3 ROD Signatures 26OCT96--26NOV96 DUR= 38

## DEPARTMENT OF TOXIC SUBSTANCES CONTROL

4  
5T BROADWAY, SUITE 350  
L BEACH, CA 90802



December 19, 1991

Commander S. E. Tower, CEC , U.S. Navy  
Head Facilities Management Department  
Southwest Division  
Naval Facilities Engineering Command  
1220 Pacific Highway  
San Diego, California 92132-5190

Dear Commander Tower:

REQUEST FOR EXTENSION FOR DELIVERABLES OF THE DRAFT RFA REPORT  
AND DRAFT RI/FS WORKPLAN FOR OPERABLE UNIT 4 FOR MCAS EL TORO

The Department of Toxics Substances Control received a fax copy of your letter of December 13, 1991 to Ms. Julie Anderson of the U. S. Environmental Protection Agency, Region 9. In your letter you request time extensions for deliverables of the Draft RFA Report and the Draft RI/FS Work plan for Operable Unit 4 (which was due December 15, 1991) for the Marine Corps Air Station El Toro (MCAS) in accordance with Section 9 of the Federal Facilities Agreement (FFA).

According to Section 9.1 of the FFA, timetables, deadlines and schedules shall be extended upon receipt of a timely request for extension and when a good cause exists for the requested extension. The Department received the facsimile of your letter at 17:40, Friday, December 13, 1991 and could not make it available to our staff until Monday, December 16, 1991. Therefore, your request lacks the timeliness specified in the FFA.

Furthermore, Subsection 9.1 (d) stipulates that any request for extension by a party shall specify the extent to which any related timetable and deadline would be affected if the extension were granted. The Draft Detailed Project Schedule should have been attached to your request.

The Department disagrees with your basis of "good cause" provision of Subsection 9.2 (a). It is the Department's opinion that no event of Force Majeure exist to justify delay in the deliverables specified in the FFA. The Department is aware of the Navy's complicated contract procurement process which might have caused delays in meeting deadlines in this project. However, neither proof of the exercise of reasonable diligence in seeking funds nor proof of insufficient availability of appropriated funds which have been diligently sought have been provided to the FFA parties.

Commander S. E. Tower  
Page 2  
December 19, 1991

Based on the above mentioned issues, MCAS El Toro has failed to submit two primary documents and failed to submit a timely request for extension. Therefore, the Department denies your request for extension and recommends that the U. S. Environmental Protection Agency asses penalties stipulated in Section 14.1 to MCAS El Toro.

If you have any questions, please contact Mr. Manny Alonzo at (213) 590-4904.

Sincerely,



Albert Arellano, Jr., P.E.  
Unit Chief  
Federal Facilities Unit  
Site Mitigation Branch

cc: Mr. John Hamill  
Remedial Project Manager  
U. S. Environmental Protection Agency  
Hazardous Waste Management Division, H-7-5  
75 Hawthorne Street  
San Francisco, California 94105

Mr. Ken Williams  
Water Resource Control Engineer  
Regional Water Quality Control Board, Santa Ana Region  
2010 Iowa Avenue, Suite 100  
Riverside, California 92507

Mr. Andy Piszkin, Code 1811  
Remedial Project Manager  
Naval Facilities Engineering Command  
1220 Pacific Highway  
San Diego, California 92132-5190

Commandant of the Marine Corps  
Headquarters, U.S. Marine Corps (LFL)  
Washington, D. C. 20380-0001

Commanding General  
Marine Corps Air Station  
El Toro (Santa Ana), California 92709-5001

**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY****REGION IX**

**75 Hawthorne Street  
San Francisco, Ca. 94105-3901**

**23 December 1991**

**Commander S.E. Tower  
Head, Facilities Management Department  
Southwest Division  
Naval Facilities Engineering Command  
1220 Pacific Highway  
San Diego, California 92132-5190**

**Re: Schedule Extension Request for  
Marine Corps Air Station, El Toro**

**Dear Commander Tower:**

This letter is in response to your 13 December 1991 facsimile requesting schedule extensions for Federal Facility Agreement (FFA) deliverables for the Marine Corps Air Station (MCAS), El Toro. Your facsimile arrived at the Environmental Protection Agency (EPA) after working hours on Friday, December 13, 1991, and was not received by my staff until Monday, December 16. The due date for the Draft Remedial Investigation/Feasibility Study (RI/FS) Work Plan for the MCAS El Toro Operable Unit 4 was 15 December 1991. Therefore, your request lacks the timeliness specified in Section 9.1 of the FFA.

Section 9.1 of the FFA states that "timetables, deadlines and schedules shall be extended upon receipt of a timely request for extension and when good cause exists for the requested extension." The request shall specify (a) the deadline that is sought to be extended; (b) the length of the extension sought; (c) the good causes for the extension; and (d) the extent to which any related deadline or schedule would be affected if the extension were granted. Section 9.2 of the FFA identifies what constitutes "good cause" for seeking extensions.

Your 13 December 1991 facsimile states that you are requesting these extensions based on "good cause" provisions of Subsection 9.2 (a) and (g) of the FFA. A review of your request fails to provide evidence that the request fulfills the requirements of either Section 9.1 or 9.2 of the FFA. Your request fails to identify all of the requirements of Section 9.1, specifically Subsections 9.1 (c) and (d).

**enclosure ( 3 )**

In addition, our review does not provide evidence that your request complies with Subsections 9.2 (a) and (g) of the FFA. Subsection 9.2 (a) requires the identification of an event of Force Majeure. Section 10 of the FFA identifies all the events that constitute Force Majeure. Your request fails to identify any Force Majeure event. Subsection 9.2 (g) of the FFA states that "good cause" exists when sought in regard to "any other event or series of events mutually agreed to by the Parties as constituting good cause." We have no information which leads us to believe that the Parties have mutually agreed that any event or series of events have constituted "good cause" for the MCAS El Toro extension request. In summary, your 13 December 1991 request for time extensions is late, incomplete and therefore not a timely request for extension as required by Section 9.1 of the FFA.

For these reasons, we must deny, at this time, your proposed schedule extension request. The Navy's failure to submit by December 15, 1991, in compliance with Section 9.1 of the FFA, the Draft Remedial Investigation/Feasibility Study Work Plan for Operable Unit 4 constitutes a failure to comply with Sections 7.3., 8.1, and 9.1 of the FFA. Section 14 of the FFA for the MCAS El Toro allows EPA to assess stipulated penalty against the Marine Corps for (a) failure to submit a primary document listed in Section 7 or for (b) failure to comply with a term or condition of the FFA.

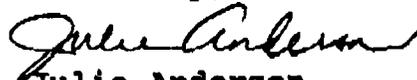
Therefore, in accordance with Section 14, Stipulated Penalties, of the FFA for Marine Corps Air Station, El Toro, the Environmental Protection Agency is notifying you of our intent to assess a stipulated penalty against the Marine Corps. In accordance with Section 14.1 of the FFA, the EPA is providing notice to the Marine Corps of our intent to assess a penalty of \$5,000 for the first week and \$10,000 for each additional week (or part thereof) until the Draft RI/FS Workplan for OU 4 is submitted, or a new schedule is agreed to by all the Parties.

Your 13 December 1991 facsimile stated that you would submit a Draft Detailed Project Schedule within seven days of the facsimile. We have not, as of today, received such Schedule. We hope that we can proceed with the negotiation of the Project Schedule, and eagerly await your new schedule proposal.

In accordance with Section 14.2 of the FFA, the Marine Corps has 15 days after receipt of this notice to invoke dispute resolution on the question of whether failure did in fact occur.

If you have any questions concerning these issues, please contact John Hamill of my staff at (415) 744-2391.

Sincerely,



Julie Anderson

Acting Chief

Federal Facility Enforcement  
Branch

cc: A. Piszkin, Navy  
M. Alonzo, DTSC  
K. Williams, RWQCB  
L. Serafini, USMC, El Toro  
Commanding General, USMC, El Toro  
Commandant of the Marine Corps, USMC Headquarters

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
SANTA ANA REGION  
2700 IOWA AVENUE, SUITE 100  
RIVERSIDE, CALIFORNIA 92507-2409  
PHONE: (714) 782-4130  
FACSIMILE: (714) 781-6288



December 31, 1991

Commander S. E. Tower, CEC, U. S. Navy  
Head, Facilities Management Department  
Southwest Division  
Naval Facilities Engineering Command  
1220 Pacific Highway  
San Diego, California 92132-5190

SUBJECT: Response to Extension Request for Deliverables Schedule  
Draft Remedial Investigation/Feasibility Study, OU #4  
Marine Corps Air Station, El Toro

Dear Commander Tower:

The Regional Water Quality Control Board, Santa Ana Region has reviewed your December 13, 1991 request for extensions to the submittal schedule for the above-referenced document. With the submittal date for the Draft RI/FS Work Plan for Operable Unit #4 being December 15, 1991, the receipt of a facsimile copy of your request for extension after working hours on the afternoon of December 13, 1991 clearly violates the timeliness clause in Section 9.1 of the Federal Facilities Agreement.

It is our position that your request for an extension to the schedule for deliverable through the "good cause" aspects of Section 9.2 is incomplete. This is due to the lack of sufficient elaboration or documentation as to the grounds for Force Majeure under which the request is being made. As of this date, this office has not received any additional elaboration on this matter or the detailed Draft Project Schedule. Therefore, we cannot agree that either a Force Majeure situation or a scenario of "any event or series of events" which constitutes a "good cause" reason for delays, as mutually agreed to by the Parties of the Federal Facilities Agreement, exists at the present time.

Therefore, we cannot acknowledge your December 13, 1991 correspondence as an appropriate request for an extension to the present schedule for the submittal of primary documents for Operable Unit #4. Additionally, we are in agreement with and support the U. S. Environmental Protection Agency's position in regard to the applicability of stipulated penalties, as stated in their December 23, 1991 letter.

We await your submittal of additional documentation to support this request and the detailed Draft Project Schedule and the subsequent discussion of this matter. It is our goal to arrive at a mutually agreeable schedule for the submittal of primary documents for Operable Unit #4.

enclosure (4)

Commander S. E. Tower

December 31, 1991

If you have any questions regarding this matter, please contact me at (714) 782-4496.

Sincerely,

A handwritten signature in cursive script, appearing to read "Kenneth R. Williams".

Kenneth R. Williams  
Associate Engineering Geologist  
Special Projects Section

cc: A. Piszkin, SOUTHWESDIV  
J. Hamill, US EPA  
M. Alonzo, DTSC  
LCDR. L. Serafini, MCAS El Toro



DEPARTMENT OF THE NAVY  
SOUTHWEST DIVISION  
NAVAL FACILITIES ENGINEERING COMMAND  
1220 PACIFIC HIGHWAY  
SAN DIEGO, CALIFORNIA 92132-5190

5090  
Ser 09C4/5021  
Dec 31, 1991

Mr. Keith Takata  
Deputy Director For Superfund Programs  
Environmental Protection Agency  
Region IX  
75 Hawthorne Street  
San Francisco, CA 94105

Subject: Rejection of Schedule Extension Request Under The  
Federal Facility Agreement (FFA) For Marine Corps Air  
Station (MCAS), El Toro

Dear Mr. Takata:

This letter is in response to Ms. Julie Anderson's letter of 23 December 1991. In that letter EPA rejected Southwest Division's request to extend the time for submission of the Draft Remedial Investigation/Feasibility Study (RI/FS) Work Plan for Operable Unit (OU) #4. It did not directly address the request to extend the deadline for the Draft RCRA Facility Assessment (RFA) Report, although both documents had the same due date. However, we must assume that EPA will not concur in this request as well. As more particularly described below, we do not agree with the reasons for rejection stated in Ms. Anderson's letter.

Before discussing the contents of the December 23 letter, we do apologize for the confusion caused by the December 13 letter's reference to submission of a Detailed Project Schedule within seven (7) days. Based on discussions at the December 11 project manager meeting (by telephone), EPA may have been expecting an extension request for OUs #1, #2, & #3, in addition to a request for the Draft RFA Report and the OU #4 Draft RI/FS Workplan. The request for these OUs was omitted at the last minute from the December 13 letter, because these deadlines were not yet approaching, and we wanted to simplify the extension process. We inadvertently forgot to omit the reference to the Detailed Project Schedule and those portions of enclosures (1) and (2) of that letter, which related to OUs #1, #2, & #3. Because the Detailed Project Schedule is not relevant to OU #4, this information will not be submitted in connection with the current request.

With respect to EPA's December 23 letter, it is first stated that the request must be rejected as untimely, although EPA acknowledges that Southwest Division sent its request by facsimile transmission on Friday afternoon, December 13, 1991. EPA states that this was untimely because it was sent too late in the day to

enclosure (5 )

Subject: Rejection of Schedule Extension Request Under The Federal Facility Agreement (FFA) For Marine Corps Air Station (MCAS), El Toro

be received by the EPA project manager, prior to the Sunday, December 15, 1991 deadline. For two important reasons, we must disagree with EPA's characterization of the request as untimely:

a. FFA §4.1 (d) clearly states that: "Any submittal that under the terms of the Agreement would be due on Saturday, Sunday, or [a] holiday shall be due on the following business day". In this case, the next business day would have been Monday, December 16, 1991. We presume that the extension request was waiting for the project manager upon his arrival on Monday morning.

b. Neither EPA nor the State can claim that they were surprised by the extension request. EPA and the State had been aware of our intent to seek an extension for a substantial amount of time prior to the formal request. In fact, the need for an extension was discussed at meetings held on July 18, September 12, November 13, and December 11, 1991. The request was withheld until some details were ironed out and there was an agreement in principle among the project managers. This occurred during the December 11, 1991 conference call among the FFA parties.

Next, EPA states that Southwest Division's letter of December 13 did not comply with the FFA §§9.1 and 9.2, specifically citing a failure to fulfill the requirements of 9.1 (c) and (d). Again we must disagree with this characterization.

For the record, subsection 9.1 (c) requires "good cause" for the extension to be stated in the request. Events constituting "good cause" are listed in §9.2. Southwest Division's December 13 letter specifically cited subsections 9.2 (a) and (g) as alternative events constituting good cause. Subsection 9.2 (a) refers to the existence of "[a]n event of Force Majeure". Subsection 9.2 (g) refers to the existence of "[a]ny other event or series of events mutually agreed to by the Parties as constituting good cause".

The §9 extension process outlined in the FFA is a description of procedures which will facilitate the parties' working relationship. While we acknowledge that the process contemplates sufficient justification for granting of time extensions, nothing in the FFA requires submission of extensive documentation with the extension request itself. In light of the numerous previous discussions among the parties (cited above), we believe that EPA and the State have already been supplied sufficient justification for the extension. Indeed, it was our understanding that the parties agreed that the extension was warranted and therefore subsection 9.2 (g) is the event of good cause supporting granting of the extension.

Subject: Rejection of Schedule Extension Request Under The  
Federal Facility Agreement (FFA) For Marine Corps Air  
Station (MCAS), El Toro

In Southwest Division's December 13 letter, the events constituting good cause were identified as follows:

"Since the negotiation of the FFA, the scope of work has increased significantly. The RFA which initiates Operable Unit 4, has identified 299 sites with 157 recommended for a sampling visit, much more than the 35-37 sites identified by the water control board. Added increases in scope have also occurred in the development of the Site Office and Decontamination Facilities and the Waste Management Plan which impacts the RFA efforts."

We believe that this description was sufficient to summarize for the record what the parties had already discussed. Although we understand that extension length still needs to be negotiated, in light of our belief that the EPA and State project managers had agreed in principle with orally stated justifications, the act of filing the extension request was understood to be a mere formality necessary to satisfy the FFA provisions. Even if the parties had not come to agreement prior to filing the request, the description above is certainly sufficient to satisfy the §9 requirements, in light of these previous discussions.

It must be added that your December 23 letter, which becomes part of the public record, ignores the fact that the Marine Corps, State, and EPA project managers are in almost constant communication regarding the El Toro cleanup. A member of the public might read your letter and be misled into believing that we surprised the FFA parties with our request. This is not the case.

Your letter also rejects the idea that a force majeure has occurred, such that subsection 9.2 (a) would be applicable to the instant situation. You state that the December 13 letter fails to identify any force majeure event, because we did not cite to a specific force majeure listed in §10. This conclusion flows from your belief that "[s]ection 10 of the FFA identifies all the events that constitute Force Majeure". (emphasis supplied)

This is a misstatement of both the wording and intent of §10. Section 10 does not purport to be an exhaustive list of forces majeure. Rather, it is couched in terms of "...including, but not limited to:..." It is my understanding that the original drafters of the model language recognized that the list could not be exhaustive. The environmental restoration program deals with the study of unknown conditions out in the field and reconstruction of decades of history. It is only logical that this can lead to unforeseen delays outside the control of the parties.

Subject: Rejection of Schedule Extension Request Under The  
Federal Facility Agreement (FFA) For Marine Corps Air  
Station (MCAS), El Toro

The reasons stated in our December 13 letter (and previous meetings), constitute sufficient justification for a "miscellaneous" force majeure, implicit in the FFA language.

We therefore believe that subsection 9.2 (a) has been satisfied, even if you contend that subsection 9.2 (g) does not apply because you did not agree to an extension on December 11.

In turn, this means that we have satisfied subsection 9.1 (c).

As to a description of the effect on schedules, required by subsection 9.2 (d), we attached a proposed revised schedule to our December 13 letter. This schedule did include new proposed completion dates for the deliverables in question; however we did not include completion dates for subsequent OU #4 deliverables because the parties had specifically agreed on December 11 that these dates would be the subject of future discussion. If EPA is now denying our request because we did not include a statement to this effect in our request letter, we think that this is overly formalistic and unfair.

Finally, we are quite frankly confused to see that EPA would place a position in the public record, without prior warning, which is inconsistent with the positions it has taken during recent project manager meetings. We have continually approached the process in a spirit of good faith, cooperation, and teamwork. We believe that use of the FFA as a "club" is short-sighted and counterproductive. While some regulatory relationships may require this enforcement posture, this is not one of those relationships. We believe that the primary goal of the parties should be to instill confidence in the public and Congress that the parties are assessing the situations accurately and are then making progress in dealing with them.

By always blaming us for delays, EPA will not instill greater confidence in the public and Congress. Rather, such confidence in the process will result from seeing a greater cooperative effort and less bickering. There will be greater confidence in the process if we, EPA, and the State negotiate realistic schedules up front, rather than overly aggressive, unrealistic schedules which foreseeably necessitate multiple extensions.

Neither the public nor Congress need to see the assessment of stipulated penalties or the casting of blame to know that EPA and the State are doing their jobs. We think that the public is intelligent enough to understand the nature and causes for our setbacks. They are capable of understanding the difference between recalcitrant parties who need penalties as motivation and

Subject: Rejection of Schedule Extension Request Under The  
Federal Facility Agreement (FFA) For Marine Corps Air  
Station (MCAS), El Toro

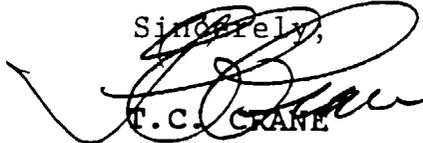
a federal facility which has acted in good faith and has committed tens of millions of dollars to its environmental restoration efforts.

It is time that the FFA parties admit that the schedules originally negotiated were a mutual, inaccurate assessment of the amount of work needed to be done and of our ability to meet the timelines within our contractual and funding capabilities. At least at the project manager level, EPA and the State have acknowledged that the scope of the RFA has grown far beyond the number of sites contemplated when the FFA was being negotiated. Where the RFA increases the universe of potential sites from the 35-37 originally identified by the Regional Water Quality Control Board to 299, a reasonable person would expect that the deadline originally negotiated for the Draft RFA Report would have to be extended.

Likewise, the Draft RI/FS Workplan for OU #4 must be developed from knowledge derived from the Draft RFA Report. This OU is to include those sites which are recommended for further action in the RFA Report. Requiring submission of the Draft Workplan on the same date as the Draft RFA Report makes little sense unless the number of RFA sites is small. We originally consented to concurrent dates because the parties agreed that they could concurrently and quickly translate draft information from the RFA process into RI/FS Workplan requirements. The unexpected increase in scope has made this highly impractical, if not impossible.

In conclusion, we believe that our extension request was timely filed and duly justified, such that a failure under FFA §14 did not occur and the assessment of stipulated penalties is unwarranted. However, because EPA has stated its intent to assess stipulated penalties, then pursuant to FFA §14.2 we are hereby notifying you of our intent to take this issue to formal dispute resolution. I remain confident, however, that this apparent dispute can be resolved informally. I look forward to doing so with you at your earliest convenience.

Sincerely,



T.C. CRANE

Captain, CEC, USN

Copy to:  
COMCABWEST EL TORO  
DTSC REGION IV (ALBERT ARELLANO)  
RWQCB, SANTA ANA REGION (KEN WILLIAMS)



DEPARTMENT OF THE NAVY  
SOUTHWEST DIVISION  
NAVAL FACILITIES ENGINEERING COMMAND  
1220 PACIFIC HIGHWAY  
SAN DIEGO, CALIFORNIA 92132-5190

5090  
Ser 09C4/5022  
Jan. 2, 1992

Mr. Albert Arellano, Jr., P.E.  
Unit Chief, Federal Facilities Unit  
Site Mitigation Branch  
Department of Toxic Substances Control  
Region 4  
245 West Broadway, Suite 350  
Long Beach, CA 90802

Subject: Rejection of Schedule Extension Request Under The  
Federal Facility Agreement (FFA) For Marine Corps Air  
Station (MCAS), El Toro

Dear Mr. Arellano:

This is in response to your letter of December 19, 1991. In that letter you rejected Southwest Division's request to extend the time for submission of the Draft Remedial Investigation/ Feasibility Study (RI/FS) Work Plan for Operable Unit #4 and the Draft RCRA Facility Assessment (RFA) Report.

The reasons cited in your letter are similar to those stated in EPA's response letter of December 23, 1991:

- a. Untimely filing of the extension request, and
- b. Failure to demonstrate good cause.

For reasons which are more fully explained in the attached copy of our response to EPA's December 23 letter, we must disagree that the alleged failures have occurred. To the contrary, we believe that our extension request was timely filed and duly justified.

It should be clarified that we have not claimed that procurement or funding problems are the direct cause of our need for an extension for the Draft RFA Report and the Operable Unit (OU) #4 Draft RI/FS Workplan. Rather, the "good cause" stated in our December 13 letter was the tremendous increase in the scope of the RFA beyond the expectations held by the parties at the time the FFA was negotiated. We do note that, in previous project manager discussions, we have mentioned procurement and funding problems in connection with OUs #1, #2, & #3. However, we are not seeking extensions for these OUs at this time.

You have further recommended that EPA assess stipulated penalties in accordance with FFA §14 against MCAS El Toro. We feel that

enclosure (6)

Subject: Rejection of Schedule Extension Request Under The  
Federal Facility Agreement (FFA) For Marine Corps Air  
Station (MCAS), El Toro

the imposition of such penalties is unwarranted and believe that  
this apparent dispute can be resolved informally. However,  
because you support EPA's stated intent to assess stipulated  
penalties, then pursuant to FFA §14.2 we must preserve our rights  
by hereby notifying you of our intent to take this issue to  
formal dispute resolution. I look forward to discussing this  
matter with you at your earliest convenience.

Sincerely,



S.E. TOWER  
Commander, CEC, U.S. Navy  
By direction of the Commanding  
Officer

Copy to:  
COMCABWEST  
EPA Region IX (Mr. John Hamill)  
RWQCB, Santa Ana Region (Mr. Ken Williams)



DEPARTMENT OF THE NAVY  
SOUTHWEST DIVISION  
NAVAL FACILITIES ENGINEERING COMMAND  
1220 PACIFIC HIGHWAY  
SAN DIEGO, CALIFORNIA 92132-5190

5090  
Ser 09C4/5024  
Jan. 8, 1992

Mr. Kenneth R. Williams  
Special Projects Section  
California Regional Water Quality Control Board  
Santa Ana Region  
2010 Iowa Avenue, Suite 100  
Riverside, CA 92507-2409

Subject: Rejection of Schedule Extension Request Under The  
Federal Facility Agreement (FFA) For Marine Corps Air  
Station (MCAS), El Toro

Dear Mr. Williams:

This is in response to your letter of December 31, 1991. In that letter you rejected Southwest Division's request to extend the time for submission of the Draft Remedial Investigation/ Feasibility Study (RI/FS) Work Plan for Operable Unit #4 and the Draft RCRA Facility Assessment (RFA) Report.

The reasons cited in your letter are similar to those stated in EPA's response letter of December 23, 1991:

- a. Untimely filing of the extension request, and
- b. Failure to demonstrate good cause.

For reasons which are more fully explained in the attached copy of our response to EPA's December 23 letter, we must disagree that the alleged failures have occurred. To the contrary, we believe that our extension request was timely filed and duly justified.

You have further recommended that EPA assess stipulated penalties in accordance with FFA §14 against MCAS El Toro. We feel that the imposition of such penalties is unwarranted and believe that this apparent dispute can be resolved informally. However, because you support EPA's stated intent to assess stipulated penalties, then pursuant to FFA §14.2 we must preserve our rights by hereby notifying you of our intent to take this issue to

enclosure ( 7 )

Subject: Rejection of Schedule Extension Request Under The  
Federal Facility Agreement (FFA) For Marine Corps Air  
Station (MCAS), El Toro

formal dispute resolution. I look forward to discussing this  
matter with you at your earliest convenience.

Sincerely,



S.E. TOWER  
Commander, CEC, U.S. Navy  
By direction of the Commanding  
Officer

Enclosure:  
As stated

Copy to: (without enclosure)  
COMCABWEST  
EPA Region IX (Mr. John Hamill)  
DTSC, Region IV (Mr. Albert Arellano, Jr.)



DEPARTMENT OF THE NAVY  
SOUTHWEST DIVISION  
NAVAL FACILITIES ENGINEERING COMMAND  
1220 PACIFIC HIGHWAY  
SAN DIEGO, CALIFORNIA 92132-5190

5090  
Ser 09C4/ 5026  
Jan. 17, 1992

FACSIMILE TRANSMISSION

Mr. John Hamill (H-7-3)  
U.S. Environmental Protection Agency  
Region IX  
75 Hawthorne Street  
San Francisco, CA 94105

Mr. Manny Alonzo  
Site Mitigation Branch  
Department of Toxic Substances Control  
Region 4  
245 West Broadway, Suite 350  
Long Beach, CA 90802

Mr. Kenneth R. Williams  
Special Projects Section  
California Regional Water Quality Control Board  
Santa Ana Region  
2010 Iowa Avenue, Suite 100  
Riverside, CA 92507-2409

Subject: Federal Facility Agreement (FFA) Dispute Resolution  
Procedure Related To Rejection of Marine Corps Air  
Station, El Toro's Request For Time Extension

Dear Sirs:

This will confirm that the Department of the Navy, EPA Region IX, the Regional Water Quality Control Board, Santa Ana Region, and the Department of Toxic Substances Control, Region 4 have mutually agreed to extend the date for submission of the "written statement of dispute" (pursuant to FFA §12.2) to February 7, 1992.

This will give the parties additional time to discuss the Navy's proposed revised schedule, which has already been transmitted to the other parties.

Sincerely,

A handwritten signature in black ink, appearing to read "S.E. Tower".

S.E. TOWER  
Commander, CEC, U.S. Navy  
By direction of the Commanding  
Officer

enclosure ( 8 )

Subject: Federal Facility Agreement (FFA) Dispute Resolution  
Procedure Related To Rejection of Marine Corps Air  
Station, El Toro's Request For Time Extension

Copy to:  
COMCABWEST  
WACO (Capt Brennan)



DEPARTMENT OF THE NAVY  
SOUTHWEST DIVISION  
NAVAL FACILITIES ENGINEERING COMMAND  
1220 PACIFIC HIGHWAY  
SAN DIEGO, CALIFORNIA 92132-5190

5090  
Ser 09C4/5027  
Jan. 31, 1992

FACSIMILE TRANSMISSION

Mr. John Hamill (H-7-3)  
U.S. Environmental Protection Agency  
Region IX  
75 Hawthorne Street  
San Francisco, CA 94105

Mr. Manny Alonzo  
Site Mitigation Branch  
Department of Toxic Substances Control  
Region 4  
245 West Broadway, Suite 350  
Long Beach, CA 90802

Mr. Kenneth R. Williams  
Special Projects Section  
California Regional Water Quality Control Board  
Santa Ana Region  
2010 Iowa Avenue, Suite 100  
Riverside, CA 92507-2409.

Subject: Federal Facility Agreement (FFA) Dispute Resolution  
Procedure Related To Rejection of Marine Corps Air  
Station, El Toro's Request For Time Extension

Dear Sirs:

This will confirm that the Department of the Navy, EPA Region IX, the Regional Water Quality Control Board, Santa Ana Region, and the Department of Toxic Substances Control, Region 4 have mutually agreed to extend the date for submission of the "written statement of dispute" (pursuant to FFA §12.2) from February 7, 1992 to February 14, 1992.

This will give the parties additional time to discuss the Navy's proposed revised schedule, which has been discussed among all parties during the Managers meeting of January 30, 1992.

Sincerely,

  
S.E. TOWER

Commander, CEC, U.S. Navy  
By direction of the Commanding  
Officer

enclosure (9)

Subject: Federal Facility Agreement (FFA) Dispute Resolution  
Procedure Related To Rejection of Marine Corps Air  
Station, El Toro's Request For Time Extension

Copy to:  
COMCABWEST  
WACO (Capt Brennan)



DEPARTMENT OF THE NAVY  
SOUTHWEST DIVISION  
NAVAL FACILITIES ENGINEERING COMMAND  
1220 PACIFIC HIGHWAY  
SAN DIEGO, CALIFORNIA 92132-5190

5090  
Ser 1812.AP/ 1750  
14 Feb 92

Ms. Julie Anderson  
Environmental Protection Agency  
Region IX  
75 Hawthorne Street  
San Francisco, CA 94105

Dear Ms. Anderson:

With this letter we are requesting your concurrence on two issues regarding the Federal Facility Agreement (FFA) for the Marine Corps Air Station (MCAS) El Toro. First, we are requesting a schedule extension to the FFA milestones in accordance with Section 9 of the FFA for Operable Units (OU) #1, #2, and #3. Secondly, we are asking for a consensus on schedule extensions for the OU #4 submittals including the target date for the RCRA Facility Assessment (RFA) Report. The RFA and OU #4 dates in enclosure (1) are earlier than the dates requested in our 13 December 1991 letter to which you denied an extension. On 13 February 1992, the Project Managers for the Navy, Environmental Protection Agency (EPA) Region IX, the Regional Water Quality Control Board (RWQCB) Santa Ana Region, and the Department of Toxic Substances Control (DTSC) Region 4 mutually agreed to defer the submission of the "written statement of dispute" (pursuant to FFA Section 12.2) from the current due date of 14 February 1992 to twenty-one days after your response to this letter. These issues were discussed and mutually resolved by all the Project Managers at the Project Managers meeting held at MCAS El Toro on 29 and 30 January 1992.

For OUs #1, #2, and #3, we have specified the timetable, deadline or schedules that are sought to be extended including the lengths of the extensions sought in Enclosure (1) in accordance with the requirements of Sections 9.1 (a) and (b) of the FFA. We have described the good causes for the extensions in Enclosure (2) in accordance with the requirements of Section 9.1 (c) of the FFA. We have specified the extent to which any related timetable and deadline or schedules would be affected if the extensions were granted in Enclosure (1) in accordance with the requirements of Section 9.1 (d) of the FFA.

As for the RFA and OU #4 schedules, we are reaffirming the schedule extension dates that were presented during the meeting on 30 January 1992. Enclosure (1) gives the new completion dates and the lengths of extension. As agreed to in past meetings and requested by the EPA's manager, only the submittal of the OU #4 Draft RI/FS Work Plan is given a deadline at this time. Future submittal dates will be negotiated following concurrence of the RFA Report which develops the list of sites for OU #4. Enclosure (2) also contains good causes with regard to the RFA/OU #4 efforts. Enclosure (3) includes a detailed schedule for the RFA and the submittal of the Draft OU #4 Work Plan.

In the 30 January 1992 meeting, there was a concern of the regulatory agency managers that the Navy was not concerned with the contaminated groundwater or its remediation. The Navy is committed to supporting the Orange County Water District (OCWD) Desalter Project. We are currently reviewing the project's economical and environmental merits. From this evaluation, we will request the appropriate amount of funds in fiscal year 1993 to finance our portion of the

enclosure (10)

5090  
Ser 1812.AP/ 1750  
14 Feb 92

groundwater removal efforts. With or without the OCWD Desalter Project, the Navy agrees to implement a groundwater removal action at MCAS El Toro prior to the signing of the Record of Decision (ROD) as approximated in the revised OU #1 schedule addressed in enclosure (3). To express our commitment, the Navy is willing to execute the proposals listed in enclosure (4) to promote the Desalter Project, expedite groundwater remediation, and communicate our responsibility to the public.

We have participated in Project Managers conference calls with representatives from EPA Region IX, RWQCB Santa Ana Region, and DTSC Region 4 on December 11, 1991, and January 16, 1992, and a meeting on January 30, 1992 to discuss and negotiate the justification for the schedule extensions and the length of the schedule extensions.

We believe that the increase in project scope was beyond the reasonable control of the Parties so as to constitute good cause as a miscellaneous "force majeure" in accordance with FFA Section 9.2 (a) and Section 10. In the alternative, we believe that the Parties mutually agreed that the increase in project scope justifies extensions as described in the enclosures in accordance with Section 9.2 (g) of the FFA.

If there are questions concerning this correspondence, please contact me at (619) 532-3825.

*for* 

T. C. CRANE  
Captain, CEC, U.S. Navy

Encl:

- (1) Proposed Revised FFA Appendix A
- (2) Justification for Request for FFA Schedule Extension
- (3) Detailed Schedules for OU-1, OU-2/3, and FA/OU-4.
- (4) Desalter Support Proposals

5090  
Ser 1812.AP/ 1750  
14 Feb 92

Copy to:  
Mr. John Hamill  
Environmental Protection Agency  
Region IX  
75 Hawthorne Street  
San Francisco, CA 94105

Mr. Manny Alonzo  
California Department of Toxic  
Substances Control  
Region 4  
245 West Broadway, Suite 350  
Long Beach, CA 90802

Mr. Ken Williams  
California Regional Water Quality Control Board  
Santa Ana Region  
2010 Iowa Avenue, Suite 100  
Riverside, CA 92507

Commandant of the Marine Corps  
Headquarters, U. S. Marine Corps (LFL)  
Washington, D.C. 20380-0001

Commanding General  
Marine Corps Air Station  
El Toro (Santa Ana), CA 92709-5001

Western Area Counsel Office  
Marine Corps Base  
Camp Pendleton, CA 92055-5001

**PROPOSED REVISED FFA APPENDIX A**  
**MCAS El Toro**

Deliverable or Milestone	Original Completion Date	Extended Completion Date	Length of Extension (Yr-Mo)
<b><u>Operable Unit 1</u></b>			
Draft RI/FS Work Plan	30 Sep 90	N/A	
Phase I Technical Memo	N/A	07 May 93*	
Phase I Treatability Study and Draft Report	N/A	06 Aug 93*	
Draft Phase II Work Plan	N/A	09 Aug 93*	
OCWD Desalter Removal Action	N/A	25 Feb 94**	
Start Phase II Fieldwork	N/A	08 Mar 94*	
Draft RI Report	15 Jun 92	30 Dec 94	2yr- 6mo
Draft FS Report	15 Aug 92	23 Mar 95	2yr- 7mo
Draft Proposed Plan	15 Nov 92	23 Jun 95	2yr- 7mo
Draft Record of Decision	15 Apr 93	29 Dec 95	2yr- 8mo
<b><u>Operable Units 2 and 3</u></b>			
Draft RI/FS Work Plan	30 Sep 90	N/A	
Phase I Technical Memo	N/A	07 May 93*	
Phase I Feasibility Study and Draft Report	N/A	06 Aug 93*	
Draft Phase II Work Plan	N/A	09 Aug 93*	
Start Phase II Fieldwork	N/A	08 Mar 94*	
Draft RI Report	15 Oct 92	02 Jan 95	2yr- 3mo
Draft FS Report	15 Feb 93	01 Jun 95	2yr- 4mo
Draft Proposed Plan	15 May 93	01 Sep 95	2yr- 4mo
Draft Record of Decision	15 Oct 93	12 Mar 96	2yr- 5mo
<b><u>RCRA Facility Assessment (RFA)</u></b>			
Draft Report on Records Search, VSI & Sample Plan	15 Mar 91	N/A	
Draft RFA Report	15 Dec 91	18 Mar 93***	1yr- 3mo
<b><u>Operable Unit 4</u></b>			
Draft RI/FS Work Plan	15 Dec 91	18 Aug 93	1yr- 8mo
Draft RI Report	15 Sep 93	TBD	
Draft FS Report	15 Jan 94	TBD	
Draft Proposed Plan	15 Apr 94	TBD	
Draft Record of Decision	15 Sep 94	TBD	

\* These completion dates are target dates (not enforceable).

\*\* Removal Action not controlled by the Federal Facility Agreement.

\*\*\* Secondary Document.

TBD: To Be Determined following concurrence of the RFA Report.

**JUSTIFICATION FOR FEDERAL FACILITY AGREEMENT (FFA) SCHEDULE EXTENSION  
MCAS EL TORO**

Time extensions to the FFA have been requested because the situation at MCAS El Toro has differed considerably since the FFA was initially signed in October 1990. The justification which is described in this enclosure has been openly discussed in all or part during Project Managers conference calls on 11 December 1991 and 16 January 1992, and during meetings on 18 July, 12 September, and 13 November 1991, and 30 January 1992.

