Brown and Caldwell
Consultants

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April 6, 1990

Mr. Larry Seto
Alameda County Health Agency
Department of Environmental Health
Division of Hazardous Materials
80 Swan Way, Room 200
Oakland, California 94621

11-5081-01/1

Subject: Work Plan, James River Corporation, Flexible Packaging Plant, San Leandro, California

Dear Mr. Seto:

The enclosed work plan describes our approach to complete the work requested by you during our meeting of March 1, 1990. We have proposed a phased approach for performing the additional work. Phase I consists of work required to complete tank and excavation closures currently underway at the site. This work will be performed immediately upon your approval in order to return the areas to a safe and useable condition.

Phase II work will consist of an off-site groundwater survey. The groundwater survey will aid in determining whether an upgradient source of chlorinated hydrocarbons to the shallow groundwater exists. Groundwater analytical results from on-site wells have indicated levels are highest near the up-gradient property boundary, Should an up-gradient source be identified, you will be notified of our findings immediately. Phase II work will be initiated upon authorization for site access from Southern Pacific Railroad, the up-gradient property owner.

Should no up-gradient source be identified in the Phase II work, Phase III will be implemented. Phase III work will consist of delineation of the downgradient extent of groundwater contamination, and the design and implementation of a groundwater remediation system. A work plan describing the Phase III work will be prepared and submitted for your review should no up-gradient source of chlorinated hydrocarbons to the shallow groundwater be identified by the Phase II work.

90 APR -9 PM 2:40

Please contact me should you have questions or comments regarding the enclosed work plan.

Very truly yours,

BROWN AND CALDWELL

Donna Courington

Donna Courington
Project Manager

DLC:dc
Enclosure

PHASE I WORK PLAN

The work described below is intended to satisfy Alameda County Health Department (County) requirements for tank and excavation closure. Based upon work performed to date, three areas at the site requiring additional work have been identified. The areas, located as shown on Figure 1, are the ink room excavation, the rail spur area, and additional pipelines to be removed.

BACKGROUND

This section summarizes work performed to date in each of the three areas identified above.

Ink Room Excavation

During installation of an underground runoff containment tank adjacent to a new ink room, stained soil exhibiting odors was noted (Figure 1). Brown and Caldwell (BC) was contacted to perform an investigation to delineate the extent of the stained soil. Sixteen boreholes were drilled in the locations shown on Figure 2. Sampling and analysis of soils surrounding the stained area was conducted. Based on the results of the drilling and analysis performed by BC, James River excavated all stained soil and some surrounding native soil. Stained soil was transported to a Class I disposal facility under proper manifest. Verification samples were collected from the excavation in the locations shown on Figure 3. The samples were analyzed for metals by appropriate EPA methods, purgeable halocarbons by EPA Method 8010, and purgeable aromatics by EPA Method 8020. Analytical results are summarized in Table 1. Laboratory reports are included as Attachment A. Toluene, benzene, and ethylbenzene were present in the verification samples at concentrations ranging from 180 to 39,000 micrograms per kilogram (ug/kg). Low levels of tetrachloroethylene and chloroform were detected in sample 12. The excavation is currently open.

Underground Storage Tank (UST) and Piping Excavation

James River began removal of three USTs in June 1989. The tanks were removed and permission to backfill the tank excavation was granted by Alameda County.

Piping associated with the tanks, located as shown on Figure 1, was removed. Verification samples collected from this piping trench contained elevated levels of solvents formerly stored in the tanks. Alameda County requested additional excavation in the piping trench area. During this additional excavation, stained soils were identified. James River

ABOVE GROUND STORAGE TANKS

JAMES RIVER

FORMER LOCATION OF UNDERGROUND STORAGE TANKS

ADDITIONAL PIPELINE TO BE REMOVED

ADDITIONAL STAINED SOIL ENCOUNTERED HERE

APPROXIMATE EXTENT OF STAINED SOIL IN RAIL SPUR AREA

TRENCHES OPENED FOR PIPELINE REMOVAL

FORMER LOCATION OF PIPELINE

JAMES RIVER FLEXIBLE PACKAGING PLANT

AAAAA RENT–A–SPACE

APPROXIMATE EXTENT OF INK ROOM EXCAVATION

NEW INK ROOM

N

0 20 40

SCALE IN FEET

(APPROXIMATE)

