Johnathon Redburg
Leaks new technical cleanups

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13 November 2002

Alameda County

NOV 15 2002

Environmental Health

Mr. Barney M. Chan
Hazardous Materials Specialist
Environmental Health Service Administration
Alameda County Health Care Services Agency
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577

Subject: Proposed Soil Remediation and Additional Subsurface Characterization,
901 Embarcadero, Oakland, California
K/J 000128.00

Dear Mr. Chan:

The enclosed tables are submitted in response to your request during our telephone conversation on 18 October 2002 regarding the Work Plan for Soil Remediation and Additional Characterization (Work Plan) that was submitted by Kennedy/Jenks Consultants on behalf of Praxair, Inc. (Praxair) on 20 September 2002. The Work Plan proposed soil remediation in specific areas and additional subsurface investigation activities at 901 Embarcadero in Oakland (the Site).

The tables are intended to summarize the results of the subsurface characterization activities performed to date at the Site, and to provide the background for the proposed additional remediation and characterization activities. Also enclosed are copies of figures which depict the locations of previous soil samples and the proposed additional sampling locations.

Liquid Carbonic leased the Site from the Port of Oakland as an industrial property, and Praxair intends to perform remediation, where necessary, consistent with industrial use of the Site. Therefore, as noted in the Work Plan, Risk-Based Screening Levels for industrial land uses will be utilized together with an assessment of background concentrations (e.g., of inorganics) to assess the need for, or adequacy of onsite remediation activities.

If it would be helpful, we would be happy to meet with you to discuss the previous subsurface characterization activities and the proposed activities. Praxair is anxious to proceed with the activities discussed in the Work Plan, and we will appreciate your prompt review. If you have any questions regarding the Work Plan or the enclosed summary tables, please call either Nick DiFranco of Praxair at (732) 738-3424 or me at (415) 243-2534.

Very truly yours,

KENNEDY/JENKS CONSULTANTS

Meredith G. Durant

Meredith G. Durant, P.E.
Senior Engineer

Enclosures (5)

cc: Nick DiFranco, Praxair
Doug Herman, Port of Oakland
John Sibley, Praxair
Jeriann Alexander, Subsurface Consultants
Jonathan Redding, Wendel Rosen Black & Dean

Tables

Table 1: Summary of Previous Sampling Locations, Media and Analysis[a]

Boring Name	Rationale	Media	Depth	VOCs[b]	SVOCs[c]	TPHd[d]	TPHg, BTEX[e]	Metals[f]	PCBs[g]	pH[h]
KB-1	Drainage area for parking lot and reference point for eastern corner of site	Soil	0 – 6"	X		X		X		
		Soil	3' – 5'	X		X		X		
		GW	NA	X		X		X		
KB-2	Potential release from former PG&E transformer	Soil	0 – 6"						X	
KB-3	Vehicle activities	Soil	3' – 5'	X		X	[redacted]			
KB-4	Hydraulic fluid (PCBs?) from hydraulic lift Vehicle activities	Soil	3' – 5'	X		X			X	
		GW	NA	X		X			X	
KB-5	Railroad activities, proximity to estimated location of Bldg 1 sanitary sewer	Soil	3' – 5'	X		X				
		GW	NA	X		X				
KB-6	Railroad activities, proximity to oil/water separator discharge line	Soil	3' – 5'	X	X	X	X			
		GW	NA	X	X	X	X			
KB-7	Report of dumping, staining visible on aerial photo	Soil	0 – 6"	X	X	X	X	X		
		Soil	3' – 5'	X	X	X	X	X		X
KB-8	Drainage area for western loading area, reference point for western corner of site	Soil	3' – 5'	X		X				X
		GW	NA	X		X				X
KB-9	Lime spill, evidence of staining on aerial photos	Soil	0 – 6"					X		X
		GW	NA	X						X
KB-10	Lime spill	Soil	0 – 6"							X
KB-11	Proximity to lime slurry pit, proximity to former "monkey dust" area	Soil	0 – 6"	X	X	X		X		X
		Soil	1' – 1.5'					X[h]		
KB-12	Area historically used for management of "monkey dust"	Soil	0 – 6"	X				X		X
KB-13	Proximity to paint dust collection bin, chemical storage area	Soil	0 – 6"	X	X	X		X		
		Soil	3' – 5'	X	X	X		X		
		GW	NA	X	X	X		X		
KB-14	Evaluate potential release from compressor to storm drain	Soil	3' – 5'			X				
KB-15	Lime spill, proximity to storm drain inlet #2	Soil	3' – 5'	X		X				X
		GW	NA	X		X				X
KB-16	Proximity to storm drain inlet #3	Soil	3' – 5'	X	X	X		X		X
KB-17	Vehicle activities adjacent to loading dock	Soil	3' – 5'			X	X			