**Philosophy/Level of Effort:**

In the Draft Work Plan and Sampling and Analysis Plan, the approach was to perform the RI/FS in two phases. Listed are some of the major differences between the time of the signing of the FFA and the current situation facing the project managers.

**Signing of FFA.**

For phase 1, OU #1 was the major emphasis, exploration on a Remedial Investigation (RI) level. OU #2 & #3 would be explored on a Site Inspection (SI) level and the areas of concern would be tested for suspected contaminants only. The Waste Management plan involved drumming the investigative wastes, store on base, and deal with the drums at a later time. For phase 2, OU #1 efforts were to resolve minor data gaps produced by phase 1. The soil, OU #2 & #3, would be studied at a RI level to find the extent of contamination and fill-in the required data gaps identified from phase 1. Again, the sites would be tested for suspected contaminants only.

**Current Situation.**

For phase 1, OU #1 philosophy remained unchanged, but the level of effort increased with the addition of two cluster wells. One cluster well may involve the drilling, installation, and development of five separate wells. OU #2 & #3 efforts have been increased to a RI level, and to test each site for the universe of chemicals. Installation of deep wells at the soil sites were added. No clean sites would be identified or deleted after phase 1. The Waste Management plan includes testing, segregating, and sometimes treating the investigation derived wastes. During phase 1, Data Quality Objectives (DQO) will be established for phase 2. Like before, phase 2 is to resolve minor data gaps, and test for suspected contaminants only to define the extent of contamination. DQOs will be implemented.

**Estimated Field Quantities:**

Since the negotiation of the FFA, the scope of work has increased significantly and under mutual agreement through ongoing project managers' meetings. Between the Sampling and Analysis Plan (SAP) of September 1990 and the SAP of February 1991, the number of proposed monitoring wells increased from 95 to 126 and the total number of samples required increased from approximately 500 to 875. The RFA, which initiates Operable Unit 4, has identified 299 sites with 157 recommended for a sampling visit, much more than the 35-37 sites identified by the water control board. Added increases in scope have also occurred in the development of the Site Office and Decontamination Facilities and the Waste Management Plan.

Listed below is a comparison of RI/FS field quantities identified for phase 1 between the two plans, excluding QA/QC, waste management, and required lab sampling. Phase 2 quantities are unknown.

	Sep 90	Feb 91	Difference	
Soil Samples=	350	639	+289	
Sediment Samples=	17	49	+ 32	
Groundwater Samples=	113	145	+ 32	
Surface Water Samples=	18	42	+ 24	
Total Samples=	498	875	+377	(+76%)
Vertical Soil Borings=	24	10	- 14	
Monitoring Wells=	95	126	+ 31	(+33%)

#### Estimated Cost of RI/FS Efforts:

With an increase of effort comes an increase in project cost and duration. Prior to the FFA negotiations, the anticipated cost of the RI/FS work was estimated to be \$5,300,000 for phase 1, and \$4,500,000 for phase 2. With the changes to the project that have occurred since the signing of the FFA, the estimated costs have also changed. The current cost estimate of \$20,000,000 is estimated for completing each of the two phases and work.

#### Contracting Requirements:

Cost of work has a direct impact on Navy contract procurement procedures. Due to the initial estimated costs, the Navy contracting process was not considered as having any impact on the technical progress of the project; such is currently not the case. Cost and the contracting process must be considered. A period of 2-3 months is required for the procurement of indirect investigation efforts (work plans, studies, reports), and 7-8 months for direct field efforts and major sub-contracting awards (large construction activities, drilling, laboratory analysis, and professional services). In managing the project as efficiently as possible, contracting and performance tasks are packaged in a logical manner to reduce administrative burdens, overhead costs, and fragmentation of the program.

For the sake of some clarification, the following is a comparison between contracting efforts at MCLB Barstow and MCAS El Toro. The goals are the same but the methods are different. Different methodologies develop when similar projects are managed by different Navy, consultant, contract, and regulatory agency managers. Regulatory requirements impact the direction of not only technical components, but also administrative and contractual considerations. Contract tasks of value greater than \$5,000,000 require Naval Facilities Engineering Command Headquarters (NAVFAC) approval. Depending on the magnitude (\$6 mil vs. \$19 mil) and complexity, NAVFAC approval time may vary greatly.

<u>MCLB Barstow</u>	<u>MCAS El Toro</u>
3 Separate Contract Tasks.	2 Separate Contract Tasks.
May 91-Jun 91 \$ 1.0 mil	
Aug 91-Oct 91 \$ 5.6 mil	Mar 91-May 91 \$ 0.5 mil
Dec 91-Mar 92 \$ 5.0 mil	May 91-Dec 91 \$17.5 mil
Totals: 10 Months \$11.6 mil	Totals: 10 Months \$18.0 mil

Barstow's \$5.6 million contract task to NAVFAC did not include subcontract consent packages, detailed waste Management plan concerns, or information regarding a significant Site Office and Decontamination Facility. El Toro's \$17.5 million contract task to NAVFAC included major subcontract consent

packages for Drilling, Laboratory Analysis (3), professional services, and the design and construction of a significant Site Office and Decontamination Facility. Also included in the package was the development and implementation of a detailed Waste Management Plan.

Schedule Differences:

At the 18 July 1991 managers meeting, the Navy presented a schedule to the team that showed significant differences than the milestones set in the FFA. The July schedule was reviewed by the regulatory agency managers and deemed, in general, not unreasonable. Detailed schedules similar to the one presented in July 1991 were introduced at the managers meeting of 30 January 1992. At that meeting and in the few days that followed, detailed schedules were negotiated and approved by the project managers from the Environmental Protection Agency, Department of Toxic Substances Control, Santa Ana Regional Water Quality Control Board, Navy, and MCAS El Toro.

These schedules identified the following tasks not incorporated into the July 1991 schedule: 1) Navy contracting tasks, 2) the DQO processes for phase 2 effort, 3) separation of RI and FS reports, 4) public comment period and responsiveness summary preparation activities between the submittal of the Proposed Plan and the Record of Decision, and 5) the Orange County Water District (OCWD) Desalter groundwater removal project design, construction and start of the removal action.

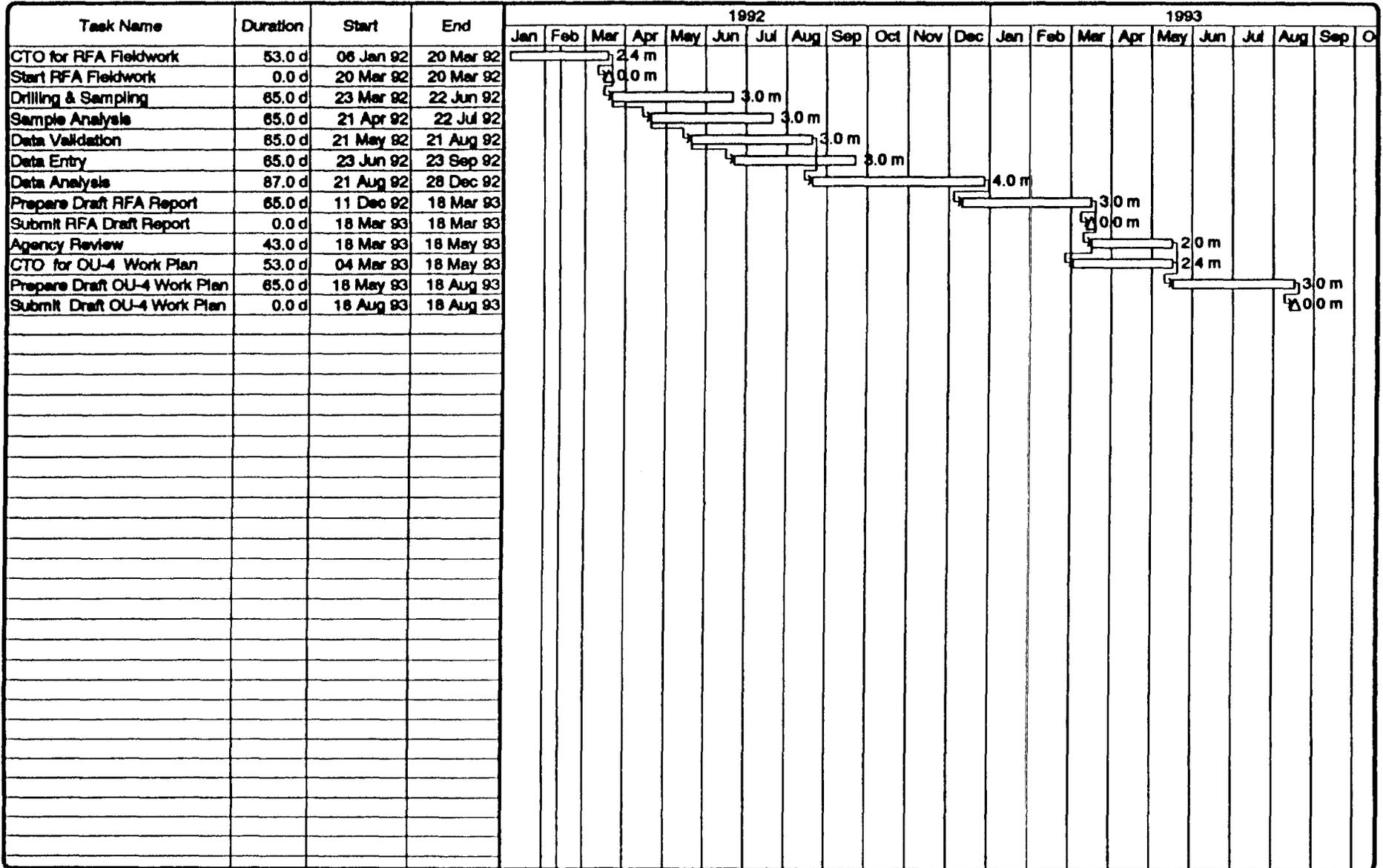








# RCRA Facility Assessment (RFA) Schedule MCAS El Toro



12 February 1992

**SUPPORT OF GROUNDWATER REMEDIATION  
THROUGH THE ORANGE COUNTY WATER DISTRICT (OCWD) DESALTER PROJECT  
Marine Corps Air Station (MCAS) El Toro**

The following proposals are tasks the Navy has identified at MCAS El Toro as being above and beyond the stipulations of the original terms of the Federal Facility Agreement of October 1990. In fully supporting remediation of contaminated groundwater in the area of MCAS El Toro, the Navy is willing to execute the proposals listed below. In doing so, the Navy will expedite the groundwater remediation through promotion of the OCWD Desalter Project, and communicate our responsibility to the public. It must be made clear, the Navy chooses to support the OCWD Desalter Project as being the quickest and most effective means of groundwater remediation. If a superior alternative is identified, the Navy may pursue groundwater remediation other than with the OCWD Desalter.

**1. Construction Permits/Easements on El Toro Property.**

**Proposal:** MCAS El Toro agrees that a portion of the Desalter Project, production wells and associated pumps and pipelines, can be constructed on Base property; target is mid-April 1992.

El Toro and OCWD met on 10 February 1992 to define what each party needs to do to support the fast-track design and construction of that portion of the project located within Base boundaries.

This proposal has been regarded by OCWD as the single most important factor MCAS El Toro can do to support efforts in getting the Desalter Project started and operating.

**2. Additional Multiport Well.**

**Proposal:** At the Southwest perimeter of El Toro, substitute the two shallow monitoring wells along Marshburn Channel (near Main Gate and at SW corner) with an intermediate/deep cluster well (multiport) at their midpoint along the Channel.

This multiport well will not only supply similar data as the shallow wells, but also provide information critical for evaluating the relationship between the many possible aquifers in that region. The multiports will permit discreet observation of potential contaminant migration across the southwest edge of the base. The shallow wells can not be used for such analysis.

The OCWD has stated that there is a lack of groundwater monitoring points in this area, and have requested a realignment of well locations at additional depths to further support known subsurface conditions. The information obtained from the proposed multiport well will enhance the design of the Desalter Project now, and provide long-term monitoring for future adjustments to maintain safety and improve efficiency.

This proposal is sharply endorsed by the OCWD.

3. Installation of Bee Canyon/Perimeter Wells.

Proposal: During the Remedial Investigation/Feasibility Study (RI/FS) fieldwork, the priority and sequence of well installation will be adjusted by the needs of the OCWD Desalter design team.

The current sequence of well installation and soil sampling is predicated on economic and efficiency issues. Without impacting the soundness of the RI/FS process, this proposal will redirect our strategy to fully supporting the subsurface and groundwater data requirements of the Desalter designers. This proposal will help OCWD base the Desalter design on economic, production, and efficiency criteria at the earliest opportunity.

4. Participate in Desalter Pump Tests Using El Toro Wells.

Proposal: The RI/FS fieldwork will include additional pump test tasks to help OCWD analyze the characteristics of the Desalter production wells and the relationships among the shallow and deeper aquifers.

In order to accurately define the Desalter well capacities and design the associated piping and pumps, reliable pump test data is needed. MCAS El Toro will assist OCWD in gathering critical information during the pump testing of the Desalter production wells. This task will be accomplished during phase 1 RI/FS field operations by teaming additional field personnel with OCWD hydrologists during their pump testing. The two teams will coordinate the monitoring and gathering of hydraulic data at all the wells within the zone of Desalter production well influence. These include newly installed single wells, multiport wells, and previously constructed wells owned by MCAS El Toro in that vicinity.

5. Public & Media Outdoor Open House.

Proposal: MCAS El Toro will put on an outdoor open house to kickoff the start of RI/FS Phase 1 Field operations.

The public and media will be invited to participate at a "hands-on" open house event that will include an exhibit of selected drilling, sampling, and safety equipment. In addition to the equipment, there will be an educational display board describing the Installation Restoration Program, the upcoming field operations, and the proposed joint venture efforts between MCAS El Toro and the Orange County Water District (Desalter Project).

This event will be announced to the media and the public to assure appropriate exposure to both the on-base and surrounding communities. This action is in addition to the initial plans involving Phase 1 of the RI/FS.

Concurrent with the fieldwork and the development of the Phase 1 Technical Memo, short informational flyers will be distributed to the public. The flyers will address current operations, findings, and progress on ongoing projects associated with MCAS El Toro such as the Desalter and the lining of Agua Chinon Wash by the City of Irvine.

5090  
Ser 1812.AP/ 1750  
14 Feb 92

Writer/Typist: Andy Piszkin, 1812.AP, 22635

BCC:  
Code 18  
181  
1812  
1812.AP  
09C



DEPARTMENT OF THE NAVY  
SOUTHWEST DIVISION  
NAVAL FACILITIES ENGINEERING COMMAND  
1220 PACIFIC HIGHWAY  
SAN DIEGO, CALIFORNIA 92132-5190

5090  
Ser 09C4/5029  
February 14, 1992

FACSIMILE TRANSMISSION

Ms. Julie Anderson  
Environmental Protection Agency  
Region IX  
75 Hawthorne Street  
San Francisco, CA 94105-3901

Mr. John Scandura  
Chief, Site Mitigation Branch  
Department of Toxic Substance Control  
245 West Broadway, Suite 350  
Long Beach, CA 90802-4444

Ms. Averil Biggar  
California Regional Water Quality Control Board,  
Lahontan Region  
15428 Civic Drive, Suite 100  
Victorville, CA 92392-2359

Subject: SCHEDULE EXTENSION REQUEST PURSUANT TO FEDERAL FACILITY  
AGREEMENT (FFA) FOR MARINE CORPS LOGISTICS BASE,  
BARSTOW

Dear Ladies and Sir:

This letter responds to your letters of February 7, 1992. In those letters, our proposal to extend the Remedial Investigation and Feasibility (RI/FS) study reporting deadlines was accepted, conditioned upon the Department of the Navy's (DON) acceptance of deadlines for secondary documents and other interim milestones as enforceable. In addition, the EPA and RWQCB letters recommended and the DTSC letter further conditioned acceptance upon receiving Navy/Marine Corps commitments to appropriate removal actions and streamlining the schedule.

The DON continues to be committed to the identification and performance of appropriate removal actions. We agree that where possible and appropriate, schedules should be streamlined. We propose to meet with you at least annually to discuss opportunities to reduce the schedule.

I have supported interim enforceable deadlines up the chain of command, but their concern over changes to the model FFA negotiated between EPA and DOD headquarters precludes agreement on this issue. Region IX will be contacted by a DON official on this subject.

enclosure (11)

Subject: SCHEDULE EXTENSION REQUEST PURSUANT TO FEDERAL FACILITY AGREEMENT (FFA) FOR MARINE CORPS LOGISTICS BASE, BARSTOW

If you find this proposal unacceptable, then in order to preserve DON's rights under the FFA, please accept this letter as notification of our intent to take this issue to dispute resolution. I remain confident that formal dispute resolution will be unnecessary. I continue to be deeply committed to cleaning up this base as fast as possible and to work together doing so.

I look forward to discussing this matter with you at your earliest convenience.

Sincerely,

*for* 

T. C. CRANE  
Captain, CEC, USN  
Commanding Officer

Copy to:  
CO MCLB Barstow

## DEPARTMENT OF TOXIC SUBSTANCES CONTROL

Region 4

West Broadway, Suite 350  
San Diego, CA 90802-4444



February 21, 1992

Captain T. C. Crane, CEC  
Commanding Officer  
Southwest Division Naval Facilities  
Engineering Command  
1220 Pacific Highway  
San Diego, California 92132-5190

Dear Captain Crane:

SCHEDULE EXTENSION REQUEST TO THE FEDERAL FACILITY AGREEMENT  
(FFA) FOR MARINE CORPS AIR STATION EL TORO

The Department of Toxic Substances Control received on February 14, 1992, a facsimile of your letter to Ms. Julie Anderson requesting a schedule extension to the FFA deliverables in accordance with Section 9. We appreciate the hard work, spirit of cooperation, and patience you and your staff have demonstrated in this process of negotiation for a schedule extension.

The request referenced above, is the result of an on-going process which has centered on a two year and eight month extension to many of the deliverable dates in the FFA since our receipt of your 1991 Detailed Project Schedule. You have demonstrated to us the technical merits of accepting your February 14, 1992 request as a reasonable schedule.

However, your latest proposal has a change which we did not expect and cannot agree to. You are requesting that the interim deliverables be secondary documents, which are not enforceable. It was our understanding that the additional interim deliverables would be enforceable as primary documents as was agreed to previously by yourself and by the remedial project managers for the FFA signatory agencies. We cannot agree to extend the schedule by almost three years without enforceable milestone dates within the next three years.

The Department will grant your request if the Navy/Marine Corps is willing to agree to the following conditions:

1. The interim deliverable documents will be primary enforceable documents, and are subject to the deadlines set forth in your proposal dated February 14, 1992. These documents include the deliverables marked with an asterisk in Enclosure 1 of said proposal.

enclosure (12)



Captain T. C. Crane, CEC

February 21, 1992

Page 2

2. The Navy/Marine Corps will commit to performing appropriate removal actions within the next three years and make said actions prior to the Record of Decision.

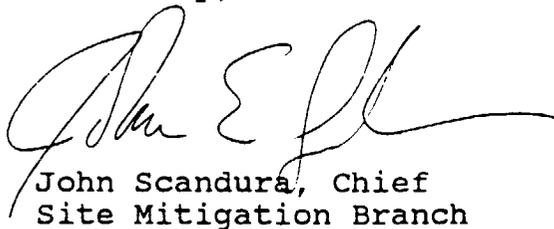
3. The Navy/Marine Corps will commit to making its best effort to identify where the schedule can be reduced whenever such an opportunity occurs.

If the Navy/Marine Corps accepts in writing the three conditions listed above within seven calendar days of this letter, and a signed amended FFA schedule with the additional interim deadlines as enforceable is received no later than April 13, 1992, the FFA schedule extension request is granted by the Department. If the Navy/Marine Corps fails to submit a signed amended FFA schedule by April 13, 1992, the Department will consider the Navy in continued violation of the FFA and will recommend to USEPA the assessment of accrued penalties.

If the Navy/Marine Corps does not accept the three conditions listed above within seven calendar days of this letter and commits to sign an amended FFA schedule with the additional enforceable dates, the FFA schedule extension request is respectfully denied. If the Navy/Marine Corps chain of command concern over changes to the FFA precludes agreement on this issue, as expressed in your letter of February 14, 1992, the Department is determined to settle it through dispute resolution.

Thank you for consideration of these issues, please call Manny Alonzo or me at (310) 590-4856 for any questions.

Sincerely,



John Scandura, Chief  
Site Mitigation Branch

cc: Commanding Officer  
Marine Corps Air Station  
El Toro, California 92709

Captain T. C. Crane, CEC

February 21, 1992

Page 3

cc: Mr. John Hamill (code H-7-5)  
United States Environmental Protection  
Agency, Region 9  
75 Hawthorne Street  
San Francisco, California 94105

Mr. Ken Williams  
Water Resource Control Engineer  
Regional Water Quality Control Board, Santa Ana Region  
2010 Iowa Avenue, Suite 100  
Riverside, California 92507

✓ Mr. Andy Piszkin  
Remedial Project Manager  
Naval Facilities Engineering Command  
Code 1811  
1220 Pacific Highway  
San Diego, California 92132-5190



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION IX  
75 Hawthorne Street  
San Francisco, Ca. 94105-3901

T.C Crane  
Captain, CEC, U.S. Navy  
Southwest Division  
Naval Facilities Engineering Command  
1220 Pacific Highway  
San Diego, California 92132-5190

February 23, 1992

Re: Schedule Extension Request for  
Marine Corps Air Station, El Toro

Dear Captain Crane:

This letter is in response to your 14 February 1992 letter requesting schedule extensions for Federal Facility Agreement (FFA) deliverables for the Marine Corps Air Station (MCAS), El Toro. While John Hamill of my staff received an unsigned draft of this letter by facsimile February 13, I first received a signed copy on February 21. This copy was delivered through regular mail service.

As you know, all Parties to the FFA have met and expended significant effort to negotiate an extended schedule in the spirit of cooperative teamwork. We appreciate the effort your staff demonstrated in presenting a comprehensive justification for the extension request. We agree that the project scope has increased significantly from original projections and that schedule extensions are justified. We believe your request meets the criteria listed in Section 9.1 of the FFA for granting an extension. However, the agreement reached by the Parties to the FFA in our negotiations was not fully reflected in your extension request.

One condition for accepting your extension request was that the Navy agree to establish interim enforceable deadlines for the period prior to the submittal of the Draft RI. We feel this is critical because your proposed new schedule significantly (more than 2 1/2 years) extends the period for conducting the RI. Under your proposed schedule, the next enforceable deadlines would be two to three years from now. While technically such an expanded schedule for the RI may be justified, the length of the project requires that we have some interim enforceable deadlines

to ensure that adequate progress is maintained throughout the RI. Interim enforceable deliverables were discussed and agreed to at Project Manager's Meetings of November 13 and 14, 1991, and January 29 and 30, 1992, and at the conference call of December 11, 1991, and even formally submitted by the Navy in your December 13, 1991 extension request to EPA. Your current submittal identifies these additional deadlines as target dates which are not enforceable.

On 23 December 1991, EPA denied the Navy an extension of the December 15, 1991 submission of the Draft RI/FS Workplan for Operable Unit 4, and notified you of our intent to assess a stipulated penalty against the Marine Corps. The Navy has still not complied with the FFA in that the Draft RI/FS Workplan for OU 4 has not been submitted, nor has a project schedule reflecting the consensus of the project managers.

However, per my conversation with Commander Steve Tower on February 6, 1992 in Phoenix, Arizona, I was informed that the Navy is willing to accept the interim deadlines as enforceable, pending the formal amendment of the FFA schedule. Additionally, you have submitted in your proposal mitigation to the delays caused by your schedule extension request. Recognizing that the main environmental concern at the MCAS El Toro is the groundwater contamination, we are pleased to see that you agree to implement a groundwater removal action prior to signing a Record of Decision. In your extension request you state that the Navy is committing to promote the proposed groundwater removal action by Orange County Water District (OCWD), assist OCWD to expedite their removal action, and communicate your responsibility to the public.

EPA agrees with your 14 February 1992 proposal package and will approve the proposed schedule if it receives from the Navy by no later than April 13, 1992, a signed amended FFA schedule with the additional interim deadlines as enforceable. If the Navy does not submit a signed amended FFA by April 13, 1992, EPA will consider the Navy to be in continued violation of the FFA since December 15, 1991, and consider other courses of action. In accordance with Section 12 of the FFA, the Navy should submit to the Dispute Resolution Committee (DRC) a written statement of dispute by no later than April 13, 1992, if it wishes to pursue the dispute.

In closing, we must restate our general concern for the length of this RI. While we are confident that agreement can be reached to confirm the new schedule, we wish to express our continued commitment to work with the Navy to seek methods to streamline this schedule and more quickly achieve our mutual goal of cleaning up the El Toro site. Specifically, if field work determines locations where interim removal actions can and should be conducted, we will recommend that the Navy take such actions. In addition, where procedural streamlining to achieve earlier RODs is appropriate, we will suggest such change. We request

your like commitment to also identify appropriate interim removal actions and to look for opportunities to streamline the process to achieve a faster remediation of the El Toro site.

We look forward to a continued cooperative working relationship with you. If you have any questions concerning these issues, please contact John Hamill of my staff at (415) 744-2391 (after March 5), or me at 744-2420.

Sincerely,



Julie Anderson  
Chief  
Federal Facility Enforcement  
Branch

cc: M. Alonzo, DTSC  
K. Williams, RWQCB  
Commanding General, USMCAS, El Toro  
Commandant of the Marine Corps, USMC Headquarters  
W. Lee, USMC, El Toro  
A. Piszkin, Navy



DEPARTMENT OF THE NAVY  
OFFICE OF THE GENERAL COUNSEL  
COUNSEL FOR SOUTHWEST DIVISION  
NAVAL FACILITIES ENGINEERING COMMAND  
1220 PACIFIC HIGHWAY  
SAN DIEGO, CALIFORNIA 92132-5190

5090  
Ser 09C4/5030  
March 5, 1992

Karen Goldberg, Esquire  
U.S. Environmental Protection Agency,  
Region IX  
Office of Regional Counsel  
75 Hawthorne Street  
San Francisco, CA 94105

Orchid Kwei, Esquire  
California Environmental Protection Agency  
Department of Toxic Substances Control  
Toxics Legal Office  
400 P Street  
Sacramento, CA 94234-7320

Frances McChesney, Esquire  
California Environmental Protection Agency  
State Water Resources Control Board  
901 P Street  
P.O. Box 100  
Sacramento, CA 95812-0100

Subject: COMMENCEMENT OF FORMAL DISPUTE RESOLUTION UNDER THE  
FEDERAL FACILITY AGREEMENTS (FFAs) FOR MARINE CORPS AIR  
STATION (MCAS), EL TORO AND MARINE CORPS LOGISTICS BASE  
(MCLB), BARSTOW

Dear Karen, Orchid, & Frances:

Pursuant to my telephone conversation with Karen the other day, I am writing to explain why I think that one more attempt at informal dispute resolution is a worthwhile endeavor.

First, I understand that your agencies may be somewhat confused by what is perceived to be the Department of the Navy's (DON's) change in position on the issue of enforceability of secondary documents or milestones. Perhaps I can briefly explain.

On a majority of issues, Southwest Division, in coordination with the installation, has the flexibility and authority to make commitments to the regulators on behalf of DON. A few issues exist, however, which are matters of nationwide DON policy or are deemed vital to the preservation of DON's legal rights. The enforceability of secondary documents/milestones is such an issue.

enclosure (14)

Subject: COMMENCEMENT OF FORMAL DISPUTE RESOLUTION UNDER THE  
FEDERAL FACILITY AGREEMENTS (FFAs) FOR MARINE CORPS AIR  
STATION (MCAS), EL TORO AND MARINE CORPS LOGISTICS BASE  
(MCLB), BARSTOW

We can assure you that Southwest Division personnel were acting with the best of intentions in this matter and apologize for any confusion caused.

Next, although I will save the details for future discussions, I would like to list some of the reasons which are preventing DON from agreement to enforceable secondary documents/milestones:

a. The DTSC letter of February 21, 1992 and the EPA letter of February 23, 1992 (regarding MCAS El Toro), and the EPA, DTSC, and RWQCB letters of February 7, 1992 (regarding MCLB Barstow) recognize the projects' significant scope increases and the technical merit in our proposed schedule extensions, in effect agreeing with DON that good cause existed for the extensions we recently requested for these bases. FFA §9.1 requires that extensions be granted if "good cause" is demonstrated by DON. There is no provision for placing conditions on the granting of an extension warranted for "good cause".

b. CERCLA §120 (e) clearly states that the DON/EPA working relationship in the investigation and cleanup of our NPL facilities is a "consultation", not an enforcement action. The state is given an opportunity to participate in accordance with CERCLA §§120 (f) and 121.

c. CERCLA §120 (e) only requires a post-Record of Decision interagency agreement. Department of Defense and EPA headquarters agreed to enter into agreements earlier than is required by law. They have negotiated a set of model provisions that expressly provide a limited set of documents/milestones (i.e., primary documents), the deadlines for which penalties can be assessed.

d. Although CERCLA §120 (e) specifies commencement dates for the Remedial Investigation/Feasibility Study (RI/FS) and Remedial Action (RA) and requires expeditious completion of the RI/FS, it is important to recognize that the law does not specify a time limit for RI/FS completion.

e. The regulators' stated concern has been the need to keep DON motivated. In the context of these agreements and our business relationship, I believe that our project managers have demonstrated the utmost motivation to adhere to deadlines. While other circumstances have contributed to delays, lack of DON motivation is not one of them. In addition, the FFAs continue to provide for project manager

Subject: COMMENCEMENT OF FORMAL DISPUTE RESOLUTION UNDER THE  
FEDERAL FACILITY AGREEMENTS (FFAs) FOR MARINE CORPS AIR  
STATION (MCAS), EL TORO AND MARINE CORPS LOGISTICS BASE  
(MCLB), BARSTOW

meetings every 90 days and progress reports. See FFA §§7.6 and  
18.3. Surely, these means are sufficient to ensure regulator  
input and to keep the regulators apprised of DON progress.

While our respective clients have engaged in informal dispute  
resolution to arrive at agreement on the existence of "good  
cause" and mutually acceptable schedules for MCLB Barstow and  
MCAS El Toro, they have not discussed most of the above-listed  
issues. To the extent that the only dispute which remains is the  
enforceability of secondary documents/milestones, I believe we  
are talking about legal or quasi-legal issues.

For this reason, we suggest that at least one more round of  
informal face-to-face discussions be held. We believe that each  
FFA party should be represented by supervisory technical person-  
nel and counsel. I recommend that technical personnel be below  
the Dispute Resolution Committee (DRC) level. This will enable  
the DRC to take a fresh look at the issues, if we are unsuccess-  
ful. Of course, each party can also have observers (e.g.,  
project managers, base personnel) at the discussions. If you and  
your clients agree to this approach, DON's negotiation team will  
consist of Dana Sakamoto, Captain Brennan of the Marine Corps'  
Western Area Counsel Office, and myself.

Finally, the matter remains of identifying the due dates for  
transmission of the written statements of dispute to the DRC, in  
accordance with FFA §12.2. Internally, we have calculated  
several possible due dates for the MCLB Barstow and MCAS El Toro  
matters. If all parties agree to one more attempt at informal  
dispute resolution, then we would like to postpone the deadline  
to a date subsequent to our informal resolution period. If the  
parties do not wish to proceed informally, then we need to arrive  
at a common reading of the due dates. For MCLB Barstow, we  
propose March 16 -- 30 days from Southwest Division's February  
13, 1992 letter which stated our intent to go to dispute resolu-  
tion. For MCAS El Toro, we propose March 13 -- 21 days from  
DTSC's February 21, 1992 response to our latest proposal.

Please contact me at your earliest convenience so that we can  
arrive at a mutual understanding of the deadlines for the written  
statements of dispute. Likewise, we are willing to meet with you  
as early as next week to continue informal discussions.

Sincerely,



PERRY H. SOBEL  
Associate Counsel (Environmental)

Subject: COMMENCEMENT OF FORMAL DISPUTE RESOLUTION UNDER THE  
FEDERAL FACILITY AGREEMENTS (FFAs) FOR MARINE CORPS AIR  
STATION (MCAS), EL TORO AND MARINE CORPS LOGISTICS BASE  
(MCLB), BARSTOW

Copy to:  
Counsel, Western Bases, USMC  
Counsel, MCAS El Toro  
SJA, MCLB Barstow



DEPARTMENT OF THE NAVY  
OFFICE OF THE GENERAL COUNSEL  
COUNSEL FOR SOUTHWEST DIVISION  
NAVAL FACILITIES ENGINEERING COMMAND  
1220 PACIFIC HIGHWAY  
SAN DIEGO, CALIFORNIA 92132-5190

11 March 1992

Karen Goldberg, Esquire  
U.S. Environmental Protection Agency,  
Region IX  
Office of Regional Counsel  
75 Hawthorne Street  
San Francisco, CA 94105

Orchid Kwei, Esquire  
California Environmental Protection Agency  
Department of Toxic Substances Control  
Toxics Legal Office  
400 P Street  
Sacramento, CA 94234-7320

Frances McChesney, Esquire  
California Environmental Protection Agency  
State Water Resources Control Board  
901 P Street  
P.O. Box 100  
Sacramento, CA 95812-0100

Re: Extension of Deadline For Submission of Written Statements  
of Dispute For Marine Corps Air Station (MCAS) El Toro and  
Marine Corps Logistics Base (MCLB) Barstow

Dear Karen, Orchid, and Frances:

This will confirm our clients' agreement to extend to 25 March  
1992 the submission deadlines for the MCLB Barstow and MCAS El  
Toro written statements of dispute.

This will enable the parties to continue informal dispute resolu-  
tion in the afternoon of 23 March, without cutting into the  
Dispute Resolution Committee's 21 day resolution period. Our  
understanding is that EPA would like the meeting to start at 1:00  
PM.

Perhaps we can agree on an agenda for the meeting to help ensure  
progress.

enclosure (15)

Thank you for your cooperation. We look forward to meeting with you and your clients.

Sincerely,

  
PERRY H. SOBEL  
Associate Counsel (Environmental)

Copy to:

Western Area Counsel Office, Capt Brennan  
Counsel, MCAS El Toro  
SJA, MCLB Barstow



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IX

75 Hawthorne Street  
San Francisco, Ca. 94105-3901

12 March 1992

T.C. Crane  
Captain, CEC, U.S. Navy  
Southwest Division  
Naval Facilities Engineering Command  
1220 Pacific Highway  
San Diego, California 92132-5190

Re: Commencement of Formal Dispute Resolution  
Under the Federal Facility Agreements (FFAs)  
for Marine Corps Air Station (MCAS), El Toro and  
Marine Corps Logistics Base (MCLB), Barstow

Dear Captain Crane:

This letter is in response to your 14 February 1992 letter in which you notified us that the Department of the Navy (DON) cannot accept deadlines for secondary documents and other interim milestones as enforceable. This was a condition for EPA's approval of the schedule extension requests for both MCAS El Toro and MCLB Barstow. EPA concurs with the February 21, 1992, letter sent to you by the Department of Toxic Substances Control and the February 26, 1992, letter from the Lahontan Regional Water Quality Control, in which they state the position that the interim enforceable deadlines are essential, and that the rejection of this condition is not acceptable. Therefore, EPA accepts your letter as notification for formal dispute resolution per Section 12 of the FFA.

Because the interim enforceable dates were agreed to by all Parties at both the Remedial Project Manager's level and immediate and mid-level supervisors, we feel that the Navy needs to clearly articulate the reasons for the reversal in position and suggest other viable alternatives. Per your request, we are willing to meet informally at 1:30 p.m. on March 23, 1992, at your office to discuss the dispute. Please inform us and the other Parties if this date is acceptable, and submit to us an agenda for this meeting.

Section 12.2 of the FFA states, in part, "Within thirty (30) days after: ... (b) any action which leads to or generates a dispute, the disputing Party shall submit to the Dispute Resolution Committee (DRC) a written statement of dispute setting forth the nature of the dispute, the work affected by the dispute, the disputing Party's position with respect to the dispute, and the

enclosure (16)

Printed on Recycled Paper

technical, legal or factual information the disputing Party is relying upon to support its position." Pursuant to this position, your submittal of the above written statement would be due by no later than 30 days from the date of your letter.

However, as indicated by a letter dated March 11, 1992 from your Counsel, Perry Sobel to Karen Goldberg, EPA's Counsel, we agree to extend the due date for the submittal of the written statements of dispute to the DRC for MCLB Barstow and MCAS El Toro until March 25, 1992, so that the submittal can reflect the results of the meeting of March 23, 1992. We agree to this extension in order to allow the Parties one final informal dispute resolution meeting.

We look forward to a continued cooperative working relationship with you. If you have any questions concerning these issues, please contact John Hamill of my staff at (415) 744-2391 or me at 744-2420.