Figure 1 Site Map

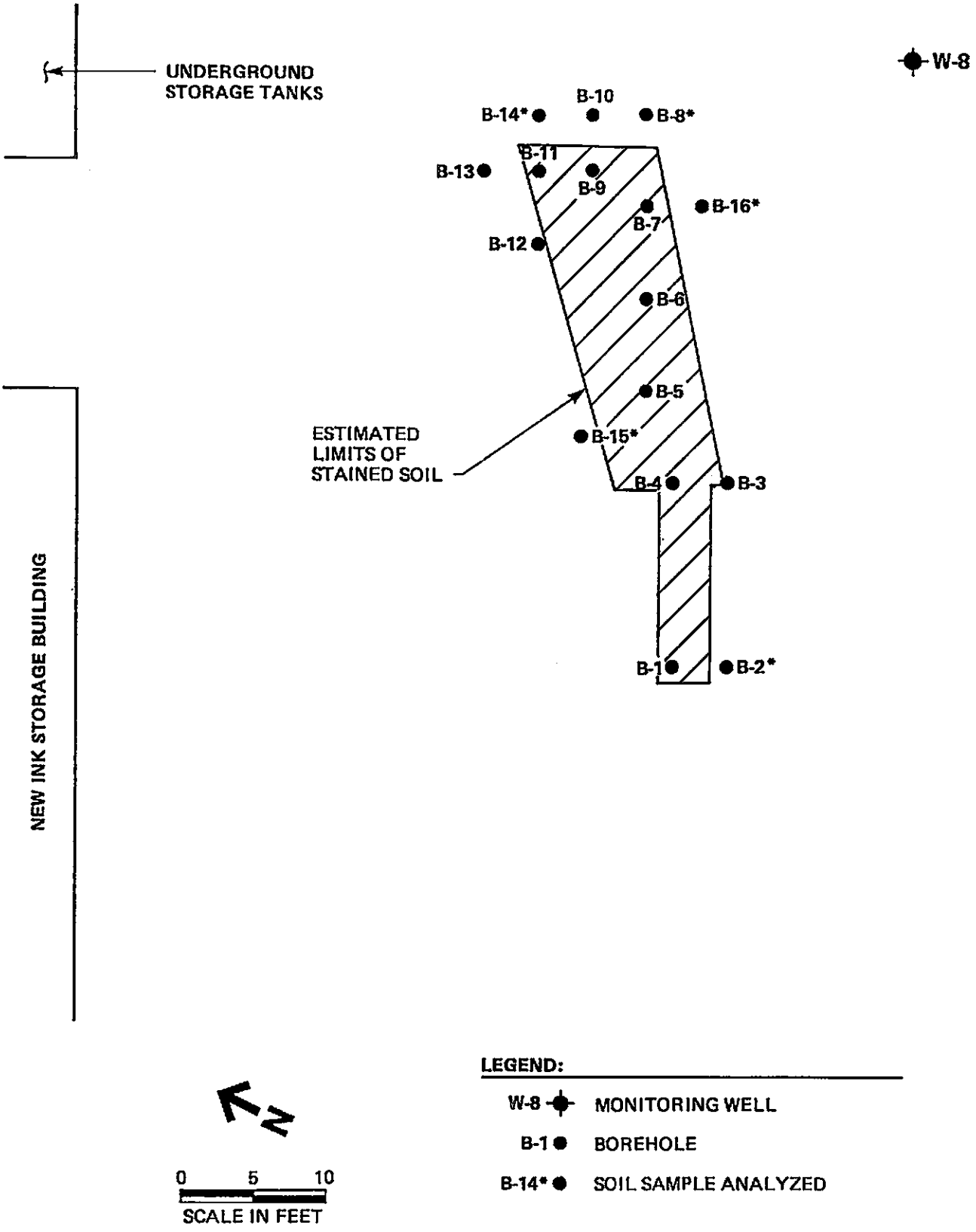

Figure 2 Borehole Locations

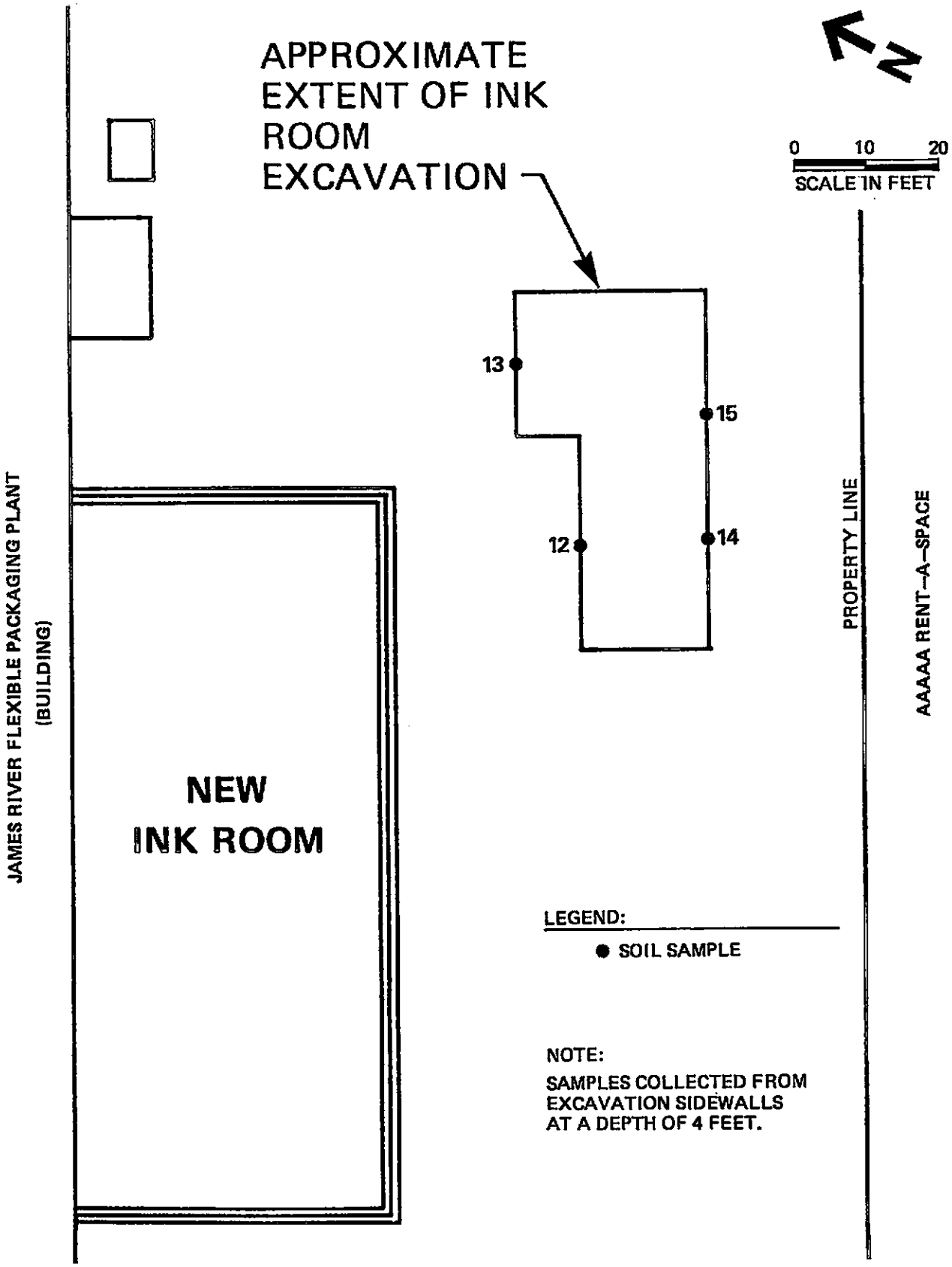

Figure 3 Verification Sample Locations, Ink Room Excavation

Table 1. Summary of Analytical Results,
Verification Samples,
Ink Room Excavation

Sample I.D. / Constituent	Concentration, micrograms per kilogram 12	13	14	15
EPA Method 8010				
Chloroform	64	<50	<50	<50
Tetrachloroethylene	180	<50	50	<50
EPA Method 8020				
Benzene	<200	<100	<50	720
Ethylbenzene	<200	<100	490	180
Toluene	39,000	3,800	16,000	2,100
Metals				
Arsenic	1,600	2,000	1,900	1,700
Chromium	31,000	36,000	21	26,000
Copper	29,000	21,000	19,000	14,000
Mercury	17	26	19	23
Nickel	39,000	42,000	37,000	33,000
Selenium	<40	40	<40	<40
Zinc	37,000	40,000	36,000	38,000

retained Chem-Tech, Inc., to conduct an investigation into the extent of these stained soils. Chem-Tech identified an approximate extent of stained soils, as shown on Figure 1. The area outlined on Figure 1 was excavated to a depth of approximately 2 feet to remove all stained soil. Excavation of this soil required removal of a portion of a rail spur. Upon removal of this rail spur, additional stained soils were encountered. Excavation in this area was then halted. The piping trench has been temporarily backfilled with pea gravel. No further work has been performed in the former UST location.

Additional Piping

Additional piping related to the former USTs is located as shown on Figure 1. This piping will be removed as a part of the tank closure. No work related to removal of this piping has been performed.

PROPOSED ADDITIONAL WORK