Table 1: Summary of Previous Sampling Locations, Media and Analysis[a]

Boring Name	Rationale	Media	Depth	VOCs[b]	SVOCs[c]	TPHd[d]	TPHg, BTEX[e]	Metals[f]	PCBs[g]	pH[h]
KB-18	Vehicle activities, cylinder/tank storage	Soil	0 – 6"	X		X		X		
		GW	NA	X		X		X		
KB-19	Cylinder storage	Soil	0 – 6"					X		
KB-20	Vehicle activities, cylinder storage	Soil	0 – 6"	X		X		X		
		Soil	3' – 5'	X		X		X		
KB-21	Cylinder storage	Soil	0 – 6"					X		
KB-22	Vehicle activities, cylinder storage	Soil	0 – 6"	X		X		X		X
		GW	NA	X		X		X		X
KB-23	Vehicle activities and vehicle maintenance	Soil	3' – 5'	X						
		GW	NA	X	X	X				
KB-24	Evaluate mercury in shallow soil near Boring KB-11	Soil	0 – 6"					X[i]		
		Soil	1 – 1.5'					X[i]		
KB-25	Evaluate mercury in shallow soil near Boring KB-11	Soil	0 – 6"					X[i]		
		Soil	6"					X[i]		
KB-26	Evaluate mercury in shallow soil near Boring KB-11	Soil	0 – 6"					X[i]		
		Soil	1 – 1.5'					X[i]		
SS-1	Evaluate sediment in storm drain	Sed.	NA	X	X	X				
	Historical Areas of Concern									
Former gasoline UST	No sample in 2001. UST removed in 1989. Case closure in 1997.									
Former acetone UST	No sample in 2001. UST removed in 1989. Case closure in 1997.									
Former diesel USTs	No sample in 2001. UST removed in 1989 and 1990. Case closure in 1997.									

Table 1: Summary of Previous Sampling Locations, Media and Analysis[a]

(a) Soil and groundwater samples collected in May 2001 in accordance with the *Subsurface Characterization Work Plan* dated February 2001, as approved by the Alameda County Health Care Services Agency. Shallow soil samples collected from locations KB-14, KB-25 and KB-26 in conjunction with process closure activities in June 2002.
(b) VOCs = Volatile organic compounds using EPA Method 8260.
(c) SVOCs = Semivolatile organic compounds using EPA Method 8270.
(d) TPHd = Total petroleum hydrocarbons, analyzed as diesel using EPA Method 8015.
(e) TPHg, BTEX = Total petroleum hydrocarbons, analyzed as gasoline and benzene, toluene, ethylbenzene, and xylenes using EPA Method 8015/8020.
(f) Analyzed for total metals using EPA 6000 series.
(g) PCBs = Polychlorinated biphenyls using EPA Method 8082.
(h) Analyzed using EPA Method 9040B/9045C, for high pH.
(i) Sample analyzed for mercury only.