Sincerely,



Julie Anderson  
Chief  
Federal Facility Enforcement  
Branch

cc: M. Alonzo, DTSC  
K. Williams, RWQCB, Santa Ana  
Commanding General, USMCAS, El Toro  
Commandant of the Marine Corps, USMC Headquarters  
W. Lee, USMCAS, El Toro  
A. Piszkin, Navy  
L. Hornecker, Navy  
D. DeMars, MCLB, Barstow  
Commanding Officer, MCLB, Barstow  
J. Broderick, DTSC  
A. Biggar, RWQCB, Lahontan

4A  
VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

VBLK29

Lab Name: PACIFIC ANALYTICAL

Contract:

Lab Code: PACIF

Case No.:

SAS No.:

SDG No.:

Lab File ID: LL2021

Lab Sample ID: 00000

Date Analyzed: 04/21/92

Time Analyzed: 1524

GC Column: 1XSP1000 ID: 2 (mm)

Heated Purge: (Y/N) N

Instrument ID: VG#2

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS, AND MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	INFLUENT	15101	LL2031	1631
02	BETWEEN	15102	LL2041	1722
03				
04				
05				
06				
07				
08				
09				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				

COMMENTS:

---



---

4A  
VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

VBLX30

Lab Name: PACIFIC ANALYTICAL

Contract:

Lab Code: PACIF

Case No.:

SAS No.:

SDG No.:

Lab File ID: LL3031

Lab Sample ID: 00000

Date Analyzed: 04/22/92

Time Analyzed: 1045

GC Column: INSP1000 ID: 2 (mm)

Heated Purge: (Y/N) N

Instrument ID: 89#2

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS, AND MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	EFFLUENT	15103	LL3061	1330
02				
03				
04				
05				
06				
07				
08				
09				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				

COMMENTS:

---

5A  
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK  
BROMOFLUOROBENZENE (BFB)

Lab Name: PACIFIC ANALYTICAL                      Contract: D10098  
 Lab Code: PACIF            Case No.: 18043            SAS No.:                      SDG No.: X4281  
 Lab File ID:            BFB5011                                      BFB Injection Date: 04/21/92  
 Instrument ID:        VG#2                                      BFB Injection Time: 0726  
 GC Column: 1%SP1000    ID: 2    (mm)                      Heated Purge: (Y/N) N

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	8.0 - 40.0% of mass 95	23.2
75	30.0 - 66.0% of mass 95	47.5
95	Base peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.6
173	Less than 2.0% of mass 174	0.0 ( 0.0)1
174	50.0 - 120.0% of mass 95	75.1
175	4.0 - 9.0% of mass 174	5.4 ( 7.2)1
176	93.0 - 101.0% of mass 174	74.9 ( 99.8)1
177	5.0 - 9.0% of mass 176	4.5 ( 6.0)2

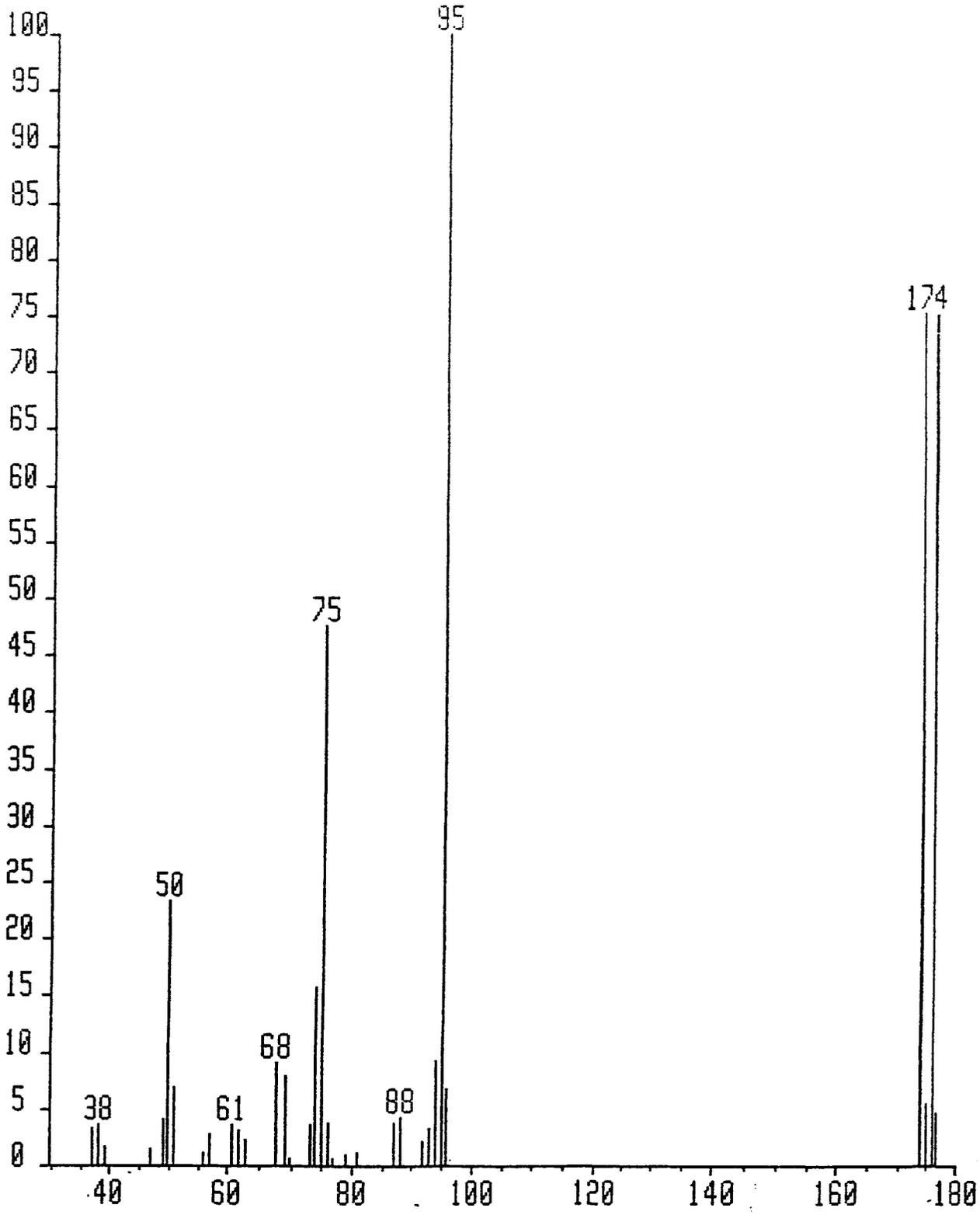
1-Value is % mass 174

2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATA ANALYZED	TIME ANALYZED
01	VSTD200	LL1011	04/21/92	0814
02	VSTD020	LL1031	04/21/92	0953
03	VSTD010	LL1051	04/21/92	1134
04	VSTD050	LL1061	04/21/92	1225
05	VSTD100	LL2011	04/21/92	1437
06				
07				
08				
09				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

BFBTUNS#1 x1 Bgd=412 14-MAY-92 15:29+0:21:48 EI+  
I=218mv TIC=6311000 AV SU Acnt:  
Text:04/21/92 \_TIME\_0726\_ BFB5011\_AVE\_(419-421)



000005

BFBTUNS#1 x1 Bgd=412 14-MAY-92 15:29+0:21:48 VG#2 EI+ 1.1  
 BpM=95 I=218mv Hm=177 TIC=6311000 AV SU Acnt: Sys: BFB91  
 Text: 04/21/92 \_TIME\_0726\_ BFB5011\_AVE\_(419-421)-SPT=0 Cal:

Mass	Abs. Ht	% Mass
36	6000	0.4
37	46000	3.2
38	50000	3.5
39	22000	1.5
40	3000	0.2
45	6000	0.4
47	18000	1.3
48	6000	0.4
49	57000	4.0
50	333000	23.2
51	98000	6.8
56	15000	1.0
57	37000	2.6
58	7000	0.5
60	7000	0.5
61	49000	3.4
62	42000	2.9
63	30000	2.1
67	4000	0.3
68	127000	8.9
69	111000	7.7
70	8000	0.6
72	4000	0.3
73	51000	3.6
74	222000	15.5
75	681000	47.5
76	52000	3.6
77	8000	0.6
78	4000	0.3
79	12000	0.8
80	4000	0.3
81	15000	1.0
82	3000	0.2
87	53000	3.7
88	60000	4.2
89	4000	0.3
91	3000	0.2
92	29000	2.0
93	45000	3.1
94	131000	9.1
95	1433000	100.0
96	94000	6.6
105	5000	0.3
117	5000	0.3
119	5000	0.3
128	4000	0.3
141	5000	0.3
143	6000	0.4
174	1076000	75.1
175	77000	5.4
176	1074000	74.9
177	64000	4.5

BFB5011 #5-519 21-APR-92 07:26 VG#2

(EI+)

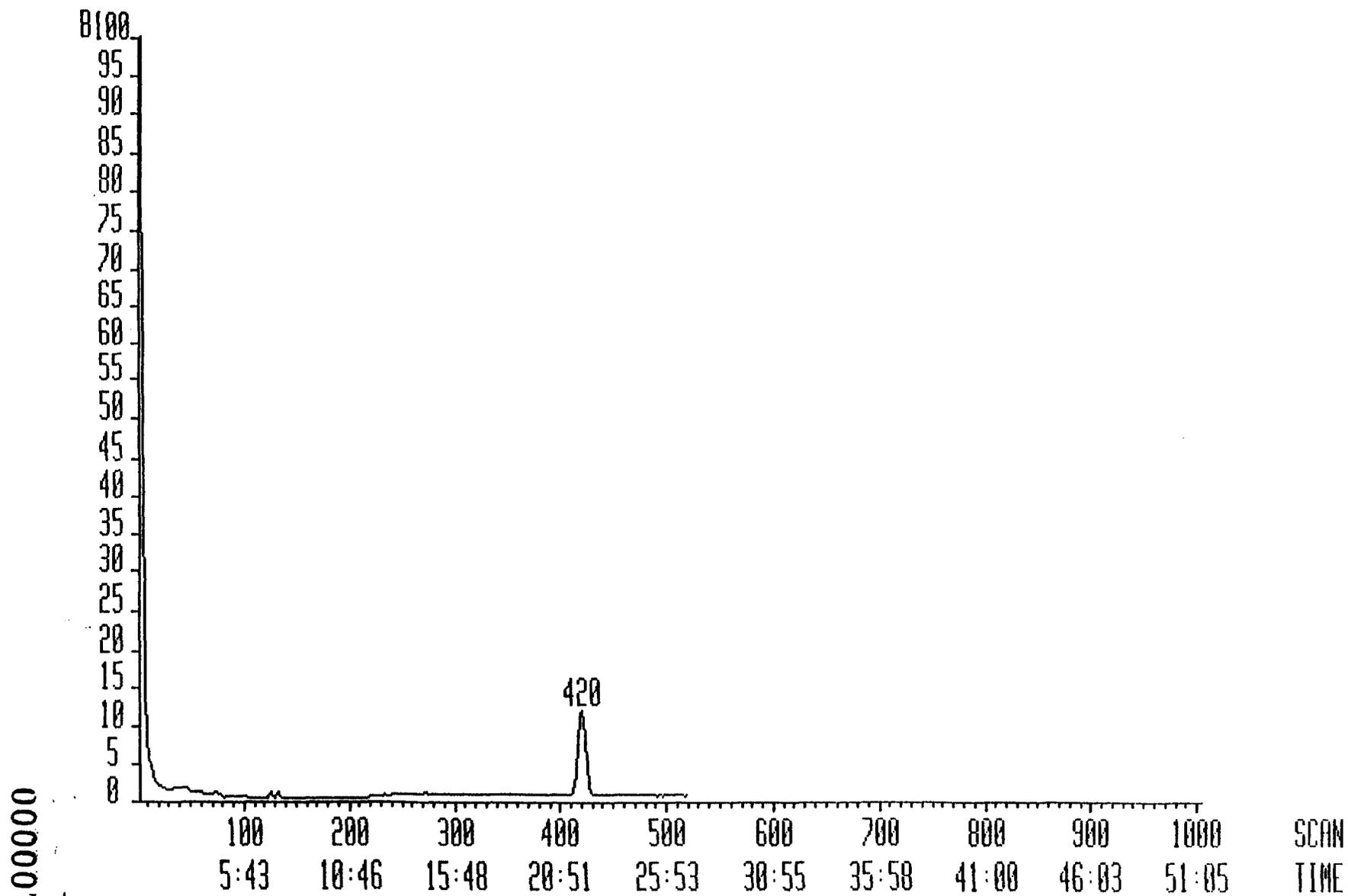
Sys: BFB91

IHP

Chromatogram Identifiers : B1:35:260

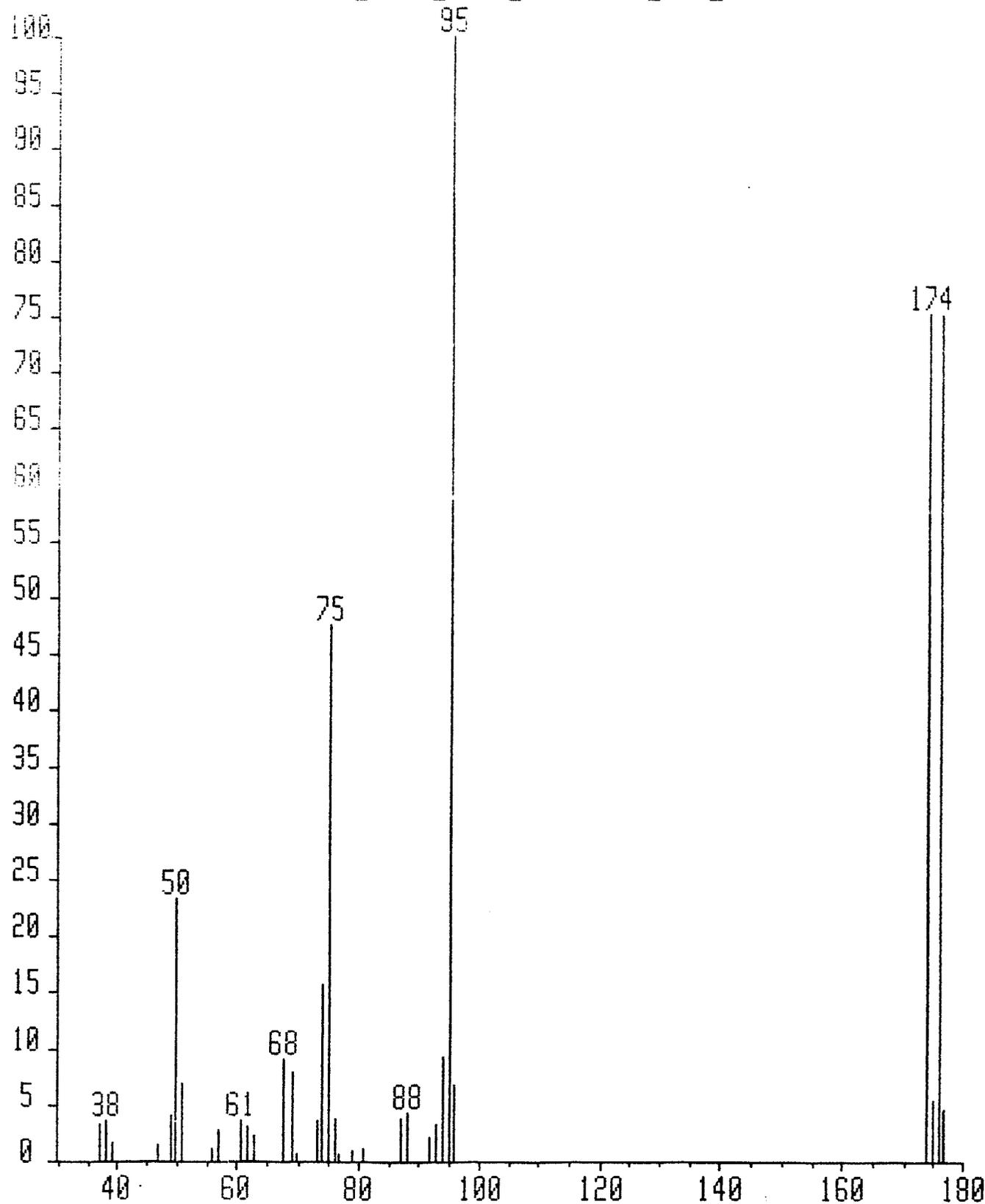
B: 59605000

Text: BFB TUNE





BFBTUNS#1 x1 Bgd=412 21-APR-92 08:20+0:21:48 EI+  
I=218mv TTC=8311000 AV SU Acnt:  
Text:04/21/92 \_TIME\_0726\_ BFB5011\_AVE\_(419-421)



000009

BFBTUNS#1 11 Bgd=412 21-APR-92 08:20+0:21:48 VG#2 EI+ 1.1  
 BpM=95 E=212mv Km=177 TIC=8311000 AV SU Acnt: Sys: BFB91  
 Text: 04/21/92 \_TIME\_0726 \_ BFB5011\_AVE\_(419-421)-SPT=0 Cal:

Mass	Abs. Ht	% Mass
36	6000	0.4
37	46000	3.2
38	50000	3.5
39	22000	1.5
40	3000	0.2
43	6000	0.4
47	19000	1.3
48	6000	0.4
49	57000	4.0
50	333000	23.2
51	98000	6.8
55	15000	1.0
57	37000	2.6
58	7000	0.5
60	7000	0.5
61	49000	3.4
62	42000	2.9
63	30000	2.1
67	4000	0.3
68	127000	8.9
69	111000	7.7
70	8000	0.6
72	4000	0.3
73	51000	3.6
74	222000	15.5
75	681000	47.5
76	52000	3.6
77	8000	0.6
78	4000	0.3
79	12000	0.8
80	4000	0.3
81	15000	1.0
82	3000	0.2
87	53000	3.7
88	60000	4.2
89	4000	0.3
91	3000	0.2
92	29000	2.0
93	45000	3.1
94	131000	9.1
95	1433000	100.0
96	94000	6.6
105	5000	0.3
117	5000	0.3
119	5000	0.3
128	4000	0.3
141	5000	0.3
143	6000	0.4
174	1076000	75.1
175	77000	5.4
176	1074000	74.9
177	64000	4.5

BFB5011 #5-519 21-APR-92 07:26 VG#2

(EI+)

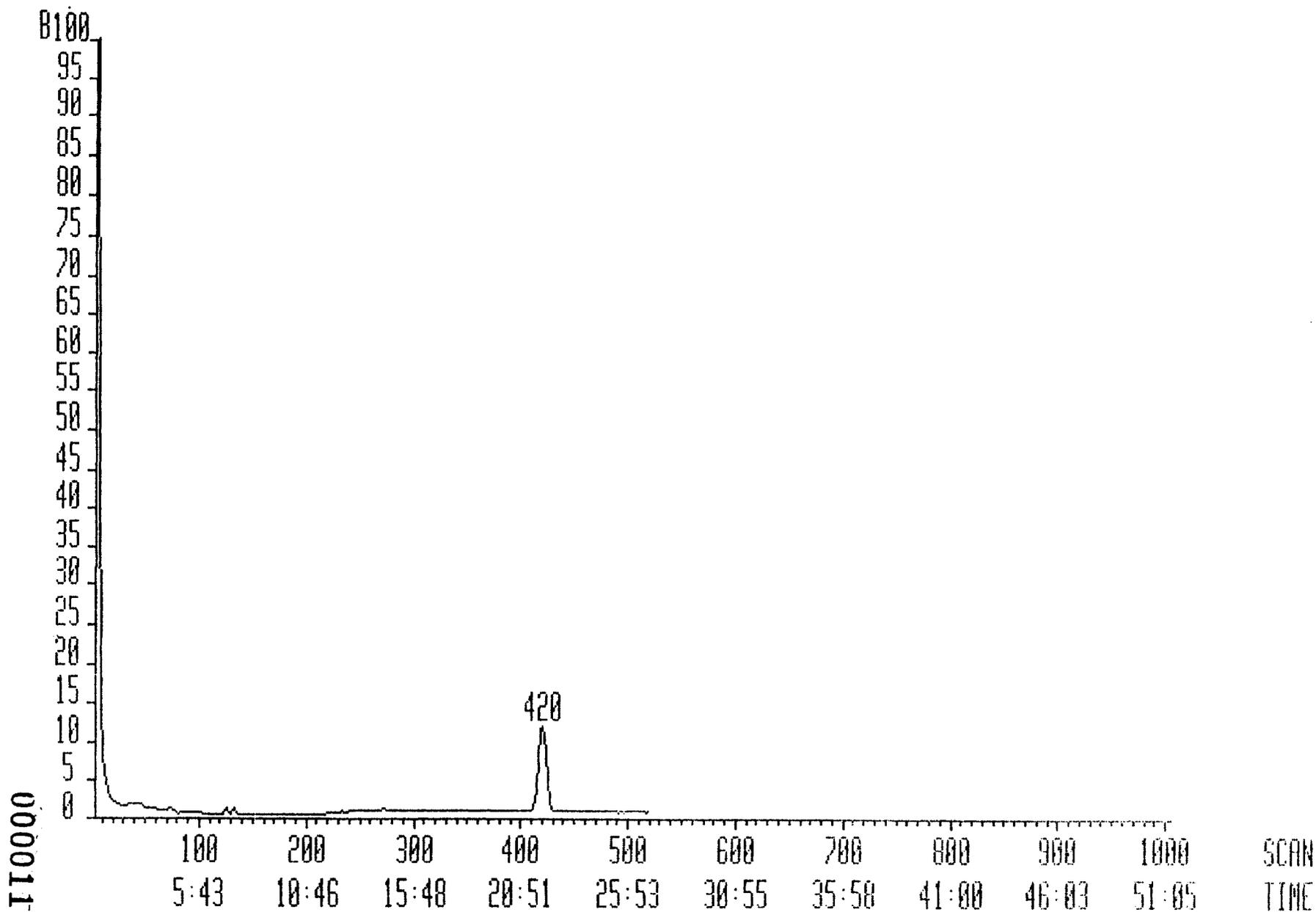
Sys: BFB91

IHP

Chromatogram Identifiers : B1:35:260

B: 59605000

Text:



5A  
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK  
BROMOFLUOROBENZENE (BFB)

Lab Name: PACIFIC ANALYTICAL                      Contract:  
 Lab Code: PACIF                      Case No.:                      SAS No.:                      SDG No.:  
 Lab File ID:                      BFB6011                      BFB Injection Date: 04/22/92  
 Instrument ID:                      VG#2                      BFB Injection Time: 0743  
 GC Column: 1%SP1000                      ID: 2                      (mm)                      Heated Purge: (Y/N) N

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	8.0 - 40.0% of mass 95	22.3
75	30.0 - 66.0% of mass 95	42.9
95	Base peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.4
173	Less than 2.0% of mass 174	0.4 ( 0.4)1
174	50.0 - 120.0% of mass 95	80.2
175	4.0 - 9.0% of mass 174	5.4 ( 6.8)1
176	93.0 - 101.0% of mass 174	75.5 ( 94.2)1
177	5.0 - 9.0% of mass 176	5.0 ( 6.6)2

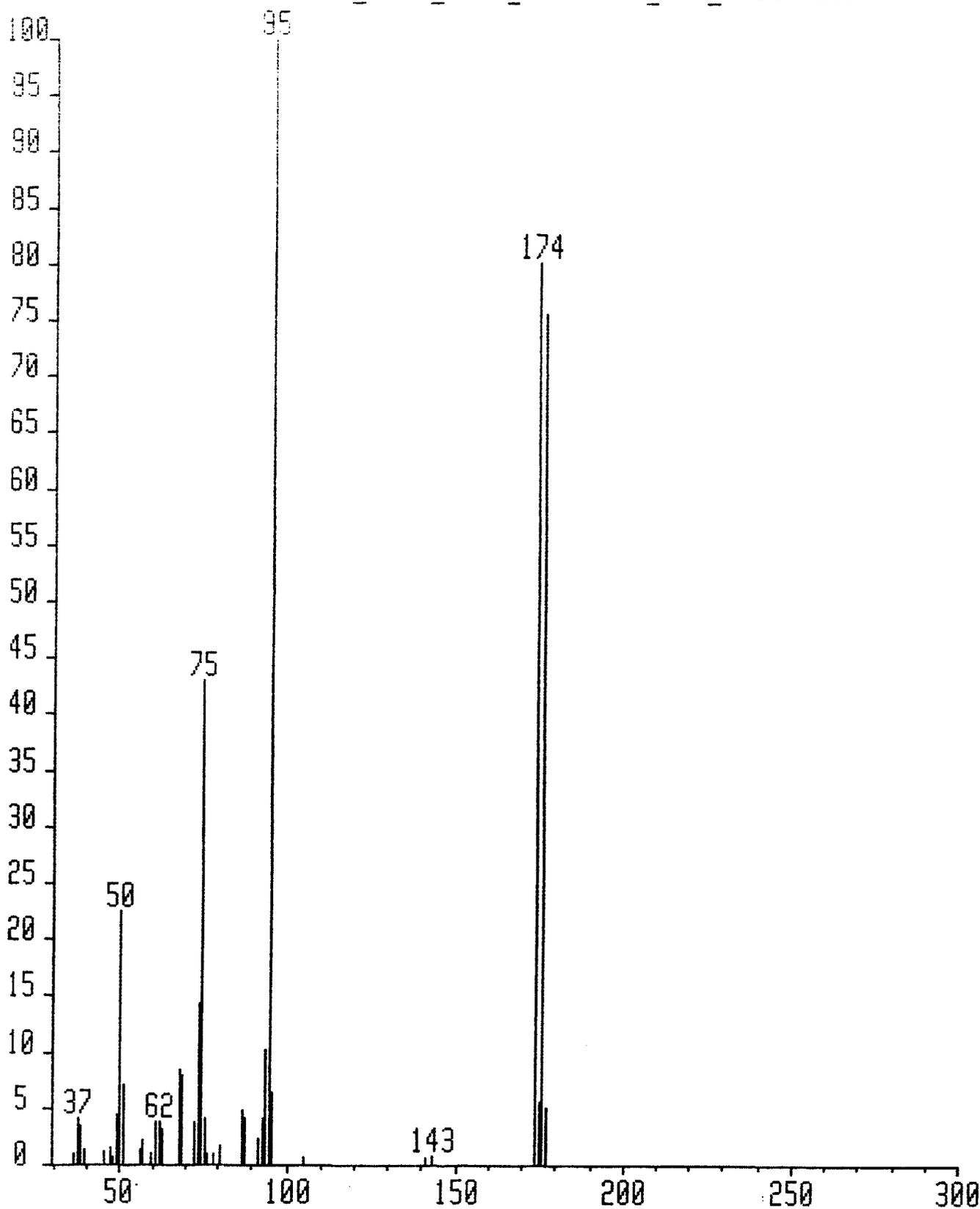
1-Value is % mass 174

2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATA ANALYZED	TIME ANALYZED
01	VSTD050	00050	LL3021	04/22/92	0918
02	VBLK30	00000	LL3031	04/22/92	1045
03	EFFLUENT	15103	LL3061	04/22/92	1330
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

BFBTUNS#1 x1 Bgd=410 22-APR-92 08:16+0:21:47 EI+  
I=261mv TIC=7778000 AV SU Acnt:  
Text:04/22/92 \_TIME\_0743\_ BFB6011\_AVE\_(419-421)



BFBTUNS#1      x1      Bgd=410      22-APR-92 08:16+0:21:47      VG#2      EI+      1.1  
 SpM=95      I=261mv      Hm=292      TIC=7778000      AV SU      Acnt:      Sys: BFB91  
 Text: 04/22/92      \_TIME\_0743      \_BFB6011\_AVE\_(419-421)-SPT=0      Cal:

Mass	Abs. Ht	% Mass
36	13000	0.8
37	69000	4.0
38	57000	3.3
39	19000	1.1
45	17000	1.0
47	23000	1.3
48	9000	0.5
49	74000	4.3
50	382000	22.3
51	119000	7.0
52	7000	0.4
55	3000	0.2
56	21000	1.2
57	35000	2.0
58	6000	0.4
60	14000	0.8
61	62000	3.6
62	63000	3.7
63	51000	3.0
64	5000	0.3
65	5000	0.3
67	2000	0.1
68	143000	8.4
69	133000	7.8
70	8000	0.5
72	6000	0.4
73	62000	3.6
74	245000	14.3
75	734000	42.9
76	68000	4.0
77	14000	0.8
78	4000	0.2
79	15000	0.9
80	5000	0.3
81	25000	1.5
82	3000	0.2
87	79000	4.6
88	69000	4.0
91	2000	0.1
92	38000	2.2
93	67000	3.9
94	174000	10.2
95	1711000	100.0
96	109000	6.4
97	3000	0.2
99	4000	0.2
101	4000	0.2
104	5000	0.3
105	9000	0.5
106	8000	0.5
111	4000	0.2
112	4000	0.2
113	3000	0.2
115	4000	0.2
116	5000	0.3
117	7000	0.4

000014

BFBTUNS#1 x1 Bgd=410 22-APR-92 08:16+0:21:47 VG#2 EI+ 1.2  
BpM=95 I=261mv Hm=292 TIC=7778000 AV SU Acnt: Sys: BFB91  
Text: 04/22/92 \_TIME\_0743 \_ BFB6011\_AVE\_(419-421)-SPT=0 Cal:

Mass	Abs. Ht	% Mass
118	5000	0.3
119	3000	0.2
129	5000	0.3
130	5000	0.3
131	5000	0.3
133	4000	0.2
137	3000	0.2
141	9000	0.5
143	10000	0.6
145	4000	0.2
146	4000	0.2
148	4000	0.2
150	3000	0.2
155	4000	0.2
157	4000	0.2
159	4000	0.2
167	4000	0.2
173	6000	0.4
174	1372000	80.2
175	93000	5.4
176	1292000	75.5
177	85000	5.0
178	4000	0.2
186	4000	0.2
207	3000	0.2

BFB6011 #5-530 22-APR-92 07:43 VG#2

(EI+)

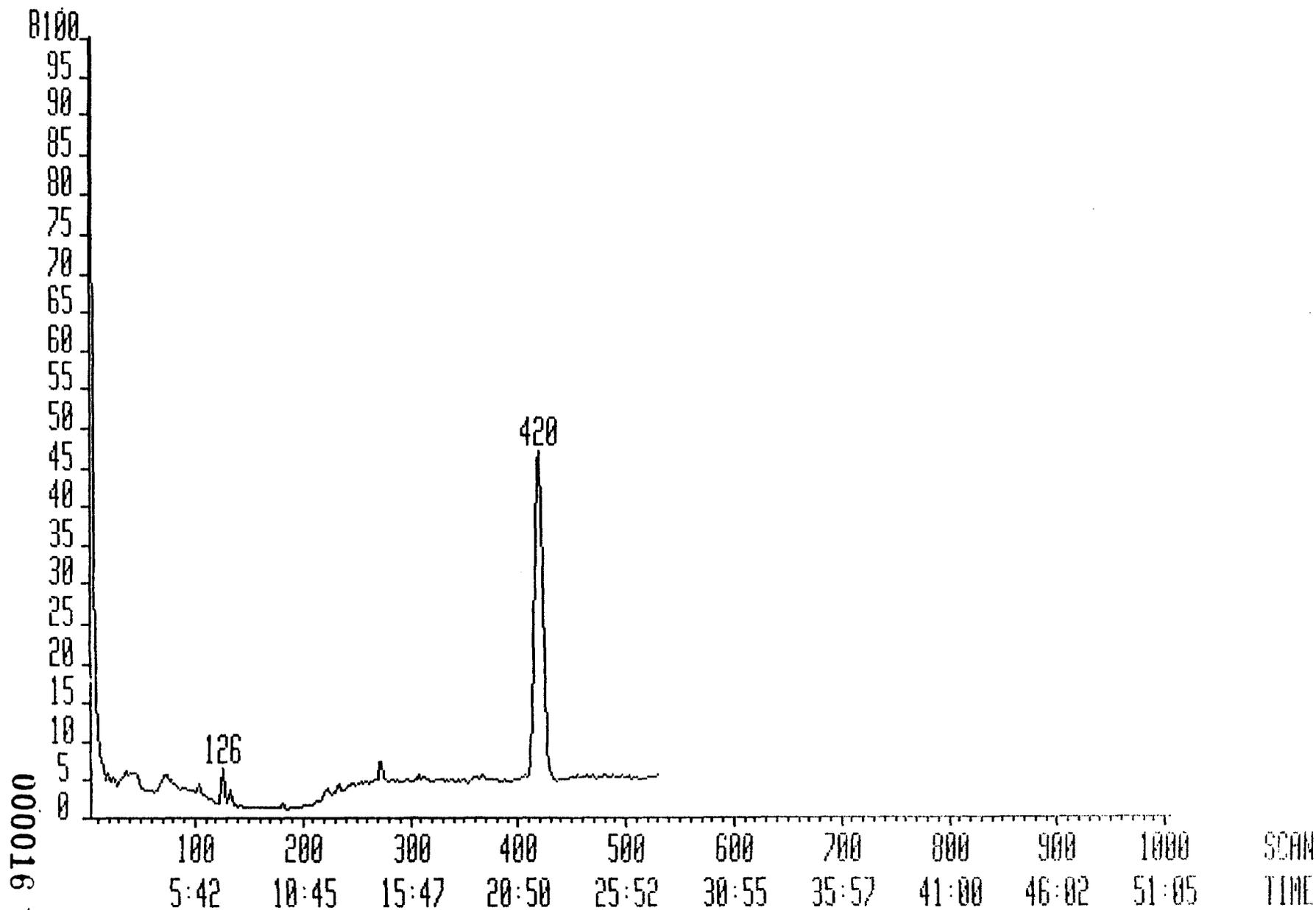
Sys: BFB91

IHP

Chromatogram Identifiers : 01:35:260

B: 19167000

Text:



3A  
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name PACIFIC ANALYTICAL Contract:  
 Lab Code PACIF Case No.: SAS No.: SDG No.:  
 Lab File ID: Standards: 111061 Date Analyzed: 04/21/92  
 Instrument ID: VG#2 Time Analyzed: 1225  
 GC Column: 1%SP1000 ID: 2 (mm) Heated Purge: (Y/N)N

	IS1 (BCM)		IS2 (DFB)		IS3 (CBZ)	
	AREA #	RT #	AREA #	RT #	AREA #	RT #
12 HOUR STD	11323000	11.07	73586002	21.90	62722001	27.30
UPPER LIMIT	22646000	11.57	147172003	22.40	125444001	27.80
LOWER LIMIT	5661500	10.57	36793001	21.40	31361000	26.80
EPA SAMPLE NO.						
01 VBLK29	12207000	11.08	76624002	21.87	68088002	27.32
02 INFLUENT	13187000	11.05	80373002	21.88	73321002	27.33
03 BETWEEN	12542000	11.07	82839001	21.90	71703002	27.30
04						
05						
06						
07						
08						
09						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						

IS1 (BCM) = Bromochloromethane  
 IS2 (DFB) = 1,4-Difluorobenzene  
 IS3 (CBZ) = Chlorobenzene-d5

AREA UPPER LIMIT = +100% of internal standard area  
 AREA LOWER LIMIT = - 50% of internal standard area  
 RT UPPER LIMIT = +0.50 minutes of internal standard RT  
 RT LOWER LIMIT = -0.50 minutes of internal standard RT

# Column used to flag values outside GC limits with an asterisk.  
 \* Values outside of GC limits.

BA  
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: PACIFIC ANALYTICAL                      Contract:  
 Lab Code: PACIF                      Case No.:                      SAS No.:                      SDG No.:  
 Lab File ID (Standard): LL3021                      Date Analyzed: 04/22/92  
 Instrument ID: VG#2                      Time Analyzed: 0918  
 GC Column: 1%SP1000 ID:2 (mm)                      Heated Purge: (Y/N)N

	IS1(BCM)		IS2(DFB)		IS3(CBZ)	
	AREA #	RT #	AREA #	RT #	AREA #	RT #
12 HOUR STD	11649000	11.13	71856369	21.92	63286617	27.32
UPPER LIMIT	23298000	11.63	143712739	22.42	126573234	27.82
LOWER LIMIT	5824500	10.63	35928185	21.42	31643308	26.82
EPA SAMPLE NO.						
01 VBLK30	11998000	11.10	73313010	21.93	64253001	27.32
02 EFFLUENT	11731000	11.05	70060506	21.88	64535513	27.33
03						
04						
05						
06						
07						
08						
09						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						

IS1 (BCM) = Bromochloromethane  
 IS2 (DFB) = 1,4-Difluorobenzene  
 IS3 (CBZ) = Chlorobenzene-d5

AREA UPPER LIMIT = +100% of internal standard area  
 AREA LOWER LIMIT = - 50% of internal standard area  
 RT UPPER LIMIT = +0.50 minutes of internal standard RT  
 RT LOWER LIMIT = -0.50 minutes of internal standard RT

# Column used to flag values outside QC limits with an asterisk.  
 \* Values outside of QC limits.

1A  
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

INFLUENT

Lab Name: PACIFIC ANALYTICAL

Contract:

Lab Code: PACIF Case No.:

SAS No.:

SDG No.:

Matrix: (soil, water) **WATER**

Lab Sample ID: 15101

Sample wt/vol: 5.0 (g/mL) ML

Lab File ID: LL2031

Level: (low/med) LOW

Date Received: 04/09/92

% Moisture: not dec. 0

Date Analyzed: 04/21/92

GC Column: 1%SP1000 ID: 2 (mm)

Dilution Factor: 1.0

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg)ug/L	Q
174-87-3	Chloromethane	10	U
174-83-9	Bromomethane	10	U
175-01-4	Vinyl Chloride	10	U
175-00-3	Chloroethane	10	U
175-09-2	Methylene Chloride	86	
167-64-1	Acetone	38	
175-15-0	Carbon Disulfide	10	U
175-35-4	1,1-Dichloroethene	10	U
175-35-3	1,1-Dichloroethane	10	U
1156-60-5	1,2-Dichloroethene (total)	10	U
167-66-3	Chloroform	10	U
1107-06-2	1,2-Dichloroethane	10	U
178-93-3	2-Butanone	10	U
171-55-6	1,1,1-Trichloroethane	10	U
156-23-5	Carbon Tetrachloride	10	U
175-27-4	Bromodichloromethane	10	U
178-87-5	1,2-Dichloropropane	10	U
110061-01-5	cis-1,3-Dichloropropene	10	U
179-01-6	Trichloroethene	18	
1124-48-1	Dibromochloromethane	10	U
179-00-5	1,1,2-Trichloroethane	10	U
171-43-2	Benzene	10	U
110061-02-6	trans-1,3-dichloropropene	10	U
175-25-2	Bromoform	10	U
1591-78-6	4-Methyl-2-Pentanone	10	U
1108-10-1	2-Hexanone	10	U
1127-18-4	Tetrachloroethene	10	J
179-34-5	1,1,2,2-Tetrachloroethane	10	U
1108-88-3	Toluene	10	U
1108-90-7	Chlorobenzene	10	U
1100-41-4	Ethylbenzene	10	U
1100-42-5	Styrene	10	U
11330-20-7	Xylene (total)	10	U

