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M60050.003200
MCAS EL TORO
SSIC NO. 5090.3

March 29, 2001

Contracting Officer
Naval Facilities Engineering Command
Southwest Division
Michelle Crook
1220 Pacific Highway
San Diego, CA 92132-5187

Attention: Ms. Lynn Hornecker

Re: Site Inspection and Verification at Building 46 at MCAS El Toro, California
SWDIV Contract N68711-93-D-1459
DCN SW9683, Delivery Order 070

This letter report presents information collected during site inspection and verification activities that were conducted at Building 46, MCAS El Toro. This building was used as a laboratory for photographic processing by one or more of the aircraft squadrons that occupied the building in the late 1940's and early 1950's. Due to this historical use, Building 46 was identified as a component of Silver Recovery Unit 3 (SRU 3a). The site inspection activities were performed by OHM Remediation Services Corp. (OHM) under Delivery Order (DO) 0070 for the Southwest Division Naval Facilities Engineering Command (SWDIV) under the Remedial Action Contract No. N68711-93-D-1459.

Built in approximately 1943, Building 46 was among the original buildings at MCAS El Toro. Building 46 is located in the northwestern quadrant of the Station, between West Marine Way and "H" Street, along S. 5th Street. The building is a single story, wood frame building, and approximately 2,200 square feet in size. In addition to use as a photographic laboratory, the building has also been used as for clerical training and most recently as the Station Reprographics center.

The presence of a photograph development laboratory is a concern due to the number of chemicals and solvents used (including a number of metals, such as silver) that might have been disposed in the sewer. The value of the silver used in the process lead to the introduction of silver recovery units, which removed the majority of the metal from the processed waste stream. Silver recovery units were a routine component of the photographic processing equipment that was used in the dark rooms. Liquid wastes from the photographic processing activities were discharged from the chemical baths, through the silver recovery unit to the floor drain and into the sewer.

Visual Site Inspection Activities

The first step in the inspection process was to visually inspect the interior and exterior of the building for any signs of a previous use as a dark room. Typical signs that might remain following such a use include the presence of black paint on walls or ceilings, rooms with few or

no windows, water and drain piping located along interior walls, of floor drains with visible staining of corrosion.

The Site Visit Checklist summarizes the information collected during the Visual Site Inspection (Appendix A), and site photographs are included in Appendix B. The exterior Site Inspection was performed on April 11, 2000 and the interior site inspection was performed on March 15, 2001.

During the exterior inspection, sewer vents or risers that were visible above the roof were identified, and any exterior piping visible above ground was noted. The sewer lines were traced based on building plan maps obtained from the Station records for the building. A geophysical survey was conducted on April 3, 2000, to identify any potential subsurface obstructions that might be located or encountered during excavation of the sewer lines. A copy of the Geophysical Survey Results Report is included in Appendix C.

The interior Site Inspection was performed on March 15, 2001. The interior site inspection is summarized in the Site Visit Checklist (Appendix A). No signs of a former photographic laboratory were seen during the inspection. There are no rooms that have any signs of piping or drains on the walls, and no typical floor drain boxes.

One concrete patch in the floor was identified during the inspection. However, this patch appears to align with the former location of the UST adjacent to the building. The tank was listed as holding diesel fuel and was most likely used for heating the building prior to converting it to natural gas heating.

Trenching and Soil Sampling Activities

Following the geophysical clearance, the anticipated sewer line location was staked to identify the area for excavation. The sewer line extending from the building to the street was exposed on April 12, 2000 and April 13, 2000. Once the sewer line was exposed, the condition of the pipe joints and surrounding soil could be visually determined. In addition, soil samples could be collected near the joints in the pipe along the length of the sewer line. Photographs of the excavation and sewer line are included in Appendix B.

Approximately 90 linear feet of the sewer line were exposed. This included several connections from Building 46 and a connection from the adjacent buildings (Buildings 47 and 48). The sewer line consisted of two different types in several areas, indicating that several connections of the pipe had been changed due to the nearby building configurations. The sewer pipe that was deemed to be the original was reddish vitrified clay. The newer pipes were dark green in color, and appeared to be of a cement-composite. The sewer pipe was located approximately 3 to 4 feet below the ground surface (bgs), sloping towards S. 5th Street.

All of the pipes had bell and spigot joints, which were sealed with a cement grout. During the excavation and exposure of the pipe several of the flared joints were caught with the teeth of the backhoe bucket and cracked. The fractures took place in the pipe material rather than in the grout, which remained firmly attached to the outside of the pipe. The cracked joints were repaired with cement slurry to maintain the integrity of the pipe.

Eleven shallow soil borings were hand augered to depths approximately three feet below the edge of the exposed sewer pipe. The location of the borings was surveyed and the locations are shown

in Appendix D. One sample was collected from each boring, except that the last boring had a duplicate collected six inches lower that the original sample (18609-2961 to 18609-2971/2972 in Table 1). The soil samples were analyzed for volatile organic compounds using U.S. Environmental Protection Agency (EPA) Method 8260, metals using EPA Method 6010, and mercury using EPA method 7471 A. By comparing the levels of metals (associated with photographic processes) found in the soil samples from the sewer line to the Station background levels for those chemicals, potential impacts or releases could be identified.

All soil sample analytical results (Table 1) were either below laboratory reporting limits, Preliminary Remediation Goals (EPA, 2000), or the background levels established for the Station (Bechtel, 1996). The results indicate that the soil in the vicinity of the sewer line coming from Building 46 was not impacted by any photographic operations conducted in the building.

Following the conclusion of the sample collection the sewer pipe in the open trench was recovered and the trench backfilled with the soil stockpiled during the trenching. The surface was restored to the original condition and grade.

Conclusions and Recommendations

Based on the information presented in this report and the review of the analytical data, the following conclusions were reached:

- No visible evidence remains from any historical use of Building 46 as a photographic laboratory.
- No evidence was found that any chemicals associated with the photographic processes were released.
- All of the joints in the sewer pipe that were exposed were in excellent condition and fully sealed with grout.

Therefore, OHM recommends that a No Further Action designation be requested for the Silver Recovery Unit associated with Building 46.

Should you have any questions or comments, please feel free to contact the undersigned at (949) 261-6441.