Table 2: Summary of Prior Sampling Results

Location on Site Plan/Boring ID	Description	Media	Sample Results[a]	Area of Further Concern
	Areas of Concern Identified in 2001[b]			
KB-1	Eastern corner of site	Soil	VOCs were non-detect. TPHd detected at 12 mg/kg in surface soil sample, not detected in deeper sample. Metals less than RBSLs[c]/background.	No
		Groundwater	VOCs and TPHd non-detect. Metals less than MCLs, some RBSLs exceeded in unfiltered sample.	No
KB-2	Former PG&E Transformer	Soil	No PCBs detected in 3-point composite sample.	No
KB-3	Eastern loading dock	Soil	VOCs and TPHd were non-detect.	No
KB-4	Hydraulic Lift (eastern loading dock in Building 1)	Soil	VOCs were non-detect in two soil samples from Boring KB-4. PCBs non-detect in shallow soil sample. TPHd detected at 25 mg/kg in surface soil, but non-detect in sample from 3 feet bgs.	Yes – additional sampling is planned to confirm there is no impact from hydraulic lift.
		Groundwater	Cis-1,2-DCE and TCE detected at less than 1 µg/l each. TPHd detected at 58 µg/l.	No
KB-5	East end rail spur	Soil	Methylene chloride detected at 6 µg/kg and other VOCs were non-detect. TPHd detected at 1.3 mg/kg.	No
		Groundwater	VOCs were non-detect. TPHd detected at 55 µg/l.	No
KB-6	West end rail spur	Soil	VOCs, TPHd and SVOCs were non-detect.	No
		Groundwater	PCE and TCE detected at less than 1 µg/l each. Chloroform detected at 4.3 µg/l. TPHd detected at 140 µg/l.	
KB-7	South of Building 2 acetylene generator room	Soil	VOCs were non-detect. TPHd detected at 2,500 mg/kg in surface soil. Several metals in surface soil sample elevated relative to RBSLs[c]. In deeper sample, VOCs and TPHd were non-detect and metals concentrations were less than RBSLs/background. SVOCs were non-detect in both samples.	Yes – excavation of shallow soil is planned to remove soil with elevated levels of metals and TPHd.
KB-8	Storm drain inlet at SW corner of site	Soil	VOCs and TPHd were non-detect.	No
		Groundwater	VOCs not detected. TPHd detected at 140 µg/l.	No
KB-9	Water/lime settling tanks	Soil	Metals concentrations in soil less than RBSLs. pH =	No
		Groundwater	VOCs were non-detect. pH =	No
KB-10	High pH water sump	Soil	Soil pH of 7.5	No

Table 2: Summary of Prior Sampling Results

Location on Site Plan/Boring ID	Description	Media	Sample Results[a]	Area of Further Concern
KB-11	Lime Slurry Pit north of Building 2	Soil	VOCs were non-detect. TPHd of 7.8 mg/kg in shallow soil sample. SVOCs were non-detect. Mercury of 5.6 mg/kg in shallow soil.	Yes – excavation of surface soil is planned to remove elevated concentrations of mercury.
KB-12	Between Buildings 1 and 2	Soil	VOCs were non-detect. Metals less than RBSLs.	No
KB-13	Along north wall of Building 1 (near dust bin)	Soil	VOCs were non-detect. TPHd detected at 55 mg/kg in surface soil sample and 3.6 mg/kg in deeper sample. SVOCs were non-detect.	Yes – excavation of shallow soil is planned to address soils that may have been impacted by chemical management activities in this area.
		Groundwater	Sum of cis-1,2-DCE, trans-1,2-DCE, TCE, PCE and vinyl chloride was 21.65 µg/l. TPHd of 6,200 µg/l. Several metals in unfiltered sample exceed MCLs and RBSLs.	Yes – additional investigation is planned to assess distribution of TPH and metals. what investigation ?
KB-14	Adjacent to storm drain inlet #4	Soil	TPHd detected at 4.5 mg/kg.	No
KB-15	Adjacent to storm drain inlet #2	Soil	VOCs were non-detect. TPHd detected at 2.3 mg/kg.	No
		Groundwater	Cis-1,2-DCE detected at 4.5 µg/l. TPHd detected at 94 µg/l.	No
KB-16	Adjacent to storm drain inlet #3	Soil	VOCs, TPHd and SVOCs were non-detect. Metals less than RBSLs/background.	No
KB-17	Center of loading docks (northwest of Building 1)	Soil	TPHg, TPHd and BTEX were non-detect.	No
KB-18	Adjacent to fence, northwestern portion of site	Soil	VOCs were non-detect. TPHd detected at 270 mg/kg in surface soil. Metals less than RBSLs/background.	No
		Groundwater	VOCs were non-detect. TPHd detected at 150 µg/l. Several metals in unfiltered sample exceed MCLs and RBSLs.	Yes[(d)] – additional groundwater sampling will be performed to assess dissolved metals.
KB-19	Western portion of unpaved area of site	Soil	Metals less than RBSLs/background.	No
KB-20	Center of unpaved area of site	Soil	VOCs were non-detect. TPHd detected at 9.0 mg/kg in surface soil sample, and non-detect in deeper sample. Metals less than RBSLs/background.	No
KB-21	Eastern portion of unpaved area of site	Soil	Metals less than RBSLs/background.	No