Based upon discussions with Alameda County, the following work is needed to finalize tank and piping removal and comply with groundwater monitoring requirements.

Ink Room Excavation

Based upon the results of verification samples, additional excavation will be performed. A photoionization detector (PID) will be used to screen soil removed from the excavation bottom. Excavation will continue until no organic vapors are detected by the PID in soils removed from the excavation, or until a depth of approximately 12 feet, the groundwater interface, is reached. Limited excavation of soil from the sidewalls will be performed. Approximately 1 foot of additional soil will be removed from the sidewalls of the excavation. All excavated soil will be stockpiled on site and covered with plastic, in compliance with Bay Area Air Quality Management District (BAAQMD) guidelines. Prior to excavation, proper written notification will be submitted to the BAAQMD.

Four verification samples will be collected from the excavation sidewalls and two from the excavation bottom. Final sampling locations will be based upon the extent of excavation.

In addition, one composite sample will be collected from each 50 cubic yards of stockpiled soil. Samples will be analyzed for purgeable halocarbons by EPA Method 8010 and for

purgeable aromatics by EPA Method 8020. Analytical results of the composite sample will be used to determine disposal and/or remediation methods for excavated soil. Should levels exceed those acceptable to Class III disposal facilities, on-site soil aeration will be performed. Soil aeration will be conducted in accordance with Regulation 8, Rule 40 of the BAAQMD.

