TRANSMITTAL

THE IT GROUP
4005 Port Chicago Highway
Concord, CA 94520-1120
(925)288-9898

To: Lynn Hornecker **Date:** November 8, 2001

From: David Kelly

Subject: Proposed Well Locations
Discrete Groundwater Sampling

Hydropunch sampling was conducted at several locations to verify the nature and extent of groundwater contamination at the Administration Area Plume. The work was completed in accordance with the *Soil Vapor Extraction Optimization for the Remediation of UST Cluster 1 and Site Verification Activities at Various Sites Work Plan, Revision 2,* Attachment 8. An initial hydropunch sampling event was conducted from June 4 through 7, 2001. Supplemental sampling was conducted from June 27 through 29, 2001.

Detections of compounds of concern in several of the hydropunch samples indicate that the extent of the Administration Area Plume may be larger than previously assumed as indicated in previous drawings and defined by existing wells. Results from samples collected east, north, and west of the previously assumed boundary of the Site 17 plume showed detections of carbon tetrachloride. The data also indicated that concentrations of carbon tetrachloride were higher in several samples collected in the mid-shallow zone (100-110 feet below ground surface) than in paired samples from the shallow zone (near the groundwater surface). Results from samples collected downgradient (northeast) of the assumed boundary of the UST Cluster 1 plume also showed detections of benzene, indicating that this plume boundary may also be larger than previously assumed.

To allow for periodic monitoring of the edges of the Administration Area Plume and several other locations where current data is incomplete, monitoring wells will be installed. Twelve wells will be installed at the approximate locations indicated in the attached figure. The attached table presents the rational for well placement. Shallow wells will be screened from approximately 50 to 70 feet below ground surface. Mid-shallow wells will be screened from approximately 95 to 115 feet below ground surface. Mid-deep wells will be screened from approximately 160 to 180 feet below ground surface. Deep wells will be screened just above the Corcoran Clay, which is estimated at approximately 210 to 230 feet below ground surface.

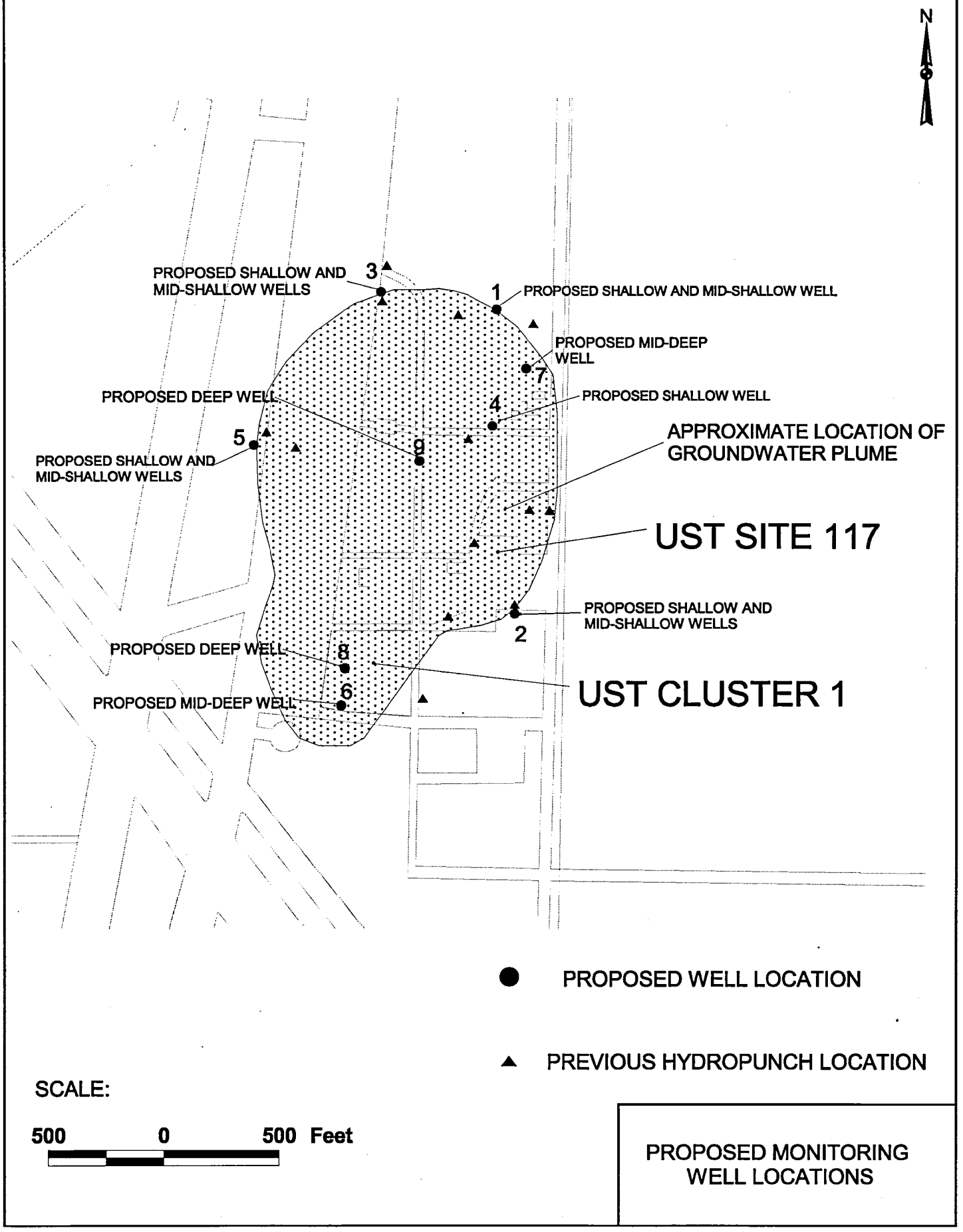
Attachment 8 of the *Soil Vapor Extraction Optimization for the Remediation of UST Cluster 1 and Site Verification Activities at Various Sites Work Plan, Revision 2,* provides the procedures