1E  
VOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

INFLUENT

Lab Name: PACIFIC ANALYTICAL

Contract:

Lab Code: PACIF Case No.:

SAS No.:

SDG No.:

Matrix: (soil/water) WATER

Lab Sample ID: 15101

Sample wt/vol: 5.0(g/mL) mL

Lab File ID: LL2031

Level: (low/med) LOW

Date Received: 04/09/92

% Moisture: not dec. 0

Date Analyzed: 04/21/92

GC Column: 1%SP1000 ID: 2(mm)

Dilution Factor: 1.0

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

Number TICs found: 1

CONCENTRATION UNITS:  
(ug/L or ug/Kg)ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 67-63-0	2-PROPANOL	06:16 0.00	5	NJ
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				
16.				
17.				
18.				
19.				
20.				
21.				
22.				
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				

LL2031 #5-891

21-APR-92 16:31 VG#2

(EI+)

Sys:V0A91

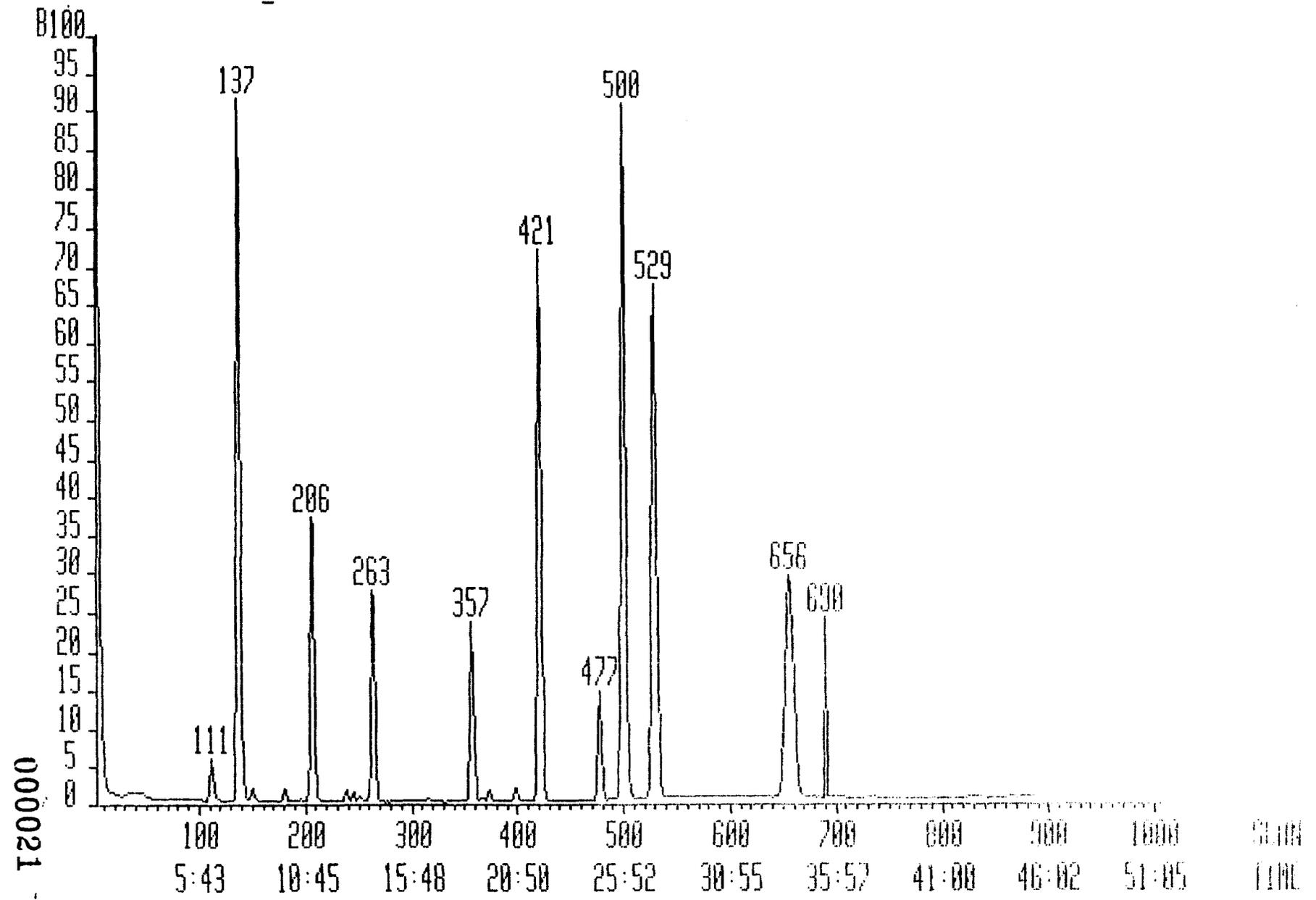
IHP

Chromatogram Identifiers :

B1:35:260

B: 66401000

Text:INFLUENT\_15101



000021

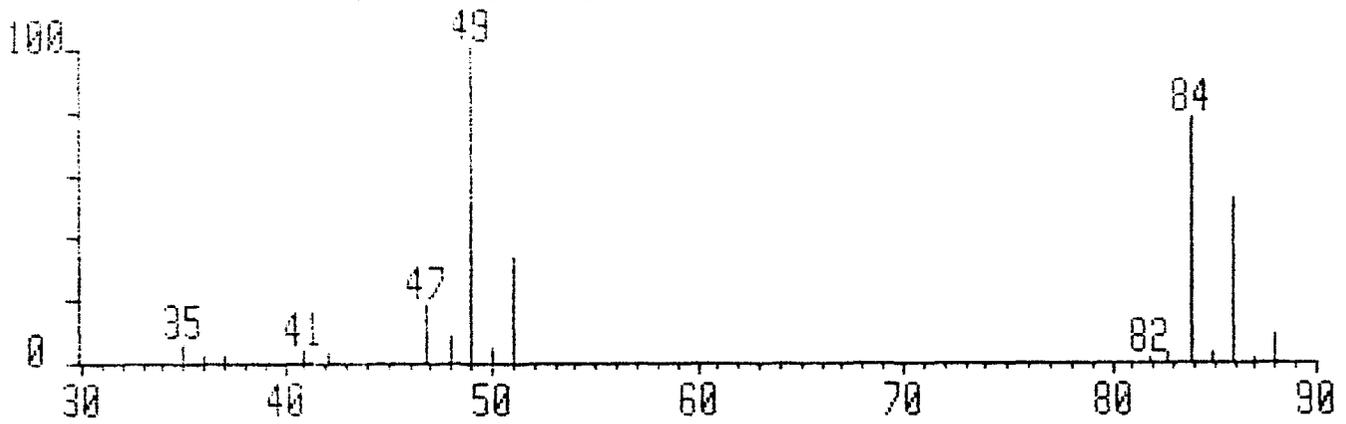
Datafile: LL2031 21-APR-92 16:31
Database: VOA91G
Library: VOA91

Instrument: VG#2
Account:
Text: INFLUENT\_15101

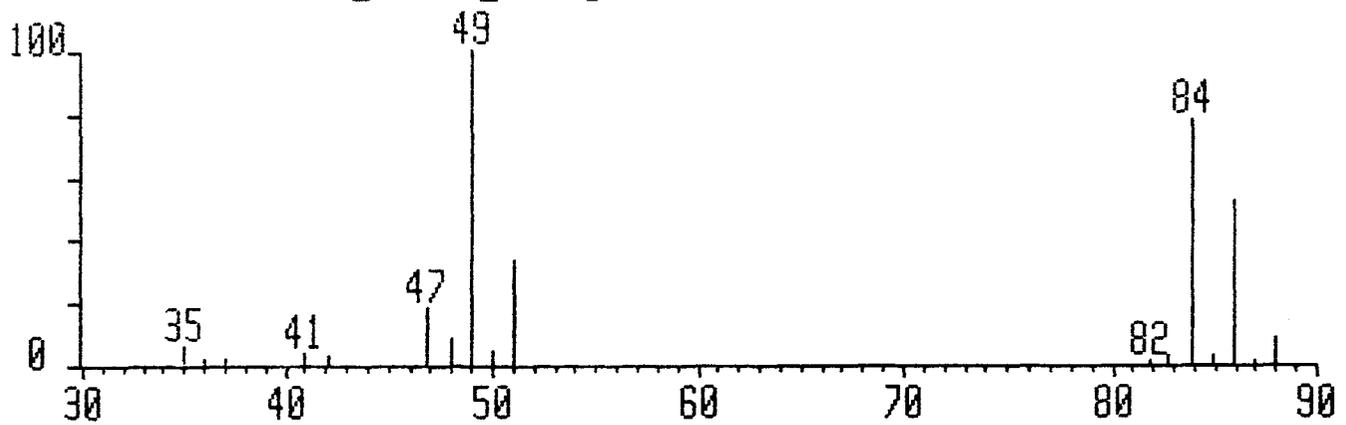
QRE
4/23/92
KO

Table with columns: No., Rank, Spectrum Match, Scan File, Scan Diff, Peak Area, Flgs, Scan Found, Scan Pred, Quan m/z, Compound Name. Includes handwritten annotations and circled entries.

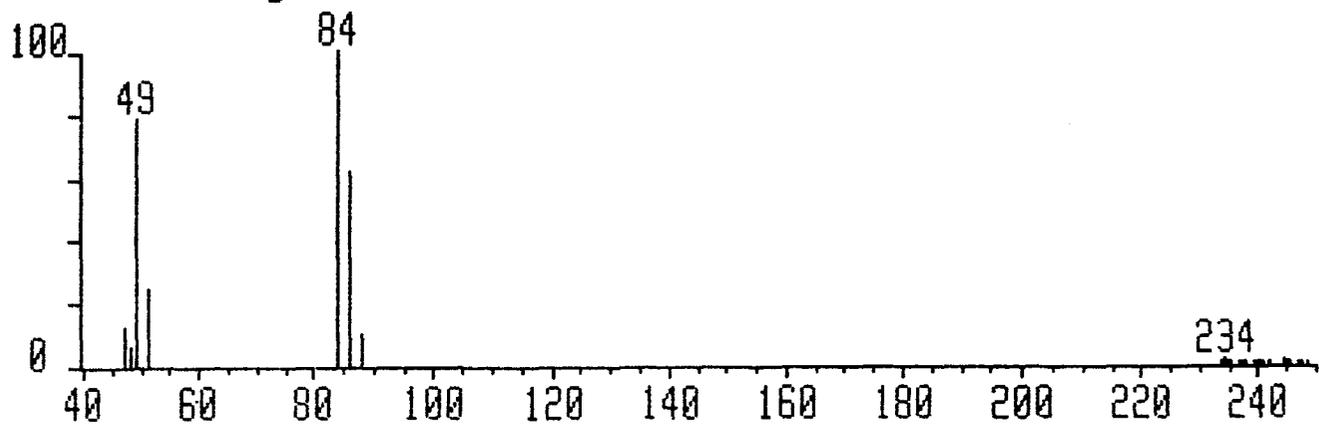
LL2031#137 x1 Bgd=132 21-APR-92 16:31+0:07:34 EI+  
I=2.9v TIC=60698000 Acnt:  
Text: INFLUENT\_15101\_Methylene Chloride



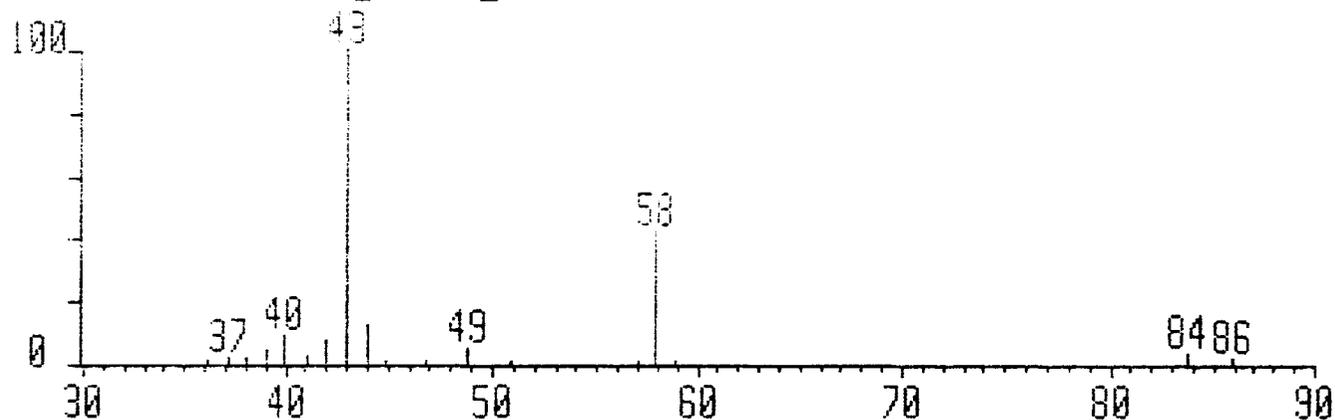
LL2031S#137 x1 Bgd=132 21-APR-92 16:31+0:07:34 EI+  
I=2.9v TIC=60548000 SU Acnt:  
Text: INFLUENT\_15101\_Methylene Chloride



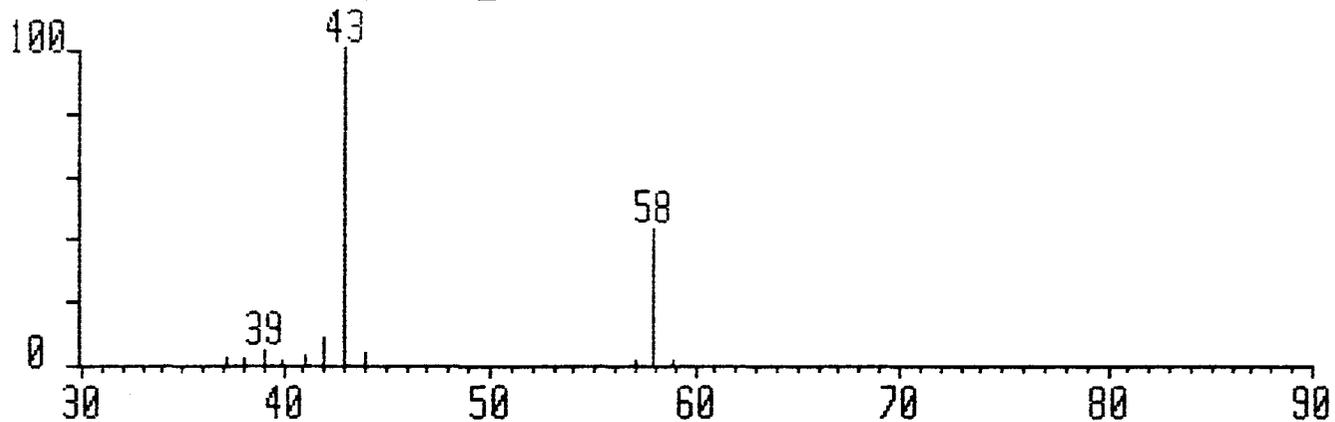
V8240#7 x1 Bgd=1 1-DEC-89 13:03+0:00:23 EI+  
I=234mv TIC=10910000 Acnt:VG#2  
Text: Methylene Chloride



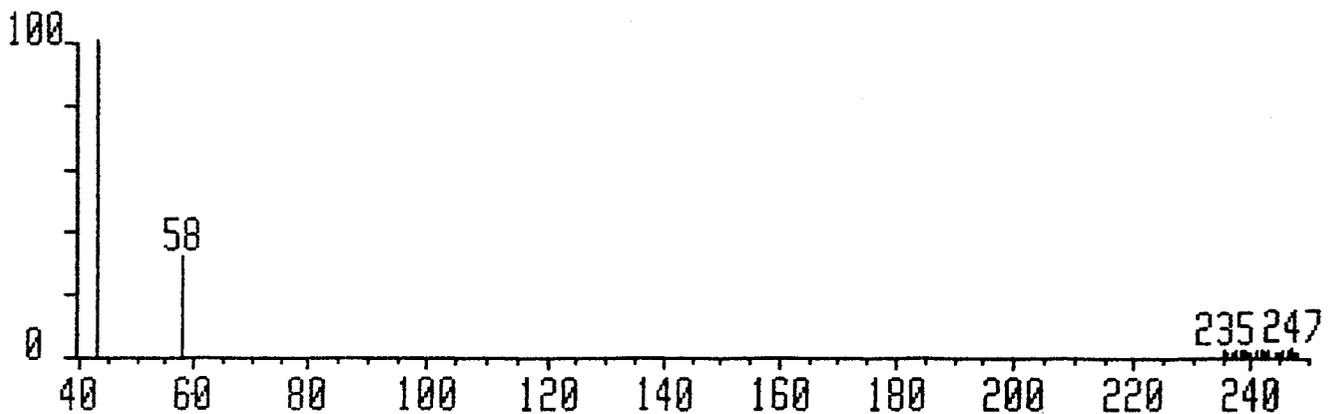
LL2031#150 x1 Bgd=132 21-APR-92 16:31+0:08:13 EI+  
I=105mv TIC=1333000 Acnt:  
Text: INFLUENT\_15101\_Acetone



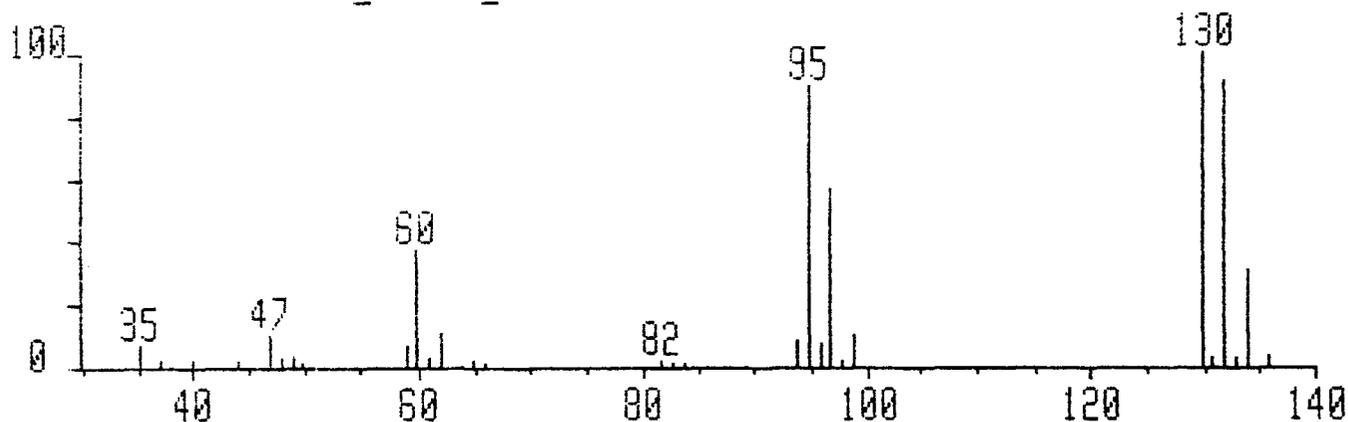
LL2031S#150 x1 Bgd=146 21-APR-92 16:31+0:08:13 EI+  
I=103mv TIC=1118000 SU Acnt:  
Text: INFLUENT\_15101\_Acetone



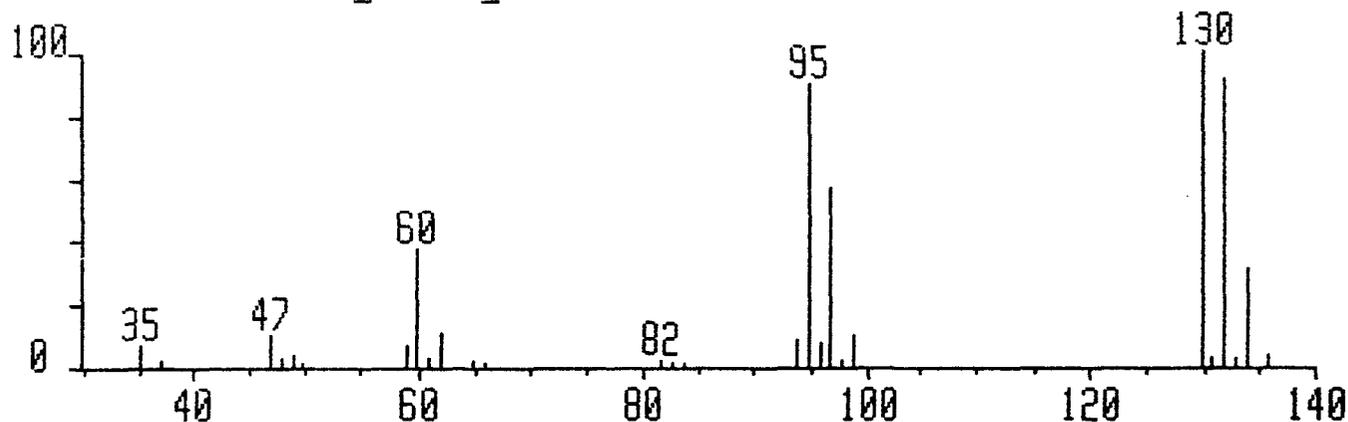
V8240#8 x1 Bgd=1 1-DEC-89 13:03+0:00:26 EI+  
I=226mv TIC=11124000 Acnt: VG#2  
Text: Acetone



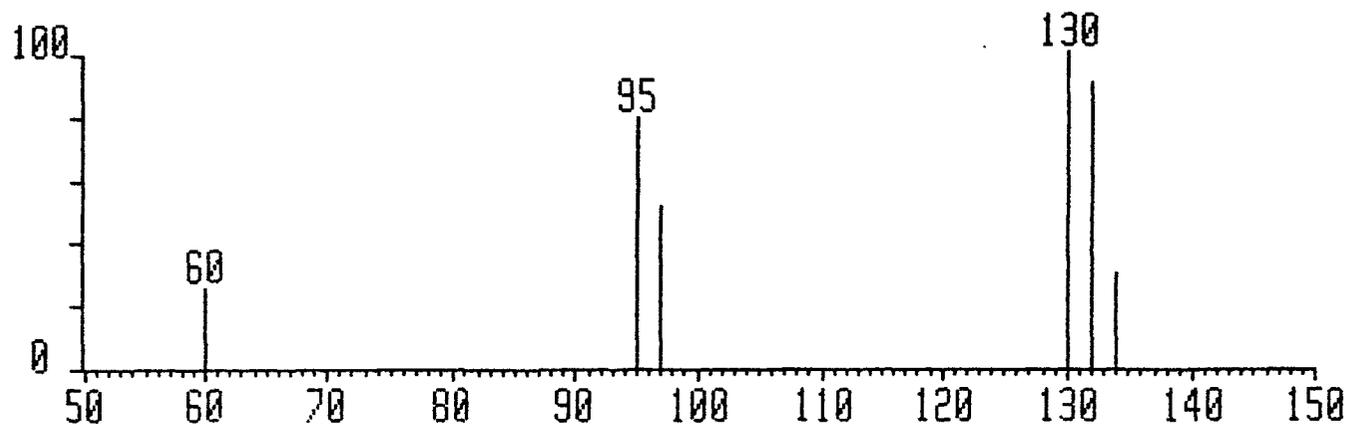
LL2031#357 x1 Bgd=349 21-APR-92 16:31+0:18:40 EI+  
I=480mv TIC=15596000 Acnt:  
Text:INFLUENT\_15101\_Trichloroethene



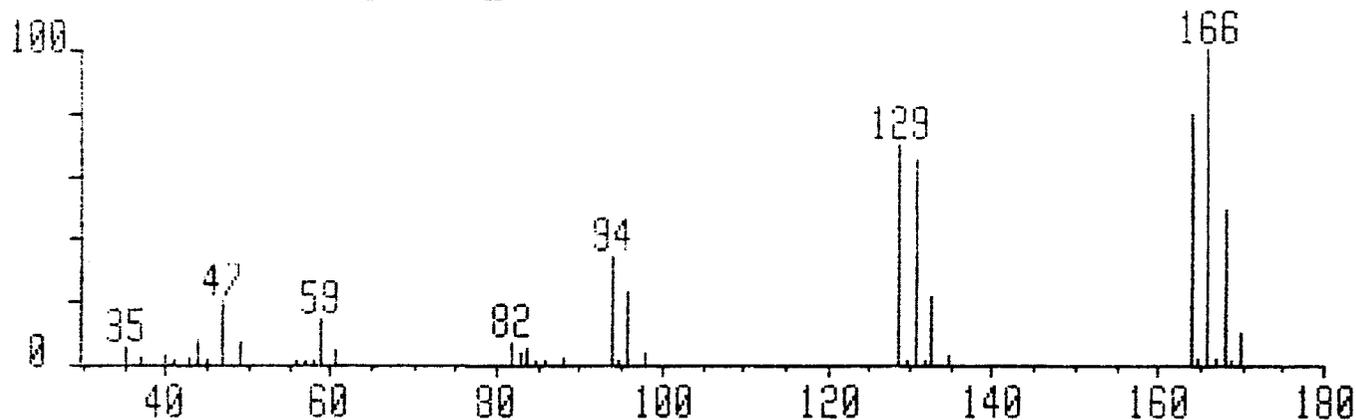
LL2031S#357 x1 Bgd=351 21-APR-92 16:31+0:18:40 EI+  
I=480mv TIC=15506000 SU Acnt:  
Text:INFLUENT\_15101\_Trichloroethene



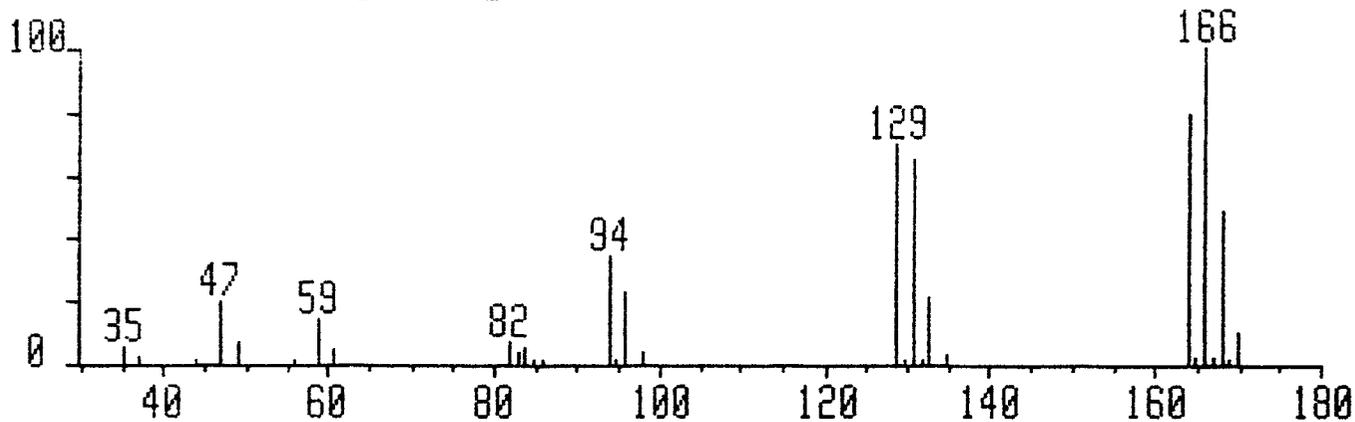
V8240#23 x1 Bgd=1 1-DEC-89 13:03+0:01:11 EI+  
I=251mv TIC=11543000 Acnt:VG#2  
Text:Trichloroethene



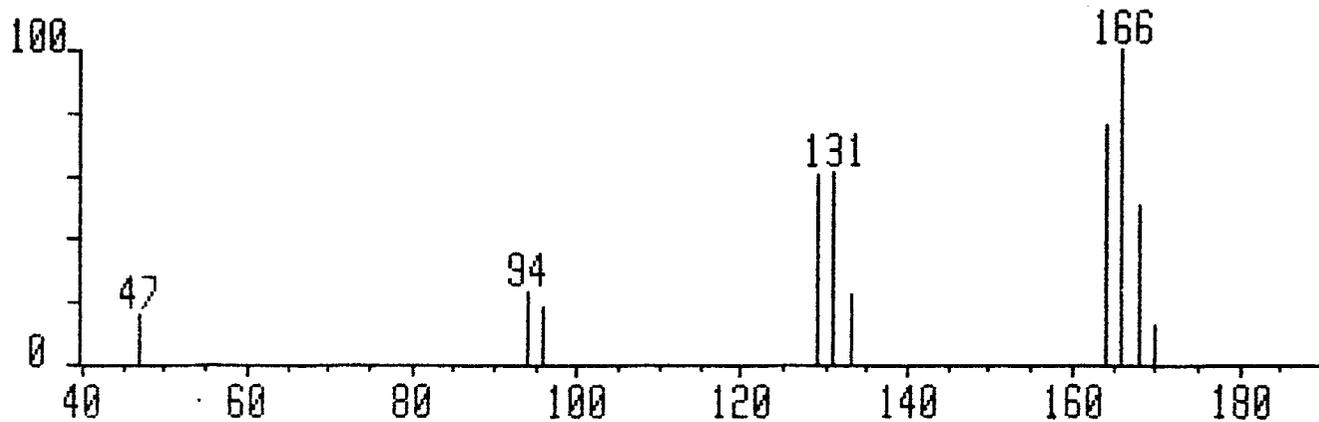
LL2031#477 x1 Bgd=472 21-APR-92 16:31+0:24:42 EI+  
I=276mv TIC=9891000 Acnt:  
Text: INFLUENT\_15101\_Tetrachloroethene



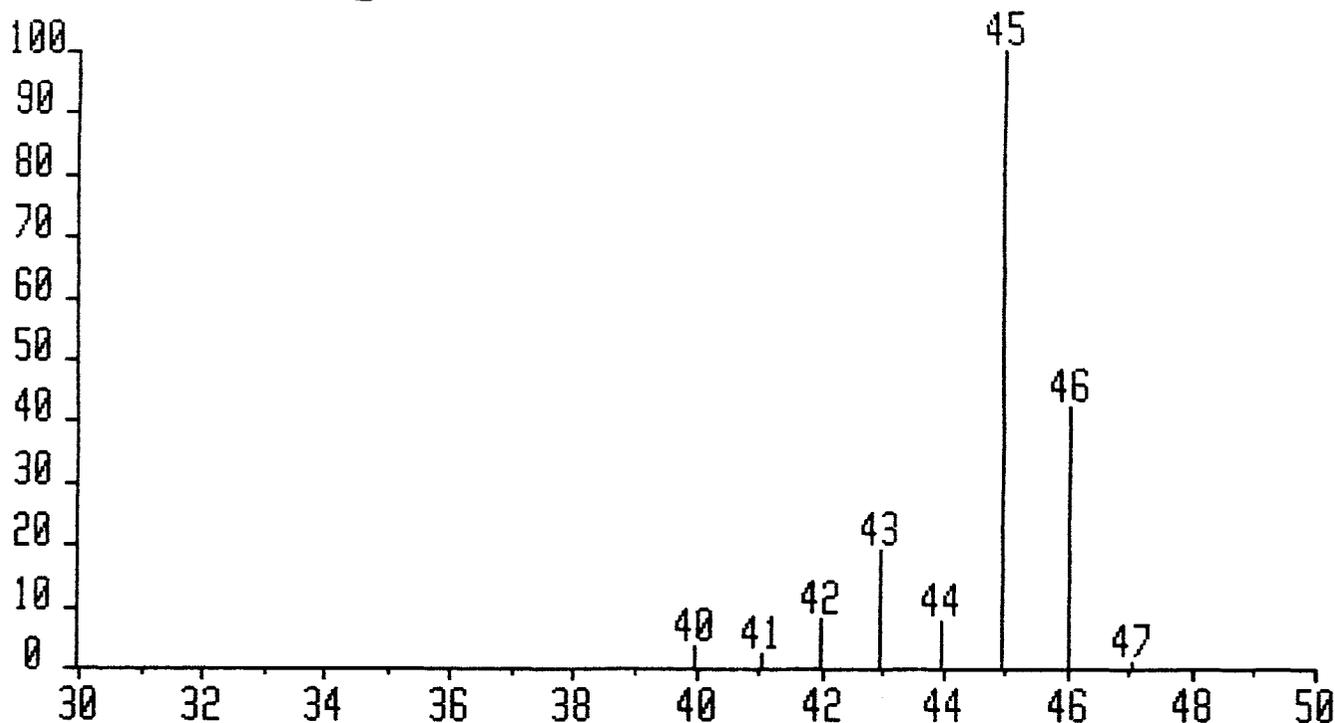
LL20319#477 x1 Bgd=472 21-APR-92 16:31+0:24:42 EI+  
I=276mv TIC=9647000 SU Acnt:  
Text: INFLUENT\_15101\_Tetrachloroethene



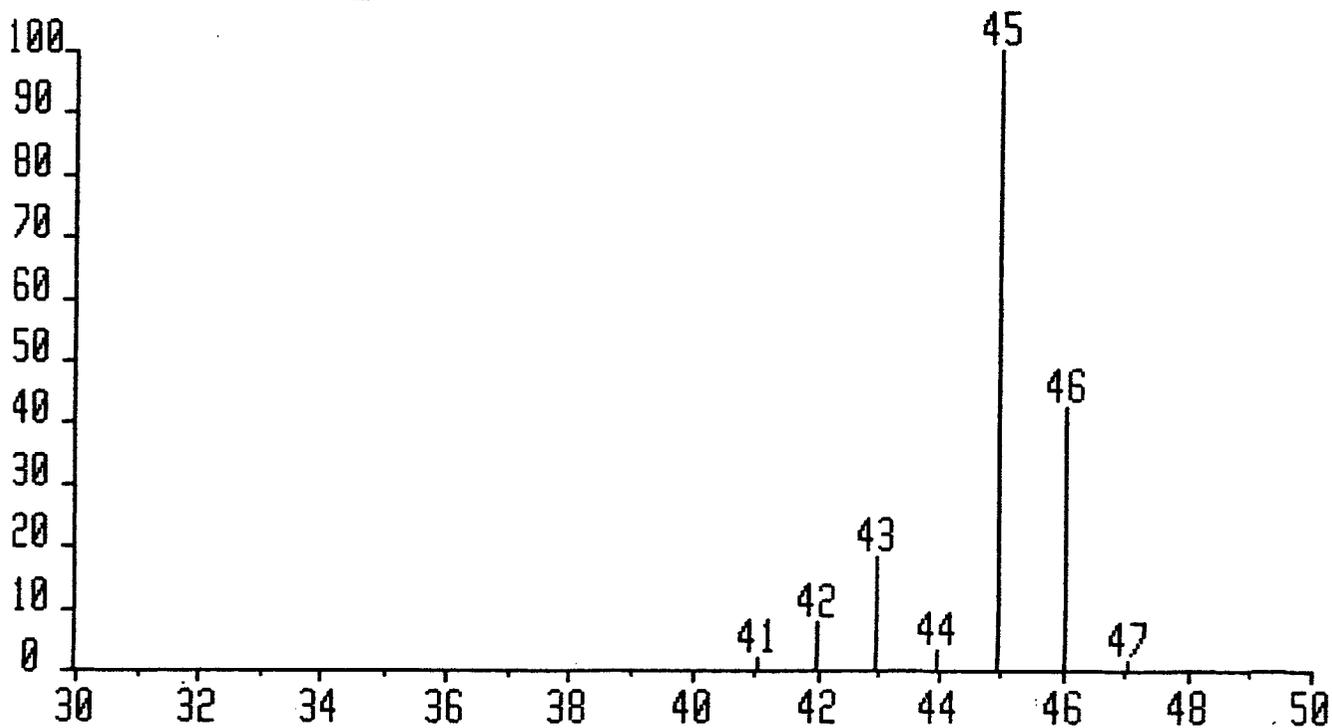
V8240#35 x1 Bgd=1 1-DEC-89 13:03+0:01:47 EI+  
I=248mv TIC=11347000 Acnt: VG#2  
Text: Tetrachloroethene



LL2031#111 x1 Bgd=1 21-APR-92 16:31+0:06:16 EI+  
I=334mv TIC=4010000 Acnt:  
Text:INFLUENT\_15101



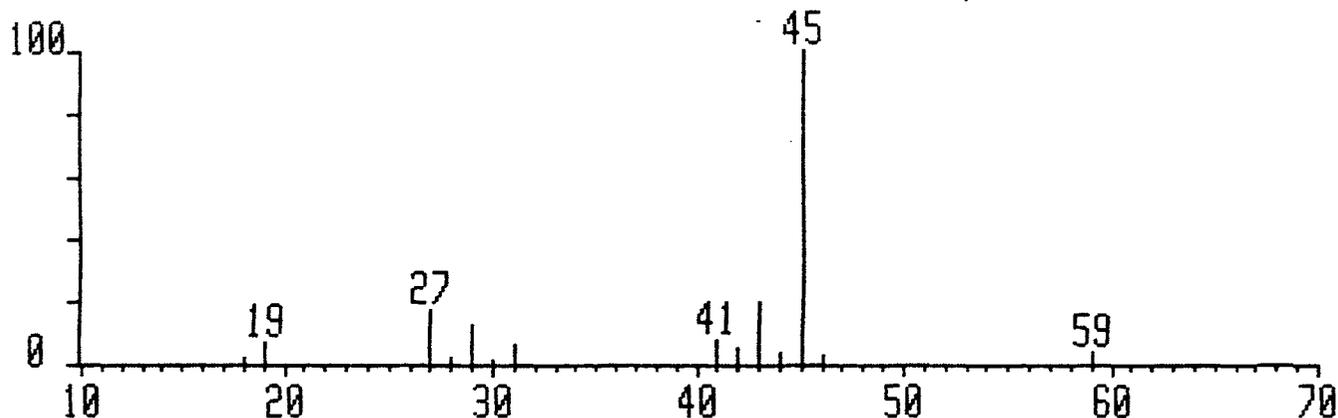
SPESUB00#1 x1 Bgd=108 21-APR-92 16:31+0:06:16 EI+  
I=320mv TIC=3659000 SU Acnt:  
Text:INFLUENT\_15101



000027

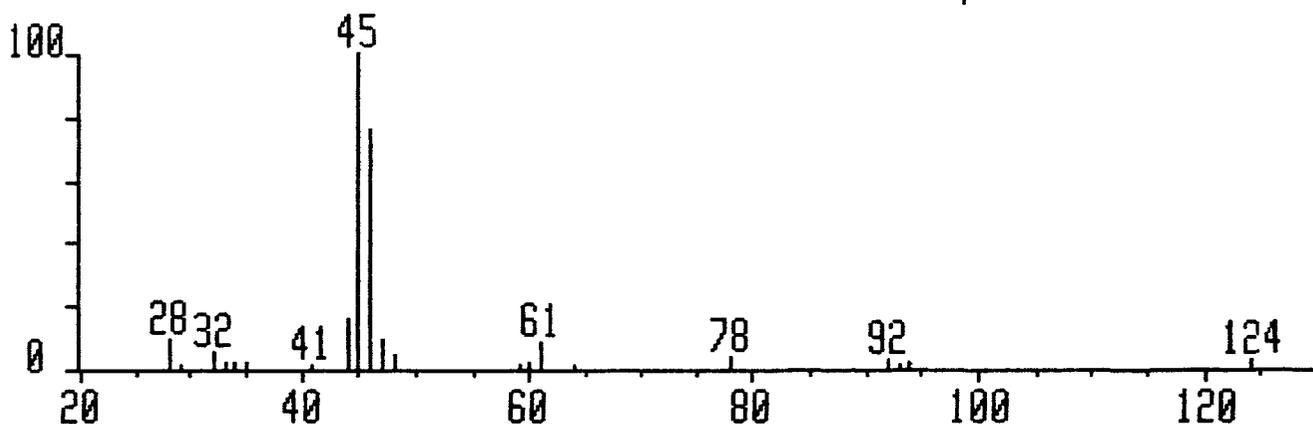
LIBFITS1#1\* x1 Bgd=1 SPESUB00  
2-PROPANOL  
C3.H8.O.