Sincerely,

OHM Remediation Services Corporation,

Dhananjay Rawal
Project Manager

Mark Fishel, R.G.
Project Geologist

Table 1
Summary of Analytical Results — Site Building 46

Sample Identification					18609-2961	18609-2962	18609-2963	18609-2964
Location Code					Bldg. 46-SB-01	Bldg. 46-SB-02	Bldg. 46-SB-03	Bldg. 46-SB-04
Date Sampled					04/12/00	04/12/00	04/12/00	04/12/00
Depth (feet below ground surface)					3.0	3.0	3.0	3.0
	Unit	**Background**	**Residential PRG**	**Industrial PRG**				
EPA 8260								
1,1,1-Trichloroethane	µg/kg	NE	770000	1400000	5.3 U	NA	NA	NA
1,1,2,2-Tetrachloroethane	µg/kg	NE	380	900	5.3 U	NA	NA	NA
1,1,2-Trichloroethane	µg/kg	NE	840	1900	5.3 U	NA	NA	NA
1,1-Dichloroethane	µg/kg	NE	3300	7100	5.3 U	NA	NA	NA
1,1-Dichloroethene	µg/kg	NE	54	120	5.3 U	NA	NA	NA
1,2-Dichloroethane	µg/kg	NE	350	760	5.3 U	NA	NA	NA
1,2-Dichloropropane	µg/kg	NE	350	770	5.3 U	NA	NA	NA
2-Butanone (MEK)	µg/kg	NE	7300000	28000000	53 U	NA	NA	NA
2-Chloroethyl vinyl ether	µg/kg	NE	NE	NE	53 U	NA	NA	NA
2-Hexanone	µg/kg	NE	NE	NE	53 U	NA	NA	NA
4-Methyl-2-pentanone (MIBK)	µg/kg	NE	790000	2900000	53 U	NA	NA	NA
Acetone	µg/kg	NE	1600000	6200000	53 U	NA	NA	NA
Benzene	µg/kg	NE	650	1500	5.3 U	NA	NA	NA
Bromodichloromethane	µg/kg	NE	1000	2400	5.3 U	NA	NA	NA
Bromoform	µg/kg	NE	62000	310000	5.3 U	NA	NA	NA
Bromomethane	µg/kg	NE	3900	13000	5.3 U	NA	NA	NA
Carbon disulfide	µg/kg	NE	360000	720000	5.3 U	NA	NA	NA
Carbon tetrachloride	µg/kg	NE	240	530	5.3 U	NA	NA	NA
Chlorobenzene	µg/kg	NE	150000	540000	5.3 U	NA	NA	NA
Chloroethane	µg/kg	NE	3000	6500	5.3 U	NA	NA	NA
Chloroform	µg/kg	NE	240	520	5.3 U	NA	NA	NA
Chloromethane	µg/kg	NE	1200	2700	5.3 U	NA	NA	NA
cis-1,2-Dichloroethene	µg/kg	NE	43000	150000	5.3 U	NA	NA	NA
cis-1,3-Dichloropropene	µg/kg	NE	82	180	5.3 U	NA	NA	NA
Dibromochloromethane	µg/kg	NE	1100	2700	5.3 U	NA	NA	NA
Ethylbenzene	µg/kg	NE	230000	230000	5.3 U	NA	NA	NA
Methyl tert-butyl ether (MTBE)	µg/kg	NE	17	37	11 U	NA	NA	NA
Methylene chloride	µg/kg	NE	8900	21000	5.3 U	NA	NA	NA
Styrene	µg/kg	NE	1700000	1700000	5.3 U	NA	NA	NA
Tetrachloroethene (PCE)	µg/kg	NE	5700	19000	5.3 U	NA	NA	NA
Toluene	µg/kg	NE	520000	520000	5.3 U	NA	NA	NA
trans-1,2-Dichloroethene	µg/kg	NE	63000	210000	5.3 U	NA	NA	NA

Table 1
Summary of Analytical Results — Site Building 46

Sample Identification					18609-2961	18609-2962	18609-2963	18609-2964
Location Code					Bldg. 46-SB-01	Bldg. 46-SB-02	Bldg. 46-SB-03	Bldg. 46-SB-04
Date Sampled					04/12/00	04/12/00	04/12/00	04/12/00
Depth (feet below ground surface)					3.0	3.0	3.0	3.0
	Unit	Background	Residential PRG	Industrial PRG				
trans-1,3-Dichloropropene	µg/kg	NE	82	180	5.3 U	NA	NA	NA
Trichloroethene (TCE)	µg/kg	NE	2800	6100	5.3 U	NA	NA	NA
Vinyl acetate	µg/kg	NE	430000	1400000	53 U	NA	NA	NA
Vinyl chloride	µg/kg	NE	150	830	5.3 U	NA	NA	NA
Xylenes (total)	µg/kg	NE	210000	210000	5.3 U	NA	NA	NA
EPA 6010								
Aluminum	mg/kg	14800	76000	100000	6620 J	7830	9110	7360
Antimony	mg/kg	3.06	31	820	10.8 UJ B	11.4 U B	10.6 U B	10.4 U B
Arsenic	mg/kg	6.86	0.39	2.7	1.84 J Y	6.59 Y X	2.13 Y	1.69 Y
Barium	mg/kg	173	5400	100000	87.8 J	458 B	130	102
Beryllium	mg/kg	0.669	150	2200	.251 J	.742 B	.357	.284
Cadmium	mg/kg	2.35	9.0	810	1.08 UJ	1.14 U	1.06 U	1.04 U
Calcium	mg/kg	46000	NE	NE	3420 J	5510	6560	5580
Chromium	mg/kg	26.9	210	450	6.2 J	7.09	8.46	6.96
Cobalt	mg/kg	6.98	4700	100000	2.14 J	2.78	3.63	2.91
Copper	mg/kg	10.5	2900	76000	4.52 J	6.04	6.23	4.67
Iron	mg/kg	18400	23000	100000	9050 J	15300	12100	9980
Lead	mg/kg	15.1	400	750	2.94 J	2.8	2.33	1.71
Magnesium	mg/kg	8370	NE	NE	3680 J	4100	5300	4330
Manganese	mg/kg	291	1800	32000	155	182	234	170
Molybdenum	mg/kg	NE	390	10000	2.17 UJ	2.71	2.12 U	2.07 U
Nickel	mg/kg	15.3	150	41000	5.08 J	5.41	6.18	4.99
Potassium	mg/kg	4890	NE	NE	2990	3240	4080	3050
Selenium	mg/kg	0.32	390	10000	1.08 UJ B	1.14 U B	1.06 U B	1.04 U B
Silver	mg/kg	0.539	390	10000	2.17 U B	2.29 U B	2.12 U B	2.07 U B
Sodium	mg/kg	405	NE	NE	542 UJ B	571 U B	529 U B	518 U B
Thallium	mg/kg	0.42	5.2	130	1.08 UJ B	1.14 U B	1.06 U B	1.04 U B
Vanadium	mg/kg	71.8	550	14000	20.6 J	35.6	26.5	22.9
Zinc	mg/kg	77.9	23000	100000	32.1 J	31.4	37.3	28.7
EPA 7471A								
Mercury	mg/kg	0.22	23	610	.108 U	.114 U	.106 U	.104 U