Underground Storage Tank and Piping Excavation

One verification sample will be collected from the northeastern end of the excavated area around the rail spur (Figure 4). The sample will be analyzed for purgeable priority pollutants by EPA Method 8240. This analysis will detect chlorinated solvents that may be related to the stained soil formerly located there.

Additional Piping Removal

The additional piping will be removed by opening trenches at 20-foot intervals along the length of the pipeline, and cutting and pulling the pipe through the trench. The 20-foot interval is required for verification sampling purposes. One verification sample will be collected from each trench. We estimate a maximum of 13 samples will be collected (Figure 4). Samples will be analyzed by EPA Methods 8240.

Excavation and piping removal will be performed by Atlas Hydraulic, the contractor who began the work.

If stained soils are encountered in trenches opened for piping removal, their presence will be noted and located on a site map. No excavation of stained soils along the pipeline will be performed.

Additional Monitoring Well Installation

Upon completion of piping removal, described above, one additional monitoring well will be installed in the verified downgradient location of the area known to contain buried pigment-stained soils. The well location will be determined based upon whether additional pigment-stained soils are encountered during pipeline removal. The downgradient direction will be determined from water level measurements in existing wells at the site. A groundwater sample from the additional well will be analyzed for purgeable priority pollutants by EPA Method 8240.

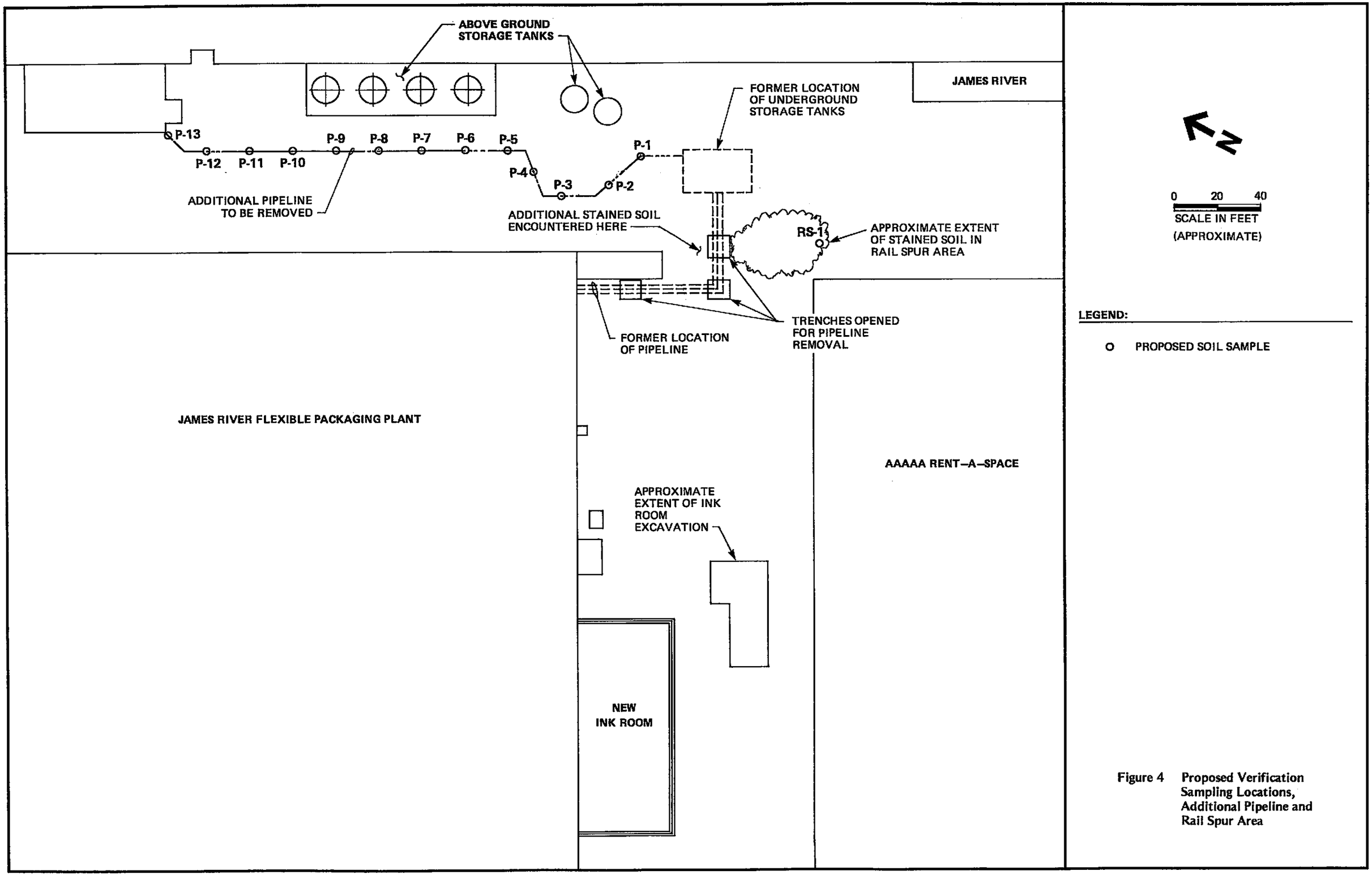

Figure 4 Proposed Verification Sampling Locations, Additional Pipeline and Rail Spur Area

Field Methods

The following methods will be implemented during performance of field work described above.

