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15 July 1998

Mr. Mark Johnson
California Regional Water Quality Control Board
San Francisco Bay Region
2101 Webster Street, Suite 500
Oakland, California 94612

Subject: Comments on Levine-Fricke-Recon Current Conditions Report the Sherwin-Williams Facility 1450 Sherwin Avenue, Emeryville, California (EKI 970001.85)

Dear Mr. Johnson:

Erler & Kalinowski, Inc. ("EKI") has prepared the following comments on Levine-Fricke-Recon's ("LFR") *Current Conditions Report for the Sherwin-Williams Facility, 1450 Sherwin Avenue* ("SW Facility"), *Emeryville, California* ("CCR"), dated 19 June 1998. The CCR was prepared by LFR on behalf of The Sherwin-Williams Company ("SW") pursuant to Cleanup and Abatement Order No. 98-009 issued by the Regional Water Quality Control Board ("RWQCB") on 18 February 1998 ("RWQCB Order") (RWQCB, 1998a). These comments have been prepared on behalf of Chiron Corporation ("Chiron").

The intent of providing you with these comments is to facilitate efforts to obtain and evaluate all available, relevant information and to focus all future investigative and remedial efforts on the development of a comprehensive and complete remedial plan.

A. GENERAL COMMENTS

The following is a summary of general comments regarding the CCR. Specific examples and issues identified in these general comments are discussed in Section B.

1. The primary objectives of the CCR and remedial investigation at the SW Facility as stated in the CCR are inconsistent with the RWQCB Order and should be modified accordingly.

2. The CCR does not provide a complete and sufficiently detailed "inventory of chemicals used at the Facility and an identification of all pollution sources at the facility" as required by the RWQCB Order. For example, The CCR describes numerous manufacturing processes conducted at the SW Facility; however, the

CCR does not identify the locations of these processes. Also, the CCR only identifies selected constituents of chemicals of concern used at the SW Facility.

3. The CCR only summarizes chemical use information, and does not provide references for, or include copies of, raw documents that form the basis for these summaries. All information and data in the report should be verifiable as mistakes can be made and/or data differently interpreted.

4. The CCR only evaluates conduits based on their current potential to vertically and/or laterally transport impacted groundwater at the SW Facility. The CCR should also identify any conduits where historic releases may, or are known to, have occurred. The flow directions and ultimate discharge locations of these conduits should also be described.

5. The CCR provides no assessment of potential historic chemical migration pathways (e.g., dust from incineration, transportation of raw materials to and from the SW Facility, spills and/or leaks into identified conduits). In addition, no information is provided regarding potential off-site manufacturing or storage locations where chemicals from the SW Facility may have been handled (e.g., buildings that may have been formerly leased or owned by SW in association with operations at the SW Facility).

6. The CCR identifies an 18-inch diameter storm drain along the Southern Pacific Railroad ("SPRR") tracks immediately west of the SW slurry wall. Water level data obtained by SW in December 1997 and February 1998 indicate that this storm drain pipeline is acting as a preferential pathway for groundwater flow toward the Temescal Creek Culvert (see Attachment A hereto) (LFR, 1998a,b). Given elevated concentrations of arsenic that exist outside of the slurry wall (see Figure 4-32 of CCR), consideration should be given to sampling and chemical analysis of water in this storm drain to assess potential chemical discharges to the Temescal Creek Culvert. Consideration should also be given to adding regular sampling and analysis of water from this storm drain to the self monitoring program for the SW Site.

7. Chemical distribution figures in the CCR (a) do not provide sample identification numbers or chemical concentration data; and (b) often present multiple chemicals of concern with variable risk levels on the same figure (e.g., chlorinated and non-chlorinated solvents). The absence of sample identification numbers and independent chemical concentration data make information presented on these figures very difficult to verify (i.e., requires cross checking between multiple tables and figures provided in the CCR). As indicated previously, all data in the

report should be easily verifiable because (a) mistakes can be made, and (b) raw data can be interpreted differently. Review of selected data from the former Rifkin Property and the South BGR Property identified several errors on these figures (see Comment 5 in Section B.4). In addition, the absence of actual chemical data and the combination of different chemicals of concern on the same figure can lead to incorrect conclusions regarding the likely source and lateral extent of chemicals detected. For example, Figure 4-35 provides no distinction between groundwater sampling locations where VOCs were identified at 1 mg/L, 10 mg/L, 100 mg/L or 1,000 mg/L; therefore, VOC source locations and the magnitude of VOC impacts to groundwater are difficult to identify. In addition, numerous VOCs have been combined on Figure 4-35, which makes the lateral extent of independent VOC compound migration difficult to assess.

Figures in the CCR should be modified to include sample identification numbers and concentration data for individual chemicals of concern. These data are needed to (a) assess the need for additional investigations; (b) identify the lateral and vertical extent of chemicals of concern; and (c) identify likely source locations and potential human health and environmental risks associated with chemicals of concern released at the SW Facility.

8. A significant portion of the CCR addresses historical site use and potential chemical releases at off-site properties. Much of this information has been discussed in combination with data related to releases from the SW Facility in Section 4 of the CCR. The combination and quantity of data presented in relation to releases at other sites often overshadows information related to the SW Facility. The CCR should clearly identify impacts related to releases from the SW Facility and, to the degree possible, segregate discussions regarding potential chemical releases at other sites to separate chapters or appendices. At a minimum, separate headings should be provided within Section 4 of the CCR to identify discussions related to releases at other facilities.

9. Efforts to obtain historical information should be described, including actions taken to locate archived documents, review of agency files, and interview of past employees.

B. SPECIFIC COMMENTS

These comments address specific issues identified in each section of the CCR and its associated tables and figures.

B.1 **Comments Regarding Current Conditions Report: *Section 1.0 Introduction***

1. Page 1-1, paragraph 2. The CCR states that the primary objective of the remedial investigation at the SW Facility is to "gather information sufficient to support an informed risk management decision regarding which remedy is most appropriate to address chemical conditions at the Facility."

   This objective is not the objective of remedial investigation identified in the RWQCB Order, Provision 8 (Completion of the Remedial Investigation of RWQCB Order), which states that the purpose of the remedial investigation at the SW Site is to "define the vertical and lateral extent of soil and groundwater pollution emanating from the site down to concentrations at or below the Preliminary Remediation Goals set forth in this Order or as deemed acceptable by the Executive Officer". The "primary objective" of the RI identified on Page 1-1 of the CCR should be modified to be consistent with the RWQCB Order.

2. Page 1-1, paragraph 3. The CCR states "... the Current Conditions Report was proposed to provide all interested parties with a comprehensive report that illustrates the considerable investigative effort expended and conclusions reached by Sherwin Williams to date."

   This purpose is not the purpose of the CCR identified in the RWQCB Order. The purpose of the CCR as stated in the RWQCB Order is to:

   (a) "...[document] completion of the tasks relating to the evaluation of the current site conditions and completion of an evaluation of human made conduits identified in the 'Workplan', submitted pursuant to Cleanup and Abatement Order 97-047 (June 2, 1997, with amendments and Clarifications, dated September 10, 1997)";

   (b) "compile data collected in previous investigations to provide a comprehensive summary of all investigation work completed to date";

   (c) "inventory chemicals used on the SW Site (by name and volume) and identify all pollution sources on the SW Site, including chemical storage areas, sumps, underground tanks, utility lines, process lines, and related facilities";

(d) "identify surface and subsurface human-made conduits at the SW Site that may allow contaminants to migrate laterally off site or vertically into deeper aquifers"; and

(e) "modify and/or add to the investigation identified in LFR's *Workplan for Site Investigation*, dated 2 June 1997, based on the findings (this portion has not yet been completed)."

The "objective" of the CCR identified on Page 1-1 of the CCR should be modified to be consistent with the RWQCB Order. Any other objectives of the CCR identified by SW are supplemental in nature and should be stated as such.

B.2 Comments Regarding Current Conditions Report: *Section 2.0 Site and Chemical Use History*

1. Page 2-1, paragraph 5. The CCR states that the "Organic solvents that may have been used periodically in product formulations or for cleaning purposes at the Facility included: xylenes, toluene, ...". Pursuant to the RWQCB Order, the CCR should not only identify what "organic solvents included" but what organic solvents consisted of. Similar statements regarding components of chemicals used at the SW Facility are made in the CCR on: Page 2-2, paragraph 1; Page 2-3, paragraph 2; Page 2-3, paragraph 4; Page 2-4, paragraph 1; Page 2-5, paragraph 1; and Page 2-5, paragraph 2. These statements should be modified to identify all individual chemicals used at the SW Facility. In addition, the CCR identifies the use of different classes of compounds such as defoamers, bactericides, and fungicides at the SW Facility. Specific chemicals that were used should be identified.

2. Page 2-2, paragraph 2. The CCR states "dry materials were brought to the manufacturing floor from the storage area." The location and method of transfer from the "storage area", if known, should be identified.

3. Page 2-2, paragraph 3. The CCR states "Additional solvents, pigments, or additives may have been added at this point if required." The basis for this statement should be identified and the chemical components of the additional substances specified.

4. Page 2-2, paragraph 4. The CCR states that "some filters... were cleaned off by soaking in solvent. The spent wash solvent was pumped into a dirty solvent

collection tank..." The type of solvent should be specified and the location of the solvent tank identified.

5. Page 2-2 paragraph 4. The CCR states that "the product [paint] was packaged in 5-gallon pails and 55-gallon drums. Due to the large volumes of resins required in the manufacturing process, resins were delivered through a pipeline from storage tanks to the manufacturing floors...Solvents and water were both generally delivered through a pipeline from the storage tanks". Any available information regarding tanks or pipeline leaks, and pressure testing of tanks should be provided. The CCR should also evaluate the impacts of any known spills, leaks, or discharges. For example, the SW Facility reportedly had a tank farm catch fire (page 2-10 of CCR). The CCR should evaluate this incident and other incidents that may have resulted in chemical releases to the subsurface or any identified conduits.

6. Page 2-3, paragraph 2. The CCR states that "The solvent that was used varies...". A list of specific solvents used, if available, should be provided.

7. Page 2-3, paragraph 5. Section 2.1.3 of the CCR, which describes the Lead-Arsenate Pesticide Manufacturing at the SW Facility is very limited (i.e., seven lines long) and is inadequate. Copes of all available information regarding this process should be provided and the following questions should be addressed: Was the process ever changed or improved? Were any other substances ever used or substituted? How and where were lead hydroxide, acetic acid and arsenic acid delivered to the SW Facility? What were the waste streams generated by this process and how were they managed? Where was the powder product stored? What was the incinerator used for and where was the incinerator ash disposed of?

8. Page 2-6, paragraph 5. The CCR states that "the primary area for production and storage of lead-arsenate pesticides and its constituents is the northeastern corner of the Facility". The CCR should identify any other areas, besides the "primary area," that may have been used for production and storage of lead-arsenate pesticides.

9. Pages 2-2 through 2-6. The CCR describes numerous manufacturing processes conducted at the Site, however the locations where these processes were completed are not indicated on any figure. The CCR should include a figure that identifies the locations of all processes performed at the SW Facility. The location of above-ground and below-ground process piping should also be presented.

10. Pages 2-6 through 2-9 and Tables 2-1 through 2-9. The CCR identifies uses of buildings and storage tanks located at the SW Facility in 1929, 1956, and 1973. The sources of this information should be referenced and the raw data included as an appendix to the CCR. Any additional information regarding variations in tank storage during other years and annual throughputs of chemicals stored at the SW Facility should also be provided.

11. Pages 2-6 through 2-9. The CCR appears to present estimates of chemical storage volumes based on the capacity of on-site storage tanks. Any available information regarding monthly or annual volumes of chemicals used should also be provided. A copy of a document entitled "Toxic Materials", which was obtained by Chiron from Sherwin-Williams is included as Attachment B. A copy of a letter from Sherwin-Williams to the Bay Area Air Pollution Control District, dated 4 November 1977, is included as Attachment C. Both of these documents appear to contain information about monthly chemical consumption at the SW Facility. The information contained in Attachment B, Attachment C, and any other such records should be incorporated in the CCR.

12. Page 2-12, paragraph 4. The CCR states that the South BGR property was occupied by Western Electric and Pacific Telephone and Telegraph in 1929. Western Electric and Pacific Telephone occupied the North BGR and Chapman properties in 1929; however, Western Electric and Pacific Telephone did not occupy the South BGR Property (Sanborn, 1929). The text should be modified to reflect this information.

13. Section 2. The CCR does not provide any information regarding potential leasing or ownership of other buildings that may have been associated with operations at the SW Facility. Any information regarding such operations should be provided.

14. Section 2. Excerpts from "Economic Poisons" reports issued by the California Department of Agriculture for the years 1920-1921, 1930-1931, 1939, 1947-1948, 1949-1950, and 1950-1951 are included as Attachment D. These "Economic Poisons" reports indicate that SW may have manufactured, stored, or otherwise handled a variety of pesticides in addition to lead-arsenate. The information in these reports should be incorporated into the CCR. Copies of these and other reports are available at the California Department of Pesticide Regulation in Sacramento, California.

15. Section 2. A copy of a Sherwin-Williams employee's notes from a meeting on 28 August 1990 with representatives of Levine-Fricke is included as Attachment E. The history of the SW Facility was apparently discussed at this

meeting. These notes include a reference to "products of DDT (no documentation)". The CCR should confirm whether or not DDT was historically, manufactured, used, or handled at the SW Site. If DDT was manufactured or used at the SW Facility, the CCR should indicate the portions of the SW Site on which DDT is known to have been used.

16. Section 2. According to an inter-office letter, dated 10 December 1971, the Sherwin-Williams Cleveland office requested that Sherwin-Williams employees fill out an "Environmental Survey" for the SW Facility. A copy of inter-office letter and Environmental Survey form is included as Attachment F. The Environmental Survey form contains a number of questions related to processes that generated emissions and wastes. The CCR should incorporate information from, and include copies of, all completed Environmental Surveys.

17. Section 2. Mercury and other toxic substances were once used as paint additives by the paint industry. The CCR should confirm whether or not mercury and other toxic substances were historically used or handled at the SW Facility. If these substances were used at the SW Facility, the CCR should describe the portions of the SW Facility on which these substances are known to have been used.

18. Section 2. The CCR should indicate whether any herbicides, insecticides, or wastes associated with such materials were manufactured at the SW Facility.

B.3 Comments Regarding Current Conditions Report: *Section 3.0 Identification and Evaluation of Human-Made Conduits*

1. Pages 3-1 through 3-13. Maps and other information sources used by LFR to evaluate locations and depths of lateral conduits at the SW Site should be referenced in the text and on figures included in the CCR. Copies of this information should also be included in CCR appendices.

2. Pages 3-1 through 3-13. The CCR only evaluates conduits based on their current potential to vertically and/or laterally transport impacted groundwater at the SW Facility. The CCR should also identify any conduits where chemical discharges may historically have occurred. A copy of a violation notice from the East Bay Municipal Utility District ("EBMUD"), dated 6 June 1995, is included as Attachment G. This violation notice identifies a release of arsenic-impacted groundwater to a sanitary sewer lateral from the SW Facility. Arsenic was detected at a concentration of 3.53 mg/L in a sample collected by EBMUD representatives during an inspection of the SW Facility on 30 March 1995. This lateral connected to the main sanitary sewer line that extends under Horton Street.

This incident and any corrective actions taken by SW should be described in the CCR. Any other known or potential chemical releases to utility pipelines should also be described. All conduits that may have historically transported chemicals of concern should be rated as Category I lateral conduits.

The CCR should also specify flow directions and ultimate discharge locations of any conduits where chemical releases may have occurred. These data are needed to assess the potential for releases along (e.g., at potential cracks) and at the end of these lines. For example, elevated concentrations of arsenic were identified by SW at monitoring well LF-28, which is located adjacent to the sanitary sewer line that runs from south to north along Horton Street. LF-28 is located downstream of the identified arsenic release by SW in March 1995 (see Attachment G). Elevated concentrations of arsenic detected at LF-28 location have been linked by LFR to concentrations of arsenic detected in groundwater on the South BGR Property (Figure 4-32 of CCR). However, arsenic concentrations detected at LF-28 (i.e., 0.66 mg/l) were greater than concentrations detected at potentially upgradient locations on the South BGR Property (i.e., up to 0.11 mg/l) and could be related to releases along or into the sanitary sewer line by SW.

3. Pages 3-1 through 3-13. The CCR does not address issues related to continuing infiltration of water to the area encompassed by the SW slurry wall. The CCR should assess each conduit's potential to supply water into the slurry wall area (see RWQCB comments, dated 8 July 1998, regarding the IRM Evaluation Report for the SW Facility).

4. Page 3-2, paragraph 1. The CCR states that "the evaluation of vertical conduits was performed to ensure no preferential pathways exist from the A-zone to the B-zone groundwater." Given that vertical conduits may extend below the depth of the B-zone, this statement should be modified as follows: the evaluation of vertical conduits was performed to ensure no preferential pathways exist from the A-zone to <u>deeper</u> groundwater zones."

5. Page 3-2 and Page 3-3. The CCR assesses the potential of identified wells that are greater than 25 feet deep to act as vertical conduits based on the "depth of the well", "age of the well", and "use of well". It is unclear why the "depth of the well" has been used as a criteria to assess the likelihood of a well to act as a vertical conduit to deeper zones. Given that wells only greater than 25 feet have been addressed, the well's likelihood to act as a vertical conduit should be independent of the well's depth.

6. Page 3-5, paragraph 6. The CCR categorizes "old Temescal Creek" (i.e., the Temescal Creek Overflow) and "improved Temescal Creek" (i.e., the Temescal Creek Culvert) as Category III vertical conduits because they do not extend through the A/B-aquitard. However, it should be noted that sediments beneath the historic channel of Temescal Creek may be incised and act as preferential chemical migration pathways to the B-aquifer zone. The depth of permeable sediments in the vicinity of the Temescal Creek Overflow and Temescal Creek Culver should be assessed.

7. Page 3-5, paragraph 3. The CCR categorizes former monitoring well LF-B2 as Category II vertical conduit. However, given that monitoring well LF-B2 is (a) located in an area where elevated chemical concentrations exist in A-aquifer zone, and (b) may have been damaged during construction activities at the SW Facility, further consideration should be given to classify this well as a Category I vertical conduit. Monitoring well LF-B2 should be located and properly abandoned, in accordance with Alameda County Zone 7 and California Department of Water Resources standards. Assuming monitoring wells at the SW Site have been horizontally surveyed, locating this well should not be difficult. If horizontal well survey data does not exist, alternative methods for locating this well should be employed and all remaining SW monitoring wells should be horizontally surveyed to prevent additional wells from being "lost" in the future.

8. Page 3-6, paragraph 4. The CCR states that "the criteria for evaluating potential lateral conduits included the relative depth of the utility to the groundwater level... Depth to groundwater is assumed to be that presented in the current site conditions. The depth to the A-zone groundwater outside the bentonite-slurry wall is assumed to be approximately 6 to 12 feet bgs...".

   Data presented in Table 1 of the CCR indicate that depth to groundwater measured in SW monitoring wells outside the slurry wall was as little as 3.68 feet bgs at piezometer LFPZ-12 and was less than 6 feet bgs in 14 out of 29 wells monitored. The text on page 3-6, paragraph 4 should be modified to reflect these data, and conduits more than 3.68 feet bgs should be evaluated as potential pathways for preferential groundwater migration within the A-zone.

9. Page 3-10, paragraph 2. The CCR classifies the 18-inch diameter storm drain pipeline located along the SPRR tracks west of the SW Site as a Category II lateral conduit. However, (a) this conduit is located immediately west of the SW slurry wall where elevated concentrations of COCs exist, and (b) recent water level data obtained by SW in December 1997 and February 1998 indicate that this storm drain pipeline is acting as a preferential pathway for groundwater flow (see

Attachment A hereto). Therefore, consideration should be given to rating this pipeline as a Category I conduit and water samples from this storm drain pipeline should be collected to monitor potential COC concentrations being discharged to the Temescal Creek Culvert. Regular sampling of this storm drain should also be added to the SW self monitoring program. Water level information in existing and future quarterly monitoring reports should also be reviewed to assess potential impacts to groundwater flow of other identified conduits.

9. Section 3. Building 35 contains an elevator. The potential presence of a hydraulic shaft associated with this elevator, and the presence of hydraulic shafts associated with any other existing or historic elevators at the SW Site, should be evaluated as potential vertical conduits to deeper zones.

11. Section 3. Copies of several utility drawings obtained by Chiron are included in Attachment H. Information regarding utilities and other lateral conduits depicted on these drawings should be included the CCR. Information depicted on available Sanborn Fire Insurance Maps should also be included.

12. Figures 3-4 through 3-9. All Information presented on these figures should be referenced.

B.4 <u>Comments Regarding Current Conditions Report Section 4.0 *Current Conditions*</u>

1. Pages 4-24 through 4-29. The CCR summarizes the status of Interim Remedial Measures ("IRMs") implemented at the SW Facility. These paragraphs should be modified to incorporate comments by the RWQCB, dated 8 July 1998, regarding the LFR IRM Evaluation Report (RWQCB, 1998b).

2. Figures 4-16 though 4-47. Soil and groundwater chemical distribution figures in the CCR do not provide sample identification numbers. The absence of sample identification numbers on these figures make the data very difficult to verify. As indicated previously, all data in the report should be easily verifiable as mistakes can easily be made and raw data interpreted differently. EKI's review of selected data from the former Rifkin Property presented on these figures indicates that errors exist (see Comment 5 in Section B.4). Therefore, sample identification numbers should be added to each figure so all data can be more <u>easily</u> and independently verified.

3. Figures 4-16 though 4-47. Soil and groundwater chemical distribution figures in the CCR do not present specific chemical concentration data and often combine

multiple chemicals of concern with variable risk levels (e.g., chlorinated and non-chlorinated solvents) on the same figure. The absence of actual chemical data and the combination of different chemicals of concern on the same figure can lead to incorrect conclusions regarding the likely source and lateral extent of chemicals detected. For example, Figure 4-35 provides no distinction between groundwater sampling locations where VOCs were identified at 1 mg/L, 10 mg/L, 100 mg/L or 1,000 mg/L; therefore, VOC source locations and the magnitude of VOC impacts to groundwater are difficult to identify. In addition, numerous VOCs have been combined on Figure 4-35, which makes the lateral extent of independent VOC compound migration difficult to assess.

4. Figure 4-33 and Table 4-14. Figure 4-33 of the CCR, which depicts the distribution of lead in A-zone groundwater, implies that potentially elevated concentrations of lead (i.e., between 0.1 and 1 mg/l) were detected on the southern portion of the former Rifkin Property at well RP-4 on 29 March 1995. The data on this figure are inconsistent with analytical results reported by TMC Environmental, Inc. ("TMC") for groundwater samples collected from RP-4 on 29 March 1995 in which not lead was detected. In addition, lead and other metal concentrations presented in Table 4-4 of the CCR are inconsistent with analytical results reported by TMC for groundwater samples collected on 29 March 1995 from monitoring wells RP-1 through RP-5 (TMC, 1995). If data presented in the CCR have been obtained from a different source, the source should be referenced and TMC's 29 March 1995 results added to the CCR for completeness.

5. Figure 4-35. Figure 4-35, which depicts the distribution of total VOCs (not including BTEX) in A-zone groundwater, contains numerous errors and presents information which leads to inaccurate conclusions regarding potential sources and extent of VOCs on the former Rifkin property and the South BGR property. Only data from the former Rifkin property and South BGR property, with which EKI is very familiar, have been spot checked. Other similar data errors and inaccuracies may exist on this and other figures of the CCR. All data should be rechecked and verified prior to finalizing the CCR.

   Sections 5.1 through 5.3 summarize errors and inaccuracies identified on Figure 4-35.

   5.1 Figure 4-35 implies that a "VOC" plume extends from the southern portion of the former Rifkin Property (i.e., near Horton Street) to the west across the former Rifkin property. This plume appears to originate at former temporary well location OB-1 and migrate toward grab groundwater sampling location 4563A. However, "VOCs" detected in

groundwater at former temporary well OB-1 in 15 December 1994 consisted of acetone, 2-butanone, and 4-methyl-2-pentanone, whereas, VOCs detected at grab groundwater sampling location 4563A consisted of TCE and 1,2-dichloropropane ("1,2-DCP"). Therefore, any implication that a continuous VOC plume originates at OB-1 and extends to 4563A is misleading. In addition, grab groundwater sample 4563A on figure 4-35 has been incorrectly located over 100 feet south of its actual location. Grab groundwater sample 4563A is located between the Temescal Creek Overflow and the Temescal Creek Culvert, which runs along 53rd Street. The direction of groundwater flow between these two culverts has not been investigated, however, available data indicate that it may be isolated from groundwater south of the overflow (PG&E, 1994). Finally, numerous groundwater samples have been collected from monitoring wells located immediately adjacent to OB-1 since non-chlorinated VOCs were detected at OB-1 in 1994 (i.e., at OB-2, MW-1 and MW-2). None of the VOCs detected at OB-1 in 1994 have been detected in any samples collected from OB-2, MW-1 or MW-2. Therefore, VOCs detected in groundwater at OB-1 in 1994, appear, at a minimum, to be limited in extent.

Based on these data, any implication that a "VOC" plume extends from temporary well location OB-1 and migrates toward grab groundwater sampling location 4563A are inaccurate and should be removed from the CCR.