Table 1
Summary of Analytical Results — Site Building 46

Sample Identification					18609-2965	18609-2966	18609-2967	18609-2968
Location Code					Bldg. 46-SB-05	Bldg. 46-SB-06	Bldg. 46-SB-07	Bldg. 46-SB-08
Date Sampled					04/12/00	04/12/00	04/12/00	04/12/00
Depth (feet below ground surface)					3.0	3.0	3.0	3.0
	Unit	**Background**	**Residential PRG**	**Industrial PRG**				
EPA 8260								
1,1,1-Trichloroethane	µg/kg	NE	770000	1400000	6.3 U	NA	NA	NA
1,1,2,2-Tetrachloroethane	µg/kg	NE	380	900	6.3 U	NA	NA	NA
1,1,2-Trichloroethane	µg/kg	NE	840	1900	6.3 U	NA	NA	NA
1,1-Dichloroethane	µg/kg	NE	3300	7100	6.3 U	NA	NA	NA
1,1-Dichloroethene	µg/kg	NE	54	120	6.3 U	NA	NA	NA
1,2-Dichloroethane	µg/kg	NE	350	760	6.3 U	NA	NA	NA
1,2-Dichloropropane	µg/kg	NE	350	770	6.3 U	NA	NA	NA
2-Butanone (MEK)	µg/kg	NE	7300000	28000000	63 U	NA	NA	NA
2-Chloroethyl vinyl ether	µg/kg	NE	NE	NE	63 U	NA	NA	NA
2-Hexanone	µg/kg	NE	NE	NE	63 U	NA	NA	NA
4-Methyl-2-pentanone (MIBK)	µg/kg	NE	790000	2900000	63 U	NA	NA	NA
Acetone	µg/kg	NE	1600000	6200000	63 U	NA	NA	NA
Benzene	µg/kg	NE	650	1500	6.3 U	NA	NA	NA
Bromodichloromethane	µg/kg	NE	1000	2400	6.3 U	NA	NA	NA
Bromoform	µg/kg	NE	62000	310000	6.3 U	NA	NA	NA
Bromomethane	µg/kg	NE	3900	13000	6.3 U	NA	NA	NA
Carbon disulfide	µg/kg	NE	360000	720000	6.3 U	NA	NA	NA
Carbon tetrachloride	µg/kg	NE	240	530	6.3 U	NA	NA	NA
Chlorobenzene	µg/kg	NE	150000	540000	6.3 U	NA	NA	NA
Chloroethane	µg/kg	NE	3000	6500	6.3 U	NA	NA	NA
Chloroform	µg/kg	NE	240	520	6.3 U	NA	NA	NA
Chloromethane	µg/kg	NE	1200	2700	6.3 U	NA	NA	NA
cis-1,2-Dichloroethene	µg/kg	NE	43000	150000	6.3 U	NA	NA	NA
cis-1,3-Dichloropropene	µg/kg	NE	82	180	6.3 U	NA	NA	NA
Dibromochloromethane	µg/kg	NE	1100	2700	6.3 U	NA	NA	NA
Ethylbenzene	µg/kg	NE	230000	230000	6.3 U	NA	NA	NA
Methyl tert-butyl ether (MTBE)	µg/kg	NE	17	37	13 U	NA	NA	NA
Methylene chloride	µg/kg	NE	8900	21000	6.3 U	NA	NA	NA
Styrene	µg/kg	NE	1700000	1700000	6.3 U	NA	NA	NA
Tetrachloroethene (PCE)	µg/kg	NE	5700	19000	6.3 U	NA	NA	NA
Toluene	µg/kg	NE	520000	520000	6.3 U	NA	NA	NA
trans-1,2-Dichloroethene	µg/kg	NE	63000	210000	6.3 U	NA	NA	NA

Table 1
Summary of Analytical Results — Site Building 46

Sample Identification					18609-2965	18609-2966	18609-2967	18609-2968
Location Code					Bldg. 46-SB-05	Bldg. 46-SB-06	Bldg. 46-SB-07	Bldg. 46-SB-08
Date Sampled					04/12/00	04/12/00	04/12/00	04/12/00
Depth (feet below ground surface)					3.0	3.0	3.0	3.0
	Unit	Background	Residential PRG	Industrial PRG				
trans-1,3-Dichloropropene	µg/kg	NE	82	180	6.3 U	NA	NA	NA
Trichloroethene (TCE)	µg/kg	NE	2800	6100	6.3 U	NA	NA	NA
Vinyl acetate	µg/kg	NE	430000	1400000	63 U	NA	NA	NA
Vinyl chloride	µg/kg	NE	150	830	6.3 U	NA	NA	NA
Xylenes (total)	µg/kg	NE	210000	210000	6.3 U	NA	NA	NA
EPA 6010								
Aluminum	mg/kg	14800	76000	100000	5770	7720	9440	7000
Antimony	mg/kg	3.06	31	820	10.5 U B	10.4 U B	10.4 U B	10.5 U B
Arsenic	mg/kg	6.86	0.39	2.7	1.99 Y	1.65 Y	2.31 Y	1.86 Y
Barium	mg/kg	173	5400	100000	86	98.7	119	104
Beryllium	mg/kg	0.669	150	2200	.214 U	.293	.362	.266
Cadmium	mg/kg	2.35	9.0	810	1.05 U	1.04 U	1.04 U	1.05 U
Calcium	mg/kg	46000	NE	NE	6070	4310	3870	3800
Chromium	mg/kg	26.9	210	450	5.08	7.43	9.08	6.98
Cobalt	mg/kg	6.98	4700	100000	2.16	3.19	3.69	2.57
Copper	mg/kg	10.5	2900	76000	3.29	4.86	6.05	4.78
Iron	mg/kg	18400	23000	100000	7870	10300	12100	9490
Lead	mg/kg	15.1	400	750	1.24	1.58	2.04	1.58
Magnesium	mg/kg	8370	NE	NE	3540	4310	5250	3890
Manganese	mg/kg	291	1800	32000	147	181	206	164
Molybdenum	mg/kg	NE	390	10000	2.11 U	2.08 U	2.08 U	2.1 U
Nickel	mg/kg	15.3	150	41000	3.67	5.03	6.36	4.45
Potassium	mg/kg	4890	NE	NE	2370	3320	3860	3040
Selenium	mg/kg	0.32	390	10000	1.05 U B	1.04 U B	1.04 U B	1.05 U B
Silver	mg/kg	0.539	390	10000	2.11 U B	2.08 U B	2.08 U B	2.1 U B
Sodium	mg/kg	405	NE	NE	526 U B	521 U B	520 U B	525 U B
Thallium	mg/kg	0.42	5.2	130	1.05 U B	1.04 U B	1.04 U B	1.05 U B
Vanadium	mg/kg	71.8	550	14000	19.6	23.6	27.8	23.4
Zinc	mg/kg	77.9	23000	100000	24.5	30.4	35.2	28.1
EPA 7471A								
Mercury	mg/kg	0.22	23	610	.105 U	.104 U	.104 U	.105 U