Table 2: Summary of Prior Sampling Results

Location on Site Plan/Boring ID	Description	Media	Sample Results[a]	Area of Further Concern
KB-22	Adjacent to fence, northern portion of site	Soil	VOCs were non-detect. TPHd at 2.2 mg/kg. Metals less than RBSLs/background.	No
		Groundwater	VOCs were non-detect. TPHd detected at 65 µg/l. Several metals in unfiltered sample exceed MCLs and RBSLs.	Yes[d] – additional groundwater sampling will be performed to assess dissolved metals.
KB-23	Adjacent to former truck maintenance shed	Chemicals from vehicle maintenance	VOCs were non-detect.	No
			VOCs were non-detect. TPHd at 590 µg/l (less than RBSL).	No
SS-1	Storm drain inlet #1	Sediment	Elevated metals and VOCs in sediment sample.	No (sediment was removed in December 2001).
	Historical Areas of Concern[b]			
	Former gasoline UST		Not sampled	No
	Former acetone UST		Not sampled	No
	Former diesel USTs		Not sampled	No

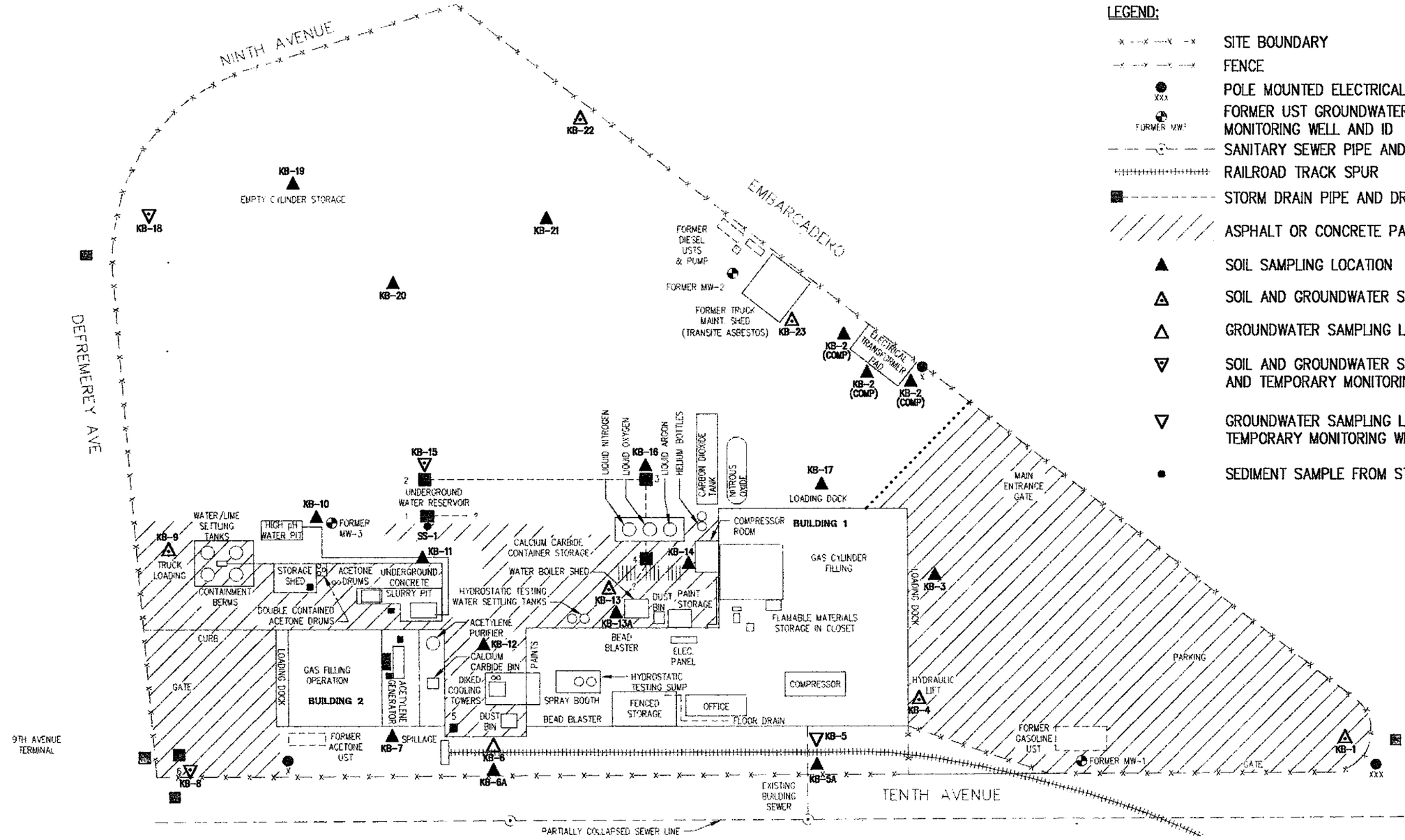
(a) Soil and groundwater samples collected in May 2001 in accordance with the *Subsurface Characterization Work Plan* (Work Plan) as approved by the Alameda County Health Care Services Agency (ACHCSA). Sample results were submitted to ACHCSA in the *Report on Subsurface Characterization* (Report) dated October 2001.
(b) Areas of concern as identified in early 2001 (prior to onsite subsurface investigation activities in May 2001). These areas were identified in the Work Plan and Report submitted to the ACHCSA during 2001.
(c) RBSL = Risk based screening levels established by RWQCB for industrial land uses.
(d) Concern is not location specific and pertains to evaluation of metals concentrations in filtered groundwater samples.
(e) Environmental concerns regarding these areas were resolved prior to 2001. Areas are listed for purposes of completeness.