for well installation, well development, and waste management. The shallow and mid-shallow wells will consist of 4-inch schedule 40 PVC casing with approximately 20 feet of 0.020-inch slot screen. Mid-deep wells will be constructed with 4-inch schedule 80 PVC casing and deep wells will be constructed with 4-inch schedule 120 PVC casing. Stainless steel centralizers will be installed above and below the screens and at 100 foot intervals along the riser pipe at the deep wells. Filter pack for all wells will consist of clean 12 X 20 sieve sand. Surface completion will consist of flush mounted, traffic rated well boxes or protective steel casings that extend approximately 2.5 feet above ground surface. Following well installation, the wells will be developed in accordance with the procedures presented in the work plan.

Following well development, samples will be collected from each well and analyzed for petroleum hydrocarbons (EPA Method 8015M), volatile organic compounds (EPA Method 8260), alkalinity (EPA Method 310.1), total dissolved solids (EPA Method 160.1), anions (EPA Method 9056), and CAM 17 metals (EPA Method 6010). Sampling procedures and analytical method descriptions are included in the *Soil Vapor Extraction Optimization for the Remediation of UST Cluster 1 and Site Verification Activities at Various Sites Sampling and Analysis Plan, Revision 2.*

Additional hydropunch sampling and/or well installation may be conducted to further define the extent of the Administration Area Plume or evaluate the nature and extent of impact to groundwater at other sites at the facility.

cc: B Hulet
T Barry
Project File


N
PROPOSED SHALLOW AND MID-SHALLOW WELLS
3
1
PROPOSED SHALLOW AND MID-SHALLOW WELL
PROPOSED MID-DEEP WELL
7
PROPOSED DEEP WELL
4
PROPOSED SHALLOW WELL
5
9
PROPOSED SHALLOW AND MID-SHALLOW WELLS
APPROXIMATE LOCATION OF GROUNDWATER PLUME
UST SITE 117
PROPOSED SHALLOW AND MID-SHALLOW WELLS
2
PROPOSED DEEP WELL
8
UST CLUSTER 1
PROPOSED MID-DEEP WELL
6
PROPOSED WELL LOCATION
PREVIOUS HYDROPUNCH LOCATION
SCALE:
500 0 500 Feet
PROPOSED MONITORING WELL LOCATIONS

PROPOSED NEW WELL LOCATION RATIONALE

Map ID	Approximate Location State Plane (NAD83)		Approximate Screen Interval	Drilling Method	Location Rationale
	X-coord	Y-coord	ft bgs		
1	6386257	1973333	95-115	HSA	Mid-shallow well to verify and monitor downgradient edge of plume
2a	6386335	1971998	50-70	HSA	Shallow and mid-shallow wells to verify and monitor leading edge of UST Cluster 1 and crossgradient edge of Site 17
2b	6386335	1971998	95-115	HSA	
3a	6385759	1973410	50-70	HSA	Shallow and mid-shallow wells to verify and monitor downgradient edge of plume
3b	6385759	1973410	95-115	HSA	
4	6386240	1972822	50-70	HSA	Shallow well to verify and monitor plume conditions in the shallow zone downgradient of Site 17 source area
5	6385205	1972738	50-70	HSA	Shallow and mid-shallow wells to verify and monitor western upgradient edge of plume
5b	6385205	1972738	95-115	HSA	
6	6385585	1971593	160-180	sonic	Mid-deep well to verify and monitor conditions at UST Cluster 1
7	6386386	1973073	160-180	sonic	Mid-deep well to verify and monitor conditions downgradient of Site 17 source area
8	6385600	1971756	210-230	sonic	Deep well to verify and monitor groundwater conditions at UST Cluster 1 above the Corcoran Clay
9	6385923	1972668	210-230	sonic	Deep well to verify and monitor groundwater conditions (above the Corcoran Clay) downgradient of Site 17 source area