M689 67-63-0  
Bpk: 45 Mwt: 60



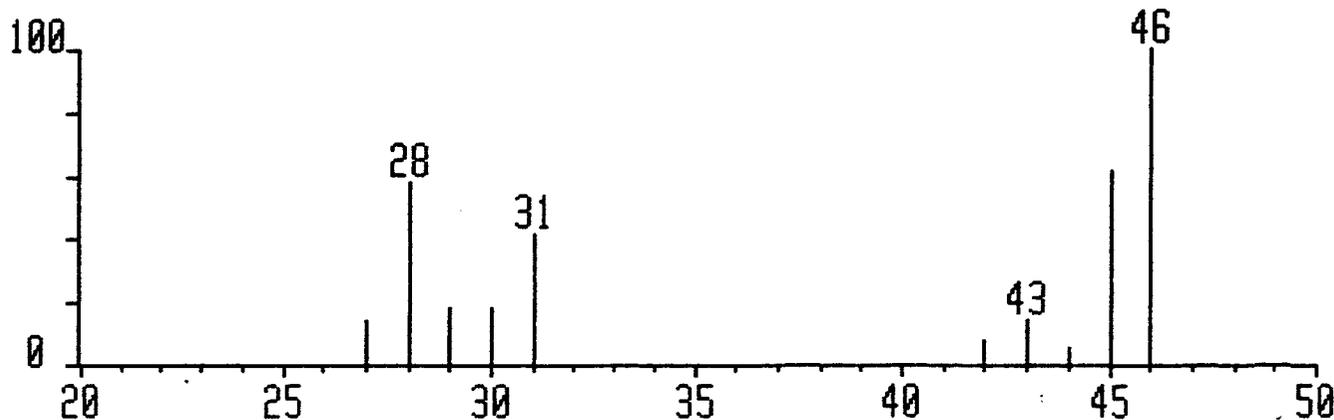
LIBFITS1#2\* x1 Bgd=1 SPESUB00  
METHANETHIAL, HOMOPOLYMER  
C.H2.S.

M744 30699-99-1  
Bpk: 45 Mwt: 46



LIBFITS1#3\* x1 Bgd=1 SPESUB00  
HYDRAZINE, METHYL-  
C.H6.N2.

M601 60-34-4  
Bpk: 46 Mwt: 46



LL2031

$$\frac{\text{scaw area}}{111} \frac{\text{IS area}}{583} = \frac{\text{conc}}{5332} = 5.467$$

000029

1A  
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BETWEEN

Lab Name: PACIFIC ANALYTICAL

Contract:

Lab Code: PACIF Case No.:

SAS No.:

SDG No.:

Matrix: (soil/water) **WATER**

Lab Sample ID: 15102

Sample wt/vol: 5.0(g/mL) ML

Lab File ID: LL2041

Level: (low/med) LOW

Date Received: 04/09/92

% Moisture: not dec. 0

Date Analyzed: 04/21/92

GC Column: 1%SP1000 ID: 2 (mm)

Dilution Factor: 1.0

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:

CAS NO.                      COMPOUND                      (ug/L or ug/Kg)ug/L                      Q

174-87-3	Chloromethane	10	U
174-83-9	Bromomethane	10	U
175-01-4	Vinyl Chloride	10	U
175-00-3	Chloroethane	10	U
175-09-2	Methylene Chloride	29	
167-64-1	Acetone	14	
175-15-0	Carbon Disulfide	10	U
175-35-4	1,1-Dichloroethene	10	U
175-35-3	1,1-Dichloroethane	10	U
1156-60-5	1,2-Dichloroethene (total)	10	U
167-66-3	Chloroform	10	U
1107-06-2	1,2-Dichloroethane	10	U
178-93-3	2-Butanone	10	U
171-55-6	1,1,1-Trichloroethane	10	U
156-23-5	Carbon Tetrachloride	10	U
175-27-4	Bromodichloromethane	10	U
178-87-5	1,2-Dichloropropane	10	U
110061-01-5	cis-1,3-Dichloropropene	10	U
179-01-6	Trichloroethene	10	U
1124-48-1	Dibromochloromethane	10	U
179-00-5	1,1,2-Trichloroethane	10	U
171-43-2	Benzene	10	U
110061-02-6	trans-1,3-dichloropropene	10	U
175-25-2	Bromoform	10	U
1591-78-6	4-Methyl-2-Pentanone	10	U
1108-10-1	2-Hexanone	10	U
1127-18-4	Tetrachloroethene	10	U
179-34-5	1,1,2,2-Tetrachloroethane	10	U
1108-88-3	Toluene	10	U
1108-90-7	Chlorobenzene	10	U
1100-41-4	Ethylbenzene	10	U
1100-42-5	Styrene	10	U
11330-20-7	Xylene (total)	10	U

1E  
VOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BETWEEN

Lab Name: PACIFIC ANALYTICAL

Contract:

Lab Code: PACIF Case No.:

SAS No.:

SDG No.:

Matrix: (soil/water) WATER

Lab Sample ID: 15102

Sample wt/vol: 5.0(g/mL) mL

Lab File ID: LL2041

Level: (low/med) LOW

Date Received: 04/09/92

% Moisture: not dec. 0

Date Analyzed: 04/21/92

GC Column: 1%SP1000 ID: 2(mm)

Dilution Factor: 1.0

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

Number TICs found: 0

CONCENTRATION UNITS:  
(ug/L or ug/Kg)ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				
16.				
17.				
18.				
19.				
20.				
21.				
22.				
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				

LL2041 #5-890

21-APR-92 17:22 VG#2

(EI+)

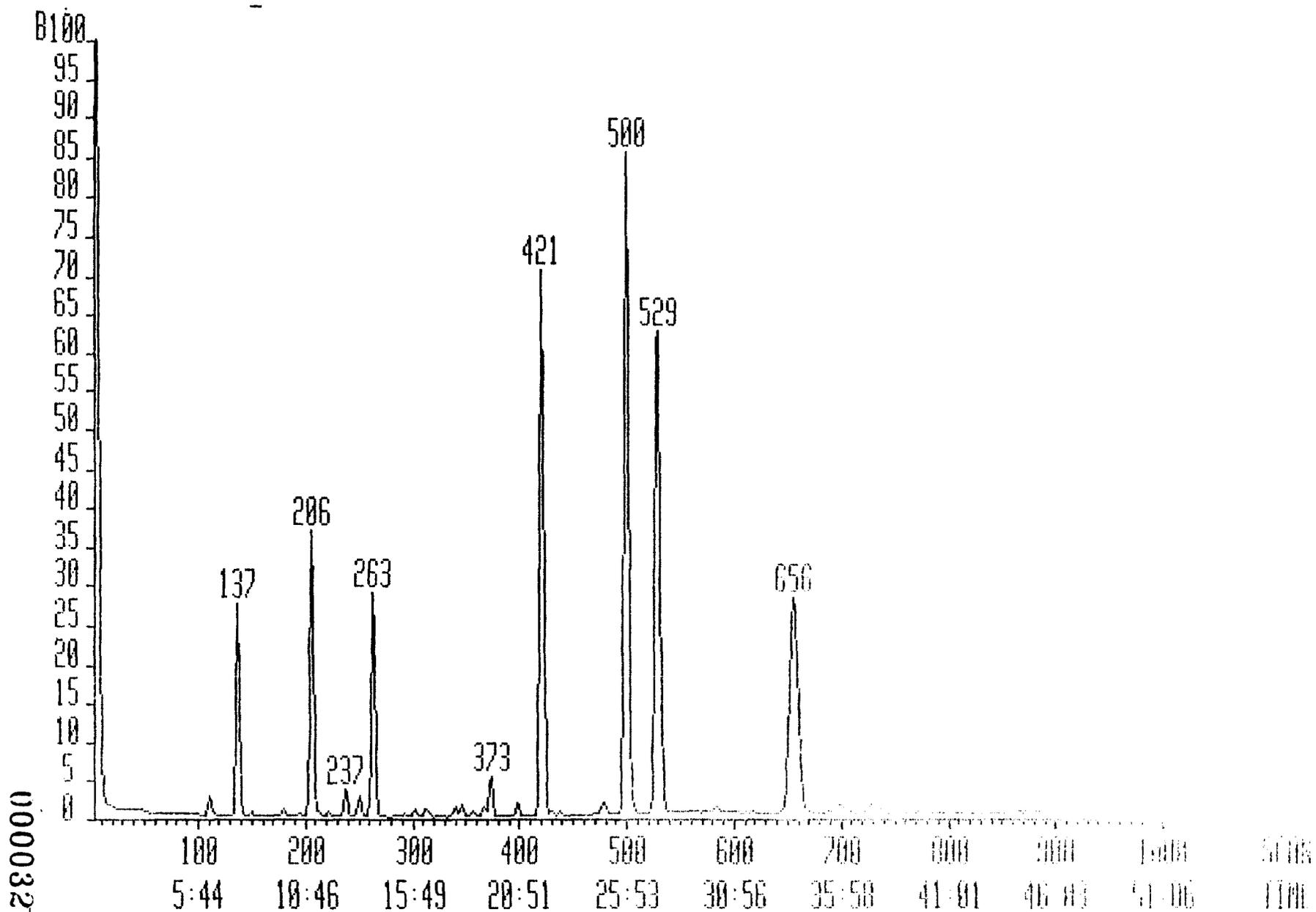
Sys:V0A91

IHP

Chromatogram Identifiers : B1:35:260

B: 69563000

Text: BETWEEN\_15102



Datefile: 112041 21-APR-92 17:22  
Database: NCA910  
Library: NCA91

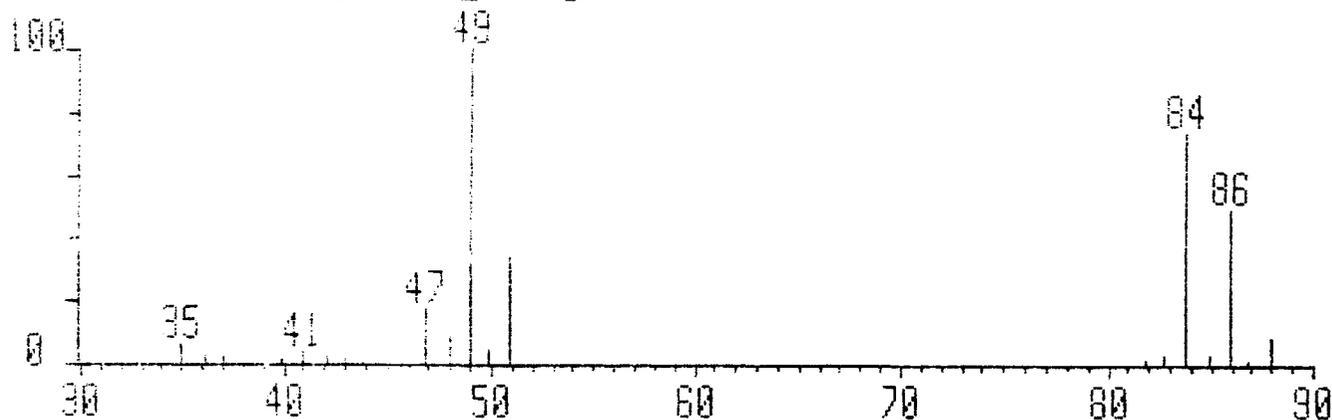
Instrument: 4690  
Acq:   
Text: BETWEEN\_13102

QNE  
4/23/92  
ND

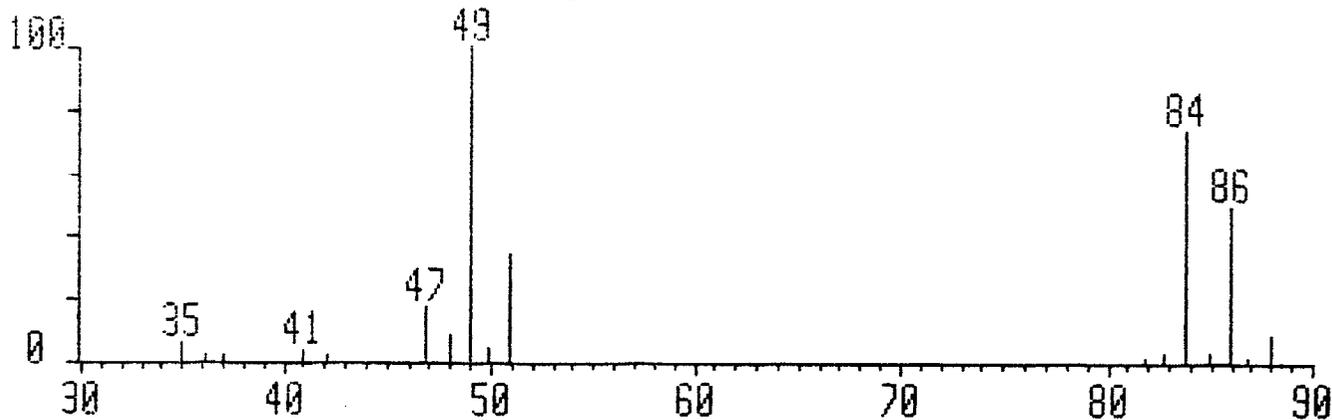
No	Rank	Spectrum Match	Scan Fit	Scan Diff	Peak Area	Flags	Scan Found	Scan Pred	Quan m/z	Compound Name	
1	100	93	99	0	12542000	bb	206	206	128	Bromochloromethane	
2	99	86	99	0	21892000	bb	263	263	65	1,2-Dichloroethane-d4	
3	58	9	99	0	154000	bb	21	21	50	Chloromethane	
4	32	0	78	-18	4000	bb	3				
5	52	8	99	0	122000	bb	47	47	94	Bromomethane	
6	35	4	99	0	41000	bb	66	66	62	Vinyl Chloride	
7	41	3	76	0	32000	bb	90	90	64	Chloroethane	
8	100	89	98	0	16196000	bb	137	137	84	Methylene Chloride	
9	38	57	99	-1	882947	bv	150	151	43	Acetone	
10	39	74	95	1	605000	bb	169	168	76	Carbon Disulfide	
11	89	69	99	1	246000	bb	195	194	96	1,1-Dichloroethene	
12	38	66	99	0	834000	bb	222	222	63	1,1-Dichloroethane	
13	98	85	99	0	2154000	bb	237	237	96	1,2-Dichloroethene (to	
14	99	86	99	0	2659000	bb	250	250	83	Chloroform	
15	67	50	76	1	1387000	bb	266	265	62	1,2-Dichloroethane	
16	53	0	99	0	288000	vv	262	262	43	2-Butanone	
17	44	6	84	-7	27000	??	255				
18	43	0	84	4	288000	??	266				
19	86	61	99	0	82839000	bb*	421	421	114	1,4-Difluorobenzene	
20	87	65	97	0	292000	bb	292	292	97	1,1,1-Trichloroethane	
21	60	25	87	0	137000	bb	300	300	117	Carbon Tetrachloride	
22	34	3	67	-8	18000	bb	292				
23	No Trace Found							285	1		
24	92	75	99	1	1125000	bb	313	312	83	Bromodichloromethane	
25	94	77	98	0	619000	bb	340	340	63	1,2-Dichloropropane	
26	95	81	99	1	1457000	bb	346	345	75	cis-1,3-Dichloropropen	
27	94	76	99	0	438000	bb	356	356	130	Trichloroethene	
28	73	38	99	0	1189000	bb	371	371	129	Dibromochloromethane	
29	81	52	99	0	1324000	bb	374	374	97	1,1,2-Trichloroethane	
30	93	82	95	1	1634000	bb	367	366	78	Benzene	
31	64	23	99	1	1240000	bb	373	372	75	trans-1,3-dichloroprop	
32	No Trace Found							367	1		
33	89	68	99	0	563000	bb	430	430	173	Bromoform	
34	95	78	99	0	71703000	bb*	528	528	117	Chlorobenzene-d5	
35	89	70	99	-1	37073000	bv	655	656	95	4-Bromofluorobenzene	
36	85	64	95	0	88406000	bb	500	500	98	Toluene-d8	
37	90	70	99	0	684333	vv	437	437	43	4-Methyl-2-Pentanone	
38	79	52	96	0	399667	vv	470	470	43	2-Hexanone	
39	51	24	92	14	0	??	484				
40	73	40	98	1	222000	bb	477	476	164	Tetrachloroethene	
41	80	51	99	0	1448000	bb	479	479	83	1,1,2,2-Tetrachloroeth	
42	78	48	99	1	2399000	bb	505	504	91	Toluene	
43	60	15	98	1	1753000	bb	533	532	112	Chlorobenzene	
44	75	43	99	-1	479000	bb	583	584	106	Ethylbenzene	
45	78	48	99	1	1705000	bb	695	694	104	Styrene	
46	72	39	96	0	633000	bb	702	702	106	m-Xylene	
47	81	54	99	-1	1386000	bb	730	731	106	o-/p-Xylene	
48	No Trace Found							0	-		

000033

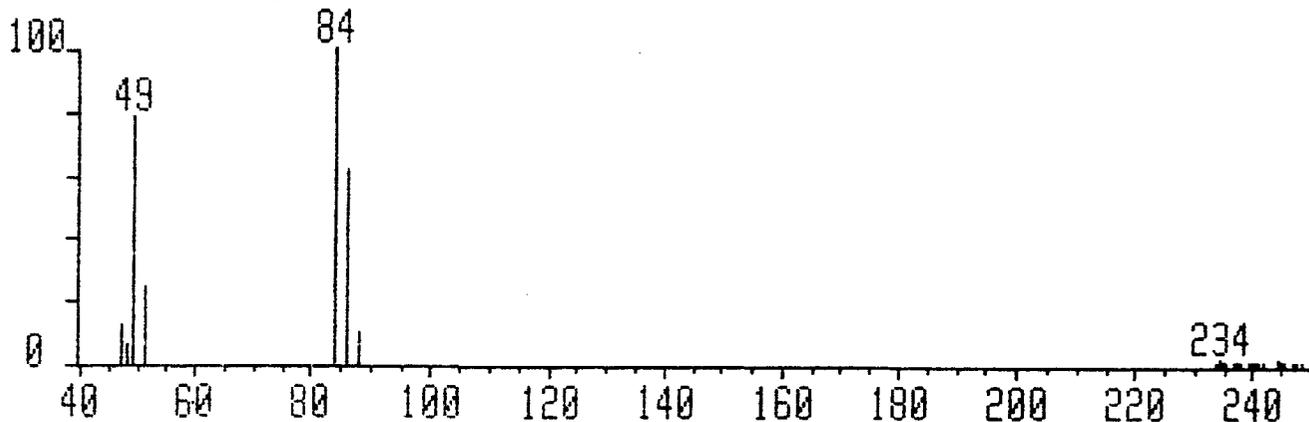
LL2041#137 x1 Bgd=131 21-APR-92 17:22+0:07:35 EI+  
I=924mv TIC=19907000 Acnt:  
Text: BETWEEN\_15102\_Methylene Chloride



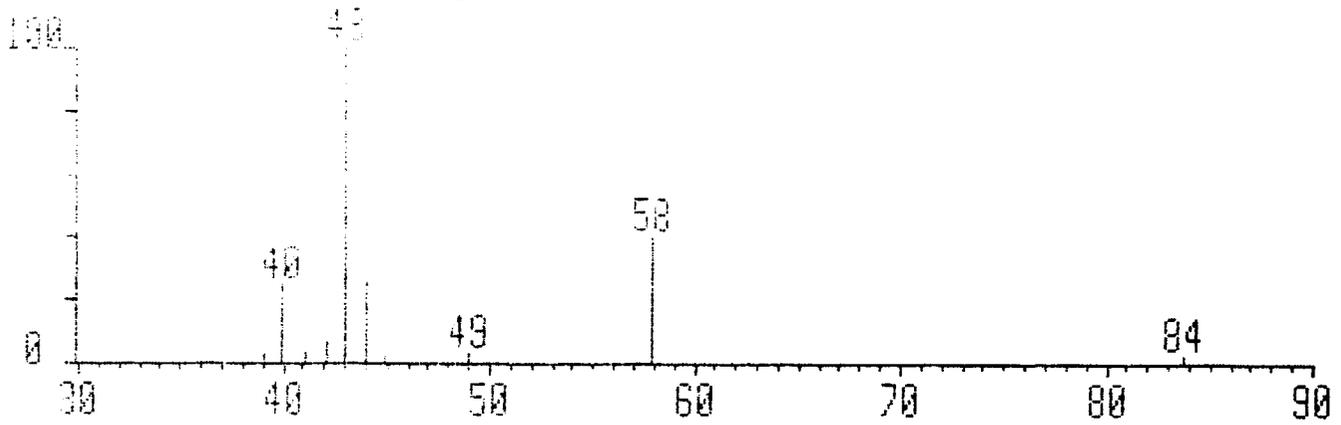
LL2041S#137 x1 Bgd=131 21-APR-92 17:22+0:07:35 EI+  
I=924mv TIC=19968000 SU Acnt:  
Text: BETWEEN\_15102\_Methylene Chloride



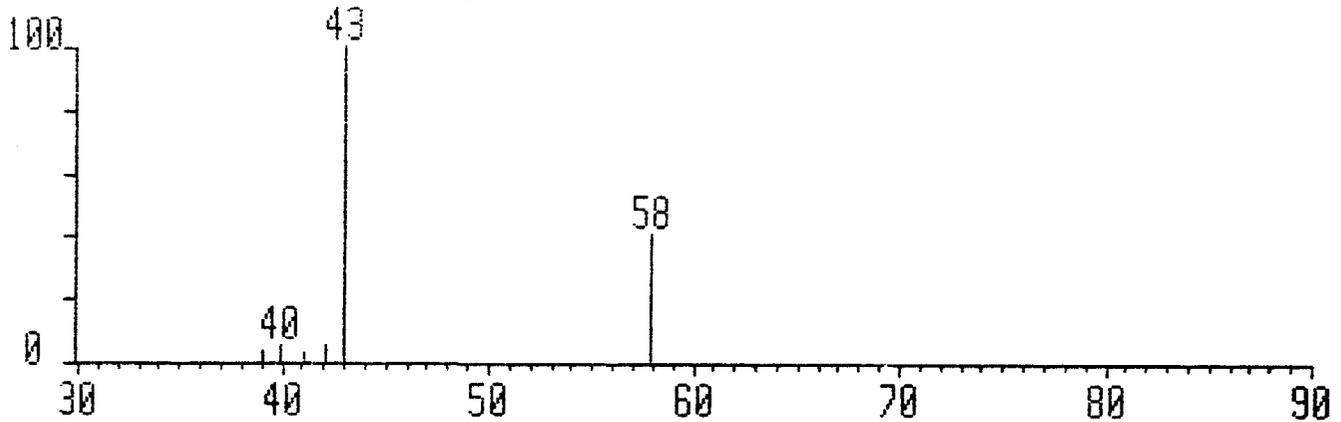
V8240#7 x1 Bgd=1 1-DEC-89 13:03+0:00:23 EI+  
I=234mv TIC=10910000 Acnt: VG#2  
Text: Methylene Chloride



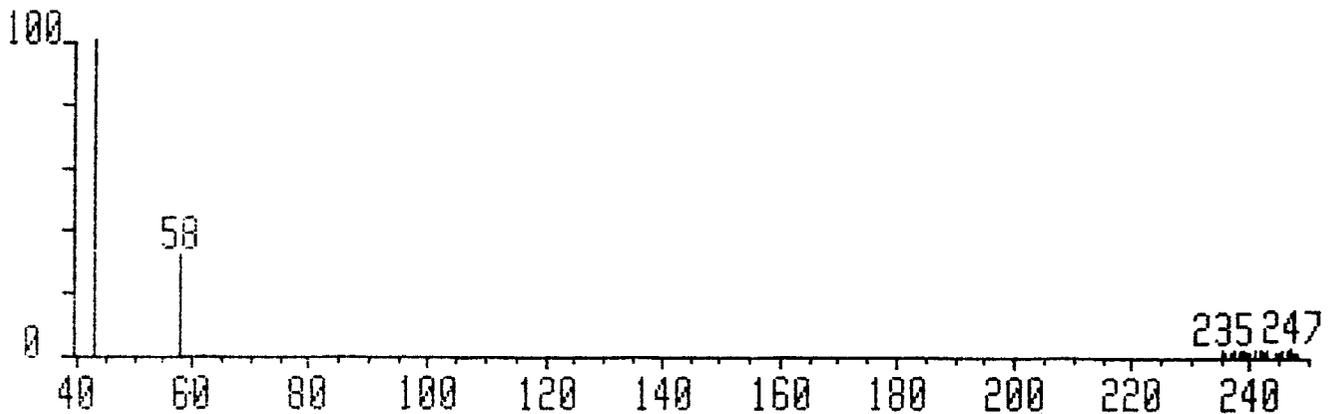
LL2041#150 x1 Bgd=131 21-APR-92 17:22+0:08:14 EI+  
I=38mA TIC=524000 Acnt:  
Text: BETWEEN\_15102\_Acetone



LL2041B#150 x1 Bgd=144 21-APR-92 17:22+0:08:14 EI+  
I=37mA TIC=381000 SU Acnt:  
Text: BETWEEN\_15102\_Acetone



V8240#8 x1 Bgd=1 1-DEC-89 13:03+0:00:26 EI+  
I=226mV TIC=11124000 Acnt: VG#2  
Text: Acetone



000035

1A  
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EFFLUENT

Lab Name: PACIFIC ANALYTICAL

Contract:

Lab Code: PACIF Case No.:

SAS No.:

SDG No.:

Matrix: (soil/water) **WATER**

Lab Sample ID: 15103

Sample wt/vol: 5.0(g/mL) ML

Lab File ID: LL3061

Level: (low/med) **LOW**

Date Received: **04/09/92**

% Moisture: not dec. 0

Date Analyzed: 04/22/92

GC Column: 1ZSP1000 ID: 2 (mm)

Dilution Factor: 1.0

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg)ug/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	12	
67-64-1	Acetone	20	
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	10	U
75-35-3	1,1-Dichloroethane	10	U
156-60-5	1,2-Dichloroethene (total)	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	10	U
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	10	U
10061-02-6	trans-1,3-dichloropropene	10	U
75-25-2	Bromoform	10	U
591-78-6	4-Methyl-2-Pentanone	10	U
108-10-1	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (total)	10	U

1E  
VOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EFFLUENT

Lab Name: PACIFIC ANALYTICAL

Contract:

Lab Code: PACIF Case No.:

SAS No.:

SDG No.:

Matrix: (soil/water) WATER

Lab Sample ID: 15103

Sample wt/vol: 5.0(g/mL) mL

Lab File ID: LL3061

Level: (low/med) LOW

Date Received: 04/09/92

% Moisture: not dec. 0

Date Analyzed: 04/22/92

GC Column: 1%SP1000 ID: 2(mm)

Dilution Factor: 1.0

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

Number TICs found: 1

CONCENTRATION UNITS:  
(ug/L or ug/Kg)ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 67-63-0	2-PROPANOL	06:16 0.00	14	NJ
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				
16.				
17.				
18.				
19.				
20.				
21.				
22.				
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				

2A  
 WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: PACIFIC ANALYTICAL                      Contract:  
 Lab Code: PACIF                      Case No.:                      SAS No.:                      SDG No.:

	EPA SAMPLE NO.	SMC1 (TOL)#	SMC2 (BFB)#	SMC3 (DCE)#	OTHER	TOT OUT
01	VBLK29	99	103	94		0
02	VBLK30	102	99	95		0
03	INFLUENT	99	102	92		0
04	EFFLUENT	97	95	93		0
05	BETWEEN	98	103	101		0
06						
07						
08						
09						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						
28						
29						
30						

GC LIMITS

SMC1 (TOL) = Toluene-d8                      (88-110)  
 SMC2 (BFB) = Bromofluorobenzene                      (86-115)  
 SMC3 (DCE) = 1,2-Dichloroethane-d4                      (76-114)

# Column to be used to flag recovery values  
 \* Values outside of contract required GC limits  
 D System Monitoring Compound diluted out

LL3061 #5-890

22-APR-92 13:30 VG#2

(EI+)

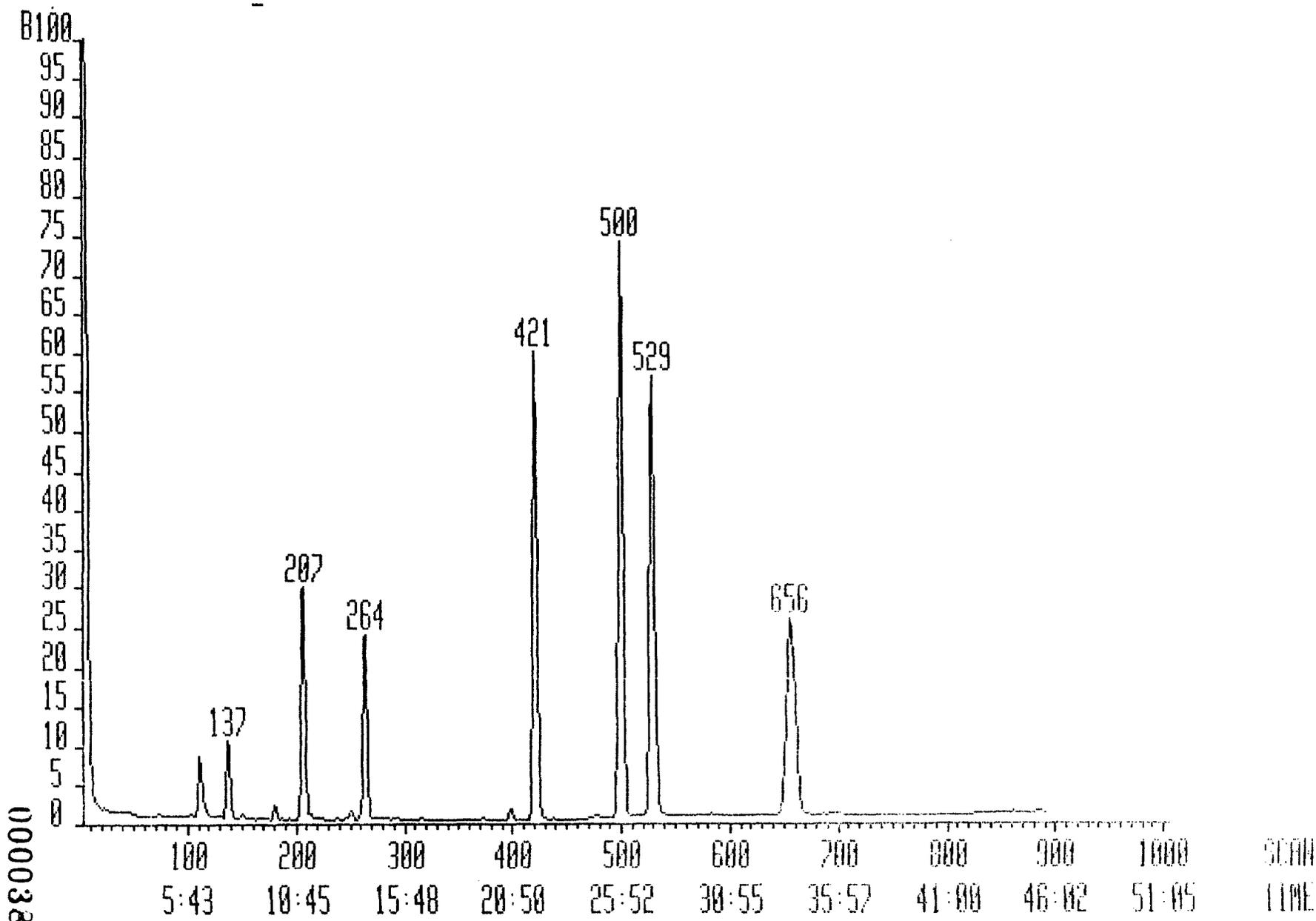
Sys:V0A91

IHP

Chromatogram Identifiers : 01:35:260

B: 71606000

Text:EFFLUENT\_15103



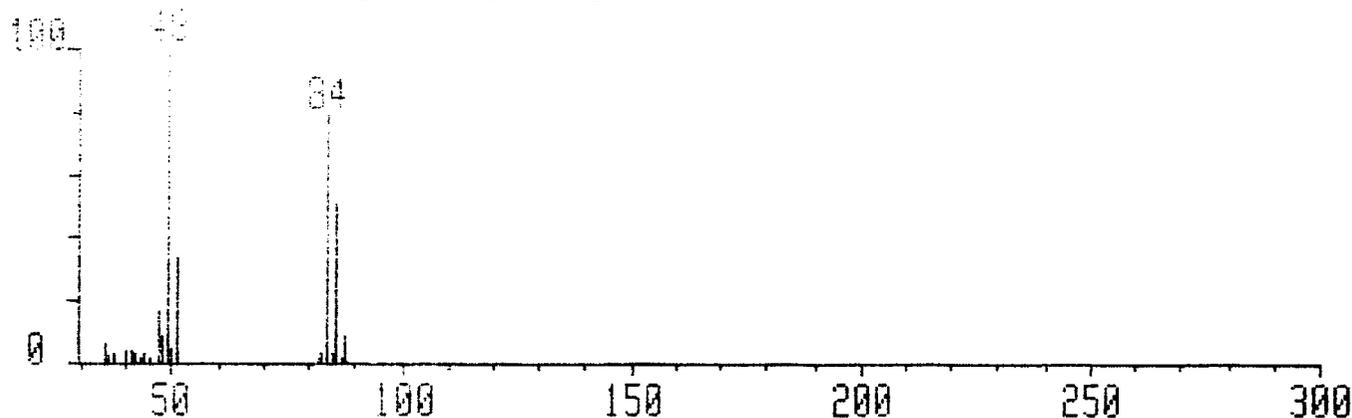
Datefile: L10061      23-APR-92 13:00  
 Database: NCA911  
 Library: NCA91  
 Instrument: 70#2  
 Account:  
 Text: EFFLUENT\_15100