Table 3: Summary of Proposed Soil Remediation and Additional Characterization Activities

Location/Boring Name	Media	Rationale	Proposed Action[a,b]
Proposed Remediation Areas			
KB-7	Soil	Elevated TPHd and metals detected in surface soil	Soil excavation followed by post-excavation sampling. Soil samples will be analyzed for TEPH, metals and pH.
KB-11, KB-24, KB-25 and KB-26	Soil	Elevated mercury concentrations detected in surface soil	Soil excavation followed by post-excavation sampling. Soil samples will be analyzed for mercury and pH.
KB-13	Soil	Former chemical management activities along north wall of Building 1	Soil excavation followed by post-excavation sampling. Soil samples will be analyzed for TEPH and metals.
	Groundwater	Elevated TPHd and metals detected in unfiltered groundwater sample	Additional groundwater sampling from six locations to assess distribution of TPH and metals. Groundwater samples will be analyzed for TEPH and metals.
Proposed Additional Characterization Activities			
KB-4 (Former hydraulic lift) NOT NEC.	Soil	Further assess potential release from removed hydraulic lift	Additional sampling planned to confirm TPH concentrations at a depth below bottom of removed hydraulic lift. Samples will be analyzed for TEPH.
Near KB-10	Groundwater	Assess metals concentrations in filtered sample	Collect one reconnaissance groundwater sample, which will be filtered prior to analysis of metals.
Near KB-15	Groundwater	Assess metals concentrations in filtered sample	Collect one reconnaissance groundwater sample, which will be filtered prior to analysis of metals.
Near KB-23	Groundwater	Assess metals concentrations in filtered sample	Collect one reconnaissance groundwater sample, which will be filtered prior to analysis of metals.
Former acetone drum area	Soil + GW ?	Assess acetone concentrations in soil	Collect soil samples from two locations. Samples will be analyzed for acetone.
Former oil/water separator	Soil	Assess TPH concentrations in presumed vicinity of former oil/water separator	Collect soil samples from two locations. Samples will be analyzed for TEPH.

(a) Proposed actions, including sampling and analytical methods, are set forth in the Work Plan for Soil Remediation and Additional Characterization dated 20 September 2002, that was submitted to the Alameda County Health Care Services Agency.
(b) Other soil characterization activities may occur in association with demolition or renovation of the buildings.

Figures



LEGEND:

- SITE BOUNDARY
- FENCE
- POLE MOUNTED ELECTRICAL TRANSFORMER(S)
- FORMER UST GROUNDWATER MONITORING WELL AND ID
- SANITARY SEWER PIPE AND MAINTENANCE HOLE
- RAILROAD TRACK SPUR
- STORM DRAIN PIPE AND DROP INLET
- ASPHALT OR CONCRETE PAVED AREAS
- SOIL SAMPLING LOCATION
- SOIL AND GROUNDWATER SAMPLING LOCATION
- GROUNDWATER SAMPLING LOCATION
- SOIL AND GROUNDWATER SAMPLING LOCATION AND TEMPORARY MONITORING WELL
- GROUNDWATER SAMPLING LOCATION AND TEMPORARY MONITORING WELL
- SEDIMENT SAMPLE FROM STORM DRAIN