5.2 Figure 4-35 indicates that VOCs are generally present in groundwater in the A-aquifer zone across the entire extent of the former Rifkin Property. However, review of data indicates that VOCs were <u>not detected</u> at the following sampling locations: SB-4, RP-2, RP-3, SB-2, SB-3 and RP-5, which are located in the central portion of the former Rifkin Property. These locations are clearly identified within the extent of the "0.01 and 0.1 ppm VOC plume" on Figure 4-35. Although detection limits for selected COCs at these locations exceed 0.01 mg/l (i.e., 0.02 mg/l to 0.1 mg/l), including these locations within the "0.01 and 0.1 ppm VOC plume" is misleading. This figure should be modified to accurately reflect VOC concentrations <u>detected</u> at each sampling location or, at a minimum, "assumed" concentrations should be identified.

5.3 Figure 4-35 indicates that a VOC plume containing concentrations greater than 1.0 mg/l extends across the northern portion of the south BGR property toward the Temescal Creek Culvert. The plume appears to be based on two points (i.e., SBGR-15 and CPT-5 where total VOC concentrations of 1.75 mg/l and 0.9 mg/l were, respectively, detected). The extent of this VOC plume omits additional data collected by EKI on 53rd Street north of SBGR-15 (i.e., CPT-9 and CPT-10) (EKI, 1993). Concentrations of VOCs detected at these locations were less than 0.005 mg/l. These data should be added to figure 4-35 and the extent of the VOC plume should be modified to reflect VOC concentrations detected.

6. Figure 4-36. Figure 4-36, which depicts the distribution of trichloroethene ("TCE") in A-zone groundwater, implies that a plume of TCE extends from grab groundwater sampling location 4563A toward the Temescal Creek Culvert. As discussed in Comment 5.1 of Section B.4 above, grab groundwater sampling location 4563A has been incorrectly located on figure 4-36 and on all other figures of the CCR. This grab groundwater sample is located north of the Temescal Creek Overflow. The location of this sample and the presumed distribution of TCE presented on Figure 4-36 should be corrected.

7. Tables 4-14 and 4-15 and Figures 4-32, 4-33, 4-40, and 4-41. These tables and figures of the CCR summarize metal concentrations detected in groundwater at the SW Site. These tables and figures should specify which groundwater samples were filtered prior to analysis.

8. Appendix C. Hydrographs presented in Appendix C of the CCR indicate that water levels inside the SW slurry wall generally increased between 1 to 3 feet between September 1997 and February 1998. These data indicate that water levels in February 1998 at numerous wells are within 2 feet of the ground surface and are above the top of the slurry wall, which only extends to 3 feet bgs. The potential for water to spill over the top of the slurry wall should be addressed.

9. Appendix C. Hydrographs presented in Appendix C of the CCR also indicate that water levels near monitoring well LF-26 increased by over 5 feet between December 1997 and February 1998. This dramatic increase in water levels at well LF-26 may be the result of migration of groundwater along conduits within the SW slurry wall and should be addressed in the CCR.

If you have any questions, please call me.

Very truly yours,

ERLER & KALINOWSKI, INC.

Vera H. Nelson

Vera H. Nelson
Project Manager, P.E.

cc: Ric Notini (Chiron)
Barbara Cook (Department of Toxic Substances Control)
Susan Hugo (Alameda County Department of Environmental Health)
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Paul Caleo, Esq. (Lawson and Burnham)
Robert Cave (Bay Area Air Quality Management District)
Peggy Peischl (Treadwell & Rollo)
Winifred Curley (Entrix)
Mark Knox (Levine-Fricke-Recon)

ATTACHMENTS:

A. A-Zone Groundwater Elevation Maps for December 1997 and February 1998 by Levine-Fricke-Recon.

B. Letter from Sherwin-Williams to the Bay Area Pollution Control District, dated 4 November 1977, regarding the solvent inventory file for the Sherwin-Williams Facility.

C. Document entitled "Toxic Materials", which was obtained by Chiron from Sherwin-Williams.

D. Excerpts from "Economic Poisons" reports issued by the California Department of Agriculture for the years 1920-1921, 1930-1931, 1939, 1947-1948, 1949-1950, and 1950-1951

E. A Sherwin-Williams employee's notes from a meeting on 28 August 1990 with representatives of Levine-Fricke

F. Inter-office letter, dated 10 December 1971, in which the Sherwin-Williams Cleveland office requested that Sherwin-Williams employees at the Emeryville facility fill out an "Environmental Survey".

G. Violation Notice from the East Bay Municipal Utility District ("EBMUD"), dated 6 June 1995, for the Sherwin-Williams Facility

H. Utility drawings for the Sherwin-Williams Facility

REFERENCES:

EKI, 1993: Erler & Kalinowski, Inc., 8 September 1993, *Preliminary Site Characterization Report, Chiron Corporation, Emeryville, California, Volumes I and II.*

LFR, 1998a: Levine-Fricke-Recon, 17 February 1998, *Combined Quarterly Groundwater Monitoring Report for October 1 to December 31, 1997, The Sherwin-Williams Facility, Emeryville, California and a Portion of the Rifkin Property, 4525-4563 Horton Street, Emeryville, California.*

LFR, 1998b: Levine-Fricke-Recon, 30 April 1998, *Quarterly Groundwater Monitoring Report for January 1 to March 31, 1998, Site Cleanup Requirements (SCR) Order No. 98-009, The Sherwin-Williams Facility, Emeryville, California.*

LFR, 1998c: Levine-Fricke-Recon, 19 June 1998, *Current Conditions Report, Sherwin-Williams Facility, Emeryville, California.*

PG&E, 1994: Pacific Gas & Electric Company, 11 May 1994, *Soil and Groundwater Investigation at the Emeryville Materials Facility, Former Aboveground Transformer Oil Storage Tank Area, Emeryville, California.*

RWQCB, 1997: Regional Water Quality Control Board, 7 April 1997, *Cleanup and Abatement Order No. 97-047.*

RWQCB, 1998a: Regional Water Quality Control Board, 18 February 1998, *Order No. 98-009, Adopted New Site Cleanup Requirements for the Sherwin-Williams Company, 1450 Sherwin Avenue, Emeryville, Alameda County.*

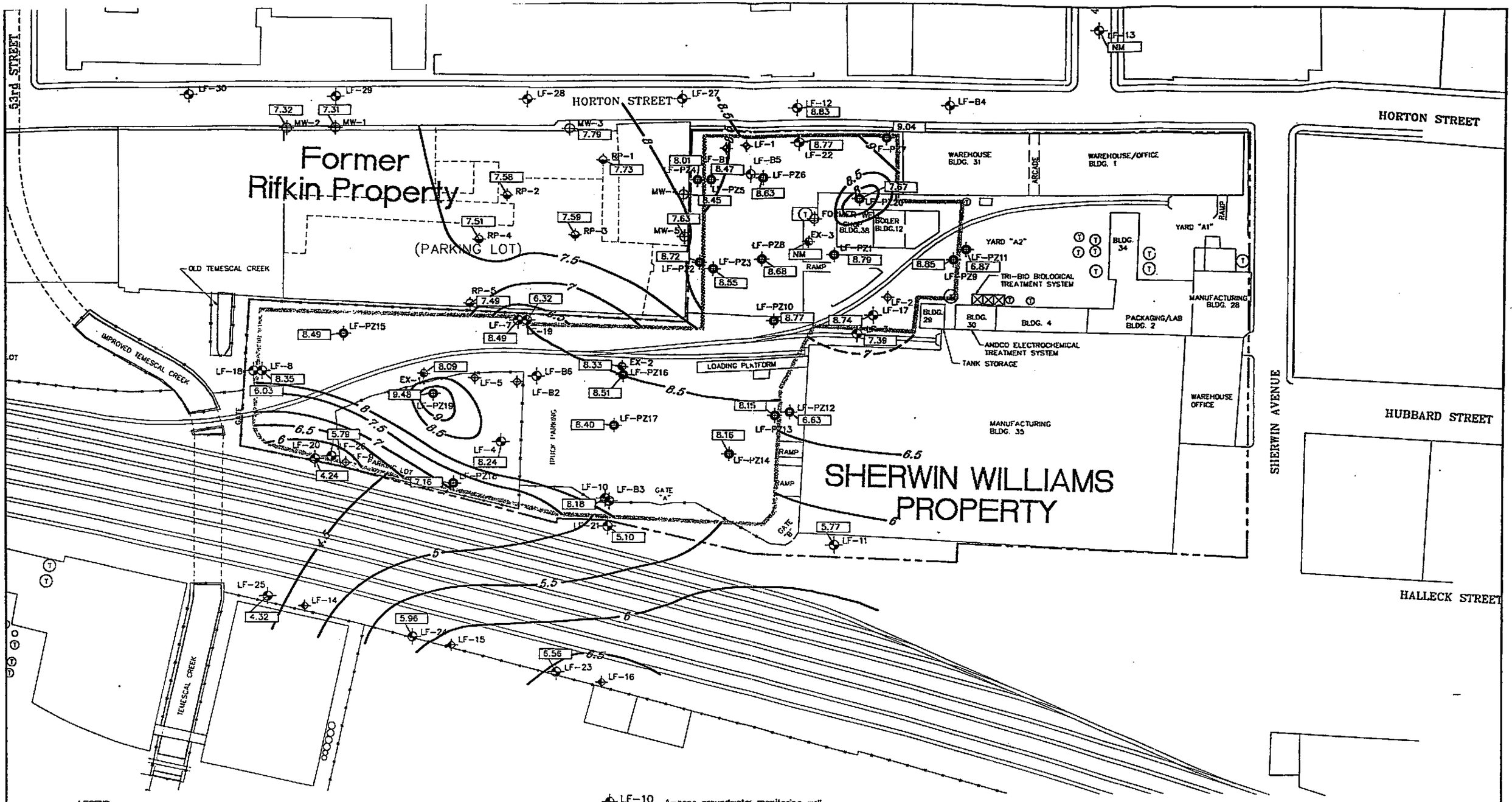
RWQCB, 1998b: Regional Water Quality Control Board, 8 July 1998, *Comments Regarding (1) May 20, 1998, Draft Final, Evaluation of Existing Interim Remedial Measures and Workplan for Implementation of Future Interim Remedial Measures, and (2) April 30, 1998, Quality Assurance Project Plan, Sherwin-Williams Site, 1450 Sherwin Avenue, Emeryville, Alameda County.*

Sanborn, 1929: Sanborn Fire Insurance Map, 1929, obtained from the Bancroft Library at the University of California, Berkeley.

TMC, 1995: TMC Environmental, Inc., 21 April 1995, *Ground Water Sampling Report, Rifkin Property, 4525-4563 Horton Street, Emeryville, California.*

ATTACHMENT A

A-Zone Groundwater Elevation Maps for December 1997 and February 1998



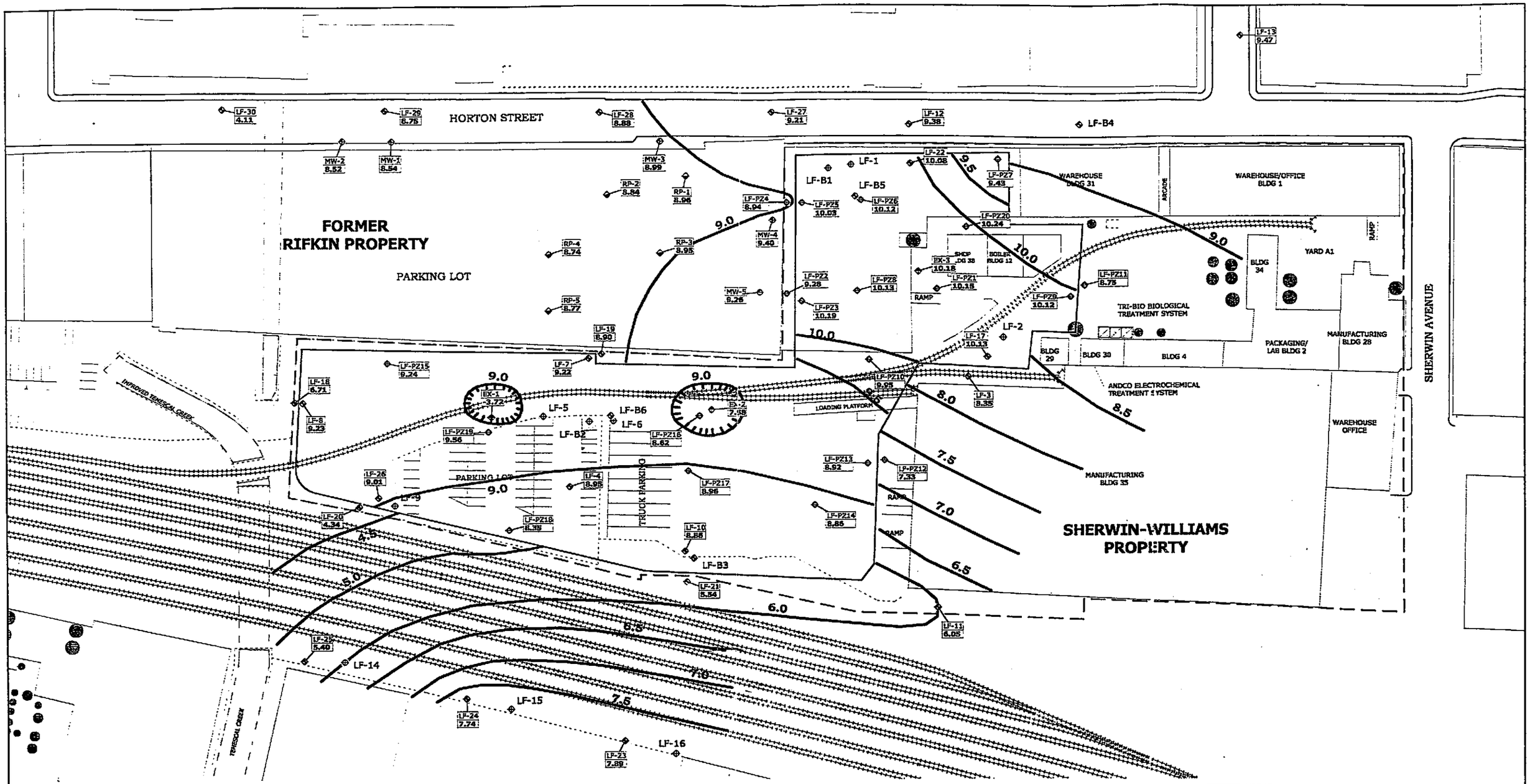
SHERWIN WILLIAMS

A-Zone Groundwater Elevation Map
December 15, 1997

Levine-Fricke-Recon

Project No. 3435

Figure 3



SHERWIN WILLIAMS

Groundwater Elevation Contours A-Zone Groundwater February 24, 1998

Levine-Fricke-Recon

Figure 3

Project No. 3435

ATTACHMENT B

Letter from Sherwin-Williams to the Bay Area Pollution Control District
Regarding the Sherwin-Williams Facility Solvent Inventory File

9/18/78 Back up Date 2nd 3rd Pages
GB

SHERWIN WILLIAMS COATINGS

The Sherwin-Williams Company
1450 Sherwin Avenue
Emeryville, California 94608
Phone (415) 652-2700
Mail Address
P.O. Box 22505
Oakland, California 94623

November 4, 1977

Miss Sherry Langbein
Air Pollution Inspector
Bay Area Air Pollution Control District
939 Ellis Street
San Francisco, CA 94109

Re: Update Solvent Inventory File
The Sherwin-Williams Co., Emeryville, CA

Dear Sherry:

As requested during your visit to our plant two days ago, enclosed are an up-to-date list of solvent containing storage tanks, a copy of our 1976 Pounds of Solvent Consumed per month, and a copy of our December 15, 1975 letter to Harold Bimrose.

Very truly yours,

THE SHERWIN-WILLIAMS CO.

F. A. Leibold
Assistant Plant Manager

FAL:jm

encs. (3)

SW-OAK22429

1045

'78

December 15, 1975
Transmitted
November 4, 1977

THE SHERWIN-WILLIAMS CO.,
Emeryville, CA

New Tank No.	S-W Code	Description	Basic Equipment Caption
25240	01-45-10	Mineral Spirits Regular	582
25241	03-23-10	Xylene 5-Degree C	"
12242	04-08-10	Isopropanol Anhydrous	"
20243	01-49-10	Odorless Mineral Spirits	"
10166	01-22-13	Low Aromatic Lacquer Diluent	"
10074	01-25-10	50-Flash Naphtha Rule 3 & 66 Exempt	"
12245	03-17-10	Toluene Industrial	"
12247	03-17-10	Toluene Industrial	"
10167	empty		
8250	05-30-10	Acetone CP	"
8252	04-12-11	Isobutyl Alcohol	"
12244	05-40-11	Methyl Normal Butyl Ketone	"
12246	03-26-54	Recovered Aromatic Wash Thinner	"
8248	12-22-10	Butyl Acetate Water Free	"
8249	05-33-10	Methyl Ethyl Ketone	"
8251	05-30-10	Acetone CP	"
12168	12-24-11	Ester Type Lacquer Solvent	"
8176	12-32-10	2Ethoxyethyl Acetate 99%	"
4175	Lac.Blend	Lacquer Thinner Blend	553
4174	Lac.Blend	Lacquer Thinner Blend	"
4173	Lac.Blend	Lacquer Thinner Blend	"
4172	12-34-10	Methyl Amyl Acetate,	582
4171	12-04-10	Isopropyl Acetate	"
1386	Lac.Blend	Lacquer Thinner Blend	553
12170	03-03-10	Styrene Monomer	582
	Boiler	Fire Tube Scotch 150hp Gas only	
	Boiler	Eclipse PKG Gas only	

F. A. Leibold

SW-OAK22430

ATTACHMENT C

Document entitled "Toxic Materials"
Obtained by Chiron from Sherwin-Williams

TOXIC MATERIALS

Aug 4 Inventory

	TRADE NAME	TOXIC COMPONENT	LOCATION	HOW USED	QUANTITY USED (Average 30 Days)	QUANTITY STORED	ULTIMATE LOCATION
128700	Chlorowax 70	Chlorinated Paraffin	R+S Dept		200#	350#	
102041	Dowicide A		"		1500	2100	
103400	Dowicide 6		"		None Disc	4800	
103821	Sodium Pentachlorophenate		"		700	800	
178621	Dowicil 100		"		600	1000	
581021	Litharge	Lead Oxide	"		4000	2150	
541121	Busan 11	Barium Metaborate	"		1900	1300	
493500	Aroclor 5460	Chlorinated Rubber	"		2000	320	
593021	Cuprous Oxide	Copper Oxide	"		150	200	
681100	45X Lead Silicate	Lead Oxide	"		6000	1600	
688622	Dry White Lead	Lead Carbonate	"		1500	950	
682200	88 Leaded Zinc	Lead Sulfide	"		5000	16950	
685000	Antimony Oxide	Antimony Oxide	"		400	120	
800025	CP Yellow Primrose	Lead Chromate Lead Oxide	"		900	15	
800721	X 2777 Regal Yellow	Lead Chromate	"		750	450	
800726	Krolor Yellow	Lead Chromate	"		20	50	
811644	X 3355 Chrome Yell	Lead Chromate	"		2000	850	

ATTACHMENT D

Excerpts from "Economic Poisons" Reports
Issued by the California Department of Agriculture
(1920-1921, 1930-1931, 1939, 1947-1948, 1949-1950, and 1950-1951)

Publication has changed over the years

98393

SPECIAL PUBLICATION No. 34

ECONOMIC POISONS

[1920-1922]

By Geo. P. Gray, *Chief*,
and George E. Colby,
Chemist and Assistant Chief

ASSISTED BY
W. G. Marshall, S. I. Gleason and John W. Elmore,
Assistant Chemists

CONTRIBUTION FROM
DIVISION OF CHEMISTRY

CALIFORNIA STATE PRINTING OFFICE
FRANK J. SMITH, Superintendent
SACRAMENTO, 1923

23610

TABLE I. ARSENICALS.

Laboratory number	Name of brand, manufacturer, agent, and sender	Guaranteed and found	Moisture, per cent	Lead oxide, (PbO) per cent	Active ingredient—arsenic: Total: Arsenic oxide (As_2O_5) per cent	Active ingredient—arsenic: Total: Arsenic, as metallic, per cent	Active ingredient—arsenic: Water soluble: Arsenic oxide (As_2O_5) per cent	Active ingredient—arsenic: Water soluble: Arsenic, as metallic, per cent	Inert, per cent	Type.	Opinion of sample.
	Dry Lead Arsenate.										
Lab. 257	Ortho Neutral, California Spray Chemical Company, Watsonville; Morris Seed Company, San Francisco	Guaranteed			22.00		0.50				
		Found	0.27	73.67	23.83		0.29			Basic	Passed.
Lab. 319	Ortho, California Spray Chemical Company, Watsonville	Guaranteed			22.00		0.50				
		Found	0.81	73.82	22.50		0.08			Neutral	Passed.
Lab. 321	Ortho, California Spray Chemical Company, Watsonville	Guaranteed			30.00		1.00				
		Found	0.08	64.56	31.43		0.40			Acid	Passed.
Lab. 411	California Spray Chemical Company, Watsonville; Aggeler and Musser Seed Company, Los Angeles	Guaranteed			30.00		0.50				
		Found	0.02	64.06	31.49		0.28			Acid	Passed.
Lab. 306	Corona Chemical Company, Milwaukee, Wis.; Germain Seed and Plant Company, Los Angeles	Guaranteed	2.00			19.50		0.50			
		Found	0.11	64.45	32.18	20.91	0.20	0.13		Acid	Passed.
Lab. 251	Dow Chemical Company, Midland, Mich.; C. W. Coburn and Company, San Francisco	Guaranteed	4.00		31.00		0.65				
		Found	0.21	64.75	30.45		0.57			Acid	Passed.
Lab. 256	Dow Chemical Company, Midland, Mich.; Morris Seed Company, San Francisco	Guaranteed	2.00		30.00		1.00				
		Found	0.10	65.92	29.89		0.56			Acid	Passed.
Lab. 272	Orchard General Chemical Company, San Francisco	Guaranteed	4.00		31.00	20.20	0.98				
		Found	0.22	64.39	31.60	20.60	0.40			Acid	Passed.
Lab. 448	Glidden, Glidden Company, San Francisco; Chas. C. Naviet and Company, San Francisco	Guaranteed	2.00		31.00	20.20		0.50			
		Found	0.05	66.27	30.23	19.72		0.18		Acid	Deficient.
Lab. 311	Latimer-Goodwin Chemical Company, Grand Junction, Colo.; Western Wholesale Drug Company, Los Angeles	Guaranteed	2.00	63.00	30.00		0.75				
		Found	0.21	65.79	30.17		0.32			Acid	Passed.
Lab. 462	Latimer-Goodwin Chemical Company, Grand Junction, Colo.; Valley Seed Company, Sacramento	Guaranteed	2.00	63.00	30.00		0.75				
		Found	0.21	65.88	30.17		0.52			Acid	Passed.
P. S. 98	John Lucas and Company, Incorporated, Gibbsboro, N. J.	Guaranteed	2.00		30.00	19.30		1.00			
		Found	0.39	66.03	29.07	18.95		0.43		Acid	Deficient.
Lab. 422	Niagara, Niagara Sprayer Company, Middleport, N. Y.; F. A. Frazier, San Francisco	Guaranteed	2.00		30.00	19.50		0.75			
		Found	0.47	64.06	31.46	20.51	0.69	0.45		Acid	Passed.
Lab. 423	Niagara, Niagara Sprayer Company, Middleport, N. Y.; F. A. Frazier, San Francisco	Guaranteed	2.00		30.00	19.50	1.00	0.75			
		Found	0.25	63.48	32.18	20.98	0.90	0.59		Acid	Passed.
		Guaranteed			30.00		1.00				
		Found	0.60	63.30	30.60		0.29			Acid	Passed.
Lab. 276	Sherwin-Williams Company, Emeryville	Guaranteed			30.00		1.00				
		Found	0.37	64.16	29.66		0.46				
Lab. 316	Sherwin-Williams Company, Emeryville; Pioneer Fruit Company, San Jose	Guaranteed			30.00		1.00			Acid	Passed.
		Found	0.10	64.18	32.13		0.20				
Lab. 412	Sherwin-Williams Company, Los Angeles; Aggeler and Musser Seed Company, Los Angeles	Guaranteed			30.00		1.00				
		Found	0.22	64.37	30.89		0.05			Acid	Passed.
Lab. 414	Sherwin-Williams Company, Los Angeles; Morris and Snow Seed Company, Los Angeles	Guaranteed			30.00		1.00				
		Found	0.29	63.90	30.25		0.21			Acid	Passed.
Lab. 1251	Sherwin-Williams Company, Emeryville; Smith-Frank Packing Company, Sacramento									Acid	Passed.
		Found		63.40	28.79					Acid	Safe.
P. S. 11	Sherwin-Williams Company, Emeryville; E. R. De Ong, Davis	Found					0.40			Acid	Passed.
P. S. 133	Sherwin-Williams Company, Emeryville; O. E. Bremner, Santa Rosa	Guaranteed			30.00		1.00				
		Found	0.21	63.50	30.00		0.29			Acid	Passed.
P. S. 218	W. M. Sheldon, Vacaville; Sherwin-Williams Company, Los Angeles	Guaranteed			31.00		0.77	0.50	4.00		
		Found	0.19	64.85	31.21		0.24	0.16		Acid	Passed.
Lab. 1483	Nu Rex Form Dry Arsenate of Lead, Toledo Rex Spray Company, Toledo, Ohio; Sebastopol Apple Growers Union, Sebastopol	Guaranteed		63.00	30.00		0.75				
		Found	0.20	63.45	32.95		0.36			Acid	Good.
P. S. 14	United States Smelting, Refining and Mining Company, Redding						0.33			Acid	Good.
		Found	0.18	64.84	31.28		0.38				
Inf. 119	Mission, C. W. Hill Chemical Company, Los Angeles	Found	0.40	63.50	30.38					Acid.	
Inf. 128	R. G. Maxtone-Graham, Berkeley			0.23	64.57	31.10		0.43		Basic.	
				0.46	73.59	23.44		0.31			
	Average of 32 first class acid samples, 1920-22										
	Average of 3 first class basic samples										
	Lead Arsenate Pastes.										
Lab. 273	General Chemical Company, San Francisco	Guaranteed	50.00			15.00	0.80	0.50	0.32		
		Found	49.34	31.78		*16.02	10.44	0.29	0.19	Acid	Passed.
		Found	42.60			**18.59		0.51	0.33		
Inf. 116	No brand given; H. P. Stabler, Yuba City					40.00	26.00		0.75		
	Calcium Arsenate.	Guaranteed				37.74	24.80		0.16		Deficient.
P. S. 99	John Lucas and Company, Gibbsboro, N. J.	Found		1.32							

*Equivalent to 31.84 per cent As_2O_5 on dry basis.
**Equivalent to 32.38 per cent As_2O_5 on dry basis.