No.	Rank	Spectrum Match	Scan Fit	Scan Diff	Peak Area	Flags	Scan Found	Scan Pred	Quan m/z	Compound Name	
1	100	91	99	-1	11731000	bv	206	207	128	Bromochloromethane	
2	98	86	99	1	20066000	bv*	263	262	65	1,2-Dichloroethane-d4	
3	54	2	99	0	68000	bv*	22	22	50	Chloromethane	
	51	1	98	3	32000	?v	25				
	45	0	93	7	13000	??	29				
4	53	5	94	0	52000	vv	48	48	94	Bromomethane	
	47	4	88	3	11000	??	51				
	38	2	77	8	10000	??	56				
5	49	1	95	0	9000	bb	70	67	62	Vinyl Chloride	
	42	0	87	-7	3000	bb	60				
	42	0	91	-11	3000	bb	56				
6	40	2	86	-11	4000	bb	80	91	64	Chloroethane	
	36	2	86	-18	8000	bb	73				
	35	2	77	14	8000	bb	105				
7	97	85	98	1	6165000	bv	137	136	84	Methylene Chloride	
8	82	56	99	-1	1300758	bv*	150	151	43	Acetone	
9	65	34	90	2	395000	bv	170	168	76	Carbon Disulfide	
10	60	15	98	1	36000	bb	195	194	96	1,1-Dichloroethene	
11	62	19	99	1	229000	bb	223	222	63	1,1-Dichloroethane	
	43	0	99	-15	143000	bb	207				
	40	3	91	15	45000	bb	237				
12	65	25	99	1	97000	bb	238	237	96	1,2-Dichloroethene (to	
13	87	66	99	1	1046000	bb	251	250	83	Chloroform	
14	33	21	41	1	151000	bb	266	265	62	1,2-Dichloroethane	
	27	3	63	19	3000	bb	284				
15	52	0	99	2	71400	vb	263	261	43	2-Butanone	
	52	4	99	-5	9067	??	256				
	50	0	98	4	71400	?b	265				
16	83	60	99	2	70060500	bb	421	419	114	1,4-Difluorobenzene	
17	60	15	98	0	72000	bb	293	293	97	1,1,1-Trichloroethane	
18	34	3	68	-9	11000	bb	292	301	117	Carbon Tetrachloride	
	14	0	33	-18	3000	bb	283				
19	----- No Trace Found -----								285	1	
20	48	8	81	0	48000	bb	313	313	83	Bromodichloromethane	
21	----- No Trace Found -----								340	63	1,2-Dichloropropane
22	30	2	54	-1	9857	??	345	346	75	cis-1,3-Dichloropropen	
	30	2	54	1	9857	??	347				
	28	4	62	-16	1360	??	330				
23	64	21	99	0	43000	bb	357	357	130	Trichloroethene	
24	----- No Trace Found -----								372	129	Dibromochloromethane
25	10	0	23	-17	30000	bb	357	374	97	1,1,2-Trichloroethane	
26	68	32	97	1	184000	bb	368	367	78	Benzene	
27	51	8	89	1	30000	bb	374	373	75	trans-1,3-dichloroprop	
	35	5	66	-6	3846	??	367				
	32	3	59	-3	1400	??	370				
28	----- No Trace Found -----								367	1	
29	----- No Trace Found -----								430	173	Bromoform
30	92	77	98	1	64535510	bv	529	528	117	Chlorobenzene-d5	
31	88	68	99	-1	34401700	bv	654	657	95	4-Bromofluorobenzene	

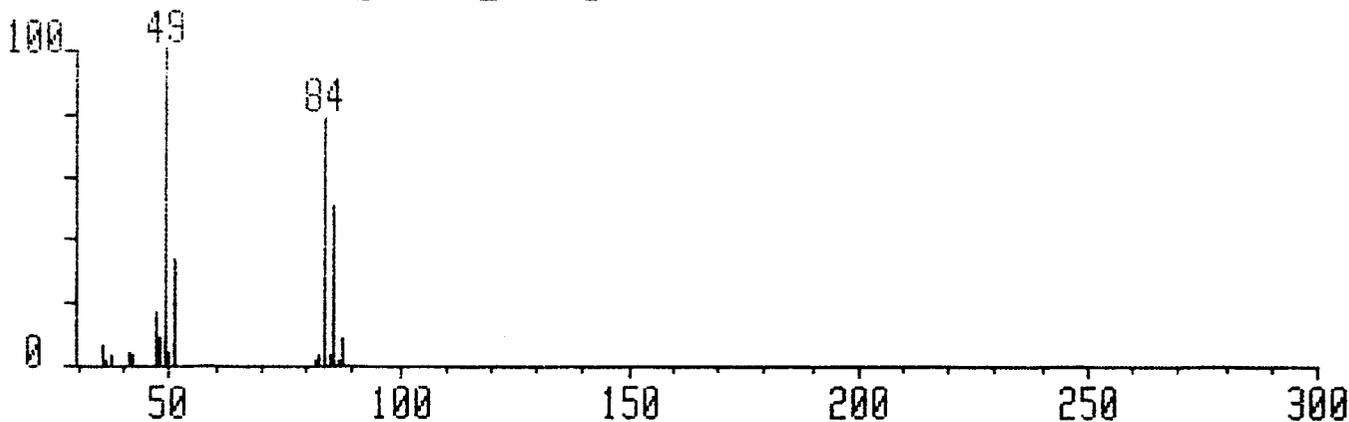
000039

32	30	94	-1	78284540	bv	500	501	98	Toluene-d8
33	30	91	0	51097	vb	438	438	43	4-Methyl-2-Pentanone
32	15	38	-4	3452	??	434			LL3061
31	19	90	10	8953	??	448			
34	28	92	0	46667	??	471	471	43	2-Hexanone
32	22	59	+	61000	??	475			
32	19	87	-6	6000	??	465			
35	10	97	0	38000	bb	477	477	164	Tetrachloroethene
36	11	98	-2	115000	bb	479	481	83	1,1,2,2-Tetrachloroeth
39	2	30	8	7000	bb	489			
35	2	76	-12	3000	bb	468			
37	11	97	0	377000	bv	505	505	91	Toluene
38	No Trace Found						533	112	Chlorobenzene
39	5	79	0	29000	bb	585	585	106	Ethylbenzene
	38	4	68	-2	8000	b?	583		
40	21	96	1	485000	bb	696	695	104	Styrene
41	8	74	0	7000	??	704	704	106	m-Xylene
	41	9	71	-4	16000	b?	700		
42	6	73	-1	25000	??	731	732	106	o-/p-Xylene
	36	4	68	-6	7000	b?	726		
43	No Trace Found						0	-	

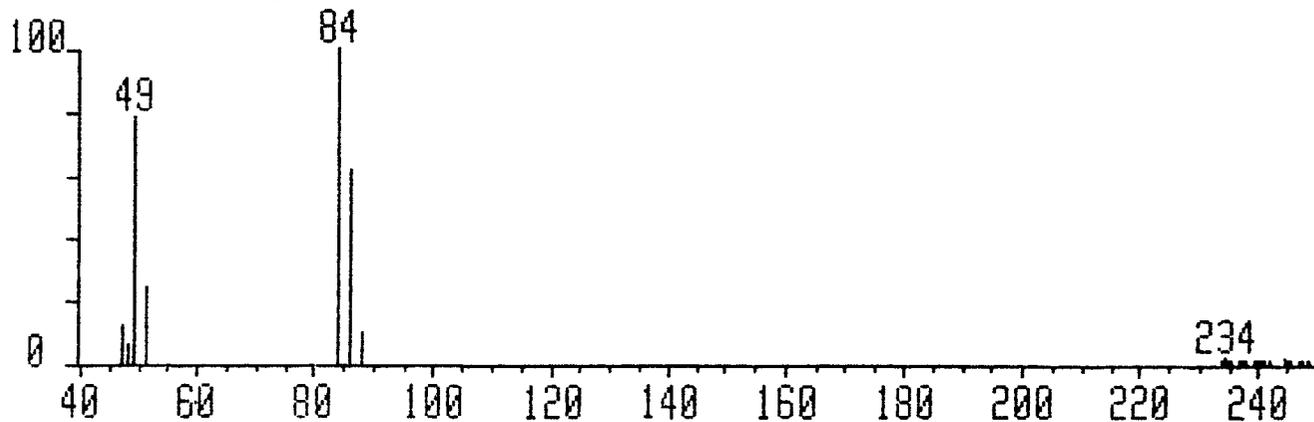
LL3061#137 x1 Bgd=1 22-APR-92 13:30+0:07:34 EI+  
I=349mv TIC=7589000 Acnt:  
Text:EFFLUENT\_15103\_Methylene Chloride



LL3061#137 x1 Bgd=129 22-APR-92 13:30+0:07:34 EI+  
I=341mv TIC=7215000 SU Acnt:  
Text:EFFLUENT\_15103\_Methylene Chloride

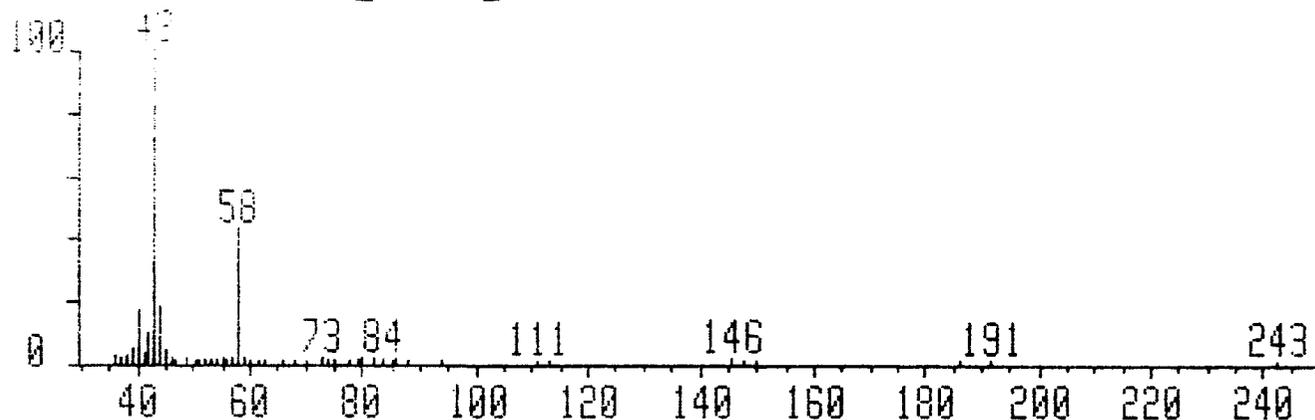


V8240#7 x1 Bgd=1 1-DEC-89 13:03+0:00:23 EI+  
I=234mv TIC=10910000 Acnt:VG#2  
Text:Methylene Chloride



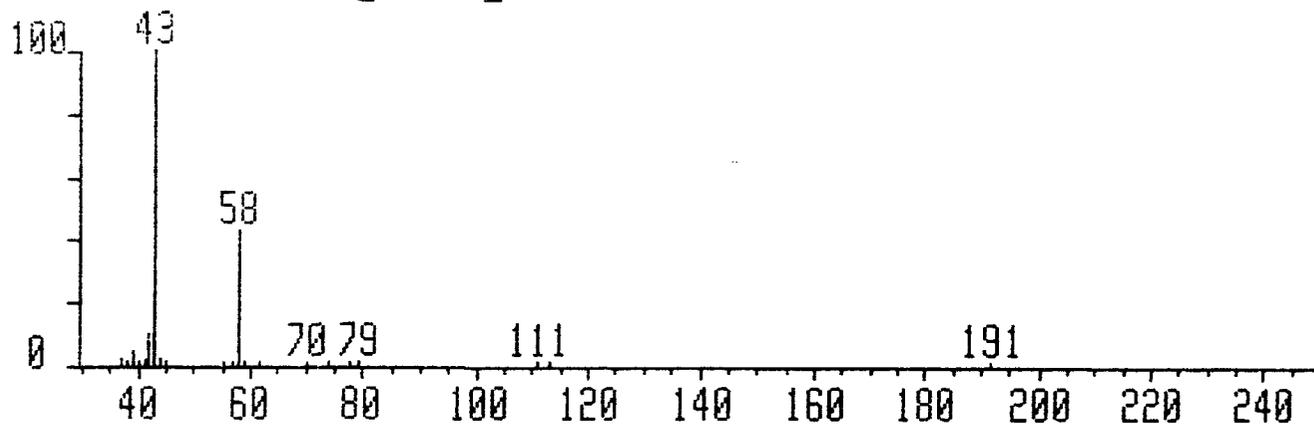
LL3061#150 x1 Bgd=1  
I=55mv TIC=806000  
Text:EFFLUENT\_15103\_Acetone

22-APR-92 13:30+0:00:13 EI+  
Acnt:



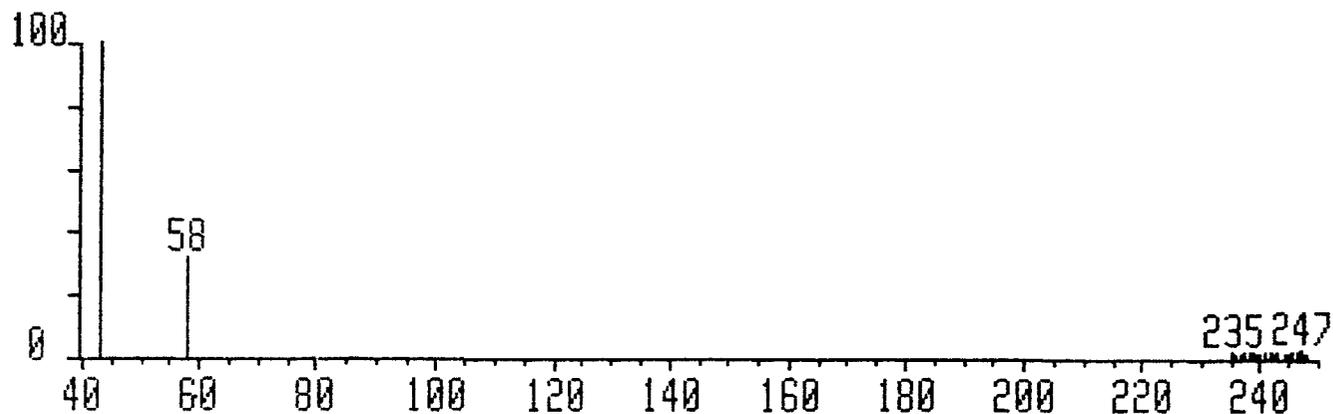
LL3061S#150 x1 Bgd=145  
I=53mv TIC=621000 SU  
Text:EFFLUENT\_15103\_Acetone

22-APR-92 13:30+0:00:13 EI+  
Acnt:



V8240#8 x1 Bgd=1  
I=226mv TIC=11124000  
Text:Acetone

1-DEC-89 13:03+0:00:26 EI+  
Acnt:VG#2



000042

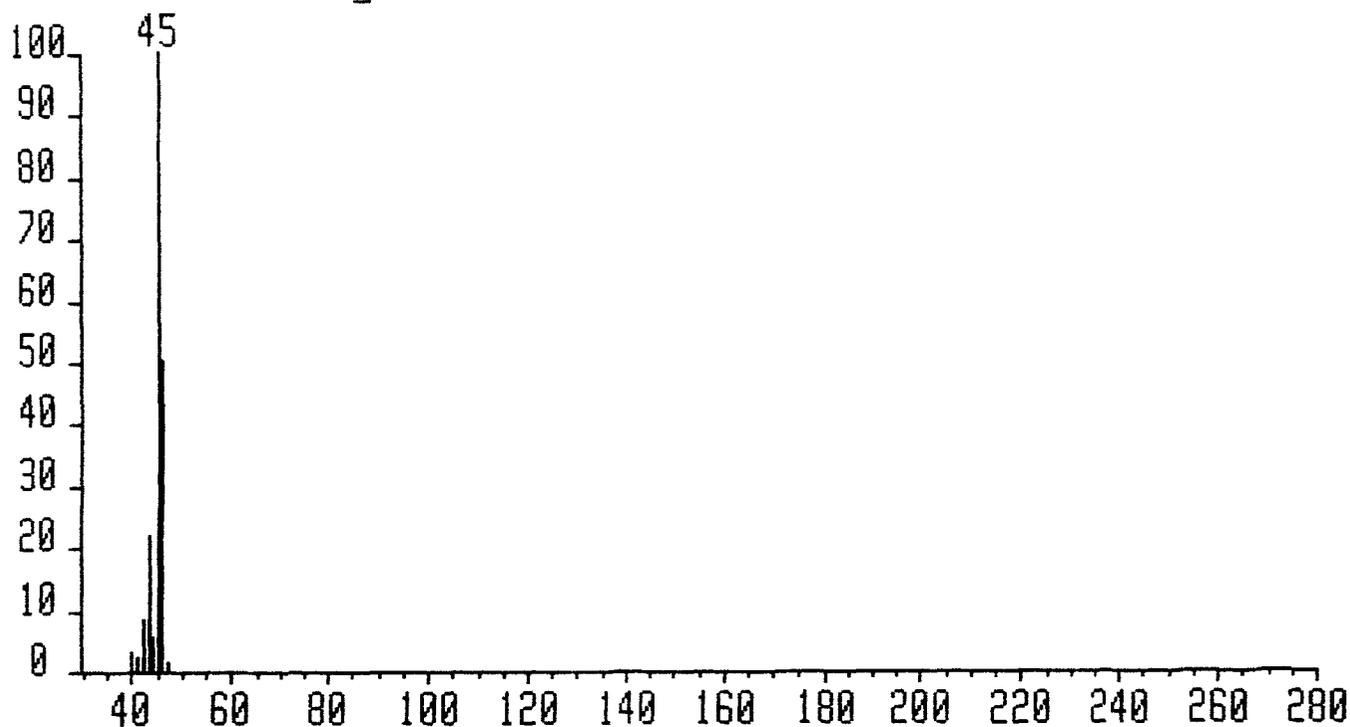
LL3061#111 x1 Bgd=1

22-APR-92 13:30+0:06:16 EI+

I=454mv TIC=6122000

Acnt:

Text:EFFLUENT\_15103



SPESUB00#1 x1 Bgd=107

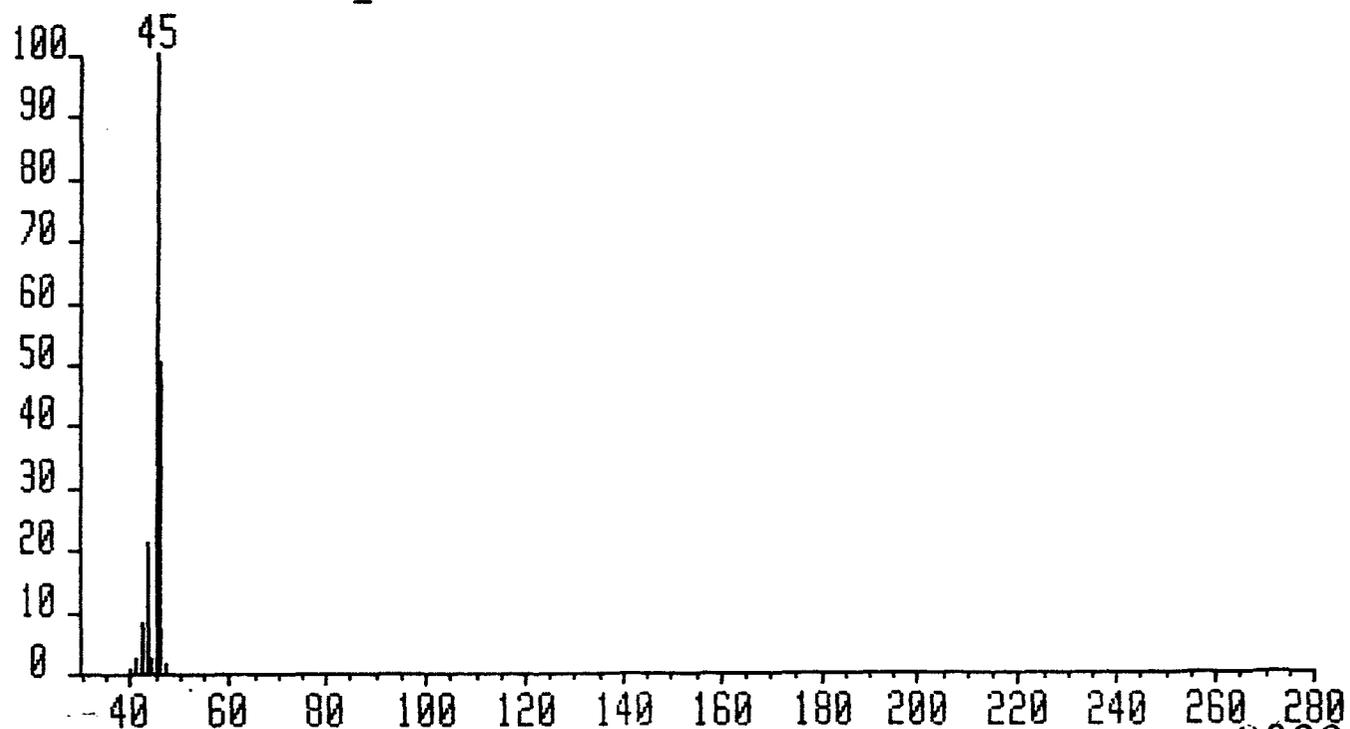
22-APR-92 13:30+0:06:16 EI+

I=451mv TIC=5670000

SU

Acnt:

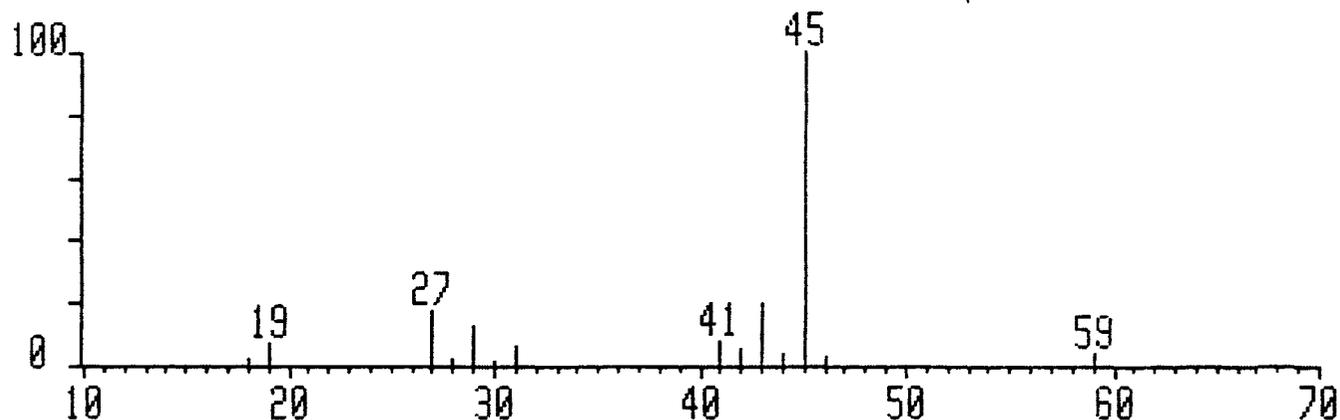
Text:EFFLUENT\_15103



000043 -

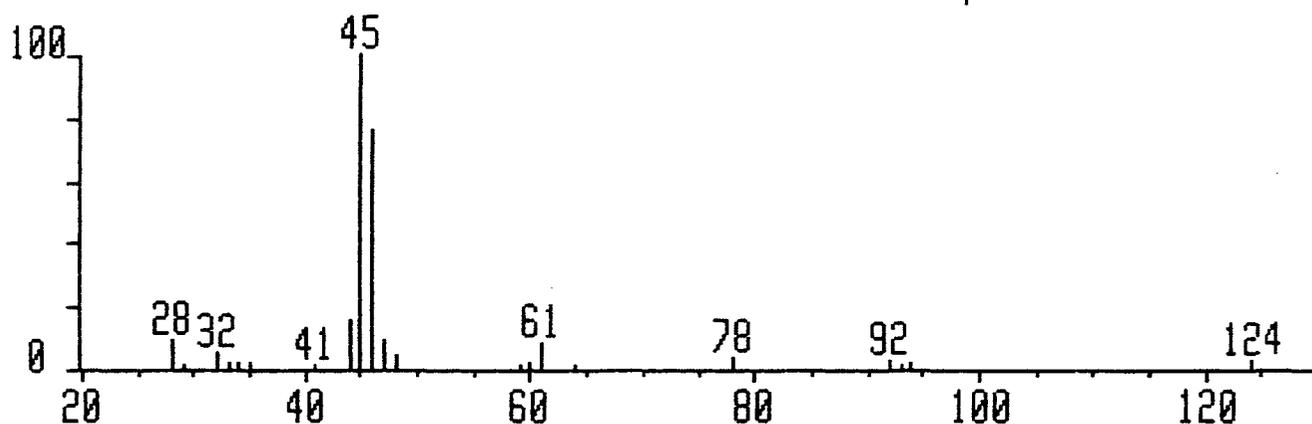
LIBFITS1#1\* x1 Bgd=1 SPESUB00  
2-PROPANOL  
C3.H8.O.

M676 67-63-0  
Bpk: 45 Mwt: 60



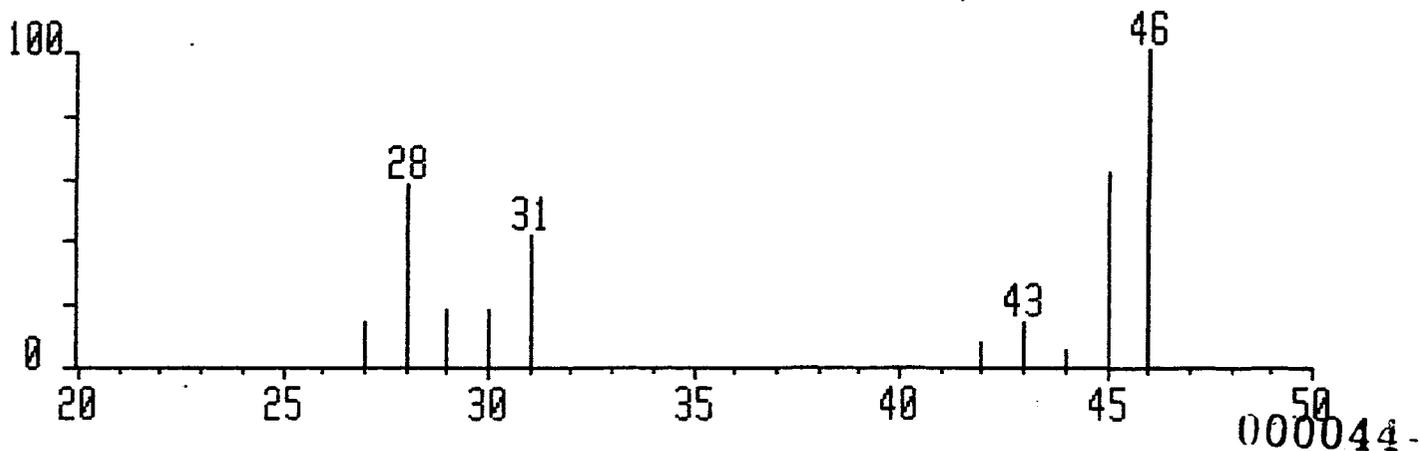
LIBFITS1#2\* x1 Bgd=1 SPESUB00  
METHANETHIAL, HOMOPOLYMER  
C.H2.S.

M775 30699-99-1  
Bpk: 45 Mwt: 46



LIBFITS1#3\* x1 Bgd=1 SPESUB00  
HYDRAZINE, METHYL-  
C.H6.N2.

M611 60-34-4  
Bpk: 46 Mwt: 46



LL3061

<u>scan</u>	<u>area</u>	<u>ISarea</u>	<u>conc</u>
111	1313	4715	13.924

000045

6A  
VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: PACIFIC ANALYTICAL                      Contract: D10098  
 Lab Code: PACIF      Case No.: 18043      SAS No.:                      SGD No.: X4281  
 Instrument ID: VG#2                      Calibration Date(s): 04/21/92                      04/21/92  
 Heated Purge: (Y/N) N                      Calibration Times: 1437                      0814  
 GC Column: 1%SP1000      ID: 2      (mm)

LAB FILE ID:                      RRF10 =LL1051                      RRF20 =LL1031  
 RRF50=LL1061                      RRF100=LL2011                      RRF200=LL1011

COMPOUND	RRF10	RRF20	RRF50	RRF100	RRF200	RRF	% RSD
Chloromethane	2.058	1.795	2.072	1.904	1.815	1.929	6.8
Bromomethane	* 0.658	0.645	0.631	0.562	0.602	0.620	6.2*
Vinyl Chloride	* 1.350	1.301	1.435	1.230	1.389	1.341	5.9*
Chloroethane	0.706	0.693	0.743	0.591	0.714	0.689	8.4
Methylene Chloride	3.815	2.728	2.251	1.881	1.797	2.494	33.1
Acetone	0.789	0.547	0.247	0.243	0.201	0.405	62.9
Carbon Disulfide	6.432	6.149	6.452	5.858	5.341	6.046	7.7
1,1-Dichloroethene	* 1.899	1.810	1.873	1.730	1.727	1.808	4.4*
1,1-Dichloroethane	* 3.806	3.579	3.725	3.457	3.297	3.573	5.7*
1,2-Dichloroethene (total)	2.138	2.089	2.157	1.926	1.842	2.030	6.9
Chloroform	* 3.685	3.446	3.493	3.286	3.019	3.386	7.4*
1,2-Dichloroethane	* 1.991	2.120	2.029	1.990	1.653	1.957	9.1*
2-Butanone	0.488	0.574	0.425	0.447	0.398	0.466	14.7
1,1,1-Trichloroethane	* 0.433	0.446	0.463	0.428	0.433	0.441	3.2*
Carbon Tetrachloride	* 0.385	0.399	0.418	0.390	0.386	0.396	3.5*
Bromodichloromethane	* 0.427	0.466	0.442	0.446	0.426	0.441	3.7*
1,2-Dichloropropane	0.310	0.334	0.335	0.333	0.325	0.327	3.2
cis-1,3-Dichloropropene	* 0.512	0.580	0.542	0.542	0.516	0.538	5.0*
Trichloroethene	* 0.387	0.389	0.399	0.372	0.368	0.383	3.3*
Dibromochloromethane	* 0.285	0.330	0.309	0.312	0.285	0.304	6.3*
1,1,2-Trichloroethane	* 0.234	0.262	0.243	0.254	0.231	0.245	5.4*
Benzene	* 1.179	1.388	1.202	1.162	1.036	1.193	10.6*
trans-1,3-dichloropropene	* 0.340	0.394	0.355	0.369	0.330	0.358	7.0*
Bromoform	* 0.125	0.160	0.150	0.168	0.152	0.151	10.7*
4-Methyl-2-Pentanone	0.195	0.249	0.193	0.230	0.223	0.218	11.0
2-Hexanone	0.121	0.164	0.126	0.152	0.145	0.142	12.7
Tetrachloroethene	* 0.378	0.356	0.377	0.338	0.312	0.352	7.9*
1,1,2,2-Tetrachloroethane	* 0.336	0.386	0.334	0.349	0.305	0.342	8.6*
Toluene	* 1.422	1.362	1.408	1.325	1.178	1.339	7.3*
Chlorobenzene	* 1.022	0.998	0.999	0.977	0.888	0.977	5.3*
Ethylbenzene	* 0.514	0.538	0.526	0.504	0.500	0.516	3.0*
Styrene	* 0.955	0.976	0.957	0.950	0.926	0.953	1.9*
Xylene (total)	* 0.624	0.607	0.609	0.588	0.572	0.600	3.4*
Toluene-d8	1.444	1.307	1.256	1.494	1.156	1.331	10.4
4-Bromofluorobenzene	* 0.667	0.700	0.503	0.657	0.496	0.605	16.1*
1,2-Dichloroethane-d4	1.904	1.880	1.735	2.156	1.535	1.842	12.4

\* Compounds with required minimum RRF and maximum %RSD values.  
 All other compounds must meet a minimum RRF of 0.010.

LL1051 #5-889

21-APR-92 11:34 VG#2

(EI+)

Sys:V0A91

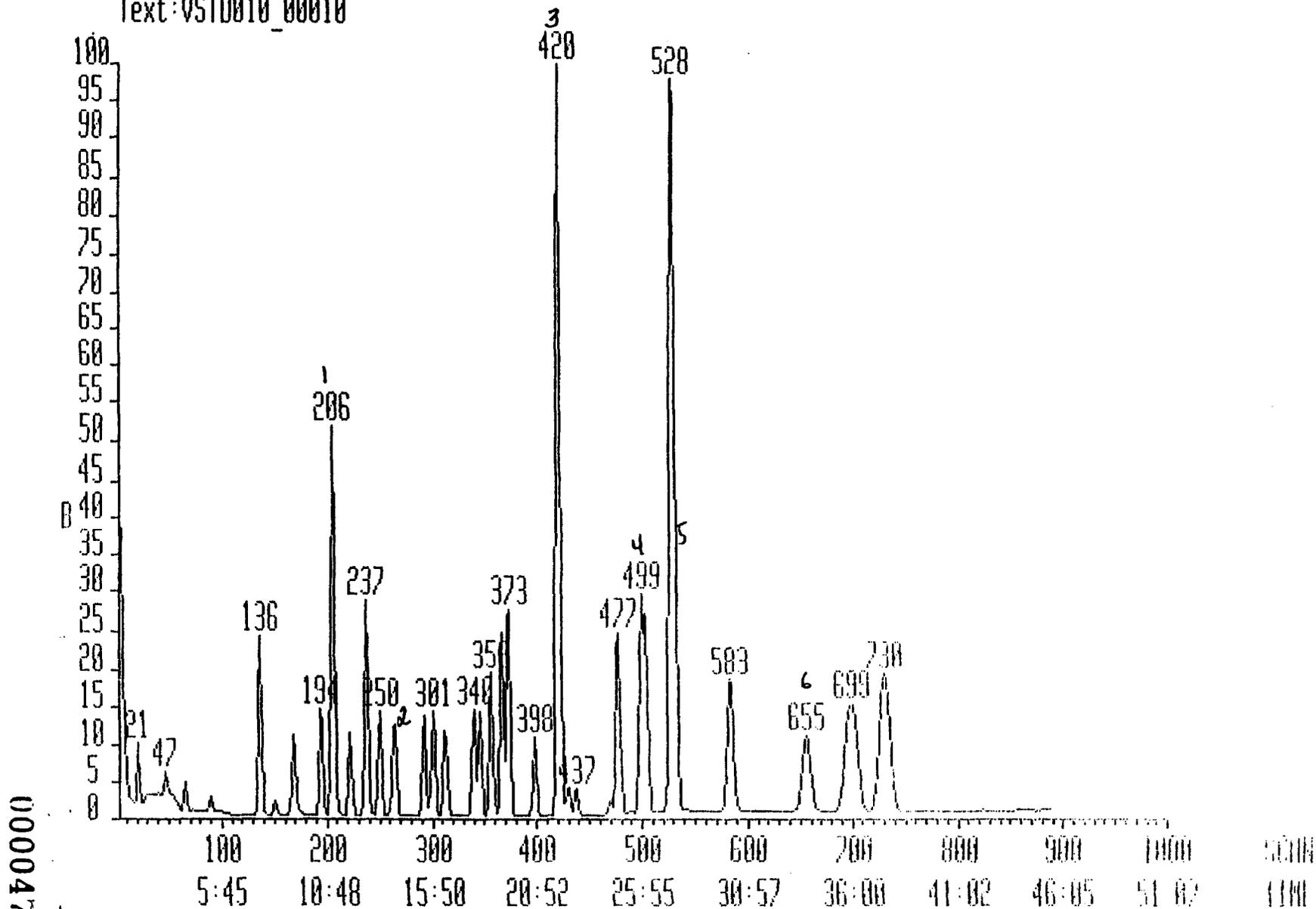
IHP

Chromatogram Identifiers :

B1:35:260

B: 41926000

Text:VSTD010\_00010



Datafile: 001051 21-APR-92 11:34  
 Database: NCAPIF  
 Library: NCAPI

Instrument: 9042  
 Account:  
 Text: MST0010\_00010

No.	Rank	Spectrum Match	Scan Sib	Scan Diff	Peak Area	Flags	Scan Found	Scan Pred	Quan m/z	Compound Name
1	100	92	99	0	11156000	bb	206	206	128	Bromochloromethane
2	88	65	99	0	4249000	bb	263	263	65	1,2-Dichloroethane-d4
3	88	67	99	1	4591000	bb	21	20	50	Chloromethane
4	74	46	99	-4	1469000	bv	47	51	94	Bromomethane
5	83	66	99	-5	3012000	bb	65	70	62	Vinyl Chloride
6	87	63	99	1	1576000	bb	89	88	64	Chloroethane
7	99	89	98	1	8512000	bb	136	135	84	Methylene Chloride
8	90	70	99	2	1760750	bv	151	149	43	Acetone
9	99	91	99	-2	14350000	bv	168	170	76	Carbon Disulfide
10	96	88	99	-2	4238000	bb	194	196	96	1,1-Dichloroethene
11	91	74	99	-1	8491000	bb	222	223	63	1,1-Dichloroethane
12	97	85	99	-1	9540000	bb	237	238	96	1,2-Dichloroethene (to
13	93	87	99	5	8222000	bb	250	245	83	Chloroform
14	94	81	97	-1	4443000	bb	265	266	62	1,2-Dichloroethane
15	57	9	99	-1	1088000	vv	262	263	43	2-Butanone
	44	5	84	-6	18000	??	257			
	41	0	92	-13	55000	b?	250			
16	86	62	99	0	74579000	bv	420	420	114	1,4-Difluorobenzene
17	97	85	99	-1	6453000	bb	292	293	97	1,1,1-Trichloroethane
18	93	78	98	-1	5746000	vb	300	301	117	Carbon Tetrachloride
19			No	Trace	Found			285	1	
20	95	79	99	0	6369000	bb	312	312	83	Bromodichloromethane
21	97	83	99	0	4630000	bb	340	340	63	1,2-Dichloropropane
22	96	81	99	0	7642000	bb	345	345	75	cis-1,3-Dichloropropen
23	96	80	99	0	5776000	bb	356	356	130	Trichloroethene
24	73	37	99	0	4246000	bb	371	371	129	Dibromochloromethane
25	79	48	99	0	3488000	bb	374	374	97	1,1,2-Trichloroethane
26	98	87	96	0	17589000	bb	366	366	78	Benzene
27	68	28	99	0	5076000	vb	372	372	75	trans-1,3-dichloroprop
28			No	Trace	Found			367	1	
29	99	87	99	0	1867000	bb	430	430	173	Bromoform
30	91	75	98	1	63645000	bb	528	527	117	Chlorobenzene-d5
31	89	67	99	0	8484000	bb	655	655	95	4-Bromofluorobenzene
32	87	66	97	0	18379000	bb	499	499	98	Toluene-d8
33	98	86	99	1	2484364	vb	437	436	43	4-Methyl-2-Pentanone
34	94	80	99	1	1541333	vv	470	469	43	2-Hexanone
35	94	80	99	1	4806000	bb	476	475	164	Tetrachloroethene
36	73	38	99	0	4281000	bb	479	479	83	1,1,2,2-Tetrachloroeth
37	92	76	99	-1	18102000	bb	503	504	91	Toluene
38	77	45	99	0	13003000	bv	532	532	112	Chlorobenzene
39	90	77	99	-3	6540000	bb	583	586	106	Ethylbenzene
40	91	72	99	0	12157000	bb	695	695	104	Styrene
41	90	75	98	-2	7949000	bb	702	704	106	m-Xylene
42	91	82	99	-5	15551000	bb	730	735	106	o-/p-Xylene
43			No	Trace	Found			0	-	