Verification Sampling. Verification samples will be collected using a hand driven sampler lined with a 2-inch diameter by 6-inch long brass sleeve. Samples collected from the ink room excavation will be taken from a backhoe bucket of soil collected from the designated sample location. At other sampling locations, approximately 6 inches of surface soil will be removed and the sampler driven into the underlying soil. The brass sleeve will be removed from the sampler, the ends covered with foil, and plastic caps taped on. The sample will be labeled with appropriate identification, the date and depth of collection, the sampler's initials, and the required analyses. All samples will be stored on ice until delivery to the BC Analytical Laboratory in Emeryville, California. Proper chain-of-custody will be maintained during sample handling.

Well Installation. A groundwater monitoring well will be installed in a boring advanced with a truck-mounted drilling rig equipped with 10-inch outside diameter hollow-stem augers. The boring will be continuously sampled for logging purposes. Soil samples will be collected using a 5-foot core barrel advanced concurrently with the augers. No soil samples from the boring will be retained for potential laboratory analysis. Soil will be described on the borehole log using the Unified Soil Classification System and a Munsell Soil Color Chart.

The boring will be drilled to a depth of approximately 35 feet. This depth is estimated to be 10 feet below the top of a gravelly sand encountered during previous drilling at the site. This gravelly sand interval is monitored by existing wells at the site.

The monitoring well will be installed by inserting 4-inch diameter polyvinyl chloride casing directly through the hollow-stem augers. The lower 15 feet of the casing will consist of screen with 0.020-inch slots. The slotted interval will extend approximately 5 feet above the top of the gravelly sand unit. A gravel pack composed of #3 Lonestar sand, or equivalent, will be poured around the slotted interval as the augers are incrementally removed from the borehole. The gravel pack will extend from the bottom of the borehole to approximately 2 feet above the slotted interval. A 2-foot thick annular seal composed of bentonite pellets will be placed immediately above the gravel pack. The remainder of the annular space will be backfilled with a cement grout containing approximately 5 percent powdered bentonite. The well will be completed at the surface with a flush-mounted, traffic-proof box and a water-tight locking cap.

All borehole cuttings will be stockpiled on-site with soil removed from the ink room excavation. The soil will be sampled and aerated, if necessary, prior to proper disposal by James River.

Well Development and Sampling. The well will be developed by surging and pumping until relatively sediment-free water is produced. Throughout development, the pH, conductivity, and temperature of purged water will be monitored. Development will continue until these parameters have stabilized.

At least 24 hours after development, a groundwater sample will be collected. The well will be purged of a minimum of three well volumes prior to sampling. The pH, conductivity, and temperature of purged water will be monitored. If, after removal of three well volumes these parameters have not stabilized, purging will continue. A sample will be collected after these parameters have stabilized. The groundwater sample will be collected with a Teflon bailer and decanted into two 40-milliliter vials. The sample will be appropriately labeled and stored on ice until delivery to the BC Analytical Laboratory in Emeryville, California. Proper chain of custody will be maintained during sample handling. The sample will be analyzed for purgeable priority pollutants by EPA Method 8240. All purged water will be placed in 55-gallon drums for proper disposal by James River.

Report Preparation

Upon the completion of field work, a draft report of Phase I work will be prepared. The report will describe all field activities conducted under this investigation. The report will include all analytical results and figures illustrating all sampling locations. Upon review by James River, the report will be finalized and submitted to appropriate regulatory agencies.

PHASE II WORK PLAN

Phase II work will consist of performance of an off-site groundwater survey. The purpose of the survey is to evaluate whether an off-site source of chlorinated hydrocarbons to the shallow groundwater exists. Groundwater samples collected from existing on-site wells have indicated levels of chlorinated hydrocarbons are highest near the up-gradient property boundary. This situation implies a possible off-site source in the upgradient direction.

Groundwater Survey

A grid of 18 sampling points will be established on the northeast portion of the site and on the adjacent Southern Pacific property to the northeast of the site (Figure 5). James River will be responsible for contacting Southern Pacific to obtain site access.

Groundwater samples will be collected from temporary boreholes which will be pushed hydraulically into subsurface soils to a depth of approximately 20 feet or until refusal. Groundwater samples will be collected with a syringe, through flexible tubing placed down the borehole. Temporary boreholes will be backfilled with bentonite pellets hydrated with tap water.