Table 1
Summary of Analytical Results — Site Building 46

Sample Identification					18609-2969	18609-2970	18609-2971	18609-2972
Location Code					Bldg. 46-SB-09	Bldg. 46-SB-10	Bldg. 46-SB-11	Bldg. 46-SB-12
Date Sampled					04/12/00	04/12/00	04/12/00	04/12/00
Depth (feet below ground surface)					3.0	3.0	3.0	3.5
	Unit	**Background**	**Residential PRG**	**Industrial PRG**				
EPA 8260								
1,1,1-Trichloroethane	µg/kg	NE	770000	1400000	NA	NA	5.8 U	5.3 U
1,1,2,2-Tetrachloroethane	µg/kg	NE	380	900	NA	NA	5.8 U	5.3 U
1,1,2-Trichloroethane	µg/kg	NE	840	1900	NA	NA	5.8 U	5.3 U
1,1-Dichloroethane	µg/kg	NE	3300	7100	NA	NA	5.8 U	5.3 U
1,1-Dichloroethene	µg/kg	NE	54	120	NA	NA	5.8 U	5.3 U
1,2-Dichloroethane	µg/kg	NE	350	760	NA	NA	5.8 U	5.3 U
1,2-Dichloropropane	µg/kg	NE	350	770	NA	NA	5.8 U	5.3 U
2-Butanone (MEK)	µg/kg	NE	7300000	28000000	NA	NA	58 U	53 U
2-Chloroethyl vinyl ether	µg/kg	NE	NE	NE	NA	NA	58 U	53 U
2-Hexanone	µg/kg	NE	NE	NE	NA	NA	58 U	53 U
4-Methyl-2-pentanone (MIBK)	µg/kg	NE	790000	2900000	NA	NA	58 U	53 U
Acetone	µg/kg	NE	1600000	6200000	NA	NA	58 U	53 U
Benzene	µg/kg	NE	650	1500	NA	NA	5.8 U	5.3 U
Bromodichloromethane	µg/kg	NE	1000	2400	NA	NA	5.8 U	5.3 U
Bromoform	µg/kg	NE	62000	310000	NA	NA	5.8 U	5.3 U
Bromomethane	µg/kg	NE	3900	13000	NA	NA	5.8 U	5.3 U
Carbon disulfide	µg/kg	NE	360000	720000	NA	NA	5.8 U	5.3 U
Carbon tetrachloride	µg/kg	NE	240	530	NA	NA	5.8 U	5.3 U
Chlorobenzene	µg/kg	NE	150000	540000	NA	NA	5.8 U	5.3 U
Chloroethane	µg/kg	NE	3000	6500	NA	NA	5.8 U	5.3 U
Chloroform	µg/kg	NE	240	520	NA	NA	5.8 U	5.3 U
Chloromethane	µg/kg	NE	1200	2700	NA	NA	5.8 U	5.3 U
cis-1,2-Dichloroethene	µg/kg	NE	43000	150000	NA	NA	5.8 U	5.3 U
cis-1,3-Dichloropropene	µg/kg	NE	82	180	NA	NA	5.8 U	5.3 U
Dibromochloromethane	µg/kg	NE	1100	2700	NA	NA	5.8 U	5.3 U
Ethylbenzene	µg/kg	NE	230000	230000	NA	NA	5.8 U	5.3 U
Methyl tert-butyl ether (MTBE)	µg/kg	NE	17	37	NA	NA	12 U	11 U
Methylene chloride	µg/kg	NE	8900	21000	NA	NA	5.8 U	5.3 U
Styrene	µg/kg	NE	1700000	1700000	NA	NA	5.8 U	5.3 U
Tetrachloroethene (PCE)	µg/kg	NE	5700	19000	NA	NA	5.8 U	5.3 U
Toluene	µg/kg	NE	520000	520000	NA	NA	5.8 U	5.3 U
trans-1,2-Dichloroethene	µg/kg	NE	63000	210000	NA	NA	5.8 U	5.3 U

Table 1
Summary of Analytical Results — Site Building 46

Sample Identification					18609-2969	18609-2970	18609-2971	18609-2972
Location Code					Bldg. 46-SB-09	Bldg. 46-SB-10	Bldg. 46-SB-11	Bldg. 46-SB-12
Date Sampled					04/12/00	04/12/00	04/12/00	04/12/00
Depth (feet below ground surface)					3.0	3.0	3.0	3.5
	Unit	Background	Residential PRG	Industrial PRG				
trans-1,3-Dichloropropene	µg/kg	NE	82	180	NA	NA	5.8 U	5.3 U
Trichloroethene (TCE)	µg/kg	NE	2800	6100	NA	NA	5.8 U	5.3 U
Vinyl acetate	µg/kg	NE	430000	1400000	NA	NA	58 U	53 U
Vinyl chloride	µg/kg	NE	150	830	NA	NA	5.8 U	5.3 U
Xylenes (total)	µg/kg	NE	210000	210000	NA	NA	5.8 U	5.3 U
EPA 6010								
Aluminum	mg/kg	14800	76000	100000	5910	8430	8190	7780
Antimony	mg/kg	3.06	31	820	10.4 U B	10.6 U B	10.6 U B	10.7 U B
Arsenic	mg/kg	6.86	0.39	2.7	1.58 Y	2.29 Y	2.52 Y	1.71 Y
Barium	mg/kg	173	5400	100000	84.1	103	135	108
Beryllium	mg/kg	0.669	150	2200	.223	.295	.297	.285
Cadmium	mg/kg	2.35	9.0	810	1.04 U	1.06 U	1.06 U	1.07 U
Calcium	mg/kg	46000	NE	NE	5690	9220	8310	6680
Chromium	mg/kg	26.9	210	450	5.6	7.16	7.5	7.01
Cobalt	mg/kg	6.98	4700	100000	2.33	3.14	3.24	2.86
Copper	mg/kg	10.5	2900	76000	3.51	4.7	5.04	4.66
Iron	mg/kg	18400	23000	100000	8200	11400	10600	10200
Lead	mg/kg	15.1	400	750	1.26	1.65	1.65	1.76
Magnesium	mg/kg	8370	NE	NE	3550	5240	5010	4540
Manganese	mg/kg	291	1800	32000	163	196	181	173
Molybdenum	mg/kg	NE	390	10000	2.07 U	2.13 U	2.12 U	2.14 U
Nickel	mg/kg	15.3	150	41000	4.08	4.83	4.62	4.63
Potassium	mg/kg	4890	NE	NE	2520	3600	3060	3210
Selenium	mg/kg	0.32	390	10000	1.04 U B	1.06 U B	1.06 U B	1.07 U B
Silver	mg/kg	0.539	390	10000	2.07 U B	2.13 U B	2.12 U B	2.14 U B
Sodium	mg/kg	405	NE	NE	518 U B	532 U B	530 U B	534 U B
Thallium	mg/kg	0.42	5.2	130	1.04 U B	1.06 U B	1.06 U B	1.07 U B
Vanadium	mg/kg	71.8	550	14000	19	26.5	25	23.2
Zinc	mg/kg	77.9	23000	100000	23.5	32.3	30.4	29.9
EPA 7471A								
Mercury	mg/kg	0.22	23	610	.104 U	.106 U	.106 U	.107 U