LL1031 #5-890

21-APR-92 09:53 VG#2

(EI+)

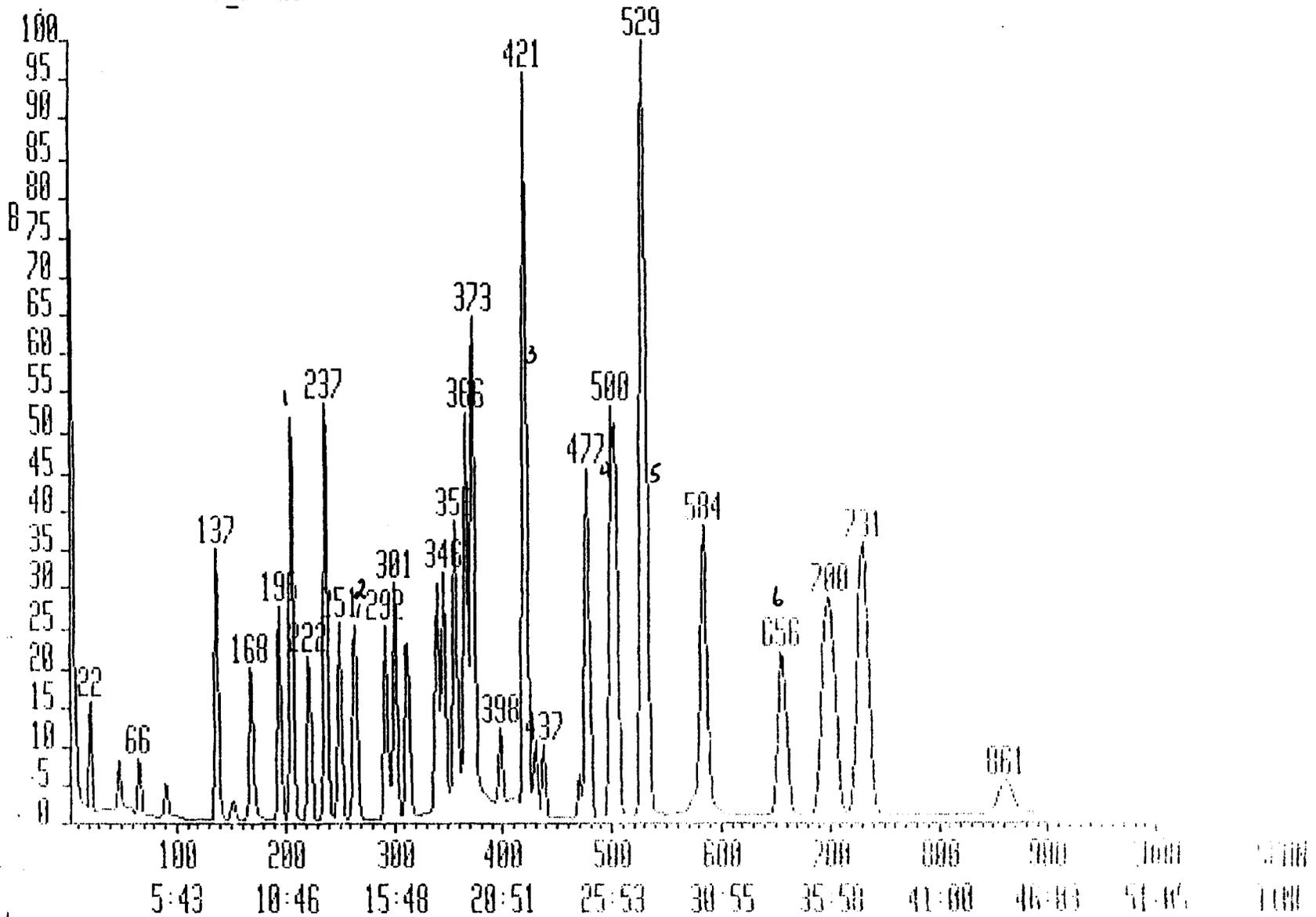
Sys:V0A91

INP

Chromatogram Identifiers : B1:35:260

B: 41144000

Text:VSTD020\_00020



000049

Datafile: 111001 21-APR-92 09:53  
 Database: NGA91P  
 Library: NGA91

Instrument: 4080  
 Account:  
 Text: 4470000\_00000

No.	Rank	Spectrum Match	Scan File	Scan Diff	Peak Area	Flags	Scan Found	Scan Pred	Quan m/z	Compound Name	
1	100	98	99	0	10840000	bb	206	206	128	Bromochloromethane	
2	89	68	99	0	8150000	bb	263	263	65	1,2-Dichloroethane-d4	
3	90	73	99	2	7781000	bb	22	20	50	Chloromethane	
4	87	71	99	-3	2798000	bb	48	51	94	Bromomethane	
5	87	73	99	-4	5641000	bb	66	70	62	Vinyl Chloride	
6	90	73	99	2	3006000	bb	90	88	64	Chloroethane	
7	98	90	98	2	11830000	bb	137	135	84	Methylene Chloride	
8	71	75	99	0	2371549	bv*	152	149	43	Acetone	
9	99	91	99	-2	26659950	bv	168	170	76	Carbon Disulfide	
10	97	85	99	-1	7849000	bv	195	196	96	1,1-Dichloroethene	
11	91	73	99	-1	15520000	bb	222	223	63	1,1-Dichloroethane	
12	97	85	99	-1	16114000	bb	237	238	96	1,2-Dichloroethane (to	
13	92	87	99	5	14942000	bb	251	245	83	Chloroform	
14	98	85	98	0	9192000	bb	266	266	62	1,2-Dichloroethane	
15	59	13	99	-1	2490000	vv	262	263	43	2-Butanone	
	43	4	84	-7	12000	b?	256				
	40	1	84	-9	6000	?b	254				
16	84	60	99	1	67355000	bv*	421	420	114	1,4-Difluorobenzene	
17	97	85	99	-1	12024000	bb	292	293	97	1,1,1-Trichloroethane	
18	93	79	99	-1	10745120	vb	300	301	117	Carbon Tetrachloride	
19	----- No Trace Found -----								285	1	
20	93	77	99	1	12564000	bb	313	312	83	Bromodichloromethane	
21	95	78	99	0	8986750	vb	340	340	63	1,2-Dichloropropane	
22	92	75	99	1	15636000	bb	346	345	75	cis-1,3-Dichloropropen	
23	91	72	99	0	10469000	bb	356	356	130	Trichloroethene	
24	67	27	99	1	8880000	bb	372	371	129	Dibromochloromethane	
25	74	40	99	0	7046000	bb	374	374	97	1,1,2-Trichloroethane	
26	94	79	96	0	37403380	vb*	366	366	78	Benzene	
27	66	26	99	1	10624450	vv	373	372	75	trans-1,3-dichloroprop	
28	----- No Trace Found -----								367	1	
29	98	84	99	0	4323000	bb	430	430	173	Bromoform	
30	88	70	99	2	60895000	bv*	529	527	117	Chlorobenzene-d5	
31	89	69	99	1	17059000	bv	656	655	95	4-Bromofluorobenzene	
32	86	65	98	1	31830000	bv	500	499	98	Toluene-d8	
33	98	87	99	1	6065050	bv	437	436	43	4-Methyl-2-Pentanone	
34	98	86	99	1	4002500	bb	470	469	43	2-Hexanone	
35	91	75	99	2	8678000	bb	477	475	164	Tetrachloroethene	
36	77	47	99	1	9414000	bb	480	479	83	1,1,2,2-Tetrachloroeth	
37	95	79	99	0	33170000	bb	504	504	91	Toluene	
38	84	60	99	1	24320000	bb	533	532	112	Chlorobenzene	
39	92	75	99	-1	13096000	bb	585	586	106	Ethylbenzene	
40	95	81	99	-1	23784000	bb	694	695	104	Styrene	
41	90	75	97	-2	14790000	bb	702	704	106	m-Xylene	
42	92	84	99	-5	28341000	bb	730	735	106	o-/p-Xylene	
43	----- No Trace Found -----								0	-	

LL1061 #5-874

21-APR-92 12:25 VG#2

(EI+)

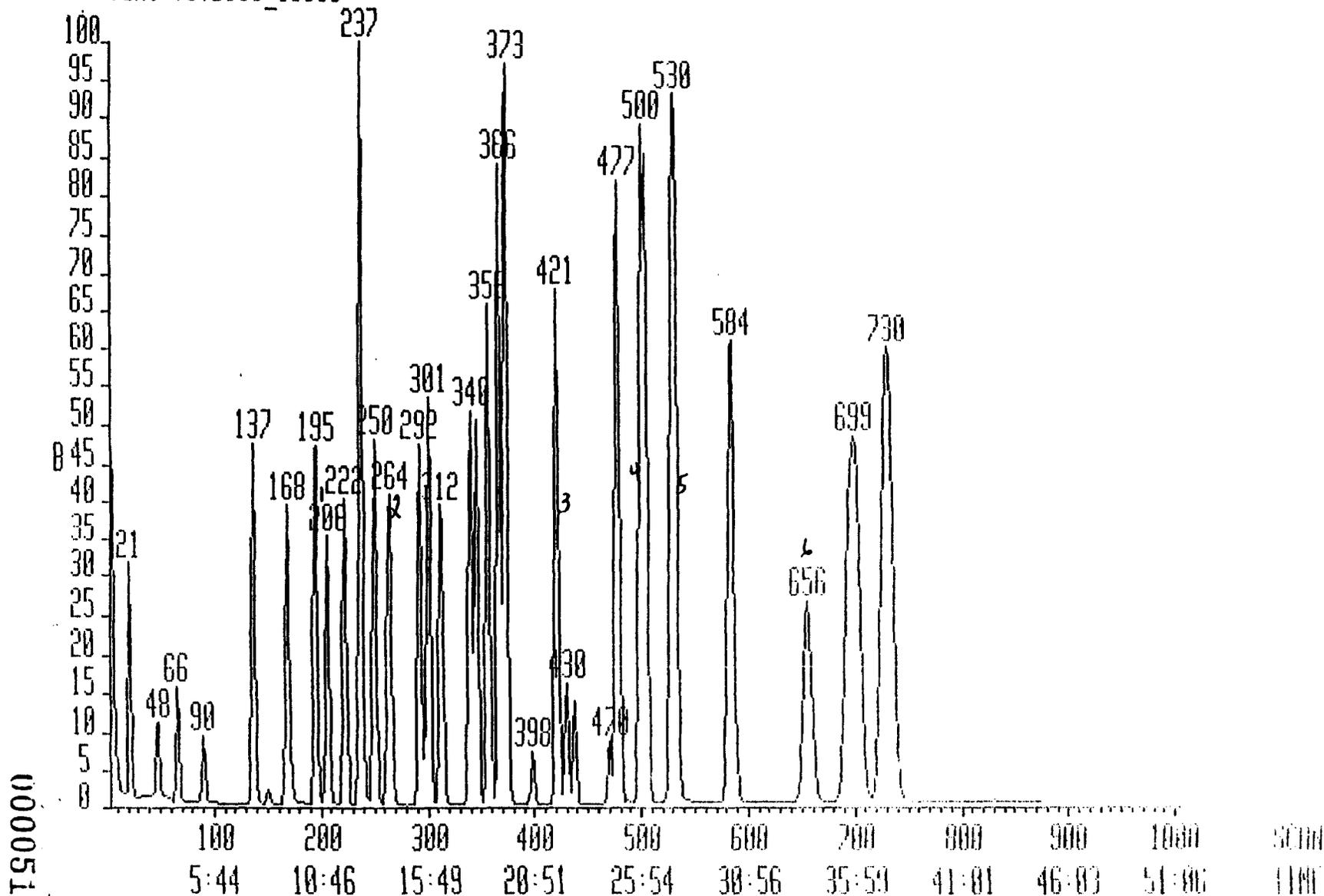
Sys:V0A91

IHP

Chromatogram Identifiers : B1:35:260

B: 61571800

Text:VSTD050\_00050



Datafile: LL1061 21-APR-92 12:25  
 Database: VOA91F  
 Library: VOA91

Instrument: VG#2  
 Account:  
 Text: VSTD050\_00050

QR#  
 4/21/92  
 KD

No.	Rank	Spectrum Match	Scan Fit	Scan Diff	Peak Area	Flags	Scan Found	Scan Pred	Quan m/z	Compound Name
1	100	92	99	0	11323000	bb	206	206	128	Bromochloromethane
2	98	85	99	0	19844000	bv	263	263	65	1,2-Dichloroethane-d4
3	94	79	99	1	20457000	bb	21	20	50	Chloromethane
4	91	81	99	-4	7146000	bb	47	51	94	Bromomethane
5	90	76	99	-4	16248000	bb	66	70	62	Vinyl Chloride
6	92	76	99	2	8411000	bb	90	88	64	Chloroethane
7	98	90	99	2	35481000	bb*	137	135	84	Methylene Chloride
8	92	77	99	2	2601742	bv	151	149	43	Acetone
9	99	91	99	-2	73052490	bv*	168	170	76	Carbon Disulfide
10	95	84	99	-2	21204000	bv	194	196	96	1,1-Dichloroethene
11	91	73	99	-1	42173050	bv	222	223	63	1,1-Dichloroethane
12	97	85	99	-1	48844000	bv	237	238	96	1,2-Dichloroethene (to
13	93	86	99	5	39551000	bv	250	245	83	Chloroform
14	93	80	97	-1	22974000	bb	265	266	62	1,2-Dichloroethane
15	58	10	99	-1	4810000	vv	262	263	43	2-Butanone
	43	6	84	8	29000	??	271			
	42	7	84	11	43000	??	274			
16	84	61	99	1	73586000	bv*	421	420	114	1,4-Difluorobenzene
17	97	84	99	-1	34088000	bb	292	293	97	1,1,1-Trichloroethane
18	93	76	98	-1	30764000	vb	300	301	117	Carbon Tetrachloride
19	----- No Trace Found -----								285	1
20	95	79	99	0	32546000	bb	312	312	83	Bromodichloromethane
21	97	82	99	0	24669000	bb	340	340	63	1,2-Dichloropropane
22	96	81	99	0	39871000	bb	345	345	75	cis-1,3-Dichloropropen
23	96	81	99	0	29391000	bv	356	356	130	Trichloroethene
24	73	38	99	0	22721000	bb	371	371	129	Dibromochloromethane
25	78	46	99	0	17858000	vb	374	374	97	1,1,2-Trichloroethane
26	97	86	96	0	88483000	bb	366	366	78	Benzene
27	68	29	99	0	26120260	vb	372	372	75	trans-1,3-dichloroprop
28	----- No Trace Found -----								367	1
29	100	91	99	0	11031000	bb	430	430	173	Bromoform
30	87	67	98	1	62722000	bv*	528	527	117	Chlorobenzene-d5
31	89	69	99	1	31529000	bb	656	655	95	4-Bromofluorobenzene
32	87	65	99	1	78798000	bv	500	499	98	Toluene-d8
33	99	89	99	1	12122640	vv	437	436	43	4-Methyl-2-Pentanone
34	99	88	99	1	7889242	vv	470	469	43	2-Hexanone
35	96	82	99	1	23675000	bb	476	475	164	Tetrachloroethene
36	72	35	99	0	20962000	vb*	479	479	83	1,1,2,2-Tetrachloroeth
37	96	80	99	0	88285000	bb	504	504	91	Toluene
38	88	65	99	0	62666000	bv	532	532	112	Chlorobenzene
39	93	79	99	-2	32993000	bb	584	586	106	Ethylbenzene
40	94	79	99	-1	59997000	bb	694	695	104	Styrene
41	92	78	98	-2	38215000	bb	702	704	106	m-Xylene
42	93	84	99	-4	40495950	?b	731	735	106	o-/p-Xylene
	90	84	99	-6	39078640	b?	729			
43	----- No Trace Found -----								0	

722 92192 KD 4/21/92

LL2011 #5-889

21-APR-92 14:37 V6#2

(EI+)

Sys:V0A91

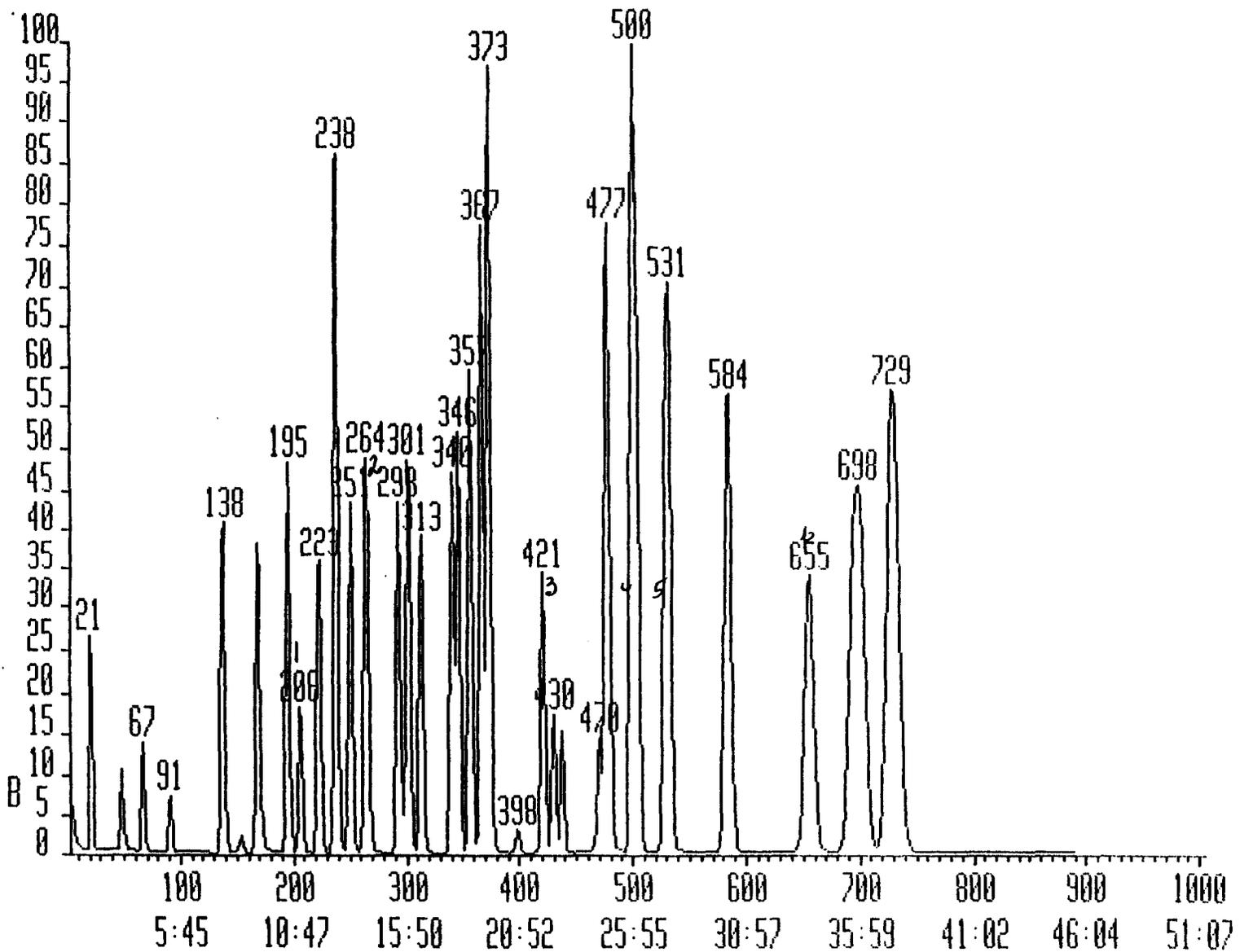
IHP

Chromatogram Identifiers : B1:35:260

B: 132043000

Text: VSTD100

000053



DataFile: LL2011 21-APR-92 14:37  
 Database: NCAPIF  
 Library: NCAPIF

Instrument: VG#2  
 Account:  
 Text: JSTD 100 00100

No.	Rank	Spectrum Match	Scan Fit	Scan Diff	Peak Area	Figs	Scan Found	Scan Pred	Quan m/z	Compound Name
1	100	92	99	0	12585000	bb	206	206	128	Bromochloromethane
2	92	73	99	0	54266000	bb	263	263	65	1,2-Dichloroethane-d4
3	95	81	99	1	47926000	bb	21	20	50	Chloromethane
4	96	87	99	-3	14147000	bv	48	51	94	Bromomethane
5	92	80	99	-3	30965000	bv	67	70	62	Vinyl Chloride
6	92	80	99	3	14864000	bb	91	88	64	Chloroethane
7	98	90	98	2	47344000	bv	137	135	84	Methylene Chloride
8	91	80	99	4	6126677	bv	153	149	43	Acetone
9	99	91	99	-2	147454000	bv*	168	170	76	Carbon Disulfide
10	97	84	99	-1	43554000	bb	195	196	96	1,1-Dichloroethane
11	92	73	99	0	87018740	bv	223	223	63	1,1-Dichloroethane
12	97	85	99	-1	96947740	bv*	237	238	96	1,2-Dichloroethane (to
13	91	86	99	6	82697000	bv	251	245	83	Chloroform
14	95	81	97	0	50095000	bv	266	266	62	1,2-Dichloroethane
15	57	7	99	0	11259070	bv*	263	263	43	2-Butanone
	42	2	94	-7	5500	??	256			
	41	7	84	12	28258	??	275			
16	84	60	99	1	76095000	bb*	421	420	114	1,4-Difluorobenzene
17	98	84	99	0	65070000	bb	293	293	97	1,1,1-Trichloroethane
18	90	71	98	0	59314000	vb	301	301	117	Carbon Tetrachloride
19			No	Trace	Found				285	1
20	94	79	99	1	67859730	bv	313	312	83	Bromodichloromethane
21	97	82	99	0	50734000	bb	340	340	63	1,2-Dichloropropane
22	94	80	99	1	82533160	vv	346	345	75	cis-1,3-Dichloropropen
23	94	80	99	1	56544000	bv	357	356	130	Trichloroethene
24	69	32	99	1	47549000	bb	372	371	129	Dibromochloromethane
25	75	42	99	0	38635000	vb	374	374	97	1,1,2-Trichloroethane
26	96	86	96	1	176854700	bv*	367	366	78	Benzene
27	67	28	99	1	56217300	vv	373	372	75	trans-1,3-dichloroprop
28			No	Trace	Found				367	1
29	100	92	99	0	25541000	bb	430	430	173	Bromoform
30	81	55	99	1	66328000	bb*	528	527	117	Chlorobenzene-d5
31	90	70	99	0	87094620	bv	655	655	95	4-Bromofluorobenzene
32	87	66	97	0	198227100	bb	499	499	98	Toluene-d8
33	100	90	99	1	30568580	vv	437	436	43	4-Methyl-2-Pentanone
34	86	63	99	1	20141910	vv	470	469	43	2-Hexanone
35	91	74	99	1	44854000	bb	476	475	164	Tetrachloroethene
36	72	36	98	0	46247000	bv	479	479	83	1,1,2,2-Tetrachloroeth
37	96	81	99	0	175793100	bv	504	504	91	Toluene
38	87	66	99	-1	129543000	bv	531	532	112	Chlorobenzene
39	91	79	99	-3	66854000	bb	583	586	106	Ethylbenzene
40	94	81	99	-2	125979000	bb	693	695	104	Styrene
41	93	79	99	-2	78005510	bb	702	704	106	m-Xylene
42	92	85	99	-5	148159400	bv	730	735	106	o-/p-Xylene
43			No	Trace	Found				0	-

LL1011 #5-852

21-APR-92 00:14 VG#2

(EI+)

Sys:V0A91

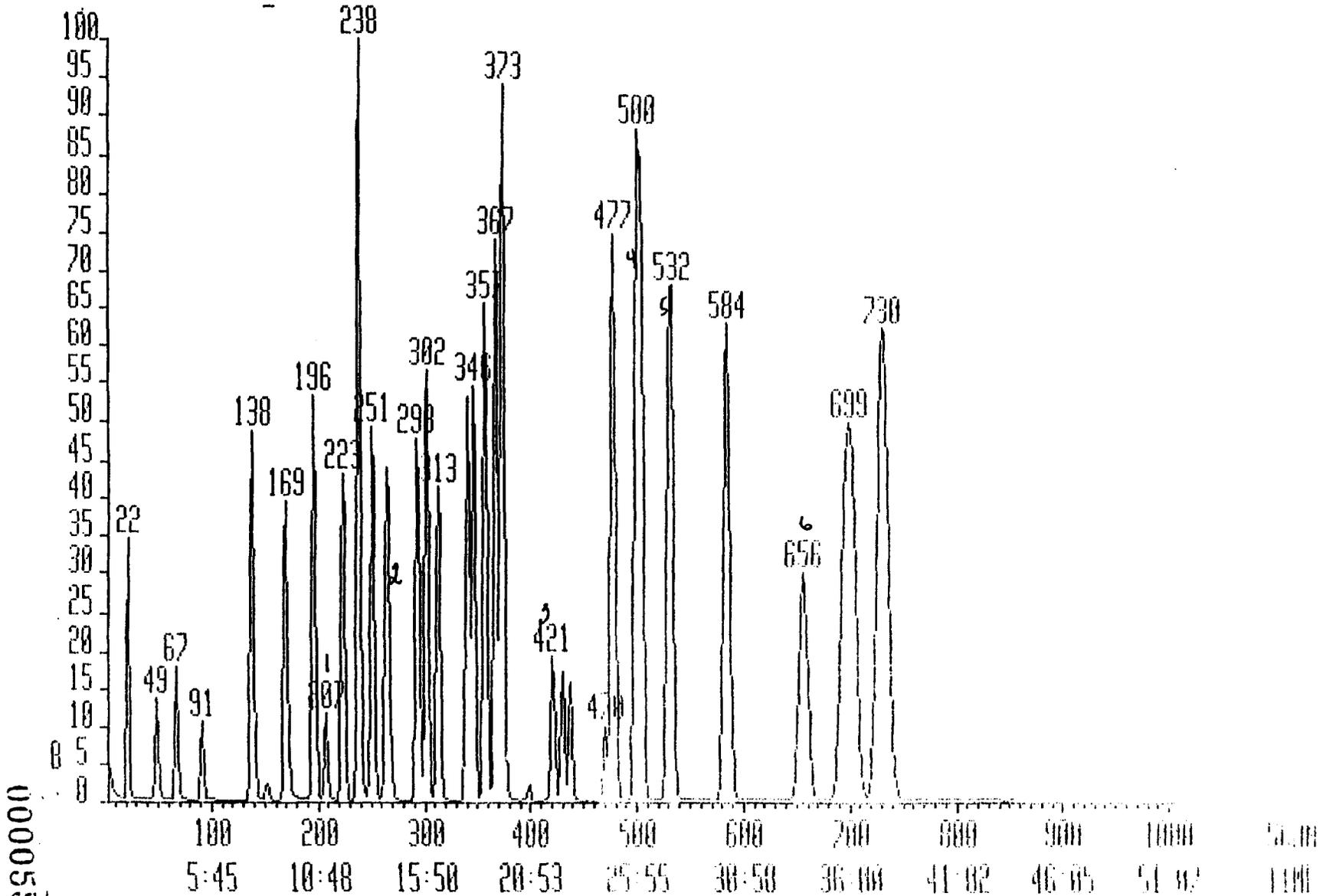
IHP

Chromatogram Identifiers :

B1:35:260

B: 219493056

Text:VSTD200\_00200



Date/Time: 211011 21-APR-92 08:14  
 Database: WCAP1F  
 Location: WCAP1

Instrument: VG+2  
 Account:  
 Text: VST0200\_00200

No.	Rank	Spectrum Match	Scan Fit	Scan Diff	Peak Area	Figs	Scan Found	Scan Pred	Quan m/z	Compound Name
1	100	92	99	1	12586000	bv	207	206	128	Bromochloromethane
2	87	66	99	1	77253000	bv	264	263	65	1,2-Dichloroethane-d4
3	94	82	99	2	91373000	bb	22	20	50	Chloromethane
4	98	89	99	-2	30315000	bv	49	51	94	Bromomethane
5	93	81	99	-3	69912000	bb	67	70	62	Vinyl Chloride
6	93	81	99	0	35924000	bv	91	88	64	Chloroethane
7	97	90	98	0	90482380	bv	138	135	84	Methylene Chloride
8	93	81	99	0	10117000	vv	152	149	43	Acetone
9	100	90	99	-1	268879200	bv	169	170	76	Carbon Disulfide
10	98	85	99	0	86952000	bb*	196	196	96	1,1-Dichloroethene
11	92	73	99	0	165970700	bv	223	223	63	1,1-Dichloroethane
12	98	85	99	0	185488200	bv	238	238	96	1,2-Dichloroethene (to
13	91	86	99	6	151989100	bv	251	245	83	Chloroform
14	94	79	96	0	83217000	bv	266	266	62	1,2-Dichloroethane
15	59	11	99	0	20012880	bv	263	263	43	2-Butanone
	49	7	99	10	20012880	b?	273			
	48	7	99	12	60273	??	275			
16	84	60	99	1	71534000	bb*	421	420	114	1,4-Difluorobenzene
17	98	85	99	0	123782000	bb	293	293	97	1,1,1-Trichloroethane
18	91	72	98	0	110411000	vb	301	301	117	Carbon Tetrachloride
19			No	Trace	Found			285	1	
20	94	79	99	1	121852300	bv	313	312	83	Bromodichloromethane
21	96	83	99	1	92963000	bv	341	340	63	1,2-Dichloropropane
22	94	80	99	1	147506900	bv	346	345	75	cis-1,3-Dichloropropan
23	95	81	99	1	105320000	bv	357	356	130	Trichloroethene
24	71	35	99	1	81457000	bb	372	371	129	Dibromochloromethane
25	78	48	99	1	66090000	vb	375	374	97	1,1,2-Trichloroethane
26	98	87	98	1	296538600	bv*	367	366	78	Benzene
27	68	30	99	1	94377600	vv	373	372	75	trans-1,3-dichloroPROP
28			No	Trace	Found			367	1	
29	100	92	99	0	43351000	bb	430	430	173	Bromoform
30	80	52	99	1	64369000	bb	528	527	117	Chlorobenzene-d5
31	89	70	99	1	127687400	bv	656	655	95	4-Bromofluorobenzene
32	87	66	99	1	297527300	bv	500	499	98	Toluene-d8
33	99	91	99	2	57436360	vv*	438	436	43	4-Methyl-2-Pentanone
34	100	90	99	1	37459410	bv	470	469	43	2-Hexanone
35	92	77	99	2	80248000	bb	477	475	164	Tetrachloroethene
36	77	46	99	1	78523000	vv*	480	479	83	1,1,2,2-Tetrachloroeth
37	95	79	99	0	303356100	bv	504	504	91	Toluene
38	92	73	99	0	228734100	bv	532	532	112	Chlorobenzene
39	93	80	99	-2	128838000	bv	584	586	106	Ethylbenzene
40	96	82	99	-1	238440200	bb	694	695	104	Styrene
41	91	77	98	-2	147279000	bb	702	704	106	m-Xylene
42	93	85	99	-4	276467400	bv	731	735	106	o-/p-Xylene
43			No	Trace	Found			0	-	

## VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: PACIFIC ANALYTICAL

Contract:

Lab Code: PACIF

Case No.:

SAS No.:

SDG No.:

Instrument ID: VG#2

Calibration Date: 04/21/92

Time: 1225

Lab File ID: LL1061

Init. Calib. Date(s): 04/21/92

04/21/92

Heated Purge: (Y/N) N

Init. Calib. Times:

GC Column: 1XSP1000 ID: 2 (mm)

COMPOUND	RRF	RRF50	MIN RRF	%D	MAX %D
Chloromethane	1.929	2.072		-7.0	
Bromomethane	0.620	0.631	0.100	-2.0	25.0
Vinyl Chloride	1.341	1.435	0.100	-7.0	25.0
Chloroethane	0.689	0.743		-8.0	
Methylene Chloride	2.494	2.251		10.0	
Acetone	0.405	0.247		39.0	
Carbon Disulfide	6.046	6.452		-7.0	
1,1-Dichloroethene	1.808	1.873	0.100	-4.0	25.0
1,1-Dichloroethane	3.573	3.725	0.200	-4.0	25.0
1,2-Dichloroethene (total)	2.030	2.157		-6.0	
Chloroform	3.386	3.493	0.200	-3.0	25.0
1,2-Dichloroethane	1.957	2.029	0.100	-4.0	25.0
2-Butanone	0.466	0.425		9.0	
1,1,1-Trichloroethane	0.441	0.463	0.100	-5.0	25.0
Carbon Tetrachloride	0.396	0.418	0.100	-6.0	25.0
Bromodichloromethane	0.441	0.442	0.200	0.0	25.0
1,2-Dichloropropane	0.327	0.335		-2.0	
cis-1,3-Dichloropropene	0.538	0.542	0.200	-1.0	25.0
Trichloroethene	0.383	0.399	0.300	-4.0	25.0
Dibromochloromethane	0.304	0.309	0.100	-2.0	25.0
1,1,2-Trichloroethane	0.245	0.243	0.100	1.0	25.0
Benzene	1.193	1.202	0.500	-1.0	25.0
trans-1,3-dichloropropene	0.358	0.355	0.100	1.0	25.0
Bromoform	0.151	0.150	0.100	1.0	25.0
4-Methyl-2-Pentanone	0.218	0.193		11.0	
2-Hexanone	0.142	0.126		11.0	
Tetrachloroethene	0.352	0.377	0.200	-7.0	25.0
1,1,2,2-Tetrachloroethane	0.342	0.334	0.500	2.0	25.0
Toluene	1.339	1.408	0.400	-5.0	25.0
Chlorobenzene	0.977	0.999	0.500	-2.0	25.0
Ethylbenzene	0.516	0.526	0.100	-2.0	25.0
Styrene	0.953	0.957	0.300	0.0	25.0
Xylene (total)	0.600	0.609	0.300	-2.0	25.0
Toluene-d8	1.331	1.256		6.0	
4-Bromofluorobenzene	0.605	0.503	0.200	17.0	25.0
1,2-Dichloroethane-d4	1.842	1.735		6.0	

All other compounds must meet a minimum RRF of 0.010.