TABLE II. ARSENICALS—Continued.

Laboratory number	Name of brand, manufacturer, agent and sender	Guaranteed and found	Arsenious oxid (As_2O_3) Total, per cent	Arsenious oxid (As_2O_3) Water soluble, per cent	Opinion of sample
	Paris Green and other Arsenites.				
Lab. 313	Sherwin-Williams Company, Emeryville; Pioneer Fruit Company, San Jose	Guaranteed.	50.00	3.50	
		Found	55.10	3.34	Passed.
P. S. 24	Urania Green, from Germany; Henry Lund and Company, San Francisco	Not stated.			
		Found	57.00	4.52	Low grade.
P. S. 30	Urania Green, from Germany; Henry Lund and Company, San Francisco	Not stated.			
		Found	56.50	3.84	Low grade.
	Zinc Arsenite.				
Lab. 322	Ortho, California Spray Chemical Company, Watsonville	Guaranteed.	40.00	0.50	
		Found	40.50	0.09	Passed.

2. SOLUBLE ARSENICALS.

ARGENTINE ANT REMEDIES.

The Department has not done very much work along this line, except in the matter of requirnig registration of those who appear to be selling the poison for agricultural purposes. It will be noticed that in Table III there appear four columns which seem to be necessary on account of the fact that the Federal Insecticide Law requires a statement of metallic arsenic. These figures, therefore, require some explanation.

It will be noted that in all the samples examined, the total arsenic is all water soluble and is also arsenious, which means that the arsenic has been derived from arsenite and not from arsenate. It is fairly well established that the arsenate is not nearly so active a poison as the arsenite.

The basis of a satisfactory method of control of Argentine ant by arsenical poisons was furnished by the original investigation of Prof. C. W. Woodworth, although the first publication was made by Mr. L. J. Nickles. Mr. Nickles was student assistant working under Prof. Woodworth's direction, and published the conclusion, which has been amply confirmed by later investigators, that the amount of arsenic in the syrup must be very small in order to control the Argentine ant. It has been determined that if a strong arsenical poison is used, the scouting ants are poisoned rather quickly and that the colony thereafter does not feed upon the syrup. If the poison is very dilute it acts as a chronic poison, rather than acute, and the whole colony, including the queen ants and the young, are fed the poison syrup which eventually practically eliminates the whole colony. This poisoning process is quite slow and sometimes requires as long as three weeks. If, however, the bait is made attractive enough and placed outside of a dwelling house, the ants will not enter the house, but will continue to feed on the poisoned syrup. When the ants are very bad in the house. it is sometimes desirable first to distribute the bait outside the house, then dust pantry, shelves, etc., with one of the sodium fluorid ant powders. This latter substance is very poisonous to ants and will kill any with which it comes in contact,

but is ineffective in exterminating a colony. The use of this powder acts as a temporary relief, however, where the ants are very bad in a dwelling.

The original formula recommended by Prof. Woodworth was slightly modified and used on a large scale in Argentine ant campaigns inaugurated by the city of Berkeley and later on by other Bay cities. This is published as Formula 7, page 21, in Circular 204, of the California Agricultural Experiment Station.

Professors Hermes and Gray at the University of California conducted a number of experiments to determine whether or not some better formula could not be used than the one just mentioned. They found that this formula gave excellent results, but that the syrup did deteriorate upon standing and did have a tendency to crystallize after the syrup had been out perhaps two weeks. In that condition it did not appear to be attractive to ants. Argentine ants seem to prefer a liquid to feed upon. Another thing about this formula is that it is prepared with rather large excess of sal soda which gives the syrup an alkaline reaction. After standing a month or so the alkali may act upon the sugar, causing a discoloration and an unpleasant odor. These may not be considered drawbacks for the reason that all successful poisoning campaigns are absolutely dependent upon a fresh supply of syrup and its retention in clean containers. Any syrup will be apt to sour or mould if allowed to stand more than a week or so without renewal, and in that condition is unattractive to ants.

The so-called Barber formula (United States Department of Agriculture, p. 18, Bulletin 377) was experimented with under the direction of Mr. Woglum for use in orange groves, and this formula, with modifications, was accepted as the most satisfactory one for use in the control of ants in citrus orchards.

The Barber formula differs from the original formula in three respects. Chemically pure sodium arsenite is specified, which, if obtainable, avoids the excess of alkali in the Woodworth formula. Tartaric acid is added to the syrup which is boiled for thirty minutes. This treatment will invert the sugar. The theory is that invert sugar is more nearly like the natural sugars in "honey dew" secreted by scale insects and is, therefore, more attractive to ants. Invert sugar is less subject to crystallization than cane sugar. A certain amount of honey is also prescribed in the Barber formula. This is believed to make the syrup very much more attractive to ants. Perhaps the odor may have something to do with this. Fruit juices, particularly pineapple, added to syrups will greatly increase its attractiveness.

It is the opinion of the Division of Chemistry that considerable deviation may be made from the Barber formula without serious results. It is believed, however, that inasmuch as this formula has been quite fully tried out that in all our recommendations we should adhere strictly to the Barber formula in order that the pest control remedies may be nearly standardized as possible.

The Barber formula will analyze about one-tenth per cent arsenious oxid (As_2O_3) and the modified Woodworth formula about two-tenths per cent. Of the six samples reprinted below, one contains the amount of poison recommended by the Barber formula, two the same as the

STATE OF CALIFORNIA
DEPARTMENT OF AGRICULTURE
DUDLEY MOULTON, Director

Special Publication No. 107

ECONOMIC POISONS

1930-1931

Contribution from
DIVISION OF CHEMISTRY
By JOHN W. ELMORE

TABLE I. ACID LEAD ARSENATES

Laboratory number	Name of brand, registrant and where obtained	Guaranteed and found	Arsenic oxide, per cent	Arsenic metallic, per cent	Arsenic metallic water soluble, per cent	Lead oxide, per cent	
	Acme White Lead and Color Works						
14363	Acme Arsenate of Lead; Fresno	Guaranteed	30.00	19.50	.70		
		Found	33.20	21.67	.08	63.92	P.
14388	Acme Arsenate of Lead; San Francisco	Found	32.30	21.09	.11	64.92	P.
14957	Acme Arsenate of Lead; Santa Maria	Found	32.20	20.99	.07	64.40	P.
14984	Acme Arsenate of Lead; San Diego	Found	33.25	21.67	.07	64.30	P.
	California Rex Spray Company						
13797	NuRex Form Arsenate of Lead; Penryn	Guaranteed	30.00	20.00	.50		
		Found	31.97	20.84	.33	63.11	P.
14837	NuRex Form Arsenate of Lead; Walnut Grove	Found	31.60	20.62	.08	65.22	P.
14882	NuRex Form Arsenate of Lead; Watsonville	Found	32.49	21.20	.11	64.34	P.
14883	NuRex Form Arsenate of Lead; Watsonville	Found	31.61	20.63	.19	65.47	P.
	California Spray Chemical Company						
13808	Ortho Arsenate of Lead; Alviso	Guaranteed	30.00	19.50	.65		
		Found	32.77	21.36	.56	65.30	P.
14750	Ortho Arsenate of Lead; Lincoln	Found	32.40	21.10	.26	64.22	P.
14764	Ortho Arsenate of Lead; Madera	Found	32.18	20.98	.31	64.86	P.
14880	Ortho Arsenate of Lead; Watsonville	Found	32.20	21.00	.15	65.18	P.
15044	Ortho Dust Mixture D; Whittier	Guaranteed	6.00	3.90			
		Found	5.51	3.59	.08	11.24	D.
	General Chemical Company						
14417	Orchard Arsenate of Lead; Loomis	Guaranteed	30.00	19.56	.25		
		Found	31.93	20.82	.11	63.76	P.
14755	Orchard Arsenate of Lead; Yuba City	Found	31.55	20.57	.04	63.33	P.
14879	Orchard Arsenate of Lead; Watsonville	Found	32.20	21.00	.15	63.80	P.
14753	Orchard Paste Arsenate of Lead; Reed's Spur	Guaranteed	15.00	9.80	.25		
		Found	15.53	10.12	.03	30.62	P.
14904	Orchard Paste Arsenate of Lead; Santa Clara	Found	16.07	10.47	.09	31.98	P.
	Latimer Goodwin Chemical Company						
14881	Latimer Arsenate of Lead; Watsonville	Guaranteed		18.50	.50		
		Found	30.66	20.00	.04	64.12	P.
	Lucas Kil-Tone Company						
14505	Green Cross Arsenate of Lead; Watsonville	Guaranteed	30.00	19.50	.49		
		Found	33.20	21.66	.11	64.52	P.
14757	Green Cross Arsenate of Lead; Yuba City	Found	33.16	21.60	.23	64.08	P.
	National Chemical Company						
14759	Flag Arsenate of Lead; Yuba City	Guaranteed	30.00	19.50	.50		
		Found	32.16	20.97	.46	63.02	P.
	Niagara Sprayer Company						
14553	Niagara Arsenate of Lead; St. Helena	Guaranteed	30.00	19.50	.75		
		Found	32.47	21.19	.15	64.71	P.
15023	No. 1 Niagara Entodust; Santa Paula	Found	31.05	20.24	.11	64.80	P.
	Pittsburgh Plate Glass Company						
14972	Corona Arsenate of Lead; Lompoc	Guaranteed		19.50	.50		
		Found	32.46	21.17	.04	64.43	P.
	Sherwin-Williams Company						
13971	S-W Arsenate of Lead; Kelseyville	Guaranteed	30.00	19.50	.65		
		Found	33.58	22.10	.11	64.00	M.*
14398	S-W Arsenate of Lead; Ukiah	Found	32.49	21.18	.19	64.94	P.
14551	S-W Arsenate of Lead; St. Helena	Found	31.61	20.64	.19	66.44	P.
14707	S-W Arsenate of Lead; Hanford	Found	32.50	21.20	.03	64.05	P.

* Manufacturer not registered when sample was taken.

TABLE IV. CALCIUM ARSENATES

Laboratory number	Name of brand, registrant and where obtained	Guaranteed and found	Calcium arsenate, per cent	Arsenic oxide, per cent	Arsenic metallic, per cent	Arsenic metallic water soluble, per cent	
	Acme White Lead and Color Works						
6912	Acme Calcium Arsenate; Santa Maria	Guaranteed	70.00	40.00	26.10	.50	
		Found	76.93	44.40	29.09	.15	P.
14952	Acme Calcium Arsenate; Santa Maria	Found	70.57	40.82	26.61	.26	P.
4983	Acme Calcium Arsenate; San Diego	Found	73.59	42.55	27.74	.07	P.
	California Spray Chemical Company						
15045	Ortho Dust Mixture G; Whittier	Guaranteed		13.33	8.66	.50	
		Found		13.96	9.10	.07	P.
	General Chemical Company						
4672	Orchard Arsenate of Calcium; Brawley	Guaranteed	71.00	41.00	26.74	.49	
		Found	72.00	41.63	27.14	.04	P.
	Los Angeles Chemical Company						
14895	Dri-Spray No. 42; Los Angeles	Guaranteed	21.50		8.40	.75	
		Found	22.64	13.10	8.54	.04	P.
	National Chemical Company						
039	Flag Calcium Arsenate; Santa Maria	Guaranteed	70.00	40.00	26.00	.50	
		Found	72.95	42.12	27.50	.09	P.
14669	Flag Calcium Arsenate; Brawley	Found	72.54	43.72	27.53	.21	P.
	Pittsburgh Plate Glass Company						
971	Corona Calcium Arsenate; Lompoc	Guaranteed	70.00	40.00	26.00	.75	
		Found	70.91	41.02	26.74	.11	P.
	Sherwin-Williams Company						
14670	Sherwin-Williams Arsenate of Calcium; Brawley	Guaranteed	70.00	40.00	26.10	.50	
		Found	72.61	42.44	27.37	.05	P.

TABLE V. ARSENICALS FOR WEED AND TERMITE CONTROL

Laboratory number	Name of brand, registrant and where obtained	Guaranteed and found	Arsenious oxide, per cent	Arsenic metallic, per cent	
15067	California Pest Control Company Calpest Weed Killer; Pasadena	Guaranteed	30.00		
		Found	32.49		D.*
	California Spray Chemical Company				
15047	Ortho Weed Killer; Whittier	Guaranteed	20.00		
		Found	32.60		P.
15127	Ortho White Arsenic; Watsonville	Guaranteed	99.50		
		Found	99.46		P.
	Los Angeles Chemical Company				
15085	Lucco Brand 50% Sodium Arsenite Solution; Los Angeles	Guaranteed		20.00	
		Found		22.31	D.
	Weed Destroyer Company, Inc.				
14391	Getaum; San Francisco	Guaranteed		24.00	
		Found		25.01	P.
15080	Getaum; Pasadena	Found		8.09	D.

* = Deficient in net contents.

TABLE VI. PARIS GREENS

Laboratory number	Name of brand, registrant and where obtained	Guaranteed and found	Arsenious oxide, per cent	Arsenious oxide water soluble, per cent	
	Acme White Lead and Color Works				
14306	Acme Paris Green; Delano	Guaranteed	50.00	3.50	
		Found	57.25	2.90	P.
14988	Acme Paris Green; San Diego	Found	50.20	3.28	P.
15132	Acme Paris Green; Salinas	Found	56.90	1.68	P.
	Sherwin-Williams Company				
14002	Sherwin-Williams Paris Green; Redwood City	Guaranteed	50.00	3.50	
		Found	57.35	1.48	P.
15034	Sherwin-Williams Paris Green; Anaheim	Found	56.01	2.80	P.

ECONOMIC POISONS

Registered June 15, 1939

Only document of This in our library

Next 2 pages List Sherwin Williams Products registered

annual publication of this format was started circa 1970

A-1 Fumigating Company
915½ S New Hampshire St.Los Angeles,Calif.
Ant Syrup
Calcium Cyanide Dust
Roach Paste
Roach Powder
Sodium Cyanide Eggs

A-1 Spray Company
4732 E. 12th St.Oakland,Calif.
A-1 Insect Spray
A-1 Rat Destroyer

A.&.W .Chemical Company
54 E.Holly t.Pasadena,Calif.
A.&.W .Termicide
A.&.W .Wood Preservative

Abbott Laboratories
14th St. & Sheridan Rd. North Chicago,Ill .
Fleabar (Abbott)
Ointment Potassium Sulfides Compound
Pyrethrum-Derris Compound Powder, Improved Formula
Sterilac (Abbott)
Veterinary Dog & Cat Worm Capsules (Abbott)
Vetáninary Mangol (Abbott)
Veterinary Tetra Vermifuge, 1 cc (16 min). Abbott)
Veterinary tetra 3 min. with magnesium
Veterinary Tetra 16 min. with magnésium
Veterinary etra 40 min. with Magnésium
Veterinary Tetra Vermifuge 0.2 cc. (3 Minims.)

Lloyd M.Abraham
14 Bayview,Mill Valley, Calif.
Marin Ant Cups
Marin Ant Syrup
Marin S nail Feeder

cacia Park Nursery
060 El Cajon Blvd. San Diego,Calif.
Acacia Metco Iron Oxide

cacia Termite Control Company
506 Rugby Ave. Huntington Park.
Nina Termite Dust
Nina Termite Fluid

cademy Fumigating Company
00 West 6th St.Los Angeles,Calif.
Argentine Ant Syrup
Hydrocyanic Acid Disc's
Sodium Cyanide Eggs
Sodium Fluoride

Shell Oil Co. of Calif.
Shell Universal Brand Orchard Spray Vapona No. 1 Light
" " " " " " No. 2 Light
" " " " " Viscona -W
Emulsible Oil Heavy
" " " " " Winter Toxolube
" " " " " Supply Dormant Emul-
sible
" " " " " Supply Spray
" " " " " Supply Spray Viscona
E-Heavy
" " " " Triona Garden Emulsion
Light Medium
" X-315 Spray Oil W.C.S.P. (light)

Sherwin Williams Co.
101 Prospect Ave., Cleveland Ohio
Mail 1450 Sherwin Ave., Oakland
Sherwin Williams Air Flo Brand Dusting Sulfur
Air Spra-Oil
Arsenate of Calcium (Containing other Calcium Comp.)
Basic Arsenate of Lead
Basul
Carbolic - ol
Creosote Oil
Dormant Free Mulsion
Dry Lime Sulfur (Containing other Compounds)
Dry Powdered Arsenate of Lead
Dusting Sulfur
Flo-Mulsion
Fly Spray
Free Mulsion
Fungi-Bordo
50% Cresol Solution
K.S.B. Dust
Lime-Sulfur Solution
Liquor Cresolis Compositus USP
Meta Nox
Mulsoid Sulfur
Naga
Nicotine Copper Dust No. 10X
Nicotine Dust No. 10
Nicotine Dust No. 10-H
Nicotine Emulsion
Nicotine Emulsion B
Nicotine Sulphate Solution
Nicotine Sulphur Dust No. 10-S
Oylapine
(Strictly Pure)Paris Green
Pest Nox
Pestroy
Pheno-Dip (Standardized Stock Dip & Disinfectant)
Phenolene Disinfectant (Standardized)
Pruning Compound
Pyro Mist
Rose-Aid (Containing Rotenone)
Roto-Dust
Roto-Dust No. 100

Sherwin Williams Co. (Continued)
Roto Spray No. 300
S-W Aphis Dust No. 4
S-W Disinfectant
S-W Oil Emulsion Heavy Medium
S-W Oil Emulsion Light
S-W Oil Emulsion Light Medium
S-W Oil Emulsion Medium
S-W Pyrethrum Extract
S-W Soluble Oil Light Medium
S-W Soluble Oil Medium
S-W Stock Dip and Disinfectant
S-W Super Mulsion Flowable
S-W Tank Mix Heavy Medium
S-W Tank Mix Heavy Med.
S-W Tank Mix Medium
S-W Weed Killer (Sodium Arsenite)
S-W Zinc Sulfate
Sherwin Williams (A) Dust (Repello-Copper Dust)
" " (B) Dust (15-85 Copper Dust)
" " Basi-Cop (Basic Copper Sulphate)
" " "C" Dust (20-80 Copper Dust)
" " "D" Dust
" " "E" Dust (80-20 Sulphur) Lead Arsenate Dust)
" " "F" Dust (85-10 Sulfur Copper Dust)
" " "J" Dust (33% Cryolite Dust)
" " "K" Dust (40% Cryolite Dust)
" " "L" Dust (50% Cryolite Dust)
" " "M" Dust (33% Barium Fluosilicate)
" " "N" Dust (50% Barium Fluosilicate)
" " "O" Dust (70% Sodium)
" " "P" Dust (90-10 Roto Copper Dust)
" " Pestix Banding Paste (Stick Pest)
" " "R" Dust (Roto Dust No. 75)
" " "S" Dust (Rotot Dust No. 100)
" " "T" Dust (33-20 Calcium Arsenate)
" " "U" Dust (50% Arsenate of Calcium Dust)
" " "V" Dust (75% Arsenate of Calcium Dust)
" " Spray Gas-Flo Dusting Sulfur
" " Spray Powdered Bluestone
Standard Arsenate of Lead
Stix N- Spreads
Stock Dip and Disinfectant
Summer Mulsion Light
Summer Mulsion Light Flowable
Summer Mulsion Light Medium
Summer Mulsion Light Medium Flowable
Summer Mulsion Medium Flowable
Summer Mulsion Medium
Super Nic
Tar-O Mulsion
Sherwin Williams Ultra Brand 100% Sublimed Flowers of Sulfur
Vintox
Wet-Flo Sulfur (Wettable)
Winter Mulsion
Zephyr Brand 100% Sublimed Flowers of Sulfur
Zinc Sulphate

CH510135

DDT - came into use ca 1946-47

STATE OF CALIFORNIA
DEPARTMENT OF AGRICULTURE
SACRAMENTO

SPECIAL PUBLICATION No. 229

ECONOMIC POISONS

1947-1948

BUREAU OF CHEMISTRY

ECONOMIC POISONS REGISTRANTS—Continued

NOTE: Unless otherwise designated, cities are in California

SANTA BARBARA CITY HEALTH DEPARTMENT
City Hall, Santa Barbara*

SANTA BARBARA TERMITE & PEST CONTROL CO.
401 N. Milpas St., Santa Barbara

SANTA CLARA COUNTY AGRICULTURAL COMMISSIONER
Hall of Justice, San Jose

SANTA CRUZ COUNTY AGRICULTURAL COMMISSIONER
602 E. Lake St., Watsonville

SANTA CRUZ LUMBER COMPANY
84 River St., Santa Cruz

SANZARI, G. F.
429 E. Weber St., Stockton

SARATOGA LABORATORIES
P. O. Box 386, Saratoga

SAVAGE ANT SERVICE**
3104 Colorado Ave., Santa Monica

SCHRADER CHEMICAL CO.
1 Enterprise St., San Francisco 10

SCOTT & GILBERT COMPANY
88 Beale St., San Francisco 5

SCOTT, O. M., & SONS CO.
Sixth St., Marysville, Ohio

SEABOARD STEEL METALS CO.
416 W. Eighth St., Los Angeles 14

SEARS, ROEBUCK AND CO.
925 S. Homan Ave., Chicago 7, Ill.

SEASIDE OIL COMPANY
330 State St., Santa Barbara

SECTOFIN CHEMICAL COMPANY
6106 W. Sixth St., Los Angeles 36

SECURITY PAINT MANUFACTURING COMPANY
2811 Alcazar St., Los Angeles 33

SEE-JAY MAINTENANCE CO.
1127 N. W. Second St., Oklahoma City 4, Okla.

SENNEWALD DRUG CO., INC.
2723 Chouteau Ave., St. Louis 3, Mo.

SENORET CHEMICAL CO.*
610 Gratiot St., St. Louis, Mo.

SENTINEL CHEMICAL COMPANY
P. O. Box 853, Oakland 4

SEQUOIA PRODUCTS COMPANY
P. O. Box 91, Eureka

SEQUOIA SALES COMPANY, INC.
988 Market St., San Francisco 3

SETHNESS PRODUCTS COMPANY
1300 Division St., Chicago 22, Ill.

SHARP & DOHME, INC.
632-640 N. Broad St., Philadelphia 1, Pa.

SHASTA COUNTY AGRICULTURAL COMMISSIONER
County Office Bldg., Placer St., Redding

SHELL CHEMICAL CORPORATION
100 Bush St., San Francisco 6

SHELL OIL COMPANY INCORPORATED
100 Bush St., San Francisco 6

SHERWIN-WILLIAMS COMPANY, THE
1450 Sherwin Ave., Oakland 8

SIGNAL OIL COMPANY
200 Bush St., San Francisco 4

SISKIYOU COUNTY AGRICULTURAL COMMISSIONER
Yreka

SMALL'S SEED CO.
3600 Eighth St., Riverside

SMICO PRODUCTS
1123 Draper St., Cincinnati 14, Ohio

SMITH, E. W., CHEMICAL CO.
3498 Union Pacific Ave., Los Angeles 23

SNOWDEN CHEMICAL COMPANY
P. O. Box 905, Modesto

SNYDER'S TERMITE CONTROL
4428 Magnolia Ave., Riverside

SOCONY PAINT PRODUCTS COMPANY
2647 E. 37th St., Los Angeles 11

SOCONY-VACUUM OIL COMPANY, INC.
26 Broadway, New York 4, N. Y.

SOILSERV, INC.
P. O. Box 575, Bellflower

SONOMA COUNTY AGRICULTURAL COMMISSIONER
Court House, Santa Rosa

SOUTHERN CALIFORNIA DISINFECTING CO.
236 S. Los Angeles St., Los Angeles 12

SOUTHLAND PEST CONTROL COMPANY**
P. O. Box 133, Pasadena 16

SOUTHWEST CHEMICAL CO.
P. O. Box 193, Eagle Rock 41

SOUTHWEST CO-OPERATIVE WHOLESALE
P. O. Box 1632, Phoenix, Ariz.

SOUTHWEST, WARREN, INC.
2145 E. 25th St., Los Angeles 11

SOUTHWEST WHOLESALE CO.
531 S. Los Angeles St., Los Angeles 15

SPAZIER SOAP & CHEMICAL CO.
1619 20th St., Santa Monica

SPECIAL EFFECTS MANUFACTURING COMPANY
P. O. Box 528, San Fernando

SPEEKMAN, F. M., COMPANY
141 Quint St., San Francisco 24

SPRATT'S PATENT LIMITED
1170 Howard St., San Francisco

STACOAT PAINT & VARNISH CO.
1821 Daly St., Los Angeles 31

STANCO INCORPORATED
246 W. 14th St., New York 11, N. Y.