Table 1
Summary of Analytical Results — Site Building 46

Explanation:
B - result exceeds background
CA LUFT - California Leaking Underground Fuel Tank
EPA - United States Environmental Protection Agency
J - estimated
M - Modified
mg/kg - milligrams per kilogram
NA - not analyzed
NE - not established
OHM - OHM Remediation Services Corp.
SB - soil boring
TPH - total petroleum hydrocarbons
U - not detected above or equal to the stated reporting limit
X - result exceeds industrial PRGs
Y - result exceeds residential PRGs
µg/kg - micrograms per kilogram

References

Bechtel National, Inc., 1996, *Final Technical Memorandum Background and Reference Levels Remedial Investigations*, Marine Corps Air Station El Toro, California, October.
U.S. Environmental Protection Agency, 2000, *Region IX Preliminary Remediation Goals (PRGs)*, Memorandum from Standford J. Smucker to the PRG Table Mailing List, 1 November.

COMPLETED 4/25/00

WBS 020099

the IT group

IT Corporation
2790 Mosside Blvd.
Monroeville, PA 15146-2792
(412)372-7701

CHAIN-OF-CUSTODY RECORD

PROJECT DATA MANAGER'S COPY

A 10837

Bldg. 46 (Photolab)

FORM 0019 REV. 9-99

LAB COORDINATOR: M. Conception	LAB COORDINATOR'S PHONE: 949-660-7550	LAB COORDINATOR'S FAX: 949-475-5433	LABORATORY SERVICE ID: 00 D061	LABORATORY CONTACT: EMAX	MAIL REPORT (COMPANY NAME): IT Corp
PROJECT NAME: IT Inv. 0070	PROJECT LOCATION: MARINE, CA	PROJECT NUMBER: 185408009	LABORATORY PHONE: 310-615-8817	LABORATORY FAX: 310-615-0818	RECIPIENT NAME: Dwayne Lewis
PROJECT CONTACT: M. Conception	PROJECT PHONE NUMBER: 949-451-1667	PROJECT FAX: 949-451-1662	LABORATORY ADDRESS: 630 Maple Ave.	ADDRESS: 3347 Michelson Dr. Ste 100	
PROJECT ADDRESS:	CITY, STATE AND ZIP CODE:	CLIENT: SWRCB	CITY, STATE AND ZIP CODE: Torrance, CA	CITY, STATE AND ZIP CODE: Irvine, CA 92606	
PROJECT MANAGER: S. Sedlak	PROJECT MANAGER'S PHONE: 949-660-5446	PROJECT MANAGER'S FAX:			

Item	Sample Identifier	Matrix	Date (2000)	Time	Preserved	# of Cont.	QC Level	T.A.T.	Analyses: Pb, HPH	Analyses: VOC 8260	Comments
	18609-2961	S	4/12	1230	4°C	3	3	5 day	X	X	EnCore Sample
	18609-2962			1240		1	3	5 day	X		
	18609-2963			1250		1	3	5 day	X		
	18609-2964			1300		1	3	5 day	X		
	18609-2965			1310		3	3	5 day	X	X	EnCore Sample
	18609-2966			1332		1	3	5 day	X		
	18609-2967			1340		1	3	5 day	X		
	18609-2968			1350		1	3	5 day	X		
	18609-2969			1400		1	3	5 day	X		
	18609-2970			1410		1	3	5 day	X		

SAMPLES COLLECTED BY: W. Williams

COURIER AND AIR BILL NUMBER: Lewis

COOLER TEMPERATURE UPON RECEIPT:

RELINQUISHED BY	RECEIVED BY	DATE	TIME	SAMPLE'S CONDITION UPON RECEIPT
[illegible]	[illegible]	4/12/00	1330	

Distribution: White - Laboratory (To be returned with Analytical Report); Goldenrod - Project File; Manilla - Project Data Manager

Project Information Section For Project Personnel Only Do Not Submit to Laboratory

Page 1 of 2

Bldg. 46 (Photolab)

Sample Point Location	Sample Type: G	C	F	QC
① Bldg 46-SB-01 HA @ 3'-3.5' bp	X			
② Bldg 46-SB-02 HA @ 3'-3.5' bp	X			
③ Bldg 46-SB-03 HA @ 3'-3.5' bp	X			
④ Bldg 46-SB-04 HA @ 3'-3.5' bp	X			
⑤ Bldg 46-SB-05 HA @ 3'-3.5' bp	X			
⑥ Bldg 46-SB-06 HA @ 3'-3.5' bp	X			
⑦ Bldg 46-SB-07 HA @ 3'-3.5' bp	X			
⑧ Bldg 46-SB-08 HA @ 3'-3.5' bp	X			
⑨ Bldg 46-SB-09 HA @ 3'-3.5' bp	X			
⑩ Bldg 46-SB-10 HA @ 3'-3.5' bp	X			

Comments

due 4/20/00
rec'd partial 4/20/00
rec'd 4/21/00
TO BS 4/24/00

Sample Type: G - Grab, C - Composite, F - Field Sample, QC - Quality Control Sample

4963

COMPLETED 4/25/00 MS 4/28/00

WBS 02009911

IT Corporation
2790 Mosside Blvd.
Monroeville, PA 15146-2792
(412)372-7701

CHAIN-OF-CUSTODY RECORD

PROJECT DATA MANAGER'S COPY

A 10838

Bldg. 46 (Photo lab)

FORM 0019 REV. 9-99

LAB COORDINATOR: A. Concepcion	LAB COORDINATOR'S PHONE: 949-660-7550	LAB COORDINATOR'S FAX: 949-475-5433	LABORATORY SERVICE ID: 000061	LABORATORY CONTACT: EMAX	MAIL REPORT (COMPANY NAME): IT Group
PROJECT NAME: I TRO-DOTO	PROJECT LOCATION: MCAS El Toro CA	PROJECT NUMBER: 18609	LABORATORY PHONE: 310-618-8889	LABORATORY FAX: 310-615-0818	RECIPIENT NAME: Dr. Kuplie Ishida
PROJECT CONTACT: A. Concepcion	PROJECT PHONE NUMBER: 949-451-1667	PROJECT FAX: 949-451-1662	LABORATORY ADDRESS: 630 Maple Ave.		ADDRESS: 3347 Michelson #200
PROJECT ADDRESS: —	CITY, STATE AND ZIP CODE: —	CLIENT: SWDIV	CITY, STATE AND ZIP CODE: Torrance CA		CITY, STATE AND ZIP CODE: Irvine, CA 92606
PROJECT MANAGER: Sedlak	PROJECT MANAGER'S PHONE: 949-660-5446	PROJECT MANAGER'S FAX: —			