The groundwater samples will undergo a headspace chromatographic analysis for the following organic compounds:

1,2-dichloroethene	methyl acetate
trichloroethene	n-butyl acetate
perchloroethene	n-propyl acetate
vinyl chloride	n-propyl alcohol
toluene	ethyl alcohol
	acetone

The survey will be conducted by a subcontractor with a four man field crew. The survey will take 2 days. At the end of the first day, data will be contoured to determine the most likely locations for additional data collection on the second day.

At the close of survey day 2 we will assess if further work is needed in order to identify an offsite source. James River will be informed of our findings and recommendations at that time.

During the survey a mobile laboratory will be stationed on-site. In order to most efficiently conduct the survey, two

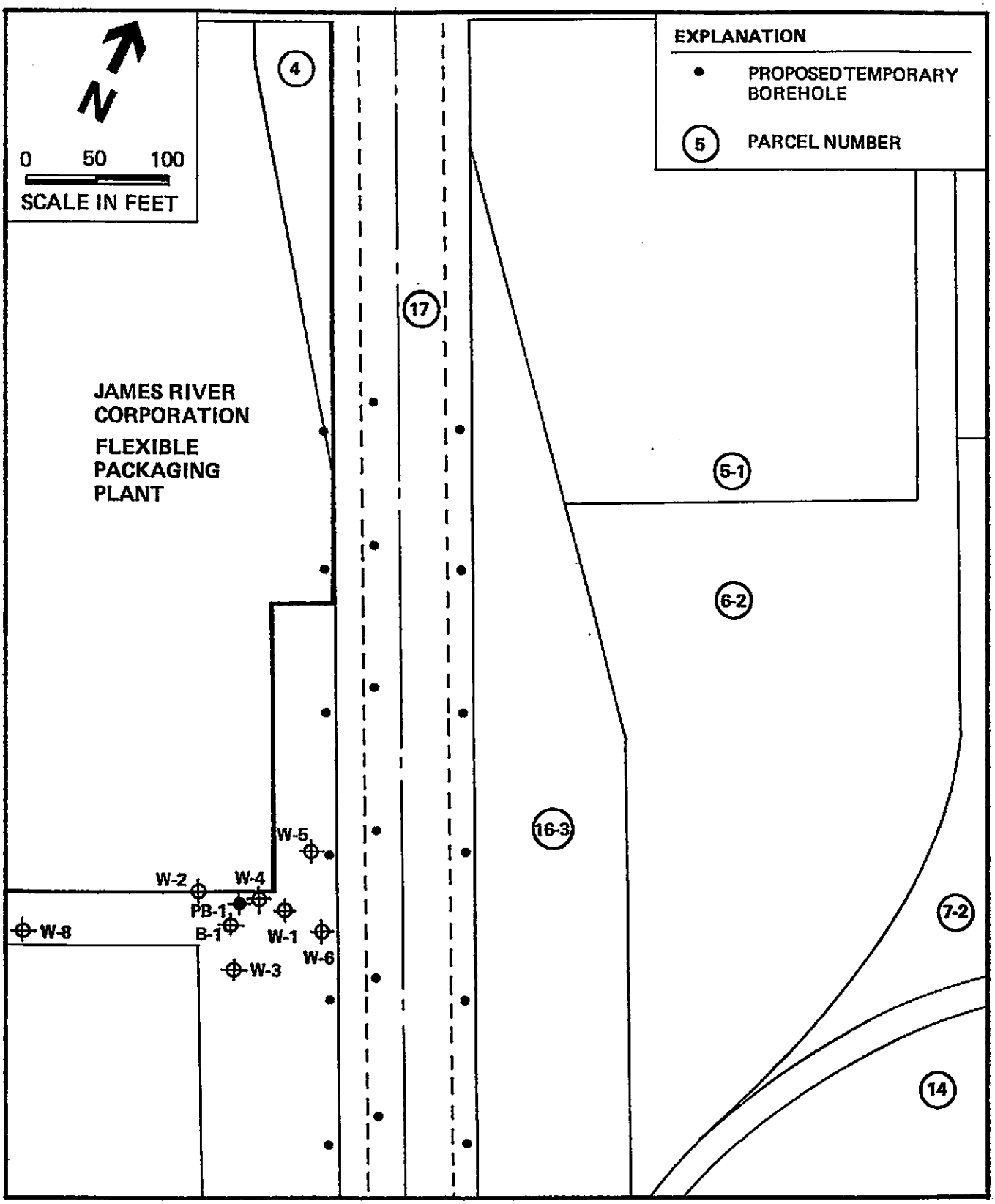

Figure 5 On and Off-Site Proposed Temporary Borehole Locations

Photovac 10S50 gas chromatographs will be used. One chromatograph will be set up for the fast eluting compounds, the other for the slower compounds.

The results will be presented in a brief report which will include sample collection procedures and methods, results in tabular form, work sheets, contour maps of chlorinated hydrocarbons, interpretation of results, and recommendations for further action (if necessary).

At the completion of this investigation, a review of all data will be conducted by Brown and Caldwell. If data indicate a possible off-site source for chlorinated hydrocarbons, we will prepare a notification for James River to submit to both Alameda County and the RWQCB. We will request that the regulatory agencies inquire into the past use and handling of solvents containing chlorinated hydrocarbons at up-gradient properties.