STANDARD AGRICULTURAL CHEMICALS, INC.
1301 Jefferson St., Hoboken, N. J.

STANDARD DISINFECTANT COMPANY
345 Jefferson Ave., Memphis, Tenn.

STANDARD LABORATORIES, INC.
113 W. 18th St., New York 11, N. Y.

STANDARD LABORATORIES & SUPPLY CO.
40 12th St., San Francisco 9

STANDARD OIL COMPANY OF CALIFORNIA
200 Bush St., San Francisco 4

STANISLAUS COUNTY AGRICULTURAL COMMISSIONER
P. O. Box 108, Modesto

STANLEY HOME PRODUCTS, INC.
42 Arnold, Westfield, Mass.

STANLEY INDUSTRIES
13415 24th Ave., S., Seattle 88, Wash.

STANLEY PEST CONTROL CO.**
1709 W. Eighth St., Los Angeles 14

STAUFFER CHEMICAL COMPANY
636 California St., San Francisco 8

STAUFFER CHEMICAL COMPANY, BORAX UNION DIVISION
636 California St., San Francisco 8

STAUFFER CHEMICAL COMPANY, MICO-DUST MANUFACTURING DIVISION
636 California St., San Francisco 8

STAUFFER CHEMICAL COMPANY, SAN FRANCISCO SULPHUR DIVISION
636 California St., San Francisco 8

STAY & DAY PAINT MATERIALS CO.
2530 E. 14th St., Los Angeles 21

STAYNER CORPORATION
2100 Ward St., Berkeley 5

STEARNS' ELECTRIC PASTE COMPANY
111 W. Washington St., Chicago 2, Ill.

ECONOMIC POISONS REGISTRANTS—Continued

NOTE: Unless otherwise designated, cities are in California

STEARNS-McKAY MANUFACTURING CO.
374 Commonwealth Ave., Boston, Mass.

STERLING CO., INC., THE
2801 Locust St., St. Louis 3, Mo.

STEVES PEST CONTROL SERVICE**
1412 Webster St., Oakland 12

STOCKTON CHEMICAL CO.
421 N. Grant St., Stockton

STOCKTON VETERINARY SUPPLY CO.
336 E. Lafayette St., Stockton 34

STOKER, H. L., CO.
P. O. Box 112, Claremont

STOVER SEED CO.
598 Maten St., Los Angeles 13

STRASENBURGH, R. J., CO.
195 Exchange St., Rochester 4, N. Y.

STUMPF'S, JOHN, SON*
P. O. Box 38, Gretna, La.

SUFFO MANUFACTURING CO.
1220 Maple Ave., Los Angeles 15

SULLIVAN HARDWOOD LUMBER CO.
P. O. Box 1350, San Diego 12

SULLYVAN CORPORATION
3117 Fillmore St., San Francisco

SUN VACUUM STORES*
908 S. Broadway, Los Angeles 15

SUNLAND INDUSTRIES, INC.
P. O. Box 1669, Fresno 17

SUNLAND REFINING CORPORATION
P. O. Box 1512, Fresno 16

SUNNY HILLS RANCH, INC.
P. O. Box 31, Fullerton

SURE WAY PRODUCTS COMPANY
423 Grosse Bldg., 121 W. Sixth St., Los Angeles 14

SUTTER COUNTY AGRICULTURAL COMMISSIONER
Yuba City

SWEENEY, W. R.
Salisbury, Mo.

SWIFT AND COMPANY
4060 E. 26th St., Los Angeles 23

TAKOL PRODUCTS
109 N. Berkeley, Fullerton

TALBOT MANUFACTURING CO.
465 E. 31st St., Los Angeles 11

TANGLEFOOT COMPANY, THE
314 Straight Ave., S. W., Grand Rapids 4, Mich.

TARR & WONSON, LIMITED
Herton St., Gloucester, Mass.

TAYLOR, PERCY A.
1977 N. Kenmore, Los Angeles 27

TEHAMA COUNTY AGRICULTURAL COMMISSIONER
Court House, Red Bluff

TEHAMA FERTILIZER COMPANY
c/o Clark Erlson, Jr., Corning

TEKNOL PRODUCTS CO.
4374 W. Third St., Los Angeles 5

TENNESSEE COPPER COMPANY
Copperhill, Tenn.

TERMINIX COMPANY (OWNED BY E. L. BRUCE CO., INC.)
2252 W. Washington Blvd., Los Angeles 7

TERMINIX OF NORTHERN CALIFORNIA, INC.
918 Harrison St., San Francisco 7

TERMITE CONTROL CO.
561 E. Harding Way, Stockton 20

TERMITE INSULATING COMPANY
1629 12th St., Santa Monica

TERMITE AND PEST CONTROL**
R. 9, Box 1886, Sacramento 14

TETCO COMPANY
458 S. Spring St., Los Angeles 13

THOMPSON HORTICULTURAL CHEMICALS CORPORATION
3600 Monon St., Los Angeles 27

THOMPSON LABORATORIES, INC.*
601 S. Vermont Ave., Los Angeles 5

TIDE WATER ASSOCIATED OIL COMPANY, ASSOCIATED DIVISION
79 New Montgomery St., San Francisco 20

TINOLAN COMPANY OF AMERICA, INC., THE
Lewis and Ashland Sts., Philadelphia-Frankford 24, Pa.

TNEMEC COMPANY, INC.
3122 Roanoke Rd., Kansas City 8, Mo.

TOBACCO BY-PRODUCTS & CHEMICAL CORP., INC.
1010 Columbia Bldg., Louisville 2, Ky.

TOMIC INSECTICIDE CO.
1567 W. 39th St., Los Angeles 37

TOTI PRODUCTS
1536 Grant Ave., San Francisco 11

TOTUS MFG. CO., INC.*
70 E. Coulter St., Philadelphia 44, Pa.

TOXO SPRAY-DUST, INC.
Box 397, Pico

TRACY TERMITE CONTROL SERVICE**
561 W. Ninth St., San Pedro

TRIANGLE COMPANY, THE
320 W. Market St., Salinas

TRIMZ COMPANY, INC.
Merchandise Mart, Chicago, Ill.

TULARE COUNTY AGRICULTURAL COMMISSIONER
P. O. Box 1149, Visalia

TUOLUMNE COUNTY AGRICULTURAL COMMISSIONER
Box 704, Sonora

TURCO PRODUCTS, INC.
P. O. Box 2640, Terminal Annex, Los Angeles 54

TURNER, KARL W., SUPPLY CO.
P. O. Box 188, Redwood City

TURNEY, H. W., COMPANY, THE
815 S. Sycamore St., Santa Ana

TWIN CITIES SEED & FEED CO.
P. O. Box 31, Calexico

UNEXCELLED CHEMICAL CORPORATION
11 Park Pl., New York 7, N. Y.

UNION DRUG COMPANY,
c/o Walgreen Company
744 Bowen Ave., Chicago 15, Ill.

UNION OIL COMPANY OF CALIFORNIA
617 W. Seventh St., Los Angeles 14

UNITED DATE GROWERS ASSOCIATION OF CALIFORNIA
P. O. Box 398, Coachella

U. S. INDUSTRIAL CHEMICALS, INC.
60 E. 42d St., New York 17, N. Y.

UNITED STATES LIME PRODUCTS CORP.
57 Post St., San Francisco

UNITED STATES RODENT DESTROYER CO.
P. O. Box 8, Los Gatos

UNITED STATES RUBBER COMPANY
1230 Ave. of the Americas, New York 20, N. Y.

U. S. TERMITE CONTROL CORPORATION, LTD.
150 E. Glenarm St., Pasadena 5

UNITED SULPHUR CO.
P. O. Box 2, Torrance

UNIVERSAL CHEMICAL COMPANY
840 Cooper St., Camden, N. J.

UNIVERSAL CHEMICAL PRODUCTS COMPANY
757 N. La Brea Ave., Los Angeles 38

SUMMARY OF ECONOMIC POISONS EXAMINED

The following is a list of economic poisons collected and examined during the fiscal year ended June 30, 1948.

Table number		Number of samples	Samples deficient	Samples misbranded	Samples not registered
	Arsenicals				
1	Standard Lead Arsenates	14	--	--	--
2	Basic Lead Arsenates	15	1	--	--
3	Lead Arsenate Mixtures	6	2	--	--
4	Calcium Arsenate Dusts and Mixtures	30	10	--	1
5	Arsenical Ant Poisons	7	1	1	--
6	Snail and Slug Poisons	9	--	3	--
7	Sodium Arsenite Solutions	6	1	--	--
8	Miscellaneous Arsenic Compounds	6	1	--	--
	Sulphurs				
9	Dusting and Wettable Sulphurs	48	--	1	1
10	Lime Sulphur Solutions	32	--	--	--
11	Dry Lime Sulphur	6	2	--	1
	Metallic Compounds				
12	Copper Compounds	43	2	1	3
13	Zinc Compounds	13	4	1	--
14	Copper, Zinc Mixtures	12	--	--	--
15	Mercury Compounds	9	1	--	--
16	Metallic Dithiocarbamates	10	3	1	1
	Fluorine Compounds				
17	Sodium Fluoaluminate Dusts and Mixtures	23	5	--	--
18	Fluosilicate Dusts and Mixtures	13	4	--	--
	DDT Products				
19	DDT Dusts	113	20	--	2
20	DDT and Sulphur Mixtures	92	15	--	5
21	DDT Sprays	20	1	2	2
22	Miscellaneous DDT Mixtures	13	4	1	3
	Chlorine Compounds				
23	2,4-D Products	30	1	1	2
24	Hexachlorocyclohexane Products	58	12	2	7
25	Chlorine Disinfectants	7	2	1	--
26	Chlordane Products	14	1	3	2
27	Pentachlorophenol Mixtures	7	2	1	--
28	Quaternary Ammonium Compounds	10	1	2	2
29	Miscellaneous Materials Containing Chlorine	28	5	1	4
	Botanicals				
30	Nicotine Dusts and Mixtures	122	7	4	1
31	Pyrethrins Dusts and Sprays	16	5	2	--
32	Aerosol Bombs	8	1	2	2
33	Red Squill Preparations	31	19	2	3
34	Rotenone Dusts and Sprays	27	7	3	1
	Petroleum Oils				
35	Foliage Spray Emulsions	69	6	5	--
36	Foliage Emulsive Spray Oils	62	4	1	--
37	Dormant Spray Oils and Emulsions	105	2	4	3
38	Weed Oils	33	--	2	--
39	Miscellaneous Oils and Emulsions	22	1	2	1
	Miscellaneous				
40	Calcium Hydroxides and Oxides	14	2	--	2
41	Dinitro Compounds	20	--	--	--
42	Hydrocyanic Acids	8	--	4	--
43	Dips, Disinfectants and Phenolic Mixtures	19	10	3	3
44	Organic Phosphates	24	4	1	--
45	Rodenticides	42	15	4	7
46	Soil Fumigants	13	--	--	--
47	Thiocyanates	7	--	1	2
48	Miscellaneous Economic Poisons	29	5	5	3
	Totals	1,380	188	66	71

TABLE No. 1. STANDARD LEAD ARSENATES

Laboratory number	Name of registrant and product	Guaranteed and found	Standard lead arsenate,[1] percent	Arsenic expressed as metallic, percent	Arsenic water soluble expressed as metallic, percent	Lead expressed as metallic, percent	Weight ratio lead oxide to arsenic pentoxide[2]	Decision
52325	California Spray-Chemical Corp.	G	98.00	19.50	0.50	59.50		P
	Ortho Standard Lead Arsenate	F	99.53	21.48	0.07	59.51	1.95	P
53434	do	F	98.78	21.10	0.05	59.35	1.98	P
52309	General Chemical Division, Allied Chemical & Dye Corporation	G	93.00	19.56	0.49	*61.00		P
	Orchard Brand Powdered Standard Lead Arsenate with Astringent	F	*98.04	21.19	0.14	58.49	1.94	P
52310	do	F	94.91	20.48	0.36	57.90	1.99	P
52311	do	F	95.06	20.51	0.37	57.65	1.97	P
52335	do	F	94.99	20.50	0.27	57.27	1.96	P
52435	do	F	95.00	20.50	0.15	56.90	2.02	P
53434	do	F	*97.37	21.13	0.18	58.13	1.93	P
51721	Niagara Chemical Division Food Machinery Corporation	G	96.00	19.56	0.33	58.00		P
	Niagara Standard Lead Arsenate	F	98.10	21.19	0.09	59.40	1.97	P
53433	do	F	98.24	21.20	0.07	59.05	1.99	P
53490	do	F	99.77	21.53	0.11	60.10	1.96	P
51720	The Sherwin-Williams Company	G	97.00	19.50	0.50	58.00		P
	Standard Lead Arsenate	F	98.67	21.20	0.10	59.31	1.97	P
52311	do	F	99.95	21.35	0.14	59.19	1.95	P
52749	do	F	96.29	20.78	0.22	58.30	1.99	P

* To calculate mol ratio PbO/As_2O_5, multiply weight ratio by 1.03.
[1] Standard lead arsenate ($PbHAsO_4$) calculated from arsenic unless otherwise noted.
[2] Standard lead arsenate ($PbHAsO_4$) calculated from lead.
* Guaranteed "Not more than."

TABLE No. 13. ZINC COMPOUNDS

Laboratory number	Name of registrant and product	Guaranteed and found	Zinc expressed as metallic, percent
	California Spray-Chemical Corp.		
51377	Delmo-Z Spray	G	50.00
		F	56.61
	The Chemical & Pigment Co.		
40397	Meteor Brand Zinc Sulphate	G	22.80
		F	26.85
51230	do	F	22.80
	Colloidal Products Corporation		
52549	Colloidal Z-1	G	
		F	1.36
52552	Multi-Film	G	
		F	0.82
	The New Jersey Zinc Sales Company		
49395	Leafox Zinc Oxide	G	79.00
		F	80.33
	Robeson Preservo Company		
50442	Clear Preservo	G	[1]0.00
		F	[1]0.36
49907	Buff Preservo	G	
		F	[1]0.07
50443	Buff Preservo	G	[1]0.00
		F	Nil
	The Sherwin-Williams Company		
49396	Zinc Sulphate	G	25.00
		F	23.00
51231	Zinc Sulphate Monohydrate	G	34.00
52044	do	F	35.67
52666	do	F	34.61
		F	35.24

[1] Zinc Chloride.
[2] Incorrectly labeled.
[3] Does not conform to statement of ingredients in confidential application for registration.

TABLE No. 14. COPPER, ZINC MIXTURES

Name of registrant and product	Guaranteed and found	Copper expressed as metallic, percent	Zinc expressed as metallic, percent	Decision
California Spray-Chemical Corp.				
Custom Mixture	G[1]	6.30	6.30	
	F	7.54	6.71	P
Calfox Dust No. 50-20	G[2]	4.30	4.30	
	F	4.91	4.66	P
Ortho-K Dust No. 25	G	4.50	4.50	
	F	5.31	5.43	P
do	F	5.39	5.25	P
do	F	5.25	5.13	P
do	F	5.18	5.24	P
Ortho-K Dust No. 35	G	6.30	6.30	
	F	7.16	7.21	P
Zinc Copsil Fungicide	G	19.00	19.00	
	F	21.03	20.71	P
do	F	21.31	19.45	P
do	F	20.58	20.73	P
do	F	21.39	21.00	P
do	F	20.40	22.90	P

[1] Guaranteed sulphur 63.0%, found 63.46%.
[2] Guaranteed fluorine as elemental 24.40%, found 27.58%.

TABLE No. 15. MERCURY COMPOUNDS

Name of registrant and product	Guaranteed and found	Mercury expressed as metallic, percent	Decision
F. W. Berk & Company Inc. Wood-Ridge Division			
Agricultural Corrosive Sublimate U.S.P.	G	73.80	
	F	73.80	P
E. I. du Pont de Nemours & Company			
Dupont 2% Ceresan	G	1.50	
	F	1.44	P
do	F	1.62	P
Dupont Ceresan M	G	3.20	
	F	3.04	P
Dupont New Improved Ceresan	G	3.80	
	F	3.79	P
do	F	3.89	P
do	F	3.82	P
Dupont Semesan Bel	G	0.50	
	F	8.46	D
O. E. Linck, Inc.			
Tat C-Lert	G[1]	----------	
	F	----------	P

[1] Guaranteed phenyl mercuric acetate 2.0%, found 2.30%; bis(2-aminoethyl)borate 2.0%, found 1.99%.

Sherwin Williams was
is on the staff of DDT
but apparently quit in 1950-51

STATE OF CALIFORNIA
DEPARTMENT OF AGRICULTURE
SACRAMENTO

SPECIAL PUBLICATION No. 237

ECONOMIC POISONS

1949-50

BUREAU OF CHEMISTRY

ECONOMIC POISONS REGISTRANTS—Continued

NOTE: Unless otherwise designated, cities are in California

SACRAMENTO PHARMACAL CO.*
3900 Broadway, Sacramento

SACRAMENTO STOCK AND POULTRY SUPPLY
1701 Jay St., Sacramento 14

SALSBURY'S, Dr., LABORATORIES
500 Gilbert St., Charles City, Iowa

SAN-A-LIZER CORPORATION
1300 N. Wilton Pl., Hollywood 28

SAN BENITO COUNTY AGRICULTURAL COMMISSIONER
Courthouse, Hollister

SAN BERNARDINO COUNTY AGRICULTURAL COMMISSIONER
566 Lugo Ave., San Bernardino

SANDERS CHEMICAL MFG. CO.
1207 Sunset Blvd., Los Angeles 26

SAN DIEGO COUNTY AGRICULTURAL COMMISSIONER
Operations Center, San Diego

SAN DIEGO JANITOR SUPPLY & CHEMICAL CO.
1002 "B" St., San Diego 1

SANE-SPRAY CORPORATION
Forest Hill Hotel, Pacific Grove

SAN GABRIEL VALLEY SUPPLY COMPANY
2330 E. Valley Blvd., Rosemead

SANIS CHEMICAL COMPANY
P.O. Box 616, Chico

SANITEK PRODUCTS, INC.
111-117 S. Garey St., Los Angeles 12

SAN JOAQUIN COUNTY AGRICULTURAL COMMISSIONER
P.O. Box 1809, Stockton

SAN JOAQUIN PAPER & JANITOR SUPPLY, INC.
459 Van Ness, Fresno

SAN JOAQUIN SULPHUR CO.
P.O. Box 127, Lodi

SAN JOAQUIN VALLEY POULTRY PRODUCERS ASSOCIATION
P.O. Box 1829, Fresno

SAN JOSE SPRAY MANUFACTURING COMPANY
Lucas and Ortho Way, Richmond

SAN MATEO COUNTY AGRICULTURAL COMMISSIONER
Agricultural Bldg., Chestnut and Heller, Redwood City

SANO PHARMACY*
124 N. Main St., Los Angeles 12

SANTA BARBARA COUNTY AGRICULTURAL COMMISSIONER
P.O. Box 127, Santa Barbara

SANTA BARBARA, CITY OF, HEALTH DEPARTMENT*
City Hall, Santa Barbara

SANTA BARBARA TERMITE & PEST CONTROL CO.
401 N. Milpas St., Santa Barbara

SANTA CLARA COUNTY AGRICULTURAL COMMISSIONER
Hall of Justice, San Jose 18

SANTA CRUZ COUNTY AGRICULTURAL COMMISSIONER
602 E. Lake St., Watsonville

SANTA CRUZ LUMBER COMPANY
P.O. Drawer 1011, Santa Cruz

SARATOGA LABORATORIES
P.O. Box 386, Saratoga

SAVAGE ANT SERVICE**
3101 Colorado Ave., Santa Monica

SAXTON, ROBERT C.
836 Washington St., Red Bluff

SAYMAN PRODUCTS COMPANY
2101 Locust St., St. Louis 3, Mo.

SCHRADER CHEMICAL CO.
1 Enterprise St., San Francisco 10

SCOTT & GILBERT COMPANY
310 Mission St., San Francisco 5

SCOTT, O. M., & SONS CO.
Sixth St., Marysville, Ohio

SCOTTY SPECIALTY WORKS
1009 W. 16th St., Sedalia, Mo.

SEARS, ROEBUCK AND CO.
2650 Olympic Blvd., Los Angeles 54

SEASIDE OIL COMPANY
330 State St., Santa Barbara

SECTOFIN CHEMICAL COMPANY
7225 Beverly Blvd., Los Angeles

SECURITY PAINT MANUFACTURING COMPANY
2811 Alcazar St., Los Angeles 33

SENNEWALD DRUG CO., INC.
2723 Chouteau Ave., St. Louis 3, Mo.

SENORET CHEMICAL CO.*
610 Gratiot St., St. Louis, Mo.

SENTINEL CHEMICAL COMPANY
P.O. Box 853, Oakland 4

SENTINEL MFG. CO.
4593 El Cerrito Dr., San Diego

SEQUOIA PRODUCTS COMPANY
P.O. Box 91, Eureka

SHARP & DOHME, INC.
632-640 N. Broad St., Philadelphia 1, Pa.

SHASTA COUNTY AGRICULTURAL COMMISSIONER
County Office Bldg., Placer St., Redding

SHELL CHEMICAL CORPORATION
50 W. 50th St., New York 20, N. Y.

SHELL OIL COMPANY, INCORPORATED
100 Bush St., San Francisco 6

SHERRICK, L. A., CHEMICAL COMPANY
2616 Piedmont, Montrose

SHERWIN-WILLIAMS CO., THE
1450 Sherwin Ave., Oakland 8

SHIPKEY, A. H.
1406 W. Broadway, Anaheim

SIERRA CHEMICAL COMPANY
Rt. 1, Box 2365, West Sacramento

SIGNAL OIL COMPANY
P.O. Box 5840, Metropolitan Station, Los Angeles

SMALL'S SEED CO.
3609 Eighth St., Riverside

SMITH, E. W., CHEMICAL CO.
3498 Union Pacific Ave., Los Angeles 23

SNOWDEN CHEMICAL COMPANY
P.O. Box 1213, Modesto

SNYDER'S TERMITE CONTROL
4428 Magnolia Ave., Riverside

SOCONY PAINT PRODUCTS COMPANY
2617 E. 37th St., Los Angeles 11

SOCONY-VACUUM OIL COMPANY, INC.
26 Broadway, New York 4, N.Y.

SOHLSERV, INC.
P.O. Box 727, Bellflower

SOLANO COUNTY AGRICULTURAL COMMISSIONER
Fairfield

SONOMA COUNTY AGRICULTURAL COMMISSIONER
Courthouse, Santa Rosa

ECONOMIC POISONS REGISTRANTS—Continued

NOTE: Unless otherwise designated, cities are in California

SOUTHERN CALIFORNIA DISINFECTING COMPANY
256 S. Los Angeles St., Los Angeles 12

SOUTHLAND PEST CONTROL CO.**
56 N. Hill Ave., Pasadena 4

SOUTHWEST CHEMICAL CO.
P.O. Box 193, Eagle Rock 41

SOUTHWEST CO-OPERATIVE WHOLESALE
P.O. Box 1632, Phoenix, Ariz.

SOUTHWEST, WARREN, INC.
P.O. Box 419, Torrance

SPECIAL EFFECTS MANUFACTURING COMPANY
P.O. Box 528, San Fernando

SPECKMAN, F. M., COMPANY
111 Quint St., San Francisco 24

SPRATT'S PATENT LIMITED
1170 Howard St., San Francisco

STANDARD AGRICULTURAL CHEMICALS, INC.
1301 Jefferson St., Hoboken, N.J.

STANDARD DISINFECTANT COMPANY
347 Jefferson Ave., Memphis, Tenn.

STANDARD LABORATORIES, INC.
113 W. 18th St., New York 11, N.Y.

STANDARD LABORATORIES AND SUPPLY COMPANY
40 12th St., San Francisco 9

STANDARD OIL COMPANY OF CALIFORNIA
200 Bush St., San Francisco 20

STANISLAUS COUNTY AGRICULTURAL COMMISSIONER
Old Courthouse, Modesto

STANISLAUS FARM SUPPLY
1040 M St., Newman

STANLEY HOME PRODUCTS, INC.
52 Arnold St., Westfield, Mass.

STANLEY INDUSTRIES
13415 24th Ave. S., Seattle 88, Wash.

STANLEY PEST CONTROL CO.**
1709 W. Eighth St., Los Angeles 14

STAR PAINT CO.
1035 Carleton St., Berkeley 2

STATE DEPARTMENT OF PUBLIC HEALTH BUREAU OF VECTOR CONTROL
2160 Milvia St., Berkeley 4

STAUFFER CHEMICAL COMPANY
636 California St., San Francisco 8

STAUFFER CHEMICAL COMPANY—NICO-DUST MANUFACTURING DIVISION
636 California St., San Francisco 8

STAUFFER CHEMICAL COMPANY, SAN FRANCISCO SULPHUR DIVISION
636 California St., San Francisco 8

STAY & DAY PAINT MATERIALS CO.
2330 E. 14th St., Los Angeles 21

STAYNER CORPORATION
2100 Ward St., Berkeley 5

STEARNS' ELECTRIC PASTE COMPANY
111 W. Washington St., Chicago 2, Ill.

STERLING CO., INC., THE
2501 Locust St., St. Louis 3, Mo.

STEVES PEST CONTROL SERVICE**
1412 Webster St., Oakland 12

STOCKTON CHEMICAL CO.
421 N. Grant St., Stockton

STOCKTON VETERINARY SUPPLY CO.
334 E. Lafayette St., Stockton 34

STOKER, H. L., COMPANY
P.O. Box 112, Claremont

STOLTZ CHEMICAL CO.
315 W. Poplar St., Stockton 10

STOVER SEED CO.
598 Mateo St., Los Angeles 13

STRASENBURGH, R. J., CO.
195 Exchange St., Rochester 4, N.Y.