Sample Identifier	Matrix	Date 2000	Time	Preserved	# of Cont.	QC Level	T.A.T.	Analyses: Metals (Total)	8260							Comments
18609-2971	S	4-12	1420	4°C	3	3	5day	X	X							
18609-2972	S	4-12	1427	4°C	2	4	5day	X	X							

4-12-00

SAMPLES COLLECTED BY: [illegible]

COURIER AND AIR BILL NUMBER: Drop off

COOLER TEMPERATURE UPON RECEIPT:

RELINQUISHED BY	RECEIVED BY	DATE	TIME
[illegible]	[illegible]	4/12/00	300

SAMPLE'S CONDITION UPON RECEIPT

Distribution: White - Laboratory (To be returned with Analytical Report); Goldenrod - Project File; Manilla - Project Data Manager

Project Information Section
For Project Personnel Only
Do Not Submit to Laboratory

Page 2 of 2

Bldg. 46 (Photolab)

Sample Point Location	Sample Type: G	C	F	QC
① Bldg 46-SB-11 HA @ 3.0-3.5' bP	X			
② Bldg 46-SB-12 HA @ 3.5-4.0' bP	X			X

Comments

bP = below Pipe

due 4/20/00

Sample Type: G - Grab, C - Composite, F - Field Sample, QC - Quality Control Sample

4943

EMAX
LABORATORIES, INC.
630 Maple Ave.
Torrance, CA 90503
Telephone: (310) 618-8889
Fax: (310) 618-0818

Date: 04-24-2000
EMAX Batch No.: 00D061

Attn: Dwayne Ishida

IT Corporation
3347 Michelson Dr. # 200
Irvine CA 92612

Subject: Laboratory Report
Project: MCAS El Toro/18609/D.O. 70

Enclosed is the Laboratory report for samples received on 04/12/00. The data reported include :

Sample ID	Control #	Col Date	Matrix	Analysis
18609-2961	D061-01	04/12/00	SOIL	Volatile Organics by GC/MS Total Metals Mercury
18609-2962	D061-02	04/12/00	SOIL	Total Metals Mercury
18609-2963	D061-03	04/12/00	SOIL	Total Metals Mercury
18609-2964	D061-04	04/12/00	SOIL	Total Metals Mercury
18609-2965	D061-05	04/12/00	SOIL	Total Metals Mercury Volatile Organics by GC/MS
18609-2966	D061-06	04/12/00	SOIL	Total Metals Mercury
18609-2967	D061-07	04/12/00	SOIL	Total Metals Mercury
18609-2968	D061-08	04/12/00	SOIL	Total Metals Mercury
18609-2969	D061-09	04/12/00	SOIL	Total Metals Mercury
18609-2970	D061-10	04/12/00	SOIL	Total Metals Mercury
18609-2971	D061-11	04/12/00	SOIL	Volatile Organics by GC/MS Total Metals Mercury
18609-2972	D061-12	04/12/00	SOIL	Volatile Organics by GC/MS Total Metals Mercury

The results are summarized on the following pages.

Please feel free to call if you have any questions concerning these results.

Sincerely yours,

Kam Y. Pang, Ph.D.
Laboratory Director

METHOD 5035/8260B
VOLATILE ORGANICS BY GC/MS

Client	: IT CORPORATION	Date Collected:	04/12/00
Project	: MCAS EL TORO/18609/D.O. 70	Date Received:	04/12/00
Batch No.	: 000061	Date Extracted:	04/13/00 13:00
Sample ID:	18609-2961	Date Analyzed:	04/13/00 20:58
Lab Samp ID:	D061-01	Dilution Factor:	0.97
Lab File ID:	RDH314	Matrix :	SOIL
Ext Btch ID:	VOD2204	% Moisture :	7.8
Calib. Ref.:	RDH308	Instrument ID :	T-041

PARAMETERS	RESULTS (ug/kg)	PRL (ug/kg)	MDL (ug/kg)
1,1,1-TRICHLOROETHANE	ND	5.3	.36
1,1,2,2-TETRACHLOROETHANE	ND	5.3	.78
1,1,2-TRICHLOROETHANE	ND	5.3	.69
1,1-DICHLOROETHANE	ND	5.3	.55
1,1-DICHLOROETHENE	ND	5.3	.5
1,2-DICHLOROETHANE	ND	5.3	1
1,2-DICHLOROPROPANE	ND	5.3	.58
2-BUTANONE	ND	53	1.6
2-CHLOROETHYLVINYLETHER	ND	53	.78
2-HEXANONE	ND	53	1.5
4-METHYL-2-PENTANONE	ND	53	3
ACETONE	ND	53	3
BENZENE	ND	5.3	.55
BROMODICHLOROMETHANE	ND	5.3	.45
BROMOFORM	ND	5.3	.62
BROMOMETHANE	ND	5.3	3.8
CARBON DISULFIDE	ND	5.3	.35
CARBON TETRACHLORIDE	ND	5.3	.56
CHLOROBENZENE	ND	5.3	.49
CHLOROETHANE	ND	5.3	.97
CHLOROFORM	ND	5.3	.55
CHLOROMETHANE	ND	5.3	.55
CIS-1,2-DICHLOROETHENE	ND	5.3	.48
CIS-1,3-DICHLOROPROPENE	ND	5.3	.42
DIBROMOCHLOROMETHANE	ND	5.3	.39
ETHYLBENZENE	ND	5.3	.48
MTBE	ND	11	.8
METHYLENE CHLORIDE	ND	5.3	3.2
STYRENE	ND	5.3	.36
TETRACHLOROETHENE	ND	5.3	.36
TOLUENE	ND	5.3	.61
TRANS-1,2-DICHLOROETHENE	ND	5.3	.5
TRANS-1,3-DICHLOROPROPENE	ND	5.3	.47
TRICHLOROETHENE	ND	5.3	.64
VINYL ACETATE	ND	53	.87
VINYL CHLORIDE	ND	5.3	.62
XYLENES	ND	5.3	1.2

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	99	52-149
BROMOFLUOROBENZENE	88	65-135
TOLUENE-D8	90	65-135

PRL: Project Reporting Limit
* : Out side of QC Limit
J : An estimated value between PRL and MDL
E : Value exceed the upper level of the initial calibration
B : Found in the associated blank
D : Value from dilution analysis

METHOD 5035/8260B
VOLATILE ORGANICS BY GC/MS

ient	: IT CORPORATION	Date Collected:	04/12/00
oject	: MCAS EL TORO/18609/D.O. 70	Date Received:	04/12/00
Batch No.	: OOD061	Date Extracted:	04/13/00 13:00
Sample ID:	18609-2965	Date Analyzed:	04/13/00 21:36
Lab Samp ID:	D061-05	Dilution Factor:	1.2
Lab File ID:	RDH315	Matrix :	SOIL
Ext Btch ID:	VOD2204	% Moisture :	5.0
Calib. Ref.:	RDH308	Instrument ID :	T-041