LL1061 #5-874

21-APR-92 12:25 V6#2

(EI+)

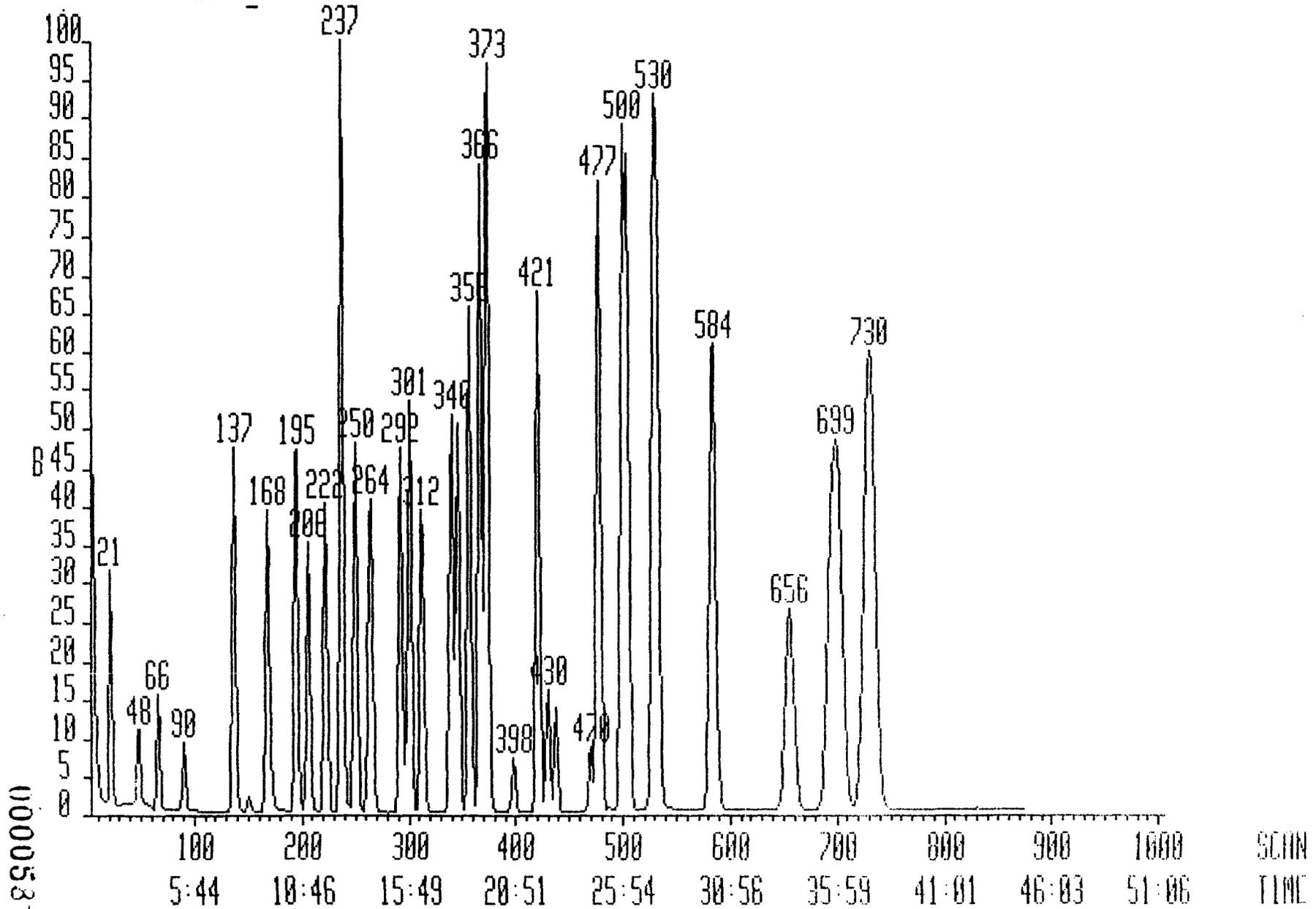
Sys:V0A91

IHP

Chromatogram Identifiers : 81:35:260

B: 61571000

Text:VSTD050\_00050



Datafile: LL1061 21-APR-92 12:25  
 Database: VOA91F  
 Library: VOA91

Instrument: V9#2  
 Account:  
 Text: VSTD050\_00050

*QPLF*  
*4/21/92*  
*KD*

No.	Rank	Spectrum Match	Scan Fit	Scan Diff	Peak Area	Flgs	Scan Found	Scan Pred	Quan m/z	Compound Name
1	100	92	99	0	11323000	bb	206	206	128	Bromochloromethane
2	88	65	99	0	19644000	bv	263	263	65	1,2-Dichloroethane-d4
3	94	79	99	1	23457000	bb	21	20	50	Chloromethane 2.0716
4	91	81	99	-4	7148000	bb	47	51	94	Bromomethane
5	90	78	99	-4	16248000	bb	66	70	62	Vinyl Chloride
6	92	78	99	2	8411000	bb	90	88	64	Chloroethane
7	98	90	98	2	25491000	bb*	137	135	84	Methylene Chloride
8	92	77	99	2	2801742	bv	151	149	43	Acetone
9	99	91	99	-2	73053490	bv*	168	170	76	Carbon Disulfide
10	95	84	99	-2	21204000	bv	194	196	96	1,1-Dichloroethene
11	91	73	99	-1	42173050	bv	222	223	63	1,1-Dichloroethane
12	97	85	99	-1	48844000	bv	237	238	96	1,2-Dichloroethene (to
13	93	86	99	5	39551000	bv	250	245	83	Chloroform
14	93	80	97	-1	22974000	bb	265	266	62	1,2-Dichloroethane
15	58	10	99	-1	4810000	vv	262	263	43	2-Butanone
	43	5	84	8	29000	??	271			
	42	7	84	11	43000	??	274			
16	84	61	99	1	73586000	bv*	421	420	114	1,4-Difluorobenzene
17	97	84	99	-1	34088000	bb	292	293	97	1,1,1-Trichloroethane
18	93	78	98	-1	30764000	vb	300	301	117	Carbon Tetrachloride
19			No Trace		Found			285	1	
20	95	79	99	0	32546000	bb	312	312	83	Bromodichloromethane
21	97	82	99	0	24669000	bb	340	340	63	1,2-Dichloropropane
22	96	81	99	0	39871000	bb	345	345	75	cis-1,3-Dichloropropan
23	96	81	99	0	29391000	bv	356	356	130	Trichloroethene
24	73	38	99	0	22721000	bb	371	371	129	Dibromochloromethane
25	78	46	99	0	17858000	vb	374	374	97	1,1,2-Trichloroethane
26	97	86	96	0	88483000	bb	366	366	78	Benzene
27	68	29	99	0	26120260	vb	372	372	75	trans-1,3-dichloroprop
28			No Trace		Found			367	1	
29	100	91	99	0	11031000	bb	430	430	173	Bromoform
30	87	67	98	1	62722000	bv*	528	527	117	Chlorobenzene-d5
31	89	69	99	1	31529000	bb	656	655	95	4-Bromofluorobenzene
32	87	65	99	1	78798000	bv	500	499	98	Toluene-d8
33	99	89	99	1	12122640	vv	437	436	43	4-Methyl-2-Pentanone
34	99	88	99	1	7889242	vv	470	469	43	2-Hexanone
35	96	82	99	1	23675000	bb	476	475	164	Tetrachloroethene
36	72	35	99	0	20962000	vb*	479	479	83	1,1,2,2-Tetrachloroeth
37	96	80	99	0	88285000	bb	504	504	91	Toluene
38	88	65	99	0	62666000	bv	532	532	112	Chlorobenzene
39	93	79	99	-2	32993000	bb	584	586	106	Ethylbenzene
40	94	79	99	-1	59997000	bb	694	695	104	Styrene
41	92	78	98	-2	38215000	bb	702	704	106	m-Xylene
42	93	84	99	-4	40495950	?b	731	735	106	o-/p-Xylene
	90	84	99	-6	39078640	b?	729			
43			No Trace		Found			0	-	

*722 92192 KD 4/21/92*  
*000059*

## VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: PACIFIC ANALYTICAL

Contract:

Lab Code: PACIF

Case No.:

SAS No.:

SDG No.:

Instrument ID: VG#2

Calibration Date: 04/22/92

Time: 0918

Lab File ID: LL3021

Init. Calib. Date(s): 04/21/92

04/21/92

Heated Purge: (Y/N) N

Init Calib. Times:

GC Column: 1%SP1000 ID: 2 (mm)

COMPOUND	RRF	RRF50	MIN RRF	%D	MAX %D
Chloromethane	1.929	2.104		-9.0	
Bromomethane	0.620	0.605	0.100	2.0	25.0
Vinyl Chloride	1.341	1.367	0.100	-2.0	25.0
Chloroethane	0.689	0.724		-5.0	
Methylene Chloride	2.494	2.192		12.0	
Acetone	0.405	0.279		31.0	
Carbon Disulfide	6.046	6.316		-4.0	
1,1-Dichloroethene	1.808	1.815	0.100	0.0	25.0
1,1-Dichloroethane	3.573	3.730	0.200	-4.0	25.0
1,2-Dichloroethene (total)	2.030	2.077		-2.0	
Chloroform	3.386	3.499	0.200	-3.0	25.0
1,2-Dichloroethane	1.957	2.186	0.100	-12.0	25.0
2-Butanone	0.466	0.487		-5.0	
1,1,1-Trichloroethane	0.441	0.482	0.100	-9.0	25.0
Carbon Tetrachloride	0.396	0.429	0.100	-8.0	25.0
Bromodichloromethane	0.441	0.458	0.200	-4.0	25.0
1,2-Dichloropropane	0.327	0.354		-8.0	
cis-1,3-Dichloropropene	0.538	0.569	0.200	-6.0	25.0
Trichloroethene	0.383	0.405	0.300	-6.0	25.0
Dibromochloromethane	0.304	0.334	0.100	-10.0	25.0
1,1,2-Trichloroethane	0.245	0.265	0.100	-8.0	25.0
Benzene	1.193	1.194	0.500	0.0	25.0
trans-1,3-dichloropropene	0.358	0.395	0.100	-10.0	25.0
Bromoform	0.151	0.176	0.100	-17.0	25.0
4-Methyl-2-Pentanone	0.218	0.224		-3.0	
2-Hexanone	0.142	0.147		-4.0	
Tetrachloroethene	0.352	0.374	0.200	-6.0	25.0
1,1,2,2-Tetrachloroethane	0.342	0.393	0.500	-15.0	25.0
Toluene	1.339	1.488	0.400	-11.0	25.0
Chlorobenzene	0.977	1.001	0.500	-2.0	25.0
Ethylbenzene	0.516	0.521	0.100	-1.0	25.0
Styrene	0.953	0.983	0.300	-3.0	25.0
Xylene (total)	0.600	0.609	0.300	-2.0	25.0
Toluene-d8	1.331	1.251		6.0	
4-Bromofluorobenzene	0.605	0.559	0.200	8.0	25.0
1,2-Dichloroethane-d4	1.842	1.833		0.0	

All other compounds must meet a minimum RRF of 0.010.

1A  
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VSTD050

Lab Name: PACIFIC ANALYTICAL

Contract:

Lab Code: PACIF Case No.:

SAS No.:

SDG No.:

Matrix: (soil/water) **WATER**

Lab Sample ID: 00050

Sample wt/vol: 5.0(g/mL) ML

Lab File ID: LL3021

Level: (low/med) **LOW**

Date Received:

% Moisture: not dec. 0

Date Analyzed: 04/22/92

GC Column: 1%SP1000 ID: 2 (mm)

Dilution Factor: 1.0

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg)ug/L	Q
74-87-3	Chloromethane	50	
74-83-9	Bromomethane	50	
75-01-4	Vinyl Chloride	50	
75-00-3	Chloroethane	50	
75-09-2	Methylene Chloride	50	
67-64-1	Acetone	50	
75-15-0	Carbon Disulfide	50	
75-35-4	1,1-Dichloroethene	50	
75-35-3	1,1-Dichloroethane	50	
156-60-5	1,2-Dichloroethene (total)	100	
67-66-3	Chloroform	50	
107-06-2	1,2-Dichloroethane	50	
78-93-3	2-Butanone	50	
71-55-6	1,1,1-Trichloroethane	50	
56-23-5	Carbon Tetrachloride	50	
75-27-4	Bromodichloromethane	50	
78-87-5	1,2-Dichloropropane	50	
10061-01-5	cis-1,3-Dichloropropene	50	
79-01-6	Trichloroethene	50	
124-48-1	Dibromochloromethane	50	
79-00-5	1,1,2-Trichloroethane	50	
71-43-2	Benzene	50	
10061-02-6	trans-1,3-dichloropropene	50	
75-25-2	Bromoform	50	
591-78-6	4-Methyl-2-Pentanone	50	
108-10-1	2-Hexanone	50	
127-18-4	Tetrachloroethene	50	
79-34-5	1,1,2,2-Tetrachloroethane	50	
108-88-3	Toluene	50	
108-90-7	Chlorobenzene	50	
100-41-4	Ethylbenzene	50	
100-42-5	Styrene	50	
1330-20-7	Xylene (total)	150	

LL3021 #5-854

22-APR-92 09:18 VG#2

(EI+)

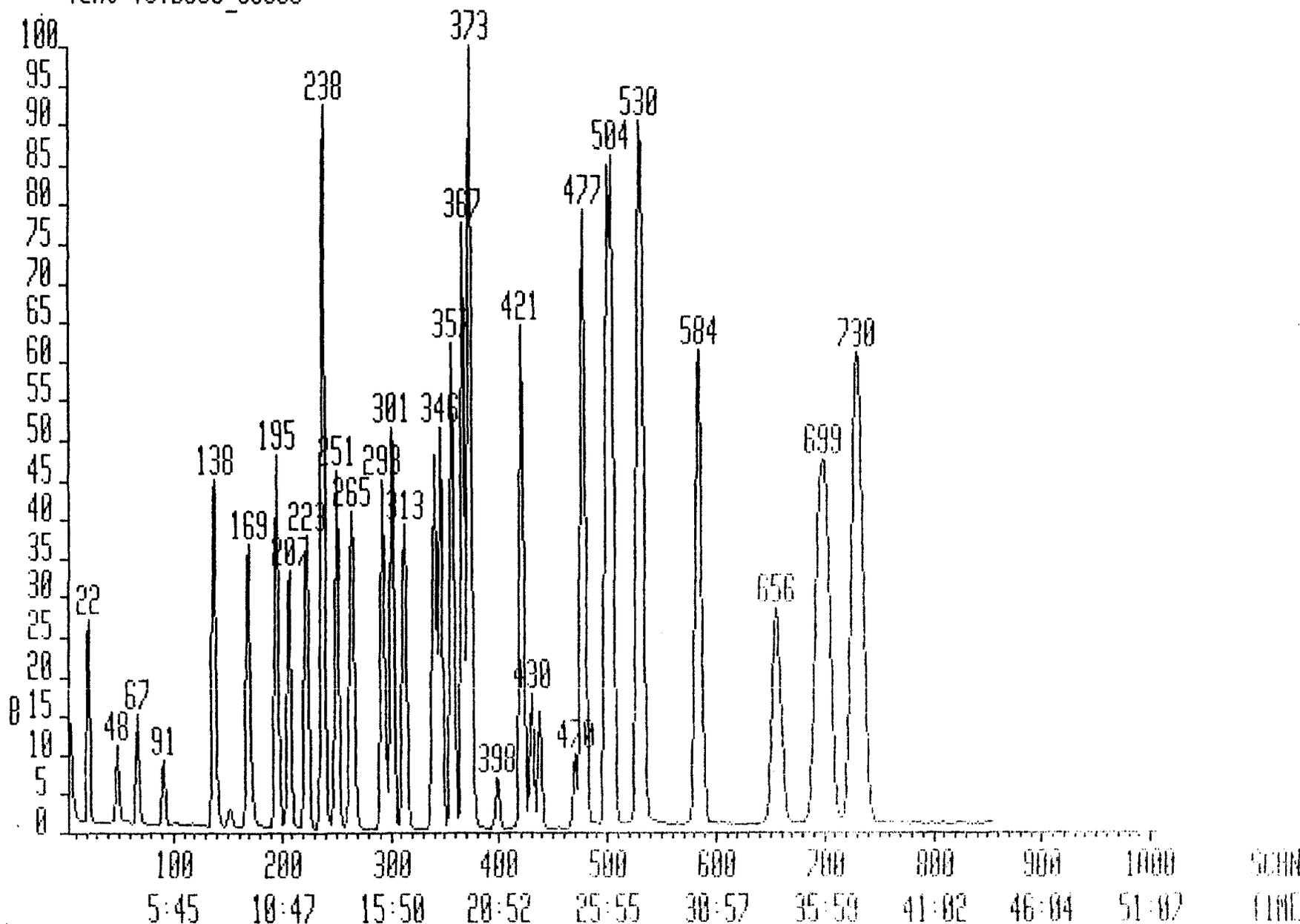
Sys:V0A91

IHP

Chromatogram Identifiers : B1:35:260

B: 65800000

Text:VSTD050\_00050



Datafile: 112021      22-APR-92 09:13  
 Database: VCAPI  
 Library: VCAPI

Instrument: 70#2  
 Account:  
 Task: VST0050\_00050

No.	Peak	Match	Fit	Scan Diff	Peak Area	Flags	Scan Found	Scan Pred	Quan m/z	Compound Name
1	100	91	99	0	11649000	bv	207	207	128	Bromochloromethane
2	89	69	99	-1	21348000	bv	263	264	65	1,2-Dichloroethane-d4
3	95	78	99	0	24515000	bb*	22	22	50	Chloromethane 2.104
4	95	81	99	-1	7048558	vv	48	49	94	Bromomethane
5	94	77	99	0	15930000	bb	67	67	62	Vinyl Chloride
6	94	76	99	0	8437000	bb*	91	91	64	Chloroethane
7	98	88	99	-1	25538000	bv*	137	138	84	Methylene Chloride
8	89	69	99	-1	3247900	bv*	152	153	43	Acetone
9	100	90	99	0	73576580	bv	169	169	76	Carbon Disulfide
10	97	84	99	-1	21142000	vv*	195	196	96	1,1-Dichloroethene
11	91	72	99	0	43454530	bv*	223	223	63	1,1-Dichloroethane
12	98	85	99	0	48387780	bv*	238	238	96	1,2-Dichloroethene (to
13	99	86	99	0	40758000	bv	251	251	83	Chloroform
14	96	82	97	0	25461000	bv	266	266	62	1,2-Dichloroethane
15	59	13	99	-1	5668677	vv*	262	263	43	2-Butanone
	46	6	98	13	21118	??	276			
	45	6	98	15	21118	??	278			
16	85	60	99	0	71856370	bv*	421	421	114	1,4-Difluorobenzene
17	98	84	99	0	34670000	bb	293	293	97	1,1,1-Trichloroethane
18	90	70	98	0	30843000	vb	301	301	117	Carbon Tetrachloride
19	----- No Trace Found -----								285	1
20	95	78	99	0	32877470	vb	313	313	83	Bromodichloromethane
21	96	82	99	-1	25414000	bv	340	341	63	1,2-Dichloropropane
22	96	80	99	0	40897390	vb	346	346	75	cis-1,3-Dichloropropen
23	96	80	99	0	29110000	bv	357	357	130	Trichloroethene
24	71	33	99	0	23975000	bv	372	372	129	Dibromochloromethane
25	74	41	99	-1	19036000	vv	374	375	97	1,1,2-Trichloroethane
26	97	86	96	0	85821710	bv*	367	367	78	Benzene
27	68	29	99	0	28387720	vv*	373	373	75	trans-1,3-dichloroprop
28	----- No Trace Found -----								367	1
29	99	89	99	-1	12673000	bb	430	431	173	Bromoform
30	88	66	98	0	63286620	bv*	528	528	117	Chlorobenzene-d5
31	89	68	99	0	35360710	vv	656	656	95	4-Bromofluorobenzene
32	88	65	99	0	79178100	bv	500	500	98	Toluene-d8
33	99	88	99	-1	14156110	bv*	437	438	43	4-Methyl-2-Pentanone
34	99	86	99	0	9294870	bv	470	470	43	2-Hexanone
35	94	80	99	-1	23698000	bb	476	477	164	Tetrachloroethene
36	79	48	99	0	24875640	vv*	480	480	83	1,1,2,2-Tetrachloroeth
37	96	81	99	0	94163020	vv	504	504	91	Toluene
38	87	63	99	0	63333700	bv	532	532	112	Chlorobenzene
39	95	78	99	0	32988000	bv	584	584	106	Ethylbenzene
40	93	78	99	-1	62183500	bb	694	695	104	Styrene
41	92	76	98	-1	38552000	bb	702	703	106	m-Xylene
42	97	83	99	0	73385270	bv	731	731	106	o-/p-Xylene
43	----- No Trace Found -----								0	-

1A  
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLK29

Lab Name: PACIFIC ANALYTICAL

Contract:

Lab Code: PACIF Case No.:

SAS No.:

SDG No.:

Matrix: (soil/water) **WATER**

Lab Sample ID: 00000

Sample wt/vol: 5.0 (g/mL) ML

Lab File ID: LL2021

Level: (low/med) LOW

Date Received: NA

% Moisture: not Dec. 0

Date Analyzed: 04/21/92

GC Column: 1%SP1000 ID: 2 (mm)

Dilution Factor: 1.0

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS:	
		(ug/L or ug/Kg)	ug/L
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	10	U
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	10	U
75-35-3	1,1-Dichloroethane	10	U
156-60-5	1,2-Dichloroethene (total)	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	10	U
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	10	U
10061-02-6	trans-1,3-dichloropropene	10	U
75-25-2	Bromoform	10	U
591-78-6	4-Methyl-2-Pentanone	10	U
108-10-1	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (total)	10	U

1E  
VOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

VBLK29
--------

Lab Name: PACIFIC ANALYTICAL

Contract:

Lab Code: PACIF Case No.:

SAS No.:

SDG No.:

Matrix: (soil/water) WATER

Lab Sample ID: VBLK29

Sample wt/vol: 5.0(g/mL) mL

Lab File ID: LL2021

Level: (low/med) LOW

Date Received:

% Moisture: not dec. 0

Date Analyzed: 04/21/92

GC Column: 1%SP1000 ID: 2(mm)

Dilution Factor: 1.0

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

Number TICs found: 0

CONCENTRATION UNITS:  
(ug/L or ug/Kg)ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	G
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				
16.				
17.				
18.				
19.				
20.				
21.				
22.				
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				

LL2021 #5-889

21-APR-92 15:24 VG#2

(EI+)

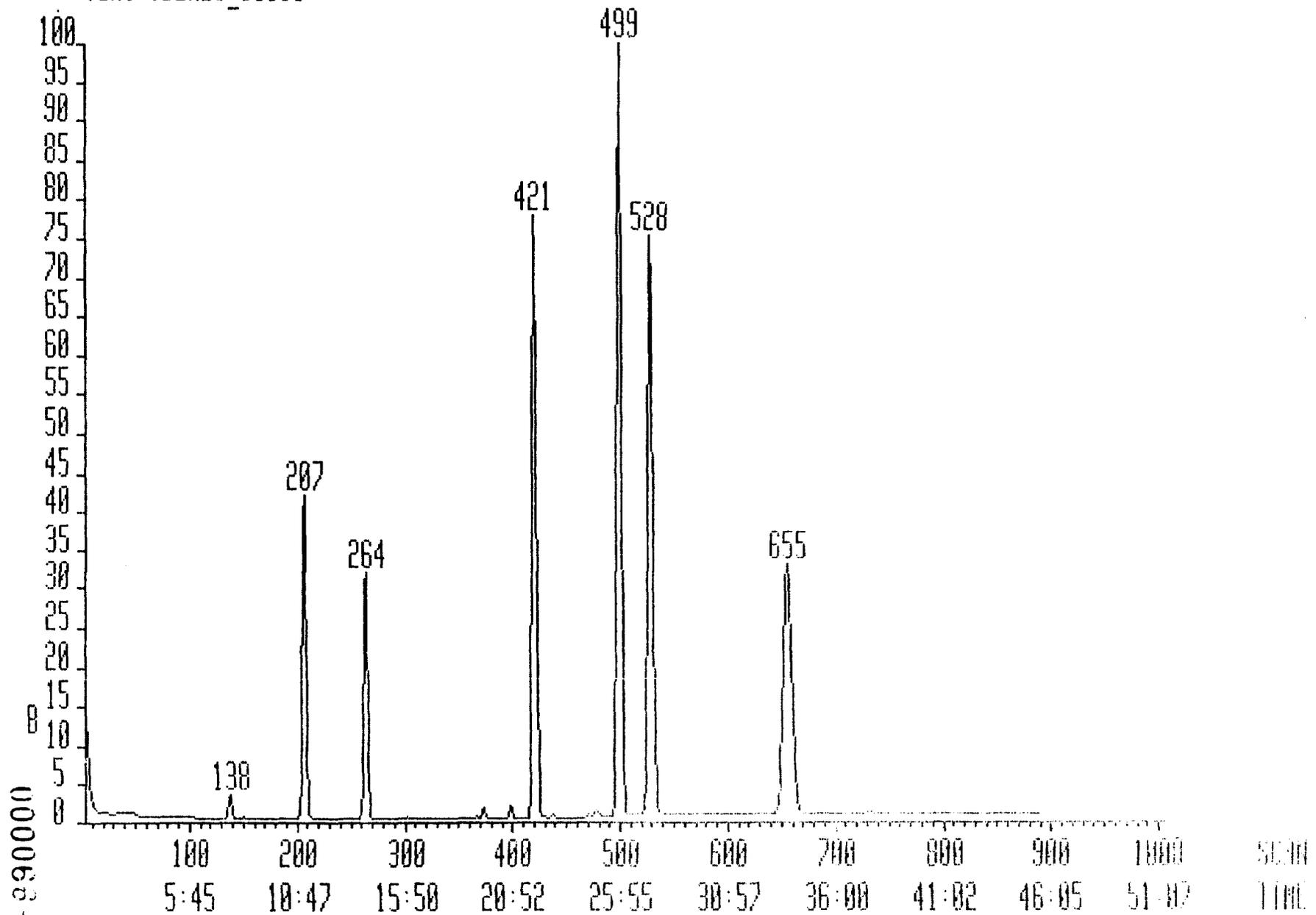
Sys:V0A91

IHP

Chromatogram Identifiers : 81:35:268

B: 55914000

Text:VBLK29\_00000



Datafile: LL2021 21-APR-92 15:24  
Database: VOA91G  
Library: VOA91

Instrument: VG#2  
Account:  
Text: VBLX29\_00000

QME  
4/23/92  
KO

No.	Rank	Spectrum Match	Scan Fit	Scan Diff	Peak Area	Flgs	Scan Found	Scan Pred	Quan m/z	Compound Name
1	100	93	99	0	12207000	bb	206	206	128	Bromochloromethane
2	98	87	99	1	19953000	bv	264	263	65	1,2-Dichloroethane-d4
3	53	3	99	2	36000	bb	22	20	50	Chloromethane
4	41	2	77	-2	38000	bb	49	51	94	Bromomethane
5			No	Trace	Found			70	62	Vinyl Chloride
6			No	Trace	Found			88	64	Chloroethane
7	94	85	98	3	1525000	bb	138	135	84	Methylene Chloride
8	78	51	99	2	340795	vv	151	149	43	Acetone
9	69	51	78	0	216000	bb	170	170	76	Carbon Disulfide
10	51	15	82	-1	26000	bb	195	196	96	1,1-Dichloroethene
11	56	15	91	-1	49000	bb	222	223	63	1,1-Dichloroethane
	38	0	90	-16	129000	bb	207			
	31	4	68	15	24000	bb	238			
12	80	52	98	0	83000	bb	238	238	96	1,2-Dichloroethene (to
13	60	38	84	6	136000	bb	251	245	83	Chloroform
14	38	26	45	0	271000	bb	266	266	62	1,2-Dichloroethane
15	53	0	99	0	294000	bb	263	263	43	2-Butanone
	43	5	84	-7	6000	bb	256			
	43	6	84	-9	25000	?b	254			
16	86	61	99	0	76624000	bv	420	420	114	1,4-Difluorobenzene
17	53	24	75	0	70000	bb	293	293	97	1,1,1-Trichloroethane
18	20	0	37	0	7000	bb	301	301	117	Carbon Tetrachloride
19			No	Trace	Found			285	1	
20	70	44	88	1	158000	bb	313	312	83	Bromodichloromethane
21	61	32	82	0	64000	bb	340	340	63	1,2-Dichloropropane
22	80	56	95	1	221000	bb	346	345	75	cis-1,3-Dichloropropen
23	83	56	99	0	108000	bb	356	356	130	Trichloroethene
24	65	25	99	1	242000	bb	372	371	129	Dibromochloromethane
25	79	49	99	0	281000	bb	374	374	97	1,1,2-Trichloroethane
26	73	53	85	1	350000	bb	367	366	78	Benzene
27	62	19	98	1	268000	bb	373	372	75	trans-1,3-dichloroprop
28			No	Trace	Found			367	1	
29	68	39	89	0	192000	bb	430	430	173	Bromoform
30	93	78	98	1	68088000	bv*	528	527	117	Chlorobenzene-d5
31	90	70	99	0	35152000	bv*	655	655	95	4-Bromofluorobenzene
32	84	63	94	0	84864000	bb	499	499	98	Toluene-d8
33	86	65	97	1	603462	vv	437	436	43	4-Methyl-2-Pentanone
34	81	55	99	1	397154	vb	470	469	43	2-Hexanone
35	59	20	92	1	42000	bb	476	475	164	Tetrachloroethene
36	81	52	99	0	747000	bb	479	479	83	1,1,2,2-Tetrachloroeth
37	58	11	97	0	356000	bb	504	504	91	Toluene
38	51	5	91	1	368000	bb	533	532	112	Chlorobenzene
39	46	11	79	-3	54000	bb	583	586	106	Ethylbenzene
40	52	14	83	0	251000	bb	695	695	104	Styrene
41	48	11	82	-3	44000	?b	701	704	106	m-Xylene
	44	11	77	-5	24000	b?	699			
42	49	15	82	-5	195000	bb	730	735	106	o-/p-Xylene
43			No	Trace	Found			0	-	

000067

1A  
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLK30

Lab Name: PACIFIC ANALYTICAL

Contract:

Lab Code: PACIF Case No.:

SAS No.:

SDG No.:

Matrix: (soil/water) **WATER**

Lab Sample ID: 00000

Sample wt/vol: 5.0(g/mL) ML

Lab File ID: LL3031

Level: (low/med) LOW

Date Received: **NA**

% Moisture: not dec. 0

Date Analyzed: 04/22/92

GC Column: 17SP1000 ID: 2 (mm)

Dilution Factor: 1.0

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg)ug/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	10	U
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	10	U
75-35-3	1,1-Dichloroethane	10	U
156-60-5	1,2-Dichloroethene (total)	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	10	U
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	10	U
10061-02-6	trans-1,3-dichloropropene	10	U
75-25-2	Bromoform	10	U
591-78-6	4-Methyl-2-Pentanone	10	U
108-10-1	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (total)	10	U

1E  
VOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

VBLK30

Lab Name: PACIFIC ANALYTICAL

Contract:

Lab Code: PACIF Case No.:

SAS No.:

SDG No.:

Matrix: (soil/water) WATER

Lab Sample ID: VBLK30

Sample wt/vol: 5.0(g/mL) mL

Lab File ID: LL3031

Level: (low/med) LOW

Date Received:

% Moisture: not dec. 0

Date Analyzed: 04/22/92

GC Column: 1%SP1000 ID: 2(mm)

Dilution Factor: 1.0

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

Number TICs found: 0

CONCENTRATION UNITS:  
(ug/L or ug/Kg)ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	G
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				
16.				
17.				
18.				
19.				
20.				
21.				
22.				
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				

LL3031 #5-827

22-APR-92 10:45 VG#2

(EI+)

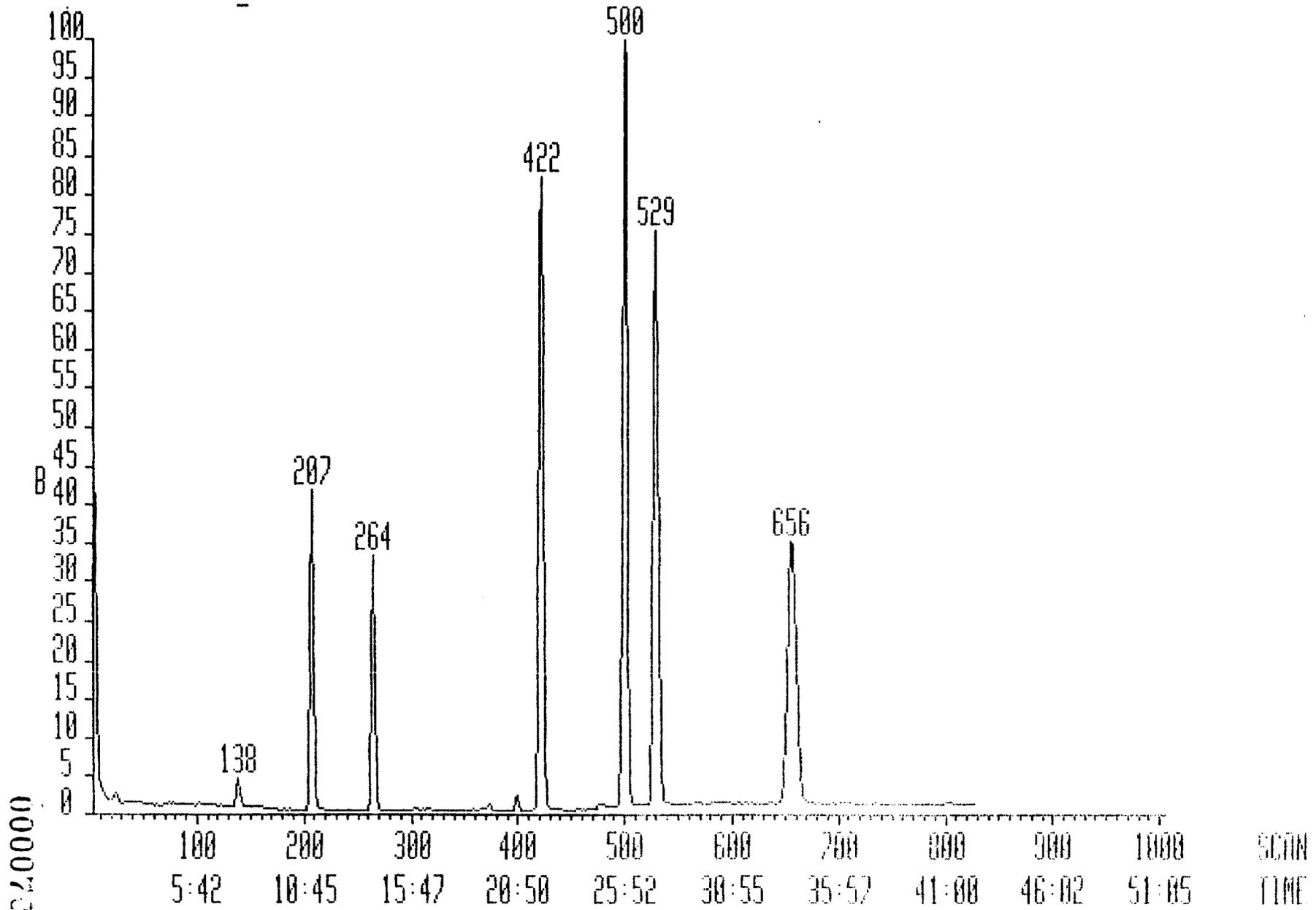
Sys:V0A91

IHP

Chromatogram Identifiers : B1:35:260

B: 53585000

Text:VBLK30\_00000



Datafile: IL3001 22-APR-92 10:45  
 Database: VDA911  
 Library: VDA91

Instrument: VG#2  
 Account:  
 Text: VBLX30\_00000

*QVVE*  
*4/23/92*

No.	Rank	Spectrum Match	Scan Fit	Scan Diff	Peak Area	Flgs	Scan Found	Scan Pred	Quan m/z	Compound Name		
1	100	92	99	0	11998000	bv	207	207	128	Bromochloromethane		
2	98	87	99	1	20803000	bv*	264	263	65	1,2-Dichloroethane-d4		
3	54	2	99	0	63000	vv	22	22	50	Chloromethane		
	46	0	90	-3	11000	b?	19					
	45	1	93	8	49000	?b	30					
4	49	4	90	2	50296	vv	50	48	94	Bromomethane		
	39	1	75	-3	2926	??	45					
	37	1	73	-5	3074	??	43					
5	30	1	94	1	16000	b?	68	67	62	Vinyl Chloride		
	48	1	95	5	10000	?b	72					
	40	0	91	13	3000	bb	80					
6	46	2	90	5	7000	?b	96	91	64	Chloroethane		
	45	2	85	3	3000	??	94					
	44	1	86	-5	7000	bb	86					
	90	73	98	1	1724000	bv	138	137	84	Methylene Chloride		
	13	20	99	-1	279000	bv*	151	152	43	Acetone		
	51	4	99	6	20727	??	158					
	49	3	99	8	32182	??	160					
9	70	40	94	2	452000	bv	171	169	76	Carbon Disulfide		
10	63	22	98	1	42000	bb	196	195	96	1,1-Dichloroethene		
11	52	7	91	1	46000	bb	224	223	63	1,1-Dichloroethane		
	43	0	99	-15	166000	bb	208					
	33	0	68	-8	3000	bb	215					
12	67	28	98	1	51000	bb	239	238	96	1,2-Dichloroethene (to		
13	72	37	99	1	99000	bb	252	251	83	Chloroform		
14	33	22	41	1	133000	bb	267	266	62	1,2-Dichloroethane		
15	52	0	98	1	93568	vv	263	262	43	2-Butanone		
	51	9	95	-6	8270	??	256					
	42	4	84	-9	8800	??	253					
16	83	59	99	1	73313010	bv*	422	421	114	1,4-Difluorobenzene		
17	44	9	75	-1	34000	bb	293	294	97	1,1,1-Trichloroethane		
	24	1	51	11	8000	bb	305					
	17	1	36	9	4000	bb	303					
18	35	3	63	0	18000	bb	302	302	117	Carbon Tetrachloride		
	24	2	45	-2	4000	b?	300					
19	----- No Trace Found -----								285	1		
20	51	13	82	0	88000	bb	314	314	83	Bromodichloromethane		
21	60	28	85	1	53000	bb	342	341	63	1,2-Dichloropropane		
22	73	38	98	0	104000	bb	347	347	75	cis-1,3-Dichloropropen		
23	67	26	99	0	49000	bb	358	358	130	Trichloroethene		
24	59	12	99	0	86000	bb	373	373	129	Dibromochloromethane		
25	66	28	96	0	88000	bb	375	375	97	1,1,2-Trichloroethane		
26	75	44	97	0	283000	bb	368	368	78	Benzene		
27	58	11	98	0	105000	bb	374	374	75	trans-1,3-dichloroprop		
28	----- No Trace Found -----								367	1		
29	56	16	89	0	55000	bb	431	431	173	Bromoform		
30	94	77	98	0	64253000	bv	529	529	117	Chlorobenzene-d5		
31	88	68	99	-1	35490760	vv	656	657	95	4-Bromofluorobenzene		
32	83	63	94	-1	82254460	bv	500	501	98	Toluene-d8		

000071

33	71	34	98	0	118000	vv	438	438	43	4-Methyl-2-Pentanone	
	50	18	32	8	8667	??	443				
	47	17	32	9	1909	??	447				
34	57	33	93	0	59640	v??	471	471	43	2-Hexanone (L303)	
	53	24	34	6	85280	??	477				
	51	23	38	11	6667	??	482				
35	50	9	32	1	23000	bb	478	477	164	Tetrachloroethene	
36	50	20	39	-1	235000	bb	480	481	83	1,1,2,2-Tetrachloroeth	
	41	3	73	3	3000	bb	486				
	37	2	76	3	4000	bb	489				
37	54	3	70	0	287000	bb	505	505	91	Toluene	
38	44	3	31	1	309000	bb	534	533	112	Chlorobenzene	
39	52	9	39	0	47000	bb	585	585	106	Ethylbenzene	
40	49	10	34	2	74000	?b	697	695	104	Styrene	
	49	9	32	0	159000	bb	695				
	29	3	62	12	6000	bb	707				
41	44	6	77	0	18000	?b	704	704	106	m-Xylene	
	44	8	77	-3	33000	b?	701				
	37	5	67	3	5000	bb	707				
42	52	11	87	0	64000	?b	732	732	106	o-/p-Xylene	
	51	11	86	-2	62000	b?	730				
	50	10	86	2	34000	?b	734				
43	----- No Trace Found -----							0	-		