STUMPF'S, JOHN, SON*
P.O. Box 38, Gretna, La.

SULLIVAN HARDWOOD LUMBER CO.
P.O. Box 1350, San Diego 12

SUNLAND INDUSTRIES, INC.
P.O. Box 1609, Fresno 17

SUNLAND REFINING CORPORATION
P.O. Box 1512, Fresno 16

SUNSET SUPPLY & PAPER COMPANY
118-122 Fourth St., San Francisco 3

SUN VACUUM STORES*
908 S. Broadway, Los Angeles 15

SUTTER COUNTY AGRICULTURAL COMMISSIONER
459 Second St., Mission Hall, Yuba City

SWEENEY, W. R.
Salisbury, Mo.

SWIFT AND COMPANY
4060 E. 26th St., Los Angeles 23

TALBOT MANUFACTURING CO.
465 E. 31st St., Los Angeles 11

TARR & WONSON, LIMITED
Horton St., Gloucester, Mass.

TAYLOR, PERCY A.
1977 N. Kenmore, Los Angeles 27

TECHROTE COMPANY
821 W. Manchester Ave., Inglewood

TEHAMA COUNTY AGRICULTURAL COMMISSIONER
Courthouse, Red Bluff

TENNESSEE COPPER COMPANY
Copperhill, Tenn.

TERMINIX COMPANY
2252 W. Washington Blvd., Los Angeles 7

TERMINIX OF NORTHERN CALIFORNIA, INC.
918 Harrison St., San Francisco 7

TERMITE CONTROL CO.
561 E. Harding Way, Stockton 20

TETCO CO., DIVISION OF INDUSTRIAL MANAGEMENT CORPORATION
458 S. Spring St., Los Angeles 13

13/23 LABORATORIES
P.O. Box 222, Los Angeles 41

THOMPSON-HAYWARD CHEMICAL COMPANY
2915 Southwest Blvd., Kansas City 8, Mo.

THOMPSON HORTICULTURAL CHEMICALS CORPORATION
3600 Monon St., Los Angeles 27

THOMPSON LABORATORIES, INC.*
601 S. Vermont Ave., Los Angeles 5

TIDE WATER ASSOCIATED OIL COMPANY
79 New Montgomery St., San Francisco 20

TIDY PRODUCTS CO.*
5958 Franklin Ave., Los Angeles 28

TNEMEC COMPANY, INC.
3122 Roanoke Rd., Kansas City 8, Mo.

TOBACCO BY-PRODUCTS & CHEMICAL CORPORATION
401 E. Main St., Richmond 6, Va.

SUMMARY OF ECONOMIC POISONS EXAMINED

The following is a list of economic poisons collected and examined during the fiscal year ended June 30, 1950.

Table number		Number of samples	Samples deficient	Samples misbranded	Samples not registered
	Arsenicals				
1	Standard Lead Arsenates	9	--	--	1
2	Basic Lead Arsenates	5	--	--	--
3	Snail and Slug Poisons	11	--	--	--
4	Miscellaneous Arsenicals	19	7	--	1
	Sulfurs				
5	Dusting and Wettable Sulfurs	46	1	--	--
6	Lime-Sulfur Solutions	30	--	--	--
7	Dry Lime-Sulfurs	6	--	1	--
	Metallic Compounds				
8	Copper Compounds Dusts and Mixtures	63	7	2	--
9	Zinc Compounds Dusts and Mixtures	14	4	--	1
10	Copper Zinc Mixtures	14	--	--	--
11	DDT, Copper, Zinc, and Sulfur Mixtures	24	4	--	1
12	Mercury Compounds	13	--	1	--
13	Metallic Dithiocarbamates Dusts and Mixtures	48	--	--	2
	DDT Products				
14	DDT Dusts and Mixtures	179	14	--	3
15	DDT and Benzene Hexachloride Mixtures	29	2	--	1
16	DDT and Sulfur Mixtures	131	10	1	5
17	Miscellaneous DDT Mixtures	21	3	1	4
	Chlorine Compounds				
18	Benzene Hexachloride Dusts and Mixtures	101	10	--	7
19	Benzene Hexachloride and Sulfur Mixtures	16	0	--	1
20	Chlordane Dusts and Mixtures	35	1	1	--
21	DDD Dusts and Mixtures	45	5	--	--
22	Toxaphene Dusts and Mixtures	12	2	--	1
23	Chlorophenol Mixtures	11	3	1	--
24	2,4-D Mixtures	19	3	--	2
25	Hypochlorite Mixtures	11	8	--	--
26	Miscellaneous Materials Containing Chlorine	38	3	5	6
	Botanicals				
27	Nicotine Dusts and Mixtures	41	7	--	2
28	Pyrethrins Dusts and Sprays	20	--	--	--
29	Rotenone Dusts and Sprays	77	26	1	5
	Petroleum Oils				
30	Foliage Spray Emulsions	49	3	3	--
31	Foliage Emulsive Spray Oils	46	1	--	--
32	Dormant Spray Oils and Emulsions	86	1	--	1
33	Weed Oils	35	2	1	--
34	Miscellaneous Oils	19	--	--	--
	Miscellaneous				
35	Calcium Hydroxides	8	1	1	--
36	Creosotes and Similar Materials	20	1	5	1
37	Cyanamides	8	--	--	--
38	Dinitro Compounds	16	2	--	--
39	Hydrocyanic Acids	8	--	--	--
40	Parathions	94	10	--	--
41	Miscellaneous Parathion Mixtures	25	4	--	1
42	Pine Oil Disinfectants	8	4	--	--
43	Red Squill Preparations	6	4	--	1
44	Rodenticides	31	2	--	--
45	Sodium Fluoaluminate Dusts and Mixtures	14	2	2	--
46	Soil Fumigants	11	1	--	--
47	Tetraethyl Pyrophosphate Dusts and Sprays	55	4	--	--
48	Tetraethyl Pyrophosphate and DDT Mixtures	12	1	--	--
49	Miscellaneous Economic Poisons	36	4	2	7
	Totals	1,675	173	38	59

TABLE No. 1. STANDARD LEAD ARSENATES

Laboratory number	Name of registrant and product	Guaranteed and found	Standard lead arsenate,[1] percent	Arsenic expressed as metallic, percent	Arsenic water soluble expressed as metallic, percent	Lead expressed as metallic, percent	Weight ratio lead oxide to arsenic pentoxide*	Decision
	California Spray-Chemical Corporation							
60421	Ortho Standard Lead Arsenate	G	96.00	19.50	0.30	59.50	2.05	P
		F	95.09	20.52	0.02	59.85		
	General Chemical Division, Allied Chemical & Dye Corporation							
61537	Ortho Standard Lead Arsenate	G	98.00	20.50	0.50	56.70	2.00	P
		F	96.74	20.92	0.07	59.35		
	Orchard Brand Powdered Standard Lead Arsenate with Astringent							
59624		G	93.00	19.56	0.49	[2] 61.00	2.06	P
		F	93.65	20.21	0.03	59.17		
	Orchard Brand Powdered Lead Arsenate with Astringent							
60310		G	93.00	19.56	0.49	56.00	2.03	P
		F	93.09	20.09	0.02	59.55		
	Lucas Kil-Tone Co.							
58052	Lucas Insecticides Arsenate of Lead Standard Type	G	98.00	19.50	0.50	58.00	1.97	X
		F	98.98	21.36	0.19	59.82		
	Niagara Chemical Division, Food Machinery and Chemical Corporation							
59730	Niagara Standard Lead Arsenate	G	96.00	19.56	0.33	58.00	2.00	P
		F	96.76	20.65	0.03	59.56	1.99	P
		F	98.10	21.17	0.17	59.73	2.02	P
60388	do	F	97.31	21.00	0.11	60.49		
60389	do	F						
	The Sherwin-Williams Company							
58053	Standard Lead Arsenate	G	97.00	19.50	0.50	58.00	1.95	P
		F	99.40	21.45	0.20	59.61		

* To calculate mol ratio PbO/As_2O_5, multiply weight ratio by 1.03.
[1] Standard lead arsenate ($PbHAsO_4$) calculated from arsenic.
[2] Guaranteed "Not more than."

TABLE No. 14. DDT DUSTS AND MIXTURES—Continued

Laboratory number	Name of registrant and product	Guaranteed and found	Dichlorodiphenyltrichloroethane, percent	Decision
	Heckathorn & Co., Ltd.			
58277	50% DDT Dry Powder	G	50.00	
		F	49.64	P
	Los Angeles Chemical Company			
58864	Lacco Brand BugZTox	G	25.00	
		F	20.45	P
60254	do	F	23.50	P
57955	Lacco Brand Dust No. 9-5	G	5.00	
		F	5.38	P
60256	do	F	4.94	P
57956	Lacco Brand Dust No. 9-10	G	10.00	
		F	10.14	P
60257	do	F	9.98	P
58257	Lacco Brand D.D.T. Mojable 50%	G	50.00	
		F	51.47	P
60858	Lacco Brand Wettable D.D.T. Mixture	G	50.00	
		F	53.30	P
	Moyer Chemical Company			
61140	Moyer DDT Dust No. 5	G	5.00	
		F	4.83	P
57710	Moyer DDT Dust No. 10	G	10.00	
		F	10.45	P
	Nevasco Laboratories			
59146	Nevasco Brand Products 10% D.D.T.	G	10.00	
		F	13.96	P
	Niagara Chemical Division Food Machinery and Chemical Corporation			
57624	Niagara Niatox 5 Dust	G	5.00	
		F	5.11	P
60843	do	F	5.32	P
61396	do	F	5.08	P
57721	Niagara Niatox 10 Dust	G	10.00	
		F	10.17	P
58906	do	F	10.07	P
60839	do	F	7.80	D
61119	do	F	10.36	P
61397	do	F	10.07	P
60847	Niagara Liquid Niatox 25 Spray	G	25.00	
		F	23.67	P
59865	Niagara Niatox Crop Spray	G	50.00	
		F	48.67	D
60390	do	F	50.20	P
60863	do	F	44.88	D
	Pacific Chemical Company			
61169	Insecticidal Concentrate	G	25.00	
		F	23.07	P
	Pacific Guano Company			
57674	Gavicide DT-Dust No. 5	G	5.00	
		F	4.89	P
60141	do	F	4.33	D
60682	do	F	4.89	P
60853	do	F	4.86	P
61012	Gavicide DT-Dust No. 10	G	10.00	
		F	9.96	P
	Pennsylvania Salt Manufacturing Co.			
59522	Pensalco Livestock Spray	G	50.00	
		F	51.31	P
	John Powell & Company, Inc.			
59657	Powco Brand DDT	G	100.00	
		F	99.84	P
59658	do	F	99.11	P

TABLE No. 14. DDT DUSTS AND MIXTURES—Continued

Laboratory number	Name of registrant and product	Guaranteed and found	Dichlorodiphenyltrichloroethane, percent	Decision
	Plant Food Corporation			
60309	Super Kill D-Kill No. 5	G	5.00	
		F	4.90	P
60370	Super Kill D-Kill No. 10	G	10.00	
61296	do	F	9.54	P
		F	9.93	P
59709	Super Kill D-Kill W No. 50	G	50.00	
		F	51.20	P
	Richfield Oil Corporation			
58552	Richfield Surface Spray	G	5.00	
		F	4.06	P
	Shell Chemical Corporation			
60275	Shell Resitox D-25	G	25.00	
60561	do	F	25.10	P
60860	do	F	24.71	P
61073	do	F	21.68	P
		F	23.97	D
	The Sherwin Williams Company			
57602	DDTOL 25% Emulsifiable	G	25.00	
		F	24.97	P
58728	DDTOL 50% Wettable	G	50.00	
		F	50.03	P
	Socony-Vacuum Oil Company, Inc.			
59672	Sanilac 50% DDT Wettable Powder	G	50.00	
		F	50.49	P
	Standard Oil Company of California			
58186	Chevron Surface Spray	G	5.00	
		F	5.50	P
	Stauffer Chemical Company			
60729	(Stauffer Chemicals) Stauffer DDT Wettable Concentrate	G	50.00	
		F	52.07	P
	Stauffer Chemical Company Nico-Dust Manufacturing Division			
60060	(Stauffer Chemicals) Dampo 50	G	50.00	
60293	do	F	50.36	P
60317	do	F	52.12	P
60321	do	F	50.18	P
60459	do	F	52.12	P
60691	do	F	51.42	P
60978	do	F	51.17	P
61140	do	F	51.12	P
61126	do	F	51.34	P
		F	50.35	P
57312	(Stauffer Chemicals) Denoxo 5	G	5.00	
58110	do	F	5.32	P
58290	do	F	5.25	P
58336	do	F	5.34	P
58501	do	F	5.28	P
58512	do	F	5.32	P
58719	do	F	5.29	P
58728	do	F	5.21	P
58909	do	F	5.18	P
59010	do	F	5.84	P
60280	do	F	5.23	P
61120	do	F	5.30	P
		F	4.93	P
60330	(Stauffer Chemicals) Denoxo 10	G	10.00	
61321	do	F	10.64	P
		F	9.65	P
57402	(Stauffer Chemicals) D. E. C. 25	G	25.00	
60278	do	F	25.75	P
61072	do	F	25.72	P
		F	21.60	P

TABLE No. 16. DDT AND SULFUR MIXTURES—Continued

Laboratory number	Name of registrant and product	Guaranteed and found	Dichlorodiphenyltrichloroethane, percent	Sulfur, percent	Decision
	California Spray-Chemical Corporation—Continued				
58327	Persisto Flotox Dust No. 50-50	G	5.00	50.00	
		F	4.82	52.99	P
60647	do	F	5.53	52.49	P
60832	do	F	5.06	51.72	P
61114	An Ortho Product Custom Mixture	G	2.00	90.00	
		F	2.27	89.28	P
	S. A. Camp Ginning Company				
57084	S.A.C. Braud Insecticides 5-75	G	5.00	75.00	
		F	4.89	74.14	D
	A. L. Castle Inc.				
57833	Castle Brand Dust Durasuldust 5-50	G	5.00	50.00	
		F	5.13	50.06	P
57961	do	F	4.92	51.01	P
58076	do	F	5.32	51.04	P
58168	do	F	4.95	51.06	P
60208	do	F	5.08	51.16	P
60777	do	F	5.11	53.68	P
60939	do	F	5.00	49.50	P
61438	do	F	4.94	50.82	P
	Chemurgic Corporation				
60427	Chem-Dust No. 5-50 DS	G	5.00	50.00	
		F	5.53	49.36	P
61123	Chem-Dust No. 5-75 DS	G	5.00	75.00	
		F	5.32	80.52	P
	Coastal Chemical Company				
60058	Coastex DDT-Sulphur 5-50	G	5.00	50.00	
		F	4.78	48.74	D
61059	do	F	4.95	50.02	P
61417	do	F	5.00	49.24	P
	Destruxol Corporation Ltd.				
57643	Destruxol 5D-50S Dust	G	5.00	50.00	
		F	5.74	50.30	P
58124	do	F	5.82	50.02	P
	Durham Chemical Company				
58100	(Durham) DDT Sulphur 5-50	G	5.00	49.00	
		F	4.81	49.02	P
61165	do	F	4.47	44.68	D
59817	(Durham) DDT Sulphur Dust 5-75	G	5.00	73.50	
		F	5.20	51.94	D
	Fresno Agricultural Chemical Company				
60914	Red-Top DDT 4 Sulphur 85 Dust	G	4.00	85.00	
		F	5.18	81.88	P
	Los Angeles Chemical Company				
57505	Lacco Brand Dust No. 0-5-S-2	G	5.00	75.00	
		F	5.67	70.90	P
	Michel & Pelton Co.				
58080	Mapco Products	G	5.00	45.00	
		F	5.07	41.91	XM
	Moyer Chemical Company				
57718	Moyer DDT-Sulfur Dust No. 5-50	G	5.00	47.00	
		F	5.53	48.66	P
	Naco Fertilizer Company				
61070	Naco Brand DDT Sulfur Dust 5-50	G	5.00	50.00	
		F	5.01	51.93	P
61370	do	F	5.13	51.44	P

TABLE No. 16. DDT AND SULFUR MIXTURES—Continued

Laboratory number	Name of registrant and product	Guaranteed and found	Dichlorodiphenyltrichloroethane, percent	Sulfur, percent	Decision
	Niagara Chemical Division, Food Machinery and Chemical Corporation				
60810	Niagara Kolodust Niatox 50-5 Dust	G	5.00	42.00	
		F	5.32	44.18	P
61119	do	F	5.25	45.38	P
60120	Niagara Kolodust Niatox 85-5 Dust	G	5.00	75.00	
		F	5.56	76.72	P
60411	do	F	5.21	77.13	P
60816	do	F	5.11	77.64	P
58167	Niagara Sulphur Niatox 5 Dust	G	5.00	50.00	
		F	5.28	53.61	X
58168	do	F	5.42	53.90	X
60211	do	F	5.46	52.98	P
60815	do	F	5.18	53.70	P
	Pacific Guano Company				
57421	Gavicide DTS-Dust No. 4	G	4.00	80.00	
		F	3.90	80.04	P
57562	do	F	3.97	79.25	P
58070	Gavicide DTS-Dust No. 5	G	5.00	50.00	
		F	5.00	51.23	P
60852	do	F	4.33	50.40	D
	Plant Food Corporation				
60368	Super Kill D-Kill-S No. 5-50	G	5.00	50.00	
		F	5.15	50.51	P
57517	Super Kill D-Kill-S-5-85	G	5.00	85.00	
		F	4.96	84.80	P
	The Sherwin-Williams Company				
57932	S-W 5% DDT-50% Sulfur Dust	G	5.00	50.00	
		F	5.01	51.76	P
	Stauffer Chemical Company, Nico-Dust Manufacturing Division				
57098	(Stauffer Chemicals) D-Fusul 4	G	4.00	80.00	
		F	4.21	80.76	P
57910	do	F	3.81	84.10	P
59924	do	F	4.59	70.60	P
61213	do	F	4.32	82.26	P
57518	(Stauffer Chemicals) D-Toxsul 5-50	G	5.00	50.00	
		F	5.28	52.22	P
57737	do	F	5.25	52.66	P
57742	do	F	5.18	53.32	P
60756	do	F	5.04	52.10	P
60879	do	F	5.04	54.14	P
61068	do	F	4.96	53.14	P
57743	(Stauffer Chemicals) D-Toxsul 10-50	G	10.00	50.00	
		F	9.60	55.10	P
60329	do	F	10.45	52.64	P
60107	do	F	10.85	53.20	P
60757	do	F	10.64	54.30	P
	H. L. Stoker Company				
61388	Dustrite D.D.T. Sulphur Dust No. 50-50	G	5.00	50.00	
		F	5.46	49.62	P
	Sunland Industries, Inc.				
57507	Sunland DDT Dust 10-S	G	10.00	75.00	
		F	10.12	76.70	P
60750	do	F	9.09	78.17	D
57251	Sunland SD-5 Dust	G	5.00	85.00	
		F	5.25	85.80	P
57341	do	F	5.13	85.32	P
57700	do	F	4.72	86.51	D
57757	do	F	5.28	86.46	P
61331	do	F	4.82	87.26	P

TABLE No. 27. NICOTINE DUSTS AND MIXTURES

Laboratory number	Name of registrant and product	Guaranteed and found	Nicotine expressed as alkaloid, percent	Decision
	Agriform Company, Incorporated			
57511	Agritox Nicotine Dust No. 10-F	G	3.60	
		F	3.50	P
	California Spray-Chemical Corporation			
58096	Nicocide No. 10	G	3.60	
		F	3.11	D
58612	do	F	3.38	D
57464	Ortho "N" Dust No. 5	G	1.80	
		F	0.42	D
57918	do	F	1.62	P
61402	do	F	1.81	P
	A. L. Castle, Inc.			
57714	Castle Brand Dust No. 10-F Nicotine	G	3.70	
		F	3.58	P
58303	do	F	3.94	P
58912	do	F	3.51	P
	Chemurgic Corporation			
58304	Chem-Nico 10-F	G	3.60	
		F	4.23	P
	Coastal Chemical Company			
60059	Coastox Nicotine 10-F	G	3.60	
		F	3.43	P
	Durham Chemical Company			
59817	Durham Nicotine Dust 10	G	3.60	
		F	3.38	D
58350	Durham Nicotine Dust 10-F	G	3.60	
		F	4.10	P
	General Chemical Division, Allied Chemical & Dye Corporation			
57432	Orchard Brand Nicotine Dust 0-5	G	1.80	
		F	1.91	P
59442	Orchard Brand Nicotine Dust 0-10 Special	G	3.60	
		F	3.65	P
	Los Angeles Chemical Company			
60730	Lacco Brand Dust No. 5	G	1.80	
		F	2.36	P
61002	do	F	1.91	P
61003	do	F	1.95	P
61004	do	F	1.96	P
61062	do	F	1.91	P
	Moyer Chemical Company			
57613	Moyer Nicotine Dust No. 5	G	1.80	
		F	2.06	P
58081	do	F	1.75	P
	Niagara Chemical Division, Food Machinery and Chemical Corporation			
57702	Niagara N-5 Dust	G	1.75	
		F	1.85	P
	Pacific Guano Company			
57673	Gavicide "N" Dust 10-DC	G	3.60	
		F	3.43	P
	Purity Chemical Products Co.			
61412	Purity No. 5 Dust Mix With Nicotine	G	1.80	
		F	1.77	P
57429	Purity No. 10 Dust Mix With Nicotine	G	3.60	
		F	3.54	P

TABLE No. 27. NICOTINE DUSTS AND MIXTURES—Continued

Laboratory number	Name of registrant and product	Guaranteed and found	Nicotine expressed as alkaloid, percent	Decision
	The Sherwin-Williams Company			
60150	S-W "N" Dust No. 10	G	3.60	
		F	1.33	D
60140	Sherwin-Williams Nicotine Dust No. 10 "B"	G	3.60	
		F	3.21	D
	Stauffer Chemical Company Nico-Dust Manufacturing Division			
57431	(Stauffer Chemicals) Nico-Dust 5	G	1.80	
		F	1.93	P
57916	do	F	1.99	P
61017	do	F	1.81	P
58320	(Stauffer Chemicals) Nico-Dust (Tenoff) 10-F	G	3.60	
		F	3.82	P
60279	do	F	3.77	P
60886	do	F	3.60	P
	Sunland Industries, Inc.			
57512	Sunland Nicotine Dust 5	G	1.80	
		F	1.35	D
	Tobacco By-Products & Chemical Corporation			
58054	"Black Leaf" Dry Concentrate	G	14.00	
		F	14.65	P
60320	do	F	14.36	P
59517	"Black Leaf" "40"	G	40.00	
		F	40.05	P
58889	Black Leaf Worm Powder	G	5.00	
		F	5.07	P
58604	Gold Leaf Tobacco Dust	G	1.00	
		F	1.19	P
	The Triangle Company			
59885	Triangle Peat Dust No. 10-F	G	3.60	
		F	4.67	P

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TABLE No. 28. PYRETHRINS DUSTS AND SPRAYS

Laboratory number	Name of registrant and product	Guaranteed and found	Total pyrethrins, percent	Decision
	Agriform Company, Inc.			
60121	Agritox C P R Dust	G	0.05	
		F[1]	0.04	P
	L. H. Butcher Company			
57590	Butcher Brand Kornoil	G	0.20	
		F	0.21	P
60966	do	F	0.21	M[2]
58530	Pip Aerosol Insect Killer	G	0.20	
		F[1]	0.20	P
	California Spray-Chemical Corporation			
58521	Custom Mixture	G	0.15	
		F[1]	0.15	P
	R. L. Chacon Chemical Company			
57490	Cornworm Spray	G	0.40	
		F[1]	0.39	P

Sherwin-Williams was no longer an Economic Poison Registrant after 1950

STATE OF CALIFORNIA
DEPARTMENT OF AGRICULTURE
SACRAMENTO

SPECIAL PUBLICATION No. 240

ECONOMIC POISONS

Over

1950-51

BUREAU OF CHEMISTRY

CH510146

ECONOMIC POISONS REGISTRANTS—Continued

NOTE: Unless otherwise designated, cities are in California.

ROYAL CHEMICAL AND DISINFECTANT COMPANY
1400 S. Georgia St., Los Angeles 15

RUDD & CUMMINGS
1608 15th Ave. W., Seattle 99, Wash.

RUSSELL, J. D., CO., LABORATORIES
P.O. Box No. 1, Kansas City, Mo.