If results do not indicate a possible off-site source, additional work will be required to determine the downgradient extent of the plume. Design and implementation of a groundwater remediation program will necessitate determination of the extent and nature of the plume.

SCHEDULE

A schedule to implement this work is included as Figure 6. We have estimated two weeks for receipt of work plan approval from Alameda County. The start date will be contingent upon receipt of County approval.

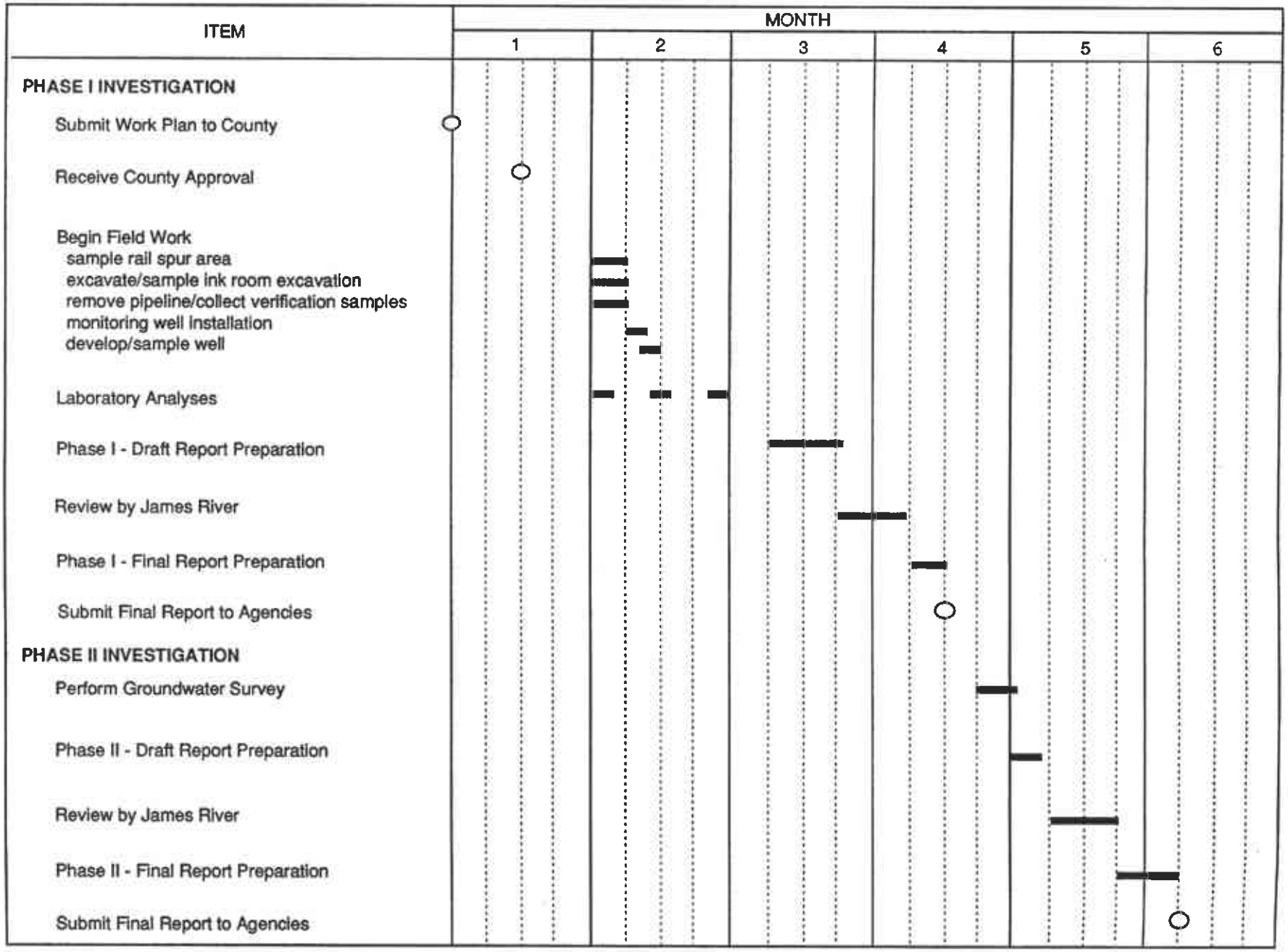

Figure 6 Project Schedule

ATTACHMENT A

Laboratory Reports
Ink Room Verification Samples

BROWN AND CALDWELL LABORATORIES
1255 POWELL STREET EMERYVILLE, CA 94608 • (415) 428-2300

ANALYTICAL REPORT

LOG NO: E89-04-296

Received: 11 APR 89
Reported: 27 APR 89

Mr. Ron Goloubow
Brown and Caldwell
3480 Buskirk Avenue
Pleasant Hill, California 94523