N

NOT TO SCALE

Kennedy/Jenks Consultants

PRAXAIR, INC.
901 EMBARCADERO, OAKLAND, CALIFORNIA

SOIL AND GROUNDWATER SAMPLING LOCATIONS

K/J 000128.00
OCTOBER 2001

Figure 2

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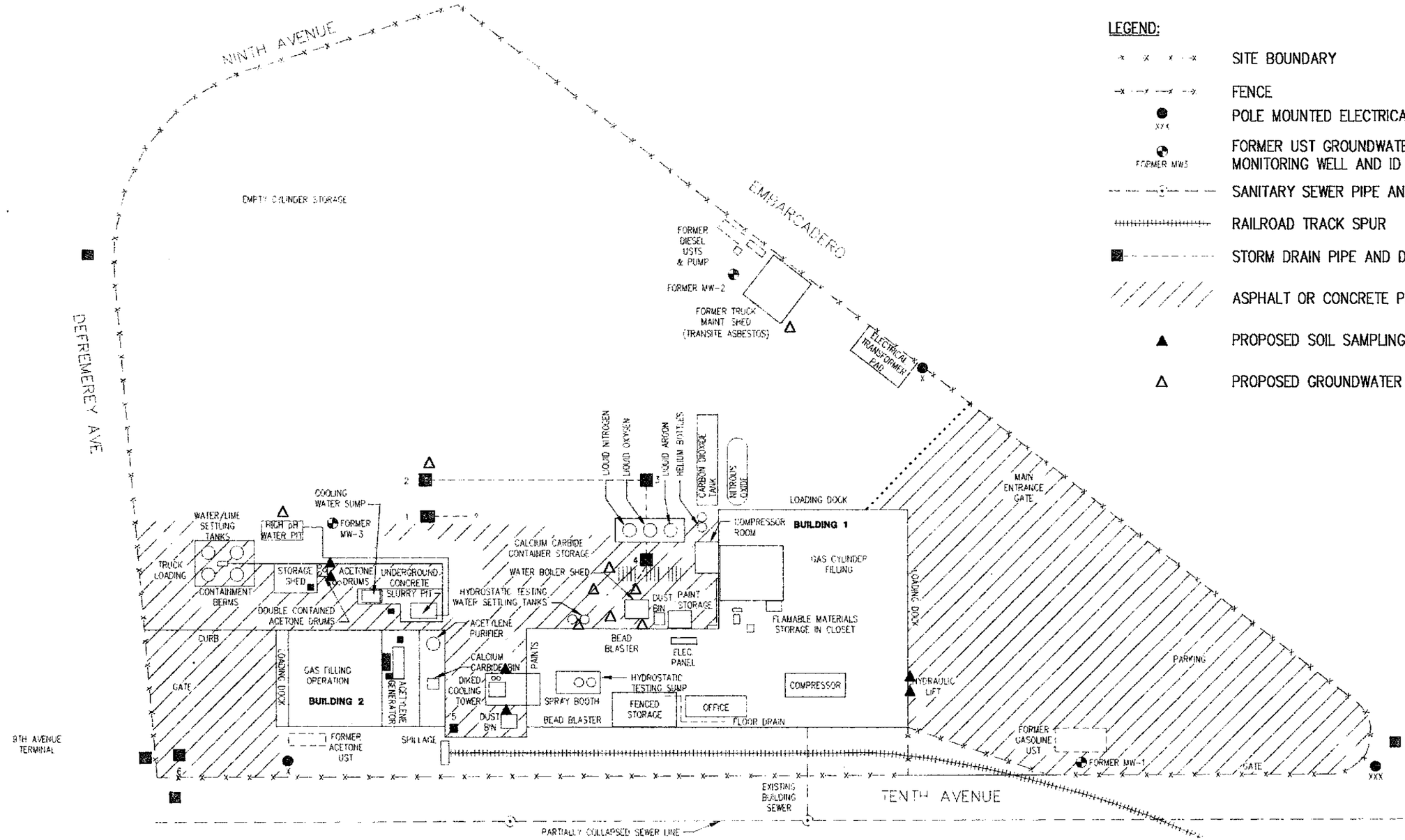

LEGEND:

- SITE BOUNDARY
- FENCE
- POLE MOUNTED ELECTRICAL TRANSFORMER(S)
- FORMER UST GROUNDWATER MONITORING WELL AND ID
- SANITARY SEWER PIPE AND MAINTENANCE HOLE
- RAILROAD TRACK SPUR
- STORM DRAIN PIPE AND DROP INLET
- ASPHALT OR CONCRETE PAVED AREAS
- ▲ PROPOSED SOIL SAMPLING LOCATION
- △ PROPOSED GROUNDWATER SAMPLING LOCATION

N

NOT TO SCALE

Kennedy/Jenks Consultants

PRAXAIR, INC.
901 EMBARCADERO, OAKLAND, CALIFORNIA

PROPOSED SAMPLING LOCATIONS

K/J 000128.00
SEPTEMBER 2002

Figure 5

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