SACRAMENTO COUNTY AGRICULTURAL COMMISSIONER
Room 120, Courthouse, Sacramento

SACRAMENTO PHARMACAL CO.*
3900 Broadway, Sacramento

SALSBURY'S, DR., LABORATORIES
500 Gilbert St., Charles City, Iowa

SAN-A-LIZER CORPORATION
1300 N. Wilton Pl., Hollywood 28

SAN BENITO COUNTY AGRICULTURAL COMMISSIONER
Courthouse, Hollister

SAN BERNARDINO COUNTY AGRICULTURAL COMMISSIONER
566 Lugo Ave., San Bernardino

SANDERS CHEMICAL MFG. CO.
1207 Sunset Blvd., Los Angeles 26

SAN DIEGO COUNTY AGRICULTURAL COMMISSIONER
Operations Center, San Diego 10

SAN DIEGO JANITOR SUPPLY & CHEMICAL CO.
1002 B St., San Diego 1

SANE-SPRAY CORPORATION
Forrest Hill Hotel, Pacific Grove

SAN GABRIEL VALLEY SUPPLY COMPANY
2330 E. Valley Blvd., Rosemead

SANIS CHEMICAL COMPANY
P.O. Box 610, Chico

SANITEK PRODUCTS, INC.
111 117 S. Garey St., Los Angeles 12

SAN JOAQUIN COUNTY AGRICULTURAL COMMISSIONER
P.O. Box 1809, Stockton

SAN JOAQUIN PAPER & JANITOR SUPPLY, INC.
459 Van Ness, Fresno

SAN JOAQUIN SULPHUR CO.
P.O. Box 127, Lodi

SAN JOAQUIN VALLEY POULTRY PRODUCERS ASSOCIATION
P.O. Box 1829, Fresno

SAN JOSE SPRAY MANUFACTURING COMPANY
Lucas and Ortho Way, Richmond

SAN MATEO COUNTY AGRICULTURAL COMMISSIONER
Agricultural Bldg., Chestnut & Heller, Redwood City

SANO PHARMACY*
139 S. Broadway, Los Angeles 12

SANTA BARBARA COUNTY AGRICULTURAL COMMISSIONER
P.O. Box 127, Santa Barbara

SANTA BARBARA TERMITE & PEST CONTROL CO.
401 N. Milpas St., Santa Barbara

SANTA CLARA COUNTY AGRICULTURAL COMMISSIONER
Hall of Justice, San Jose 18

SANTA CRUZ COUNTY AGRICULTURAL COMMISSIONER
602 E. Lake St., Watsonville

SANTA CRUZ LUMBER COMPANY
P.O. Drawer 1041, Santa Cruz

SAVAGE ANT SERVICE**
3104 Colorado Ave., Santa Monica

SAYMAN PRODUCTS COMPANY*
2101 Locust St., St. Louis 3, Mo.

SCHRADER CHEMICAL CO.
1 Enterprise St., San Francisco 10

SCOTT, O. M., & SONS CO.
Sixth St., Marysville, Ohio

SCOTT & GILBERT COMPANY
316 Mission St., San Francisco 5

SEARS, ROEBUCK AND CO.
2650 E. Olympic Blvd., Los Angeles 54

SEASIDE OIL COMPANY
330 State St., Santa Barbara

SECTOFIN CHEMICAL COMPANY
7225 Beverly Blvd., Los Angeles

SECURITY PAINT MANUFACTURING COMPANY
2811 Alcazar St., Los Angeles 33

SENNEWALD DRUG CO., INC.
2723 Chouteau Ave., St. Louis 3, Mo.

SENORET CHEMICAL CO.*
610 Gratiot St., St. Louis Mo.

SENTCO, INC.
P.O. Box 3191, W. Palm Beach, Fla.

SENTINEL CHEMICAL COMPANY
P.O. Box 853, Oakland 4

SHARP & DOHME, INC.
632-640 N. Broad St., Philadelphia 1, Pa.

SHASTA COUNTY AGRICULTURAL COMMISSIONER
County Office Bldg., Placer St., Redding

SHELL CHEMICAL CORPORATION
50 W. 50th St., New York 20, N. Y.

SHELL OIL COMPANY
100 Bush St., San Francisco 6

SHERWIN-WILLIAMS COMPANY, THE
1450 Sherwin Ave., Oakland 8

SHIPKEY, A. H.
1400 W. Broadway, Anaheim

SIERRA CHEMICAL COMPANY
Rt. 1, Box 2205, W. Sacramento

SIGNAL OIL COMPANY
P.O. Box 5840, Metropolitan Station, Los Angeles

SLOAN, J. F., Co.
P.O. Box 657, Salinas

SMALL'S SEED CO.
3609 Eighth St., Riverside

SMITH, E. W., CHEMICAL CO.
3198 Union Pacific Ave., Los Angeles 23

SNOWDEN CHEMICAL COMPANY
P.O. Box 1213, Modesto

SNYDER'S TERMITE CONTROL
4128 Magnolia Ave., Riverside

SOCONY PAINT PRODUCTS COMPANY
2647 E. 37th St., Los Angeles 11

SOILSERV, INC.
P.O. Box 727, Salinas

SOLANO COUNTY AGRICULTURAL COMMISSIONER
Fairfield

SONOMA COUNTY AGRICULTURAL COMMISSIONER
Courthouse, Santa Rosa

SOUTHERN CALIFORNIA DISINFECTING CO.
236 S. Los Angeles St., Los Angeles 12

SOUTHWEST CHEMICAL CO.
P.O. Box 193, Eagle Rock 41

ECONOMIC POISONS REGISTRANTS—Continued

NOTE: Unless otherwise designated, cities are in California.

SOUTHWEST CO-OPERATIVE WHOLESALE
P.O. Box 1632, Phoenix, Ariz.

SOUTHWEST, WARREN, INC.
P.O. Box 419, Torrance

SPEBRA PRODUCTS MANUFACTURING COMPANY
2017 Granville Ave., Los Angeles 25

SPECIAL EFFECTS MANUFACTURING COMPANY
P.O. Box 628, San Fernando

SPEEKMAN, F. M., COMPANY
141 Quint St., San Francisco 24

SPRATT'S PATENT LIMITED
1170 Howard St., San Francisco

STANDARD AGRICULTURAL CHEMICALS, INC.
1301 Jefferson St., Hoboken, N. J.

STANDARD DISINFECTANT COMPANY
347 Jefferson Ave., Memphis, Tenn.

STANDARD LABORATORIES, INC.
113 W. 18th St., New York 11, N. Y.

STANDARD OIL COMPANY OF CALIFORNIA
200 Bush St., San Francisco 20

STANISLAUS COUNTY AGRICULTURAL COMMISSIONER
Old Courthouse, Modesto

STANLEY HOME PRODUCTS, INC
42 Arnold St., Westfield, Mass.

STANLEY INDUSTRIES
13415 24th Ave. S., Seattle 88, Wash.

STANLEY PEST CONTROL CO.**
1709 W. Eighth St., Los Angeles 14

STAR PAINT CO.
1035 Carleton St., Berkeley 2

STAUFFER CHEMICAL COMPANY
636 California St., San Francisco 8

STAUFFER CHEMICAL COMPANY, NICO-DUST MANUFACTURING DIVISION
636 California St., San Francisco 8

STAUFFER CHEMICAL COMPANY, PACIFIC NORTHWEST DIVISION
636 California St., San Francisco 8

STAUFFER CHEMICAL COMPANY, SAN FRANCISCO SULPHUR DIVISION
636 California St., San Francisco 8

STAY & DAY PAINT MATERIALS CO.
363 S. Mission Rd., Los Angeles 33

STAYNER CORPORATION
2100 Ward St., Berkeley 5

STEARNS' ELECTRIC PASTE COMPANY
111 W. Washington St., Chicago 2, Ill.

STERLING COMPANY, INC., THE
2801-05 Locust St., St. Louis 3, Mo.

STERWIN CHEMICALS INC.
1450 Broadway, New York 18, N.Y.

STEVES PEST CONTROL SERVICE**
1412 Webster St., Oakland 12

STEWART & LAMBERT
P.O. Box 1004, Santa Paula

STOCKTON CHEMICAL CO.
421 N. Grant St., Stockton

STOCKTON VETERINARY SUPPLY CO.
336 E. Lafayette St., Stockton 34

STOKER, H. L., COMPANY
P.O. Box 112, Claremont

STOLTZ CHEMICAL CO.
1317 Yale Ave., Stockton 3

STOVER SEED CO.
698 Mateo St., Los Angeles 13

STASENBURGH, R. J., CO.
195 Exchange St., Rochester 4, N.Y.

STRO-KON COMPANY
15838 E. Whittier Blvd., Whittier

STUMPF'S, JOHN, SON*
P.O. Box 38, Gretna, La.

SULLIVAN HARDWOOD LUMBER CO.
P.O. Box 1350, San Diego 12

SUNLAND INDUSTRIES, INC.
P.O. Box 1669, Fresno 17

SUNLAND REFINING CORPORATION
P.O. Box 1512, Fresno 16

SUNSET SUPPLY & PAPER COMPANY
118-122 Fourth St., San Francisco 3

SUN VACUUM STORES*
908 S. Broadway, Los Angeles 15

SUTTER COUNTY AGRICULTURAL COMMISSIONER
459 Second St., Yuba City

SWEENEY, W. R.
Salisbury, Mo.

SWIFT & COMPANY
4060 E. 26th St., Los Angeles 23

TALBOT MANUFACTURING CO.
405 E. 31st St., Los Angeles 11

TARR & WONSON, LIMITED
Horton St., Gloucester, Mass.

TAYLOR, PERCY A.
1977 N. Kenmore, Los Angeles 27

TECHKOTE COMPANY
820 W. Manchester Ave., Inglewood 1

TEHAMA COUNTY AGRICULTURAL COMMISSIONER
Rm. 23, Courthouse, Red Bluff

TENNESSEE COPPER COMPANY
Copperhill, Tenn.

TERMINIX COMPANY, INC.
2252 W. Washington Blvd., Los Angeles 18

TERMINIX OF NORTHERN CALIFORNIA, INC.
918 Harrison St., San Francisco 7

TERMITE CONTROL CO.
501 E. Harding Way, Stockton 20

TETCO COMPANY, DIVISION OF INDUSTRIAL MANAGEMENT CORP.
3350 San Fernando Rd., Los Angeles 65

THOMPSON HORTICULTURAL CHEMICALS CORPORATION
3600 Monon St., Los Angeles 27

THOMPSON LABORATORIES, INC.
601 S. Vermont Ave., Los Angeles 5

TIDE WATER ASSOCIATED OIL COMPANY, ASSOCIATED DIVISION
79 New Montgomery St., San Francisco 20

TIDY PRODUCTS CO.*
5958 Franklin Ave., Los Angeles 28

TNEMEC COMPANY, INC.
123 W. 23d Ave., North Kansas City 16, Mo.

TOBACCO BY-PRODUCTS & CHEMICAL CORPORATION
401 E. Main St., Richmond 6, Va.

TODD, T. J.
1127 E. Grand Blvd., Corona

TOMIC INSECTICIDE CO.
1818 W. 54th St., Los Angeles 62

ATTACHMENT E

Notes from a Sherwin-Williams Employee
from a 28 August 1990 Meeting with Representatives of Levine-Fricke

8.28.90

Oakland

plant in Emeryville, just N of Oakland

~1900 - 1910 built ~ ½ to ¼ mi from

only non water-based paints

1980 stopped making solvent products then buildings were demolished, tank farm etc. at this time

project started the - of demolition

History of plant:

up to 1980 - always manufactured solvent based products

lacquer
solvent based paint
cutback resins
made pesticides
got into agricultural uses

also

lead-arsenate into '40's
product of DDT (no documentation)

since 1980 - stopped making solvent based only emulsion

decommissioned 2 tank farms

- oil tank farm (dates to early times)
  all sorts of oils, some solvent likely
- solvent tank farm (likely early 70's
  - concrete dish
  - tanks on concrete pad
  - no uniform contiguous pad / like beneath each tank

odors present at time of removal

demolished resin plant
    w/ above ground resin tank

demolished lagoon plant & tank farm
    concrete board present - uncertain

demolished lead-arsenate bldg.
    a warehouse at time of demolition

beginning phase -
~1987
    investigation of tank farm - Phase I - GTI
        found significant contamination
        found solvents in solvent tank farm - metals also
        oil tank farm - not much

Phase II - additional soil & groundwater investigation
    limited to 2 tank farms
    very focused scope of work

Levine - Fricke won the bid
    have good local contacts - know the players
    have also done good work

Initial Investigation
~1988 sampling - via soil borings
        along perimeter & w/in tank farm

    found significant contamination
    w/in tank farm - 1000's ppm

also a hydro study, geologic cond

SW-OAK35330

very high groundwater - close to River · Bay

top 20' clays / silt
> 20' sands & gravels

spotty lead contamination - solvent tank farm
smudge - oil tank farm (2-5,000 ppm
up ~~500~~ ppm · action limit

Calif Regs:
> 1,000 ppm -
a haz waste

mostly semi-volatile & base neutral contamination

identified contamination - did not define extent

hydro - identified direction

Phase III - further identification of extent of contamination

Phase IV - now

Regional Water Quality Control Board ← Reg. Body

(approval - don't study to death
get something done

Later Dept of Health ~~Dept~~ Services can get involved

SW-OAK35331

Phase II - developing interim remedial measure phase

studies - treatability studies
same thing for process

soil
groundwater } contaminants

soil:
volatile
semi-volatile
arsenic (limited, segregated)

groundwater:
arsenic
semi-volatile
volatile

initially - treatability studies
will produce a report to propose Interim Remedial Measures

for groundwater -

in initial stage 3 bio studies
drop out arsenic
co-ppt
ion-exchange

then deal w/
volatile / semi-vol
bio-treatment also air-stripping

should be able to discharge to POTW

or polish w/ UV-oxidation

SW-OAK35332

UV-oxidation
too costly w/ power requirements

other aspect - should they drop out arsenic 1st or later

samples have been pulled for arsenic evaluation
? in N.Y.

[redacted] ione-pure (Union 76) in CA <5 we are a 18 M customer of theirs

Σ have someone in upper management make call to cut deal w/ ionpure

Soils

arsenic only
in place stabilization
off-site disposal appears to be
soil washing / treatment option

some vol. organics - land farming
w/ bio-enhancement
also looking at thermal
and off-site

solvent area - volatiles

Thin layers of soil - spread out
(Air Quality Man. has limit
limit amount you can spread/day)

arsenic is being evaluated
checking out Bio & Land farming

SW-OAK35333

Phase IV - also has additional evaluation in some areas

ATTACHMENT F

Inter-Office Letter in which the Sherwin-Williams Cleveland Office Requested that Sherwin-Williams Employees at the Emeryville Facility Fill out an "Environmental Survey"

1971

13958 (3x)

INTER-OFFICE LETTER

FROM Cleveland OFFICE Coatings Operations DEPT.

FOR #18 Oakland OFFICE DATE December 10, 1971

MR. R. G. Landis SUBJECT Environmental Survey

REFER TO LETTER OF DICTATED BY

The pressure continues to build with the Government and the public on environmental problems. Therefore, it is imperative that we, as a Company, completely understand what our problems are in this area.

We have already asked each Plant Manager to submit a complete report to us on various environmental problems, but we would now like to have every report on a uniform basis. In order to do this it is necessary for us to re-identify our problems, evaluate these problems as to their seriousness, develop solutions to these problems, calculate the cost to correct these problems--and, lastly, to develop a timetable to implement the above items.

In order to do this, the CENTRAL FACILITIES ENGINEERING DEPARTMENT in Chicago has asked that we fill out the attached "Environmental Survey" sheets. In reviewing these sheets it appears to me that most of this information should be readily available.

Please note that this report must be completed and mailed to the CENTRAL FACILITIES ENGINEERING DEPARTMENT in Chicago, attention - Frank M. Bruhns--no later than January 31, 1971.

Please give this survey your immediate attention and complete it before January 31.

R. A. Tschannen

RAT:gr
attachments

To: Plant Managers:

G.E.Bergman	L.F.Neff
K.R.Brown	D.T.Rehor
W.D.Gillund	R.L.Silberstein
L.F.Kauts	E.L.Superits
R.G.Landis	R.A.Wavering
F.A.Leibold	H.B.Williams
R.D.McLarty	R.W.Damm

cc: RGB PHC FCG RLR RPT

ENVIRONMENTAL SURVEY

OUTLINE

FMB/CFE
11/24/71

A) INTENT

The intent of this survey is to measure and evaluate the environmental problems in our various facilities.

It is planned that this survey will be the basis to develop a corporate wide program to cope with the overall environmental problems.

B) GENERAL INSTRUCTIONS

Fill in the blanks as thoroughly and as carefully as possible, adding comments and additional details when appropriate. However do not bother, at this time, to make studies or extensive evaluations. If necessary use old data (indicating date) or make estimates (indicate with (E). We suggest that you run thru the survey quickly the first time, answering general questions and noting specific requests. Then collect old files and surveys along with equipment name plate data. Then use this collected material to complete as many of the remaining questions as possible. Attached supplementary sheets where needed.

Return this survey to Central Facilities Engineering before the end of January whether or not all questions have been answered.

For further explanations or assistance, in filling out the survey, contact Central Facilities Engineering via SWITCH.

B) HISTORY & PREVIOUS COMPLAINTS

1) Outline any pertinent background and history with regard to environmental problems and relationships with authorities.

2) List and briefly describe each pollution complaint made by union officials, local authorities, local residents and indivuduals.

3) Has the plant ever been cited officially? (Describe)

C) GENERAL AND SITE CONDITIONS

1) Name and Location of the Plant _____

_____

2) Name of Individual Filling out this Report _____

_____

3) Name and Department of each Individual Contributing information for this Report _____

_____

_____

4) What are the total number of Employees at this Plant Site? _____

5) What is the Normal Working Schedule? (Hours/Day, Days/Weeks) _____

6) Have you had contact with Local EPA (Environmental Protection Agency) Personnel? (When and What for)

_____

_____

_____

7) Do you have a copy of the Federal Occupational Safety and Health Standards in your Plant?

_____

8) Do you have any active Local Citizen Groups, who are concerned with your specific Plant and Operations:

_____

9) Indicate on the attached Plant Site Drawings:

(a) prevailing winds

(b) residential areas affected by plant operations

(c) Plant operations causing various complaints (odor (O), dust (D), fumes (F), noise (N), smoke (S), mist (M))

10) What are the present local regulations regarding air, sewage and noise? (Attached if available)

_____

_____

_____

11) What specific items are of (prime) importance to your local authorities? _____

_____

_____

12) Are there any special geological or meteorological factors regarding your location

_____

D) BOILERS (HOT OIL HEATERS, ETC.)

1) List the specific combustion units

	Location	Age	Fuel	Amount Per Year	Size	Pressure
(a)						
(b)						
(c)						
(d)						
(e)						
(f)						

2) If the fuel used is not Natural Gas, provide the following additional data:

	Stack Dia.	Stack Height	% S IN Fuel	Fly Ash in Flue Gases
(a)				
(b)				
(c)				
(d)				
(e)				
(f)				

3) Describe in any air pollution devices on the above combustion units (cyclones, baffles, scrubbers, electrostatic precipitation).

4) Are your controls and flame safety shutdown systems dependable on each and every unit?

5) Have you been cited for Pollution Violations on any of the above equipment items?

6) Do you have frequent smoking problems?

E) GASEOUS EMISSIONS FROM PROCESSES

1) List equipment items and/or process areas which emit large volumes of gaseous fumes.

	Location	Process or Kettle	CFM Exhausted	Type of Emissions(1)	Stack Dia/Ht.
(a)					
(b)					
(c)					
(d)					
(e)					
(f)					
(g)					
(h)					

2) List Air Cleaning Equipment associated with the item listed under 1.

	Type of Equipment	Estimate of Contaminants		Removal Efficiency
		Type (1)	Quantity	
(a)				
(b)				
(c)				
(d)				
(e)				
(f)				
(g)				

(1) odor (O) dust (D) smoke (S) mist (M) fumes (F)

3) List Air Pollution Violations associated with items listed under 1.

4) Have you been cited for any violations regarding the above equipment?

5) How many tank vents emit/or are potentially capable of emitting hydrocarbon vapors?

6) Are you under any special local restraints? (i.e. Rule 66)

7) Are any of these discharges strongly visible?

F) SEWERED PLANT DISCHARGES

1) List equipment items and/or process areas which discharge liquid waste materials and/or water contaminated with waste materials.

	Location	Process or Kettle	Gallons Per Day	Type of Contamination(1)
(a)				
(b)				
(c)				
(d)				
(e)				
(f)				
(g)				
(h)				

2) List any traps, clean up equipment or treatment processes associated with individual items listed under 1.

	Type of Device	Estimate of Contamination Type(1)	Estimate of Contamination Quantity	Removal Efficiency
(a)				
(b)				
(c)				
(d)				
(e)				
(f)				
(g)				
(h)				

(1) pH, s.s., d.s., BOD, COD, Oil, Greases, Solvents

3) List any Pollution Violations directly attributed with the items listed under 1.

_____

_____

_____

_____

4) Have you been cited for any of these violations?

_____

_____

5) Do you have any special local restraints?

_____

_____

6) Does your Plant have: (Check applicable item)

- ☐ (a) Central treatment system (if so, attach description)
- ☐ (b) Interceptor - settling tank
- ☐ (c) Separate process sewers
- ☐ (d) Separate storm sewers
- ☐ (e) Separate sanitary sewers
- ☐ (f) Septic tanks
- ☐ (g) Effluent discharges to municipal systems
- ☐ (h) Effluent discharges to a natural water body (stream, lake, etc.)

7) How are you charged for municipal sewerage treatment and how much ($/1000 gallon)?

- ☐ Real Estate Tax
- ☐ Personal Property Tax
- ☐ Direct Billing based on Water Billing
- ☐ Surcharge Billing based on concentration of
- ☐ contaminate.
- ☐ Other _____

8) What is your water source,_____usage,_____ and costs_____?

9) Is your potable (drinking) water system separate from your process water system? _____

10) How many cooling towers, evaporative condensers, and water recirculation system does this plant have? (GPM capacity of each)? _____

11) Do you have any special liquid waste materials requiring special disposal problems (list below)?

_____

_____

12) Is land available for waste treatment facilities? (How many acres)?

_____

G) SOLID REFUSE DISPOSAL

1) What facilities, (landfill, incineration, containerization, compaction, recycling) are available locally?

2) What is the method of collection?

3) Who is responsible for collection and disposal?

4) Are there any special requirements for disposal of hazardous wastes? (Attach explanation for each, unless adequately described in section 1)

5) What are the costs of the available disposal services?

6) Are any of the materials disposed of on-site? Which?

7) Fill in attached sheet for each Department (If possible)

8) Have you been cited for violation of any local regulations regarding disposal of the listed items? (Explain)

_____

_____

_____

DATE _____
PLANT _____
ENGINEER _____
DEPT. _____
(PV&L, R&S, ETC.)

	DESCRIPTION OF MATERIAL	METHOD OF REMOVAL	DESTINATION SEWER, LAND-FILL, etc.	QUANTITY PER WEEK	COSTS	COMMENTS
DRY WASTE (MIXED						
DRY WASTE (Segregated): pallets, bags, card-board, drums, etc.						
SLUDGES: Press cake, caustic sludge interceptor sludge, etc.						
LIQUID WASTES (aquas): caustic, washings, acids, etc.						
LIQUID WASTES (special): solvents, oils, etc.						
SPECIALS: returned goods						

H) INTERNAL ENVIRONMENTAL PROBLEMS

1) Have you received any complaints regarding the items listed below. (Attach additional sheets, if necessary)

- ☐ (a) Noise Where _____
- ☐ (b) Odor Where _____
- ☐ (c) Solvent Fumes Where _____
- ☐ (d) Choking fumes Where _____
- ☐ (e) Dust laden air Where _____
- ☐ (f) High Room Temperature Where _____
- ☐ (g) Low room temperature WHere_____
- ☐ (h) High Humidity Where _____
- ☐ (i) Poor Ventilation Where _____

2) Do you have any data, surveys or reports regarding the above items? (Please attach).

3) Have you been cited for violations of any local regulations regarding the items listed? (Explain)

4) Has a survey ever been made of existing exhaust and supply air units?

I) TOXIC MATERIALS (MERCURY, etc.)

1) Can you list all toxic materials used or produced in your plant? (Fill in attached sheet)

2) Are these items consistently, clearly and permanently labeled?

3) Do you have an in-plant education program to insure all personnel responsible and using these materials are cognizant of their hazards?

4) Do you see the need for emergency holding facilities to prevent accidental discharge of toxic due to spills, overflow, leaks or tank rupture?

5) Have local authorities ever contacted the plant in regard to any of these items (Explain).

6) Have you had any accidents at your plant involving these materials?

TOXIC MATERIALS

TRADE NAME	TOXIC COMPONENT	LOCATION	HOW USED	QUANTITY USED	QUANTITY STORED	ULTIMATE LOCATION

ATTACHMENT G

Violation Notice from the East Bay Municipal Utility District ("EBMUD")

YELLOW

EAST BAY MUNICIPAL UTILITY DISTRICT

MICHAEL J. WALLIS
DIRECTOR OF WASTEWATER

VIOLATION NOTICE

June 6, 1995

C E R T I F I E D M A I L
(Return Receipt Requested)
Certified Mail No. P 374 487 352

Sherwin-Williams Company
1450 Sherwin Avenue
Emeryville, CA 94608

Attention: Mr. Steve Thomas

Sample Location: Side Sewer No. 1
1. Sample ID: L13150-1
Sample Type: Grab @0800-EBMUD
2. Sample ID: L13150-2
Sample Type: Composite-EBMUD

Account No. 153-00332

EBMUD inspected your facility and sampled the wastewater discharged on March 30, 1995. Note the violation of arsenic wastewater strength limits.

The self-monitoring test results and permit limitations corresponding with each parameter are listed in the table below.

Sample	Parameter	Test Result		Permit Limitation	
1	**Arsenic**	3.53	mg/L	2	mg/L
1	Zinc	0.754	mg/L	5	mg/L
1	Oil and Grease	2.5	mg/L	100	mg/L
2	CODF	7,600	mg/L	NA	
2	TSS	350	mg/L	NA	

Sherwin Williams Company is required to submit to the District a written technical report indicating:

1. The cause of the violations.
2. The corrective actions you are taking to prevent recurrence.
3. The date those corrective actions will be completed.

The report is due in this office within 5 working days after date of delivery of this Notice.

The District will assess a violation follow-up fee of $801.00 for each sample in violation. The fee includes the following charges:

Stage Two Violation Follow-Up Fee	$690.00
ICP Metals Scan	$111.00

P.O. BOX 24055 . OAKLAND . CA 94623-1055 . (510) 287-1406

If you have any questions please contact me at (510) 287-1655.