PARAMETERS	RESULTS (ug/kg)	PRL (ug/kg)	MDL (ug/kg)
1,1,1-TRICHLOROETHANE	ND	6.3	.43
1,1,2,2-TETRACHLOROETHANE	ND	6.3	.93
1,1,2-TRICHLOROETHANE	ND	6.3	.83
1,1-DICHLOROETHANE	ND	6.3	.66
1,1-DICHLOROETHENE	ND	6.3	.61
1,2-DICHLOROETHANE	ND	6.3	1.2
1,2-DICHLOROPROPANE	ND	6.3	.69
2-BUTANONE	ND	63	1.9
2-CHLOROETHYLVINYLETHER	ND	63	.93
2-HEXANONE	ND	63	1.9
4-METHYL-2-PENTANONE	ND	63	3.5
ACETONE	ND	63	3.6
BENZENE	ND	6.3	.66
BROMODICHLOROMETHANE	ND	6.3	.53
BROMOFORM	ND	6.3	.75
BROMOMETHANE	ND	6.3	4.5
CARBON DISULFIDE	ND	6.3	.42
CARBON TETRACHLORIDE	ND	6.3	.68
CHLOROBENZENE	ND	6.3	.59
CHLOROETHANE	ND	6.3	1.2
OROFORM	ND	6.3	.66
LOROMETHANE	ND	6.3	.67
CIS-1,2-DICHLOROETHENE	ND	6.3	.58
CIS-1,3-DICHLOROPROPENE	ND	6.3	.51
DIBROMOCHLOROMETHANE	ND	6.3	.46
ETHYLBENZENE	ND	6.3	.58
MTBE	ND	13	.95
METHYLENE CHLORIDE	ND	6.3	3.8
STYRENE	ND	6.3	.43
TETRACHLOROETHENE	ND	6.3	.43
TOLUENE	ND	6.3	.73
TRANS-1,2-DICHLOROETHENE	ND	6.3	.6
TRANS-1,3-DICHLOROPROPENE	ND	6.3	.57
TRICHLOROETHENE	ND	6.3	.77
VINYL ACETATE	ND	63	1
VINYL CHLORIDE	ND	6.3	.74
XYLENES	ND	6.3	1.4

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	97	52-149
BROMOFLUOROBENZENE	88	65-135
TOLUENE-D8	87	65-135

PRL: Project Reporting Limit
* : Out side of QC Limit
J : An estimated value between PRL and MDL
E : Value exceed the upper level of the initial calibration
B : Found in the associated blank
D : Value from dilution analysis

METHOD 5035/8260B
VOLATILE ORGANICS BY GC/MS

Client	: IT CORPORATION	Date Collected:	04/12/00
Project	: MCAS EL TORO/18609/D.O. 70	Date Received:	04/12/00
Batch No.	: 00D061	Date Extracted:	04/13/00 13:00
Sample ID:	18609-2971	Date Analyzed:	04/14/00 15:32
Lab Samp ID:	D061-11	Dilution Factor:	1.1
Lab File ID:	RDV256	Matrix :	SOIL
Ext Btch ID:	VOD1601	% Moisture :	5.7
Calib. Ref.:	RDV251	Instrument ID :	T-001

PARAMETERS	RESULTS (ug/kg)	PRL (ug/kg)	MDL (ug/kg)
1,1,1-TRICHLOROETHANE	ND	5.8	.4
1,1,2,2-TETRACHLOROETHANE	ND	5.8	.86
1,1,2-TRICHLOROETHANE	ND	5.8	.77
1,1-DICHLOROETHANE	ND	5.8	.61
1,1-DICHLOROETHENE	ND	5.8	.56
1,2-DICHLOROETHANE	ND	5.8	1.1
1,2-DICHLOROPROPANE	ND	5.8	.64
2-BUTANONE	ND	58	1.8
2-CHLOROETHYLVINYLETHER	ND	58	.86
2-HEXANONE	ND	58	1.7
4-METHYL-2-PENTANONE	ND	58	3.3
ACETONE	ND	58	3.4
BENZENE	ND	5.8	.61
BROMODICHLOROMETHANE	ND	5.8	.49
BROMOFORM	ND	5.8	.69
BROMOMETHANE	ND	5.8	4.2
CARBON DISULFIDE	ND	5.8	.39
CARBON TETRACHLORIDE	ND	5.8	.63
CHLOROBENZENE	ND	5.8	.54
CHLOROETHANE	ND	5.8	1.1
CHLOROFORM	ND	5.8	.61
CHLOROMETHANE	ND	5.8	.61
CIS-1,2-DICHLOROETHENE	ND	5.8	.54
CIS-1,3-DICHLOROPROPENE	ND	5.8	.47
DIBROMOCHLOROMETHANE	ND	5.8	.43
ETHYLBENZENE	ND	5.8	.54
MTBE	ND	12	.88
METHYLENE CHLORIDE	ND	5.8	3.5
STYRENE	ND	5.8	.4
TETRACHLOROETHENE	ND	5.8	.39
TOLUENE	ND	5.8	.67
TRANS-1,2-DICHLOROETHENE	ND	5.8	.55
TRANS-1,3-DICHLOROPROPENE	ND	5.8	.52
TRICHLOROETHENE	ND	5.8	.71
VINYL ACETATE	ND	58	.97
VINYL CHLORIDE	ND	5.8	.68
XYLENES	ND	5.8	1.3

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	94	52-149
BROMOFLUOROBENZENE	81	65-135
TOLUENE-D8	89	65-135

PRL: Project Reporting Limit
* : Out side of QC Limit
J : An estimated value between PRL and MDL
E : Value exceed the upper level of the initial calibration
B : Found in the associated blank
D : Value from dilution analysis

METHOD 5035/8260B
VOLATILE ORGANICS BY GC/MS

Client	: IT CORPORATION	Date Collected:	04/12/00
Project	: MCAS EL TORO/18609/D.O. 70	Date Received:	04/12/00
Batch No.	: 000061	Date Extracted:	04/13/00 13:00
Sample ID:	18609-2972	Date Analyzed:	04/13/00 20:20
Lab Samp ID:	0061-12	Dilution Factor:	1
Lab File ID:	RDH313	Matrix :	SOIL
Ext Btch ID:	VOD2204	% Moisture :	6.4
Calib. Ref.:	RDH308	Instrument ID :	T-041