Project: 4365

REPORT OF ANALYTICAL RESULTS

OG NO	SAMPLE DESCRIPTION, SOIL SAMPLES	DATE SAMPLED
4-296-1	B-2 (5.5-6.0)	11 APR 89
4-296-2	B-8 (5.5-6.0)	11 APR 89

ARAMETER	04-296-1	04-296-2
ourteen CAM Metals by ICAP		
Silver, mg/kg	<0.4	<0.4
Barium, mg/kg	220	180
Beryllium, mg/kg	<0.2	<0.2
Cadmium, mg/kg	6.2	6.1
Cobalt, mg/kg	13	14
Chromium, mg/kg	100	57
Copper, mg/kg	30	23
Molybdenum, mg/kg	<1.6	<1.6
Nickel, mg/kg	62	67
Lead, mg/kg	130	<6
Antimony, mg/kg	4	3
Thallium, mg/kg	<4	<4
Vanadium, mg/kg	56	53
Zinc, mg/kg	65	57
rsenic, mg/kg	0.219	3.8
ercury, mg/kg	<0.01	<0.01
elenium, mg/kg	0.2	<0.2
AM Digestions, Date	04.20.89	04.20.89

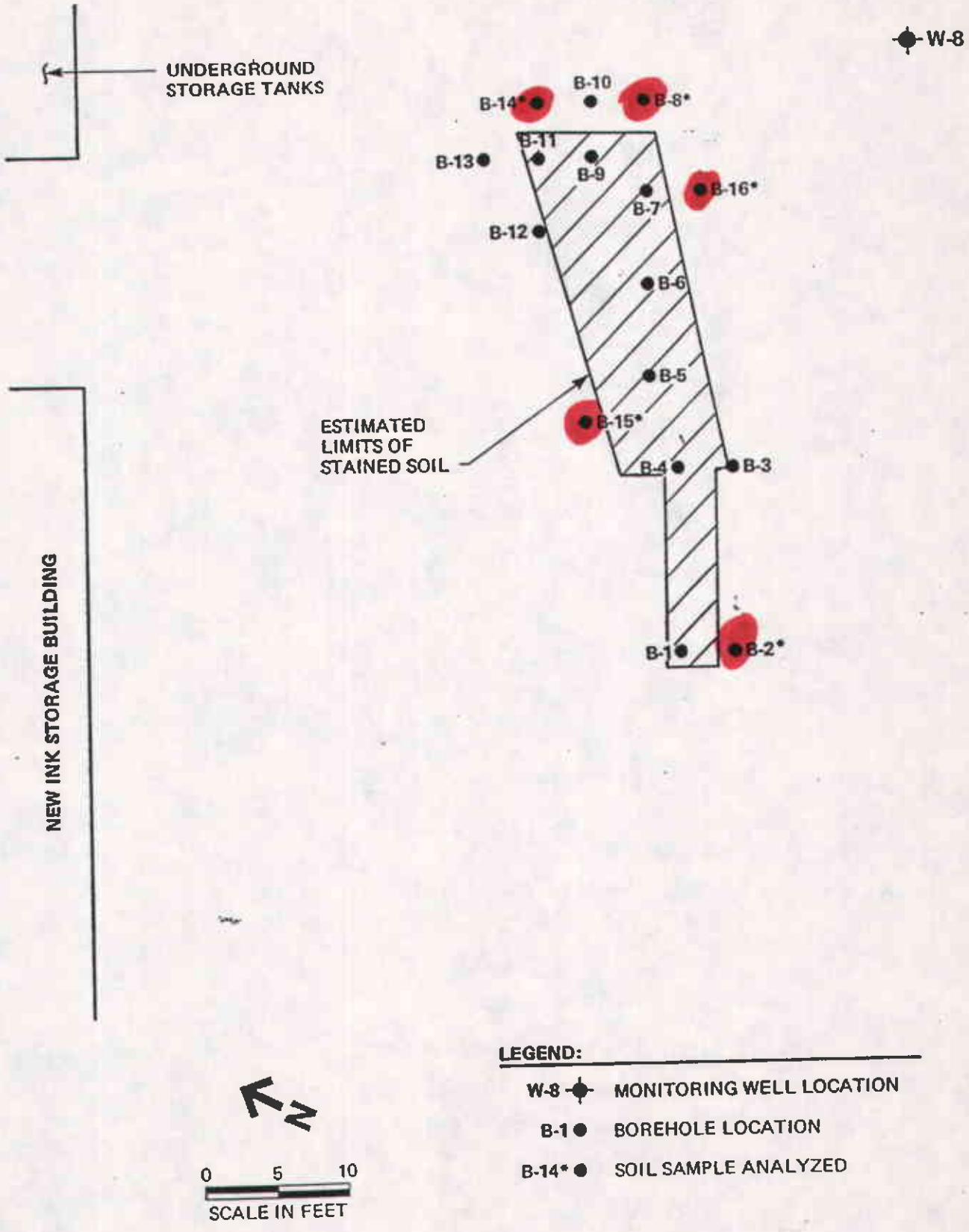

Figure 3 Stained Soil Location