Sincerely,

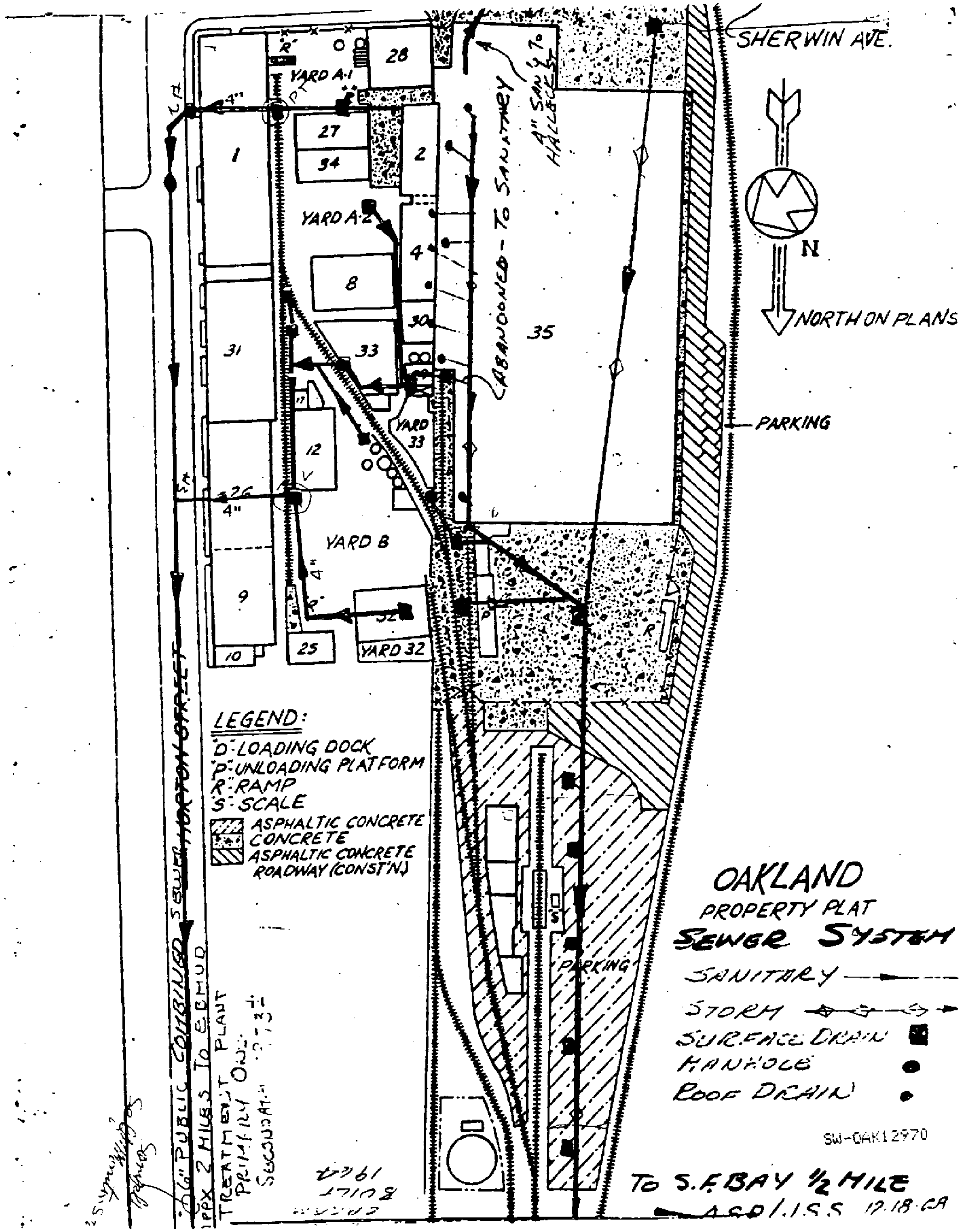
RAYMOND A. MAXWELL
Wastewater Control Representative
Source Control Division

RAM:rm

Bcc:
R Temples

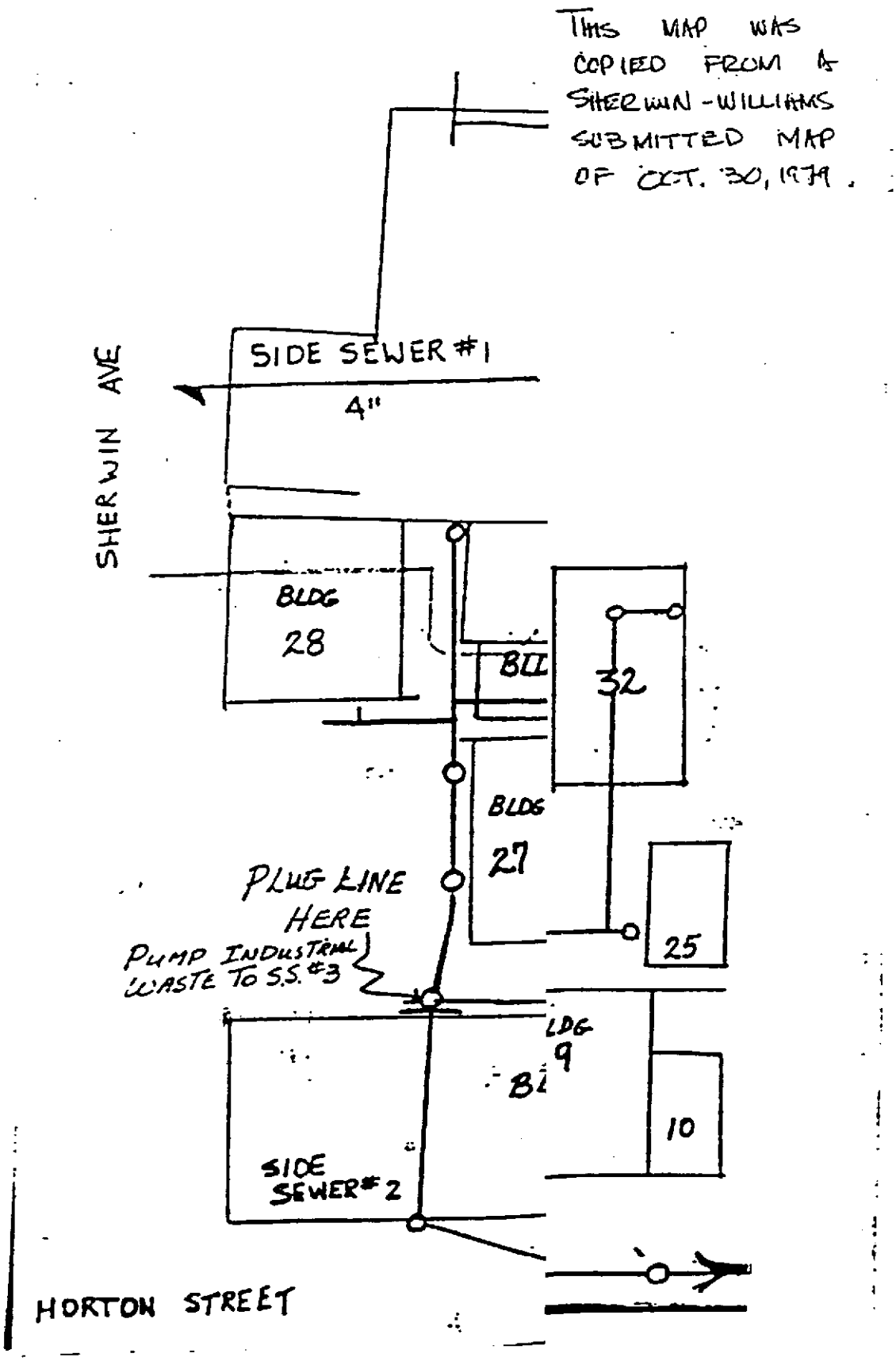
ATTACHMENT H

Utility drawings for the Sherwin-Williams Facility



SHERWIN AVE.
NORTH ON PLANS
N
PARKING
YARD A-1
YARD A-2
YARD 33
YARD B
YARD 32
28
27
34
1
2
4
8
30
33
31
35
12
26
9
10
25
32
ABANDONED - TO SANITARY
4" SAN. & 7" HALLEC
4"
LEGEND:
D: LOADING DOCK
P: UNLOADING PLATFORM
R: RAMP
S: SCALE
ASPHALTIC CONCRETE
CONCRETE
ASPHALTIC CONCRETE ROADWAY (CONST'N)
PARKING
OAKLAND
PROPERTY PLAT
SEWER SYSTEM
SANITARY
STORM
SURFACE DRAIN
MANHOLE
ROOF DRAIN
SW-OAK12970
TO S.F. BAY 1/2 MILE
ASD/LSS 12-18-69
HORTON STREET
16" PUBLIC COMBINED SEWER
APPX 2 MILES TO EBMUD
TREATMENT PLANT
PRIMARY ONLY
BUILT 1944

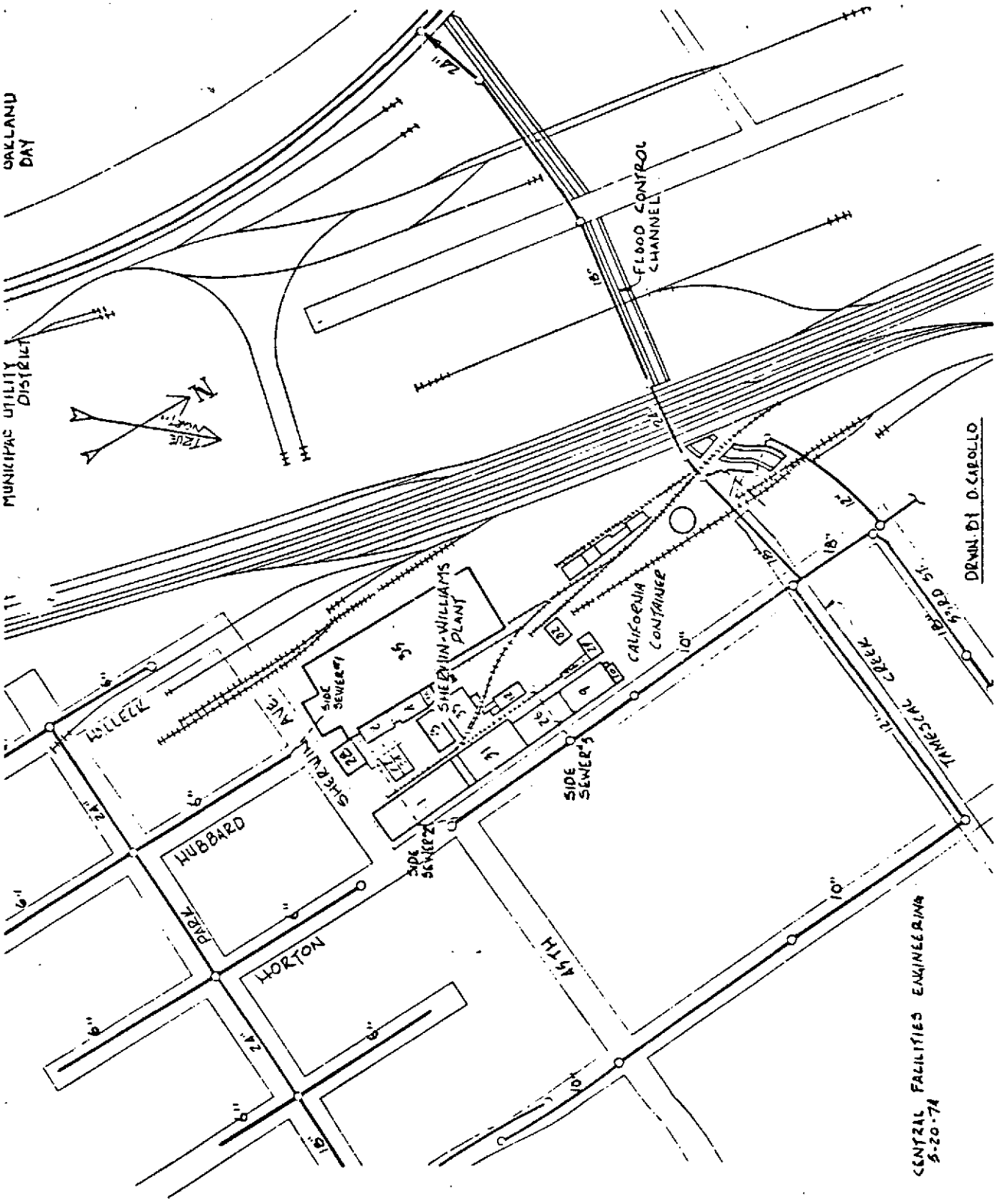
153-00332

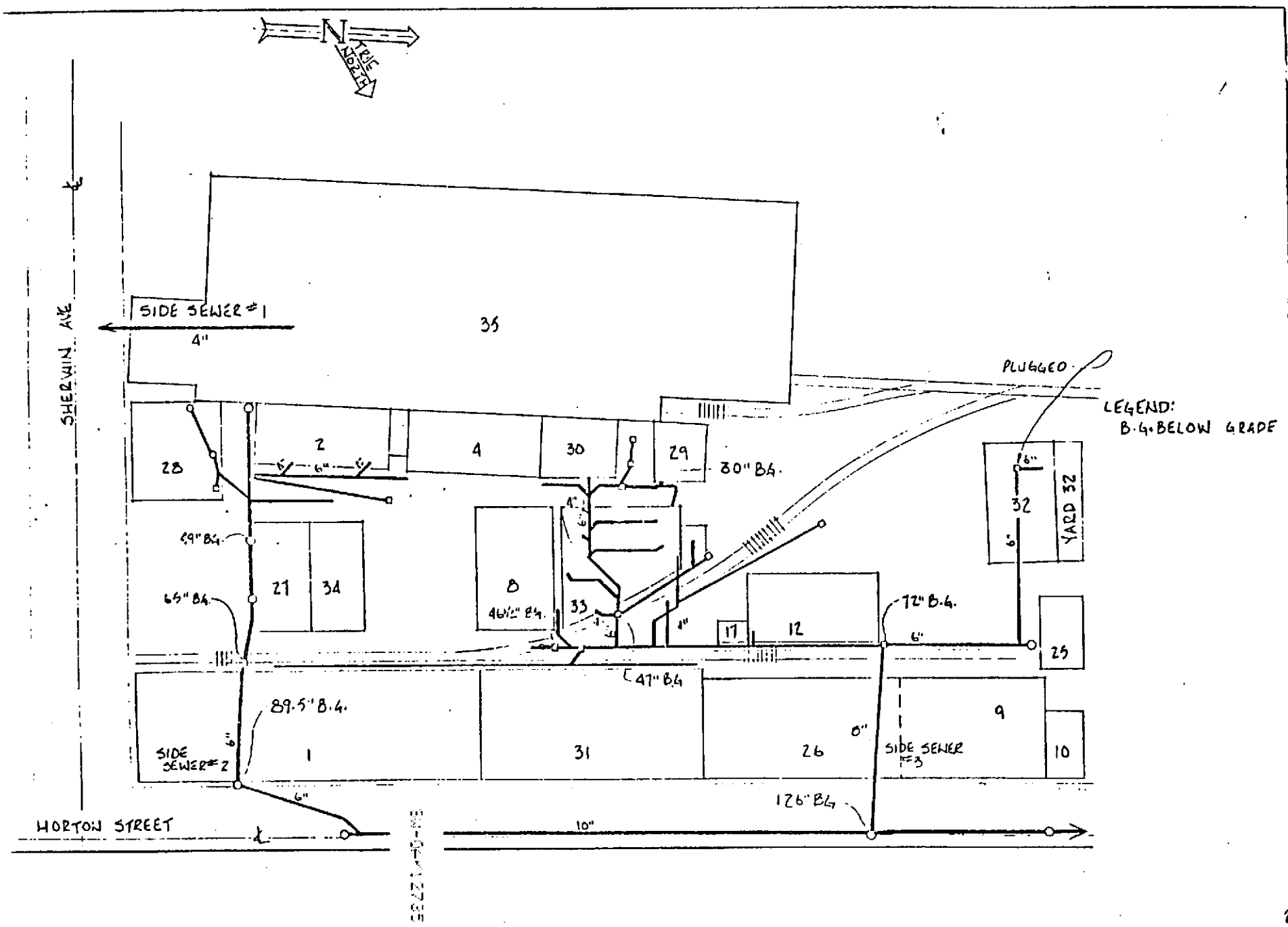


EA-OAK12603

PLATE VII

LOCAL MUNICIPAL SEWERS




TRUE NORTH
SHEDWIN AVE
SIDE SEWER #1
4"
35
PLUGGED
LEGEND:
B.G. BELOW GRADE
28
2
4
30
29
30" B.G.
32
YARD 32
69" B.G.
27
34
8
46½" B.G.
33
72" B.G.
17
12
25
47" B.G.
89.5" B.G.
SIDE SEWER #2
1
31
26
9
10
SIDE SEWER #3
126" B.G.
HORTON STREET
10"

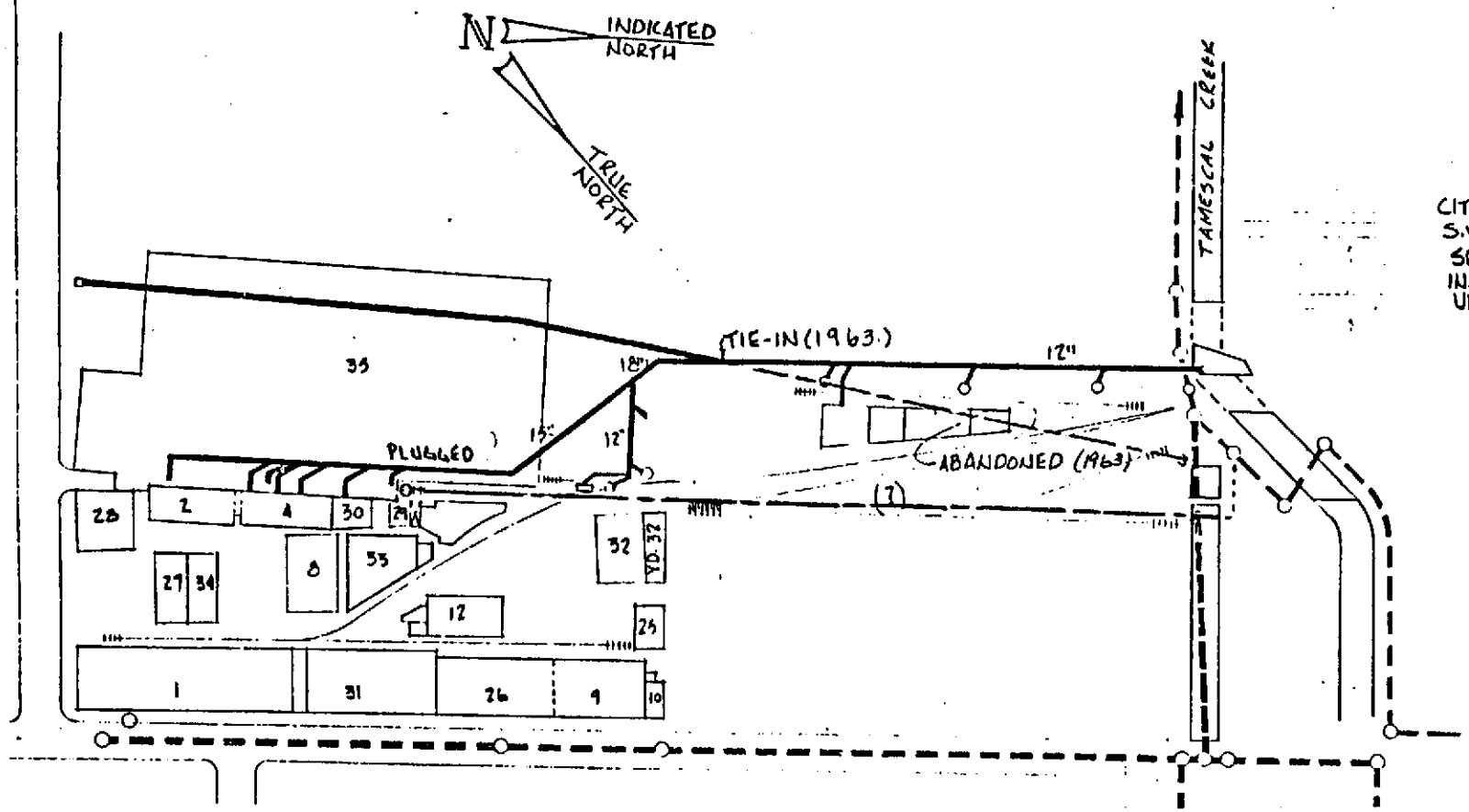
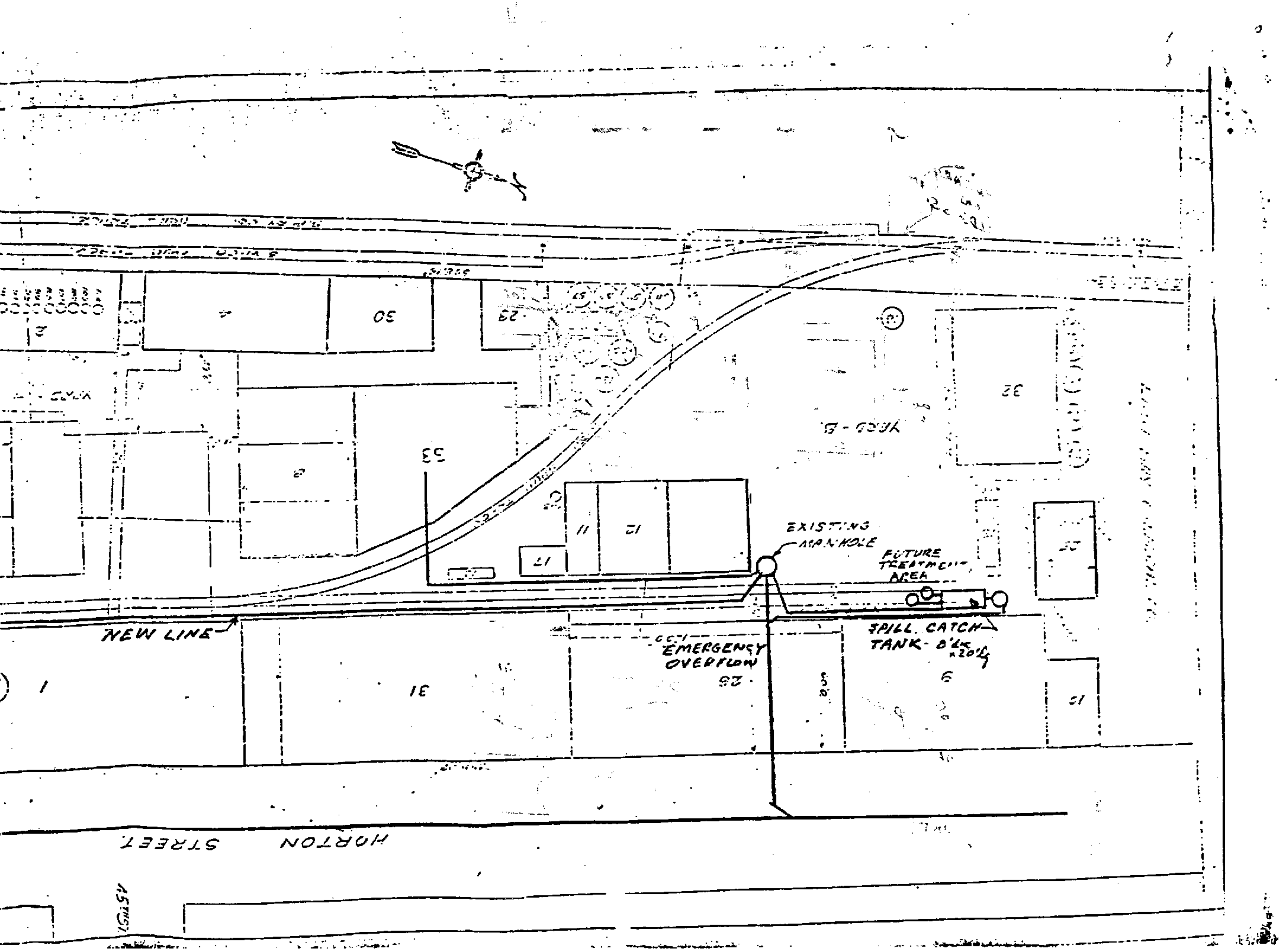
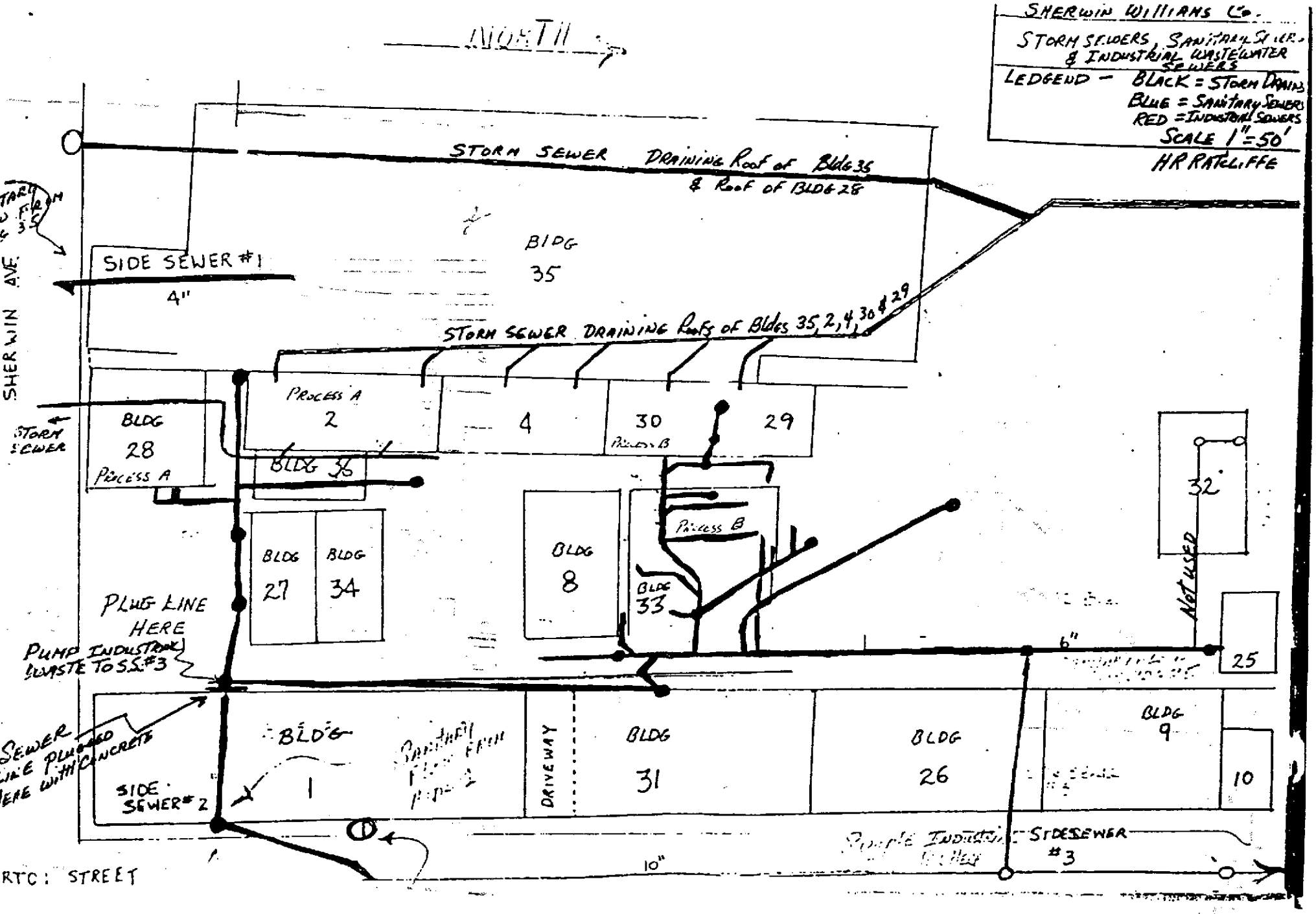
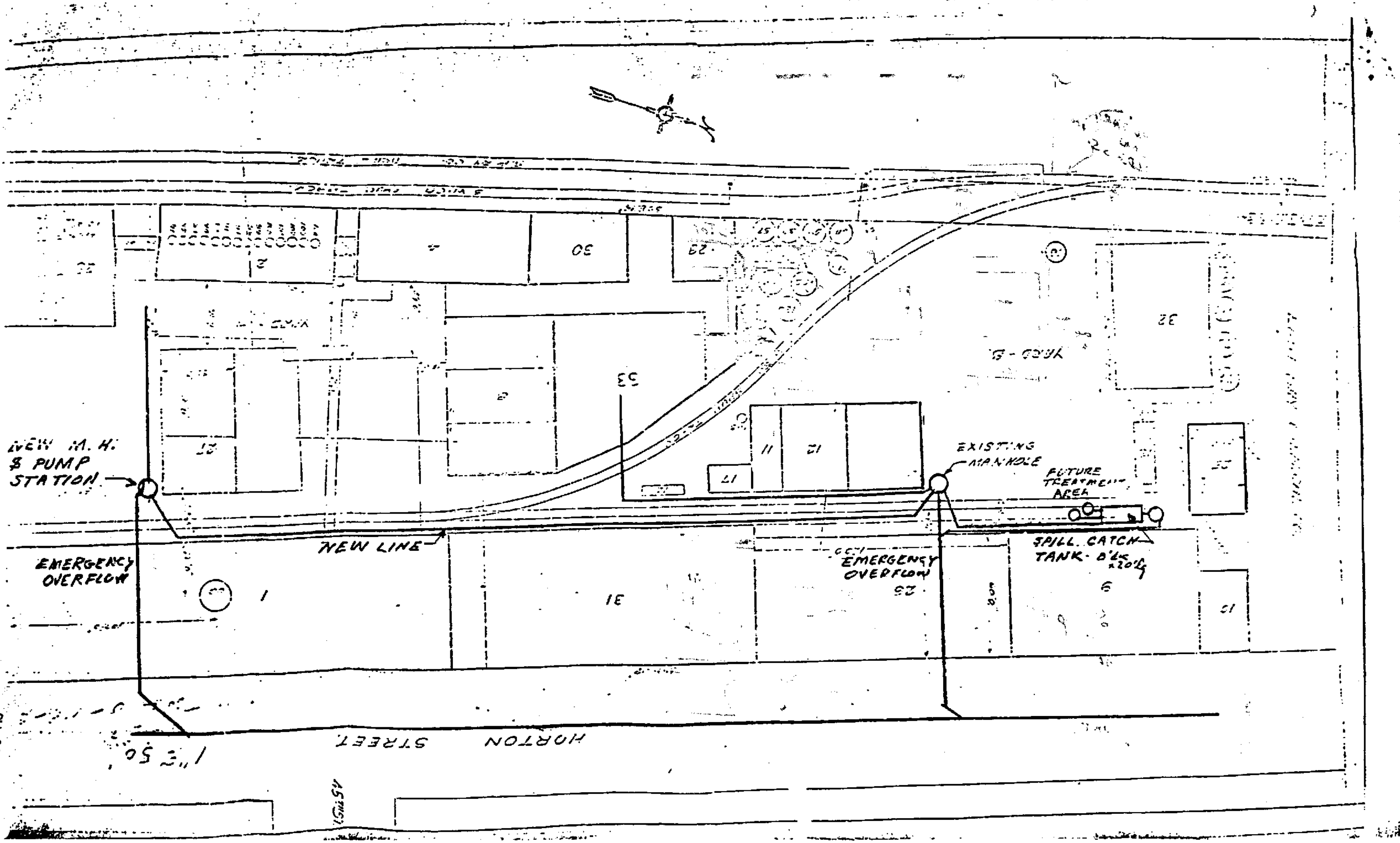


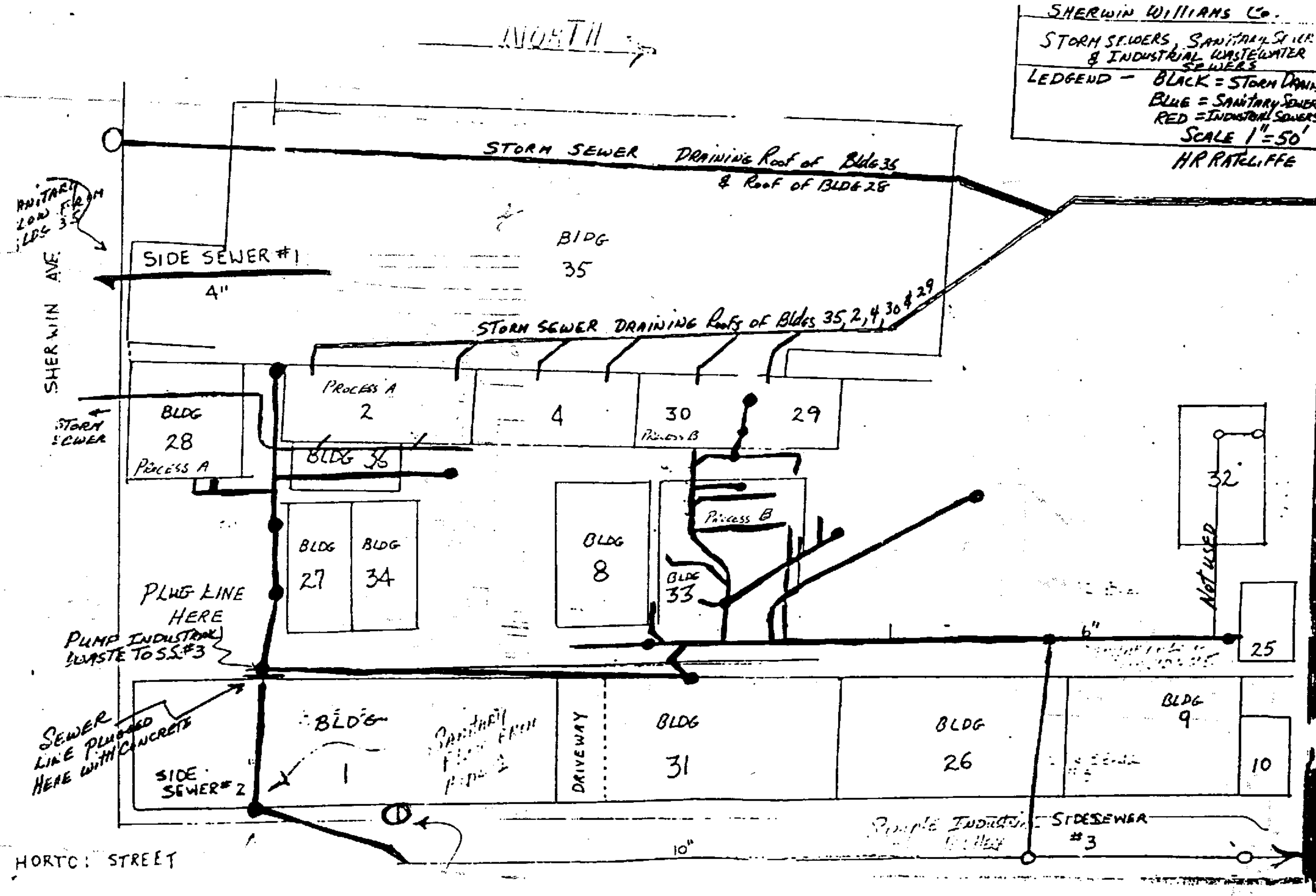
PLATE IX
PLANT STORM WATER SEWERS


EXISTING MANHOLE
FUTURE TREATMENT AREA
SPILL. CATCH TANK
EMERGENCY OVERFLOW
NEW LINE
YARD - B
HORTON STREET

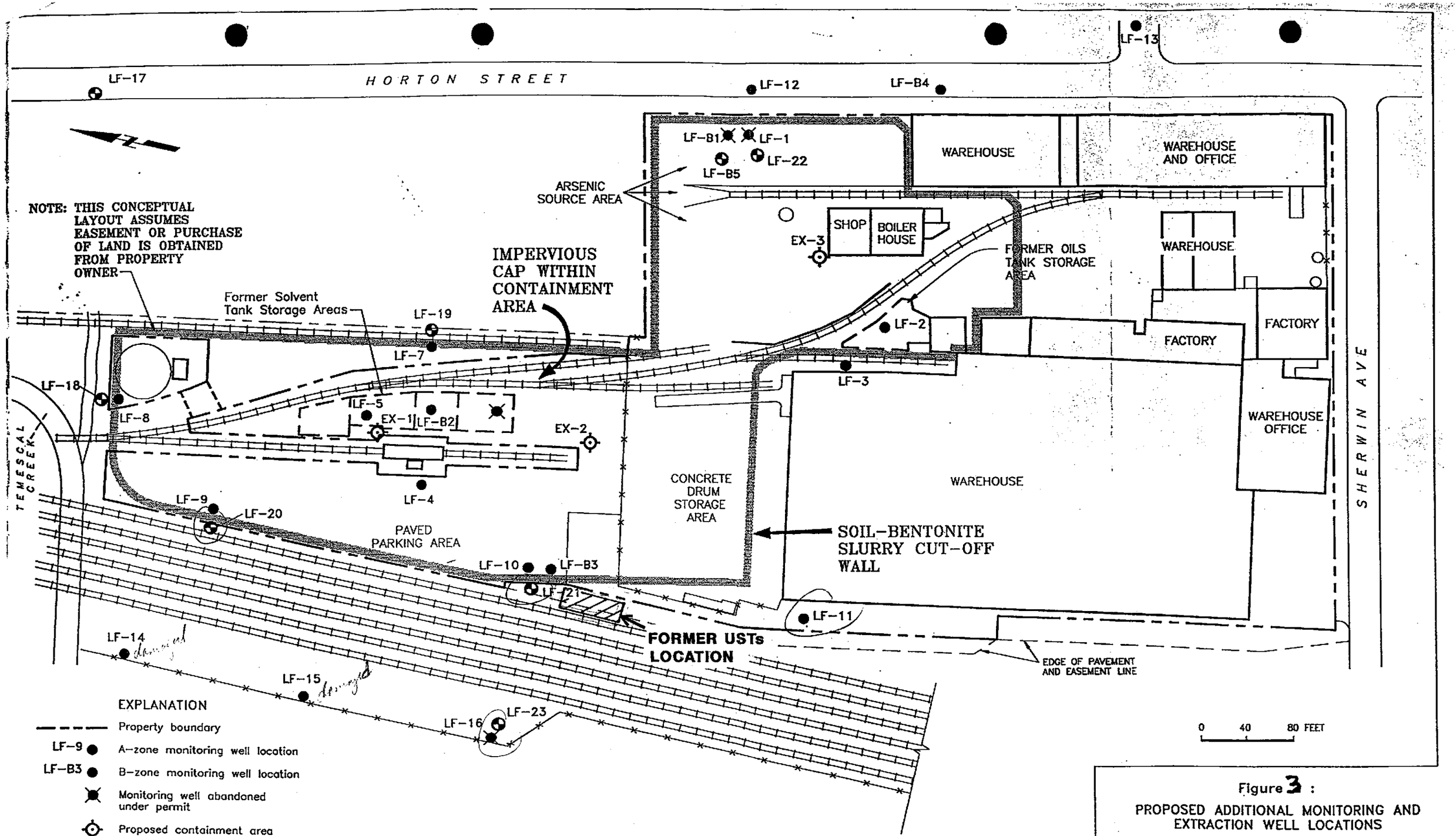

SHERWIN WILLIAMS Co.
STORM SEWERS, SANITARY SEWERS & INDUSTRIAL WASTEWATER SEWERS
LEDGEND – BLACK = STORM DRAINS
BLUE = SANITARY SEWERS
RED = INDUSTRIAL SEWERS
SCALE 1"=50'
HR RATCLIFFE
NORTH
STORM SEWER DRAINING Roof of Bldg 35 & Roof of BLDG 28
BLDG 35
SIDE SEWER #1
4"
STORM SEWER DRAINING Roofs of Bldgs 35, 2, 4, 30 & 29
SHERWIN AVE.
STORM SEWER
BLDG 28
PROCESS A
PROCESS A
2
4
30
PROCESS B
29
BLDG 36
BLDG 27
BLDG 34
BLDG 8
PROCESS B
BLDG 33
32
NOT USED
25
PLUG LINE HERE
PUMP INDUSTRIAL WASTE TO S.S. #3
6"
SEWER LINE PLUGGED HERE WITH CONCRETE
BLDG 1
DRIVEWAY
BLDG 31
BLDG 26
BLDG 9
10
SIDE SEWER #2
10"
SIDE SEWER #3
RTC: STREET


NEW M.H. & PUMP STATION
EMERGENCY OVERFLOW
NEW LINE
EXISTING MANHOLE
FUTURE TREATMENT AREA
EMERGENCY OVERFLOW
SPILL CATCH TANK
HORTON STREET
1" = 50'

SW-OAK13018



SHERWIN WILLIAMS Co.
STORM SEWERS, SANITARY SEWERS & INDUSTRIAL WASTEWATER SEWERS
LEDGEND – BLACK = STORM DRAINS
BLUE = SANITARY SEWERS
RED = INDUSTRIAL SEWERS
SCALE 1" = 50'
HR RATCLIFFE
NORTH
STORM SEWER DRAINING Roof of Bldg 35 & Roof of BLDG 28
BLDG 35
SIDE SEWER #1
4"
SHERWIN AVE
STORM SEWER DRAINING Roofs of Bldgs 35, 2, 4, 30 & 29
STORM SEWER
BLDG 28
Process A
Process A
2
4
30
Process B
29
BLDG 36
BLDG 27
BLDG 34
BLDG 8
Process B
BLDG 33
32
Not USED
25
6"
PLUG LINE HERE
PUMP INDUSTRIAL WASTE TO S.S. #3
SEWER LINE PLUGGED HERE with CONCRETE
SIDE SEWER #2
BLDG 1
DRIVEWAY
BLDG 31
BLDG 26
BLDG 9
10
SIDESEWER #3
10"
HORTON STREET



563B002.KAG:DAT 102693 1563S001.KAG:DAT 100593

DRAFT

Figure 3 :

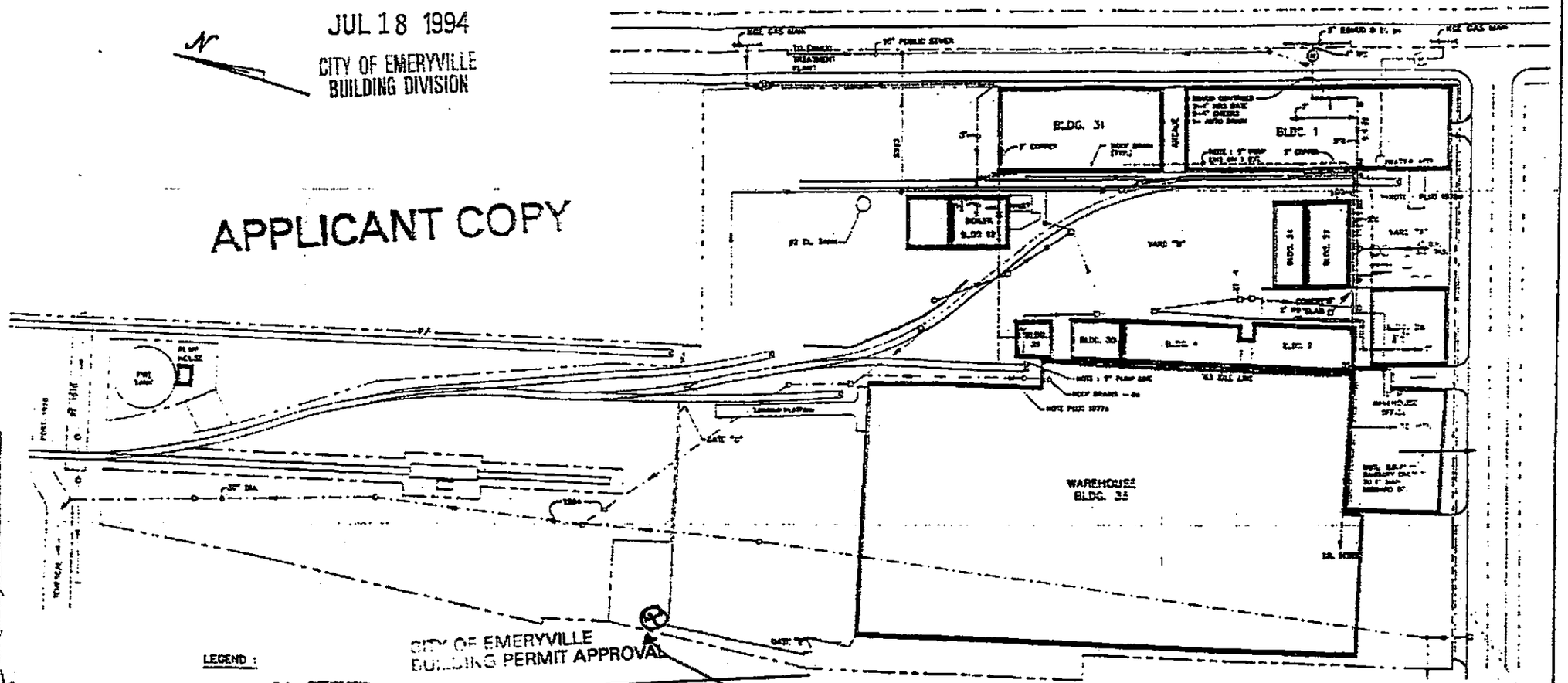
PROPOSED ADDITIONAL MONITORING AND EXTRACTION WELL LOCATIONS

Project No. 1563

LEVINE•FRICKE
ENGINEERS, HYDROGEOLOGISTS, & APPLIED SCIENTISTS

N

APPLICANT COPY



LEGEND :

- SURFACE DRAIN
- MANHOLES
- WATER
- GAS
- COMBINED SEWERS
- STORM SEWERS
- FENCE
- RAILROAD TRACKS
- SURVEY LINE

CITY OF EMERYVILLE
BUILDING PERMIT APPROVAL

PUBLIC WORKS

PLANNING DEPARTMENT

FIRE DEPARTMENT

BUILDING DIVISION

G-3895-94

PERMIT NUMBER

FIGURE 6

CORPORATE ENGINEERING DEPT
CLEVELAND, OHIO

OAKLAND, CALIFORNIA

SEWER, CITY GAS, AND DOMESTIC WATER PLAN

022-0131-P001

To Robert/Margaret Elliot From Evelyn Wilson
Co./Dept. City of Emeryville Co. Industrial Compliance
Phone Building Dept. Phone (916) 369-8971
Fax (510) 658-8095 Fax (916) 369-8370
pages 1

Please call to confirm receipt. Thank you!

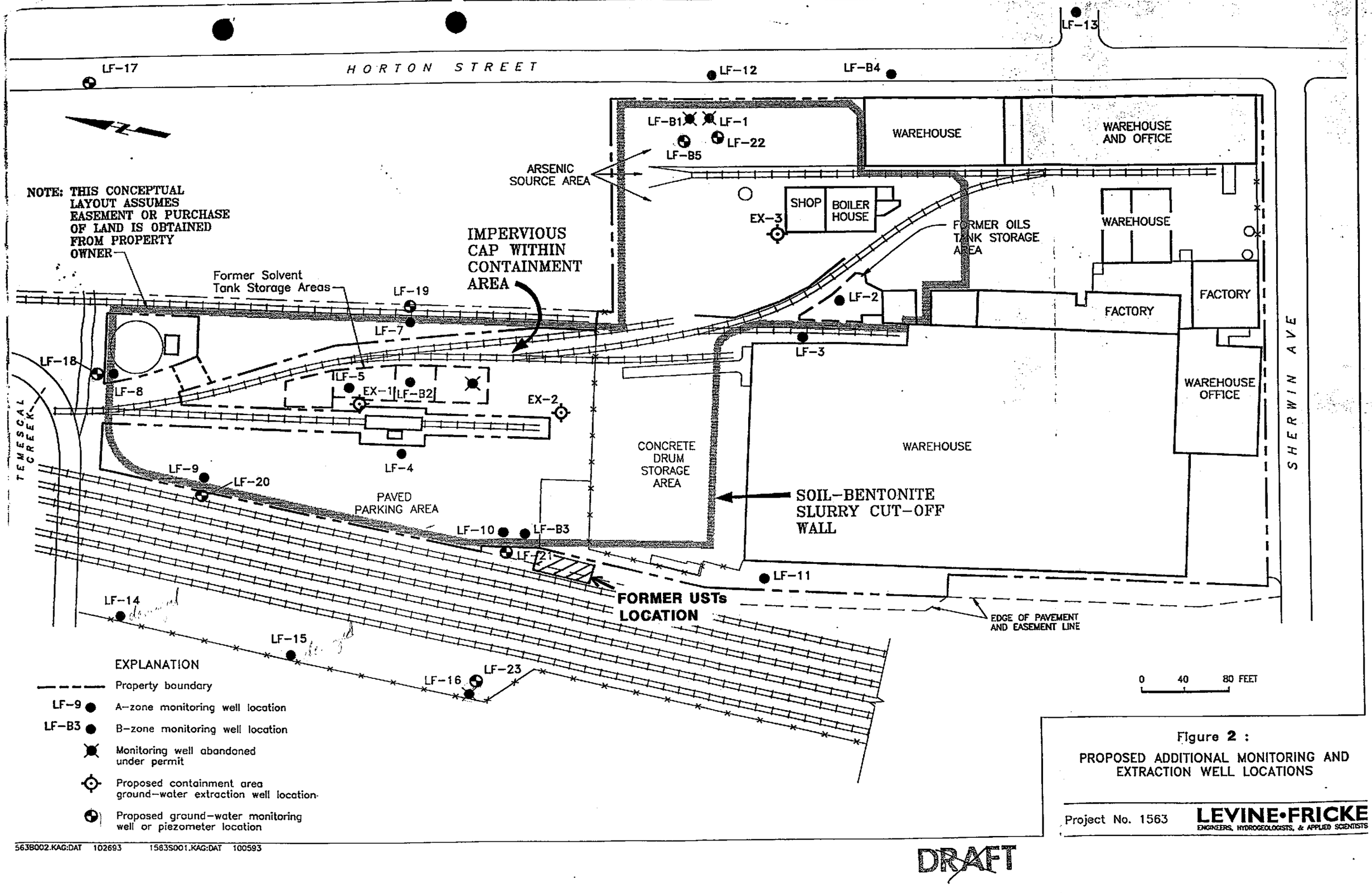


Figure 2 :

PROPOSED ADDITIONAL MONITORING AND EXTRACTION WELL LOCATIONS

Project No. 1563

LEVINE•FRICKE
ENGINEERS, HYDROGEOLOGISTS, & APPLIED SCIENTISTS

563B002.KAG:DAT 102693 1563S001.KAG:DAT 100593

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