PARAMETERS	RESULTS (ug/kg)	PRL (ug/kg)	MDL (ug/kg)
1,1,1-TRICHLOROETHANE	ND	5.3	.36
1,1,2,2-TETRACHLOROETHANE	ND	5.3	.79
1,1,2-TRICHLOROETHANE	ND	5.3	.7
1,1-DICHLOROETHANE	ND	5.3	.56
1,1-DICHLOROETHENE	ND	5.3	.51
1,2-DICHLOROETHANE	ND	5.3	1.1
1,2-DICHLOROPROPANE	ND	5.3	.59
2-BUTANONE	ND	53	1.6
2-CHLOROETHYLVINYLETHER	ND	53	.79
2-HEXANONE	ND	53	1.6
4-METHYL-2-PENTANONE	ND	53	3
ACETONE	ND	53	3.1
BENZENE	ND	5.3	.56
BROMODICHLOROMETHANE	ND	5.3	.45
BROMOFORM	ND	5.3	.63
BROMOMETHANE	ND	5.3	3.8
CARBON DISULFIDE	ND	5.3	.36
CARBON TETRACHLORIDE	ND	5.3	.57
CHLOROBENZENE	ND	5.3	.5
CHLOROETHANE	ND	5.3	.99
CHLOROFORM	ND	5.3	.56
CHLOROMETHANE	ND	5.3	.56
CIS-1,2-DICHLOROETHENE	ND	5.3	.49
CIS-1,3-DICHLOROPROPENE	ND	5.3	.43
DIBROMOCHLOROMETHANE	ND	5.3	.39
ETHYLBENZENE	ND	5.3	.49
MTBE	ND	11	.81
METHYLENE CHLORIDE	ND	5.3	3.2
STYRENE	ND	5.3	.36
TETRACHLOROETHENE	ND	5.3	.36
TOLUENE	ND	5.3	.62
TRANS-1,2-DICHLOROETHENE	ND	5.3	.51
TRANS-1,3-DICHLOROPROPENE	ND	5.3	.48
TRICHLOROETHENE	ND	5.3	.65
VINYL ACETATE	ND	53	.89
VINYL CHLORIDE	ND	5.3	.62
XYLENES	ND	5.3	1.2

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	96	52-149
BROMOFLUOROBENZENE	86	65-135
TOLUENE-D8	87	65-135

PRL: Project Reporting Limit
* : Out side of QC Limit
J : An estimated value between PRL and MDL
E : Value exceed the upper level of the initial calibration
B : Found in the associated blank
D : Value from dilution analysis

METHOD 5035/8260B
VOLATILE ORGANICS BY GC/MS

Client	: IT CORPORATION	Date Collected:	NA
Project	: MCAS EL TORO/18609/D.O. 70	Date Received:	04/13/00
Batch No.	: 00D061	Date Extracted:	04/13/00 19:42
Sample ID:	MBLK1S	Date Analyzed:	04/13/00 19:42
Lab Samp ID:	VOD2204B	Dilution Factor:	1
Lab File ID:	RDH312	Matrix :	SOIL
Ext Btch ID:	VOD2204	% Moisture :	NA
Calib. Ref.:	RDH308	Instrument ID :	T-041

PARAMETERS	RESULTS (ug/kg)	PRL (ug/kg)	MDL (ug/kg)
1,1,1-TRICHLOROETHANE	ND	5	.34
1,1,2,2-TETRACHLOROETHANE	ND	5	.74
1,1,2-TRICHLOROETHANE	ND	5	.66
1,1-DICHLOROETHANE	ND	5	.52
1,1-DICHLOROETHENE	ND	5	.48
1,2-DICHLOROETHANE	ND	5	.99
1,2-DICHLOROPROPANE	ND	5	.55
2-BUTANONE	ND	50	1.5
2-CHLOROETHYLVINYLETHER	ND	50	.74
2-HEXANONE	ND	50	1.5
4-METHYL-2-PENTANONE	ND	50	2.8
ACETONE	ND	50	2.9
BENZENE	ND	5	.53
BROMODICHLOROMETHANE	ND	5	.42
BROMOFORM	ND	5	.59
BROMOMETHANE	ND	5	3.6
CARBON DISULFIDE	ND	5	.33
CARBON TETRACHLORIDE	ND	5	.54
CHLOROBENZENE	ND	5	.46
CHLOROETHANE	ND	5	.92
CHLOROFORM	ND	5	.52
CHLOROMETHANE	ND	5	.53
CIS-1,2-DICHLOROETHENE	ND	5	.46
CIS-1,3-DICHLOROPROPENE	ND	5	.4
DIBROMOCHLOROMETHANE	ND	5	.37
ETHYLBENZENE	ND	5	.46
MTBE	ND	10	.76
METHYLENE CHLORIDE	ND	5	3
STYRENE	ND	5	.34
TETRACHLOROETHENE	ND	5	.34
TOLUENE	ND	5	.58
TRANS-1,2-DICHLOROETHENE	ND	5	.47
TRANS-1,3-DICHLOROPROPENE	ND	5	.45
TRICHLOROETHENE	ND	5	.61
VINYL ACETATE	ND	50	.83
VINYL CHLORIDE	ND	5	.58
XYLENES	ND	5	1.1

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	99	52-149
BROMOFLUOROBENZENE	90	65-135
TOLUENE-D8	90	65-135

PRL: Project Reporting Limit
* : Out side of QC Limit
J : An estimated value between PRL and MDL
E : Value exceed the upper level of the initial calibration
B : Found in the associated blank
D : Value from dilution analysis

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

CLIENT: IT CORPORATION
PROJECT: MCAS EL TORO/18609/D.O. 70
BATCH NO.: 00D061
METHOD: METHOD 5035/8260B

MATRIX:	SOIL			% MOISTURE:	NA
DILUTION FACTOR:	1	1	1		
SAMPLE ID:	MBLK1S				
LAB SAMP ID:	VOD2204B	VOD2104L	VOD2104C		
LAB FILE ID:	RDH312	RDH309	RDH310		
DATE EXTRACTED:	04/13/0019:42	04/13/0017:48	04/13/0018:26	DATE COLLECTED:	NA
DATE ANALYZED:	04/13/0019:42	04/13/0017:48	04/13/0018:26	DATE RECEIVED:	04/13/00
PREP. BATCH:	VOD2204	VOD2204	VOD2204		
CALIB. REF:	RDH308	RDH308	RDH308		

ACCESSION:

PARAMETER	BLNK RSLT (ug/kg)	SPIKE AMT (ug/kg)	BS RSLT (ug/kg)	BS % REC	SPIKE AMT (ug/kg)	BSD RSLT (ug/kg)	BSD % REC	RPD (%)	QC LIMIT (%)	MAX RPD (%)
1,1-Dichloroethene	ND	20	20.9	104	20	20.7	104	1	65-135	30
Benzene	ND	20	18.9	95	20	18.8	94	1	65-135	30
Chlorobenzene	ND	20	19.7	99	20	19.2	96	3	65-135	30
Toluene	ND	20	19.1	95	20	18.6	93	2	64-135	30
Trichloroethene	ND	20	19.4	97	20	19.3	96	1	61-135	30

SURROGATE PARAMETER	SPIKE AMT (ug/kg)	BS RSLT (ug/kg)	BS % REC	SPIKE AMT (ug/kg)	BSD RSLT (ug/kg)	BSD % REC	QC LIMIT (%)
1,2-Dichlorethane-d4	50	46.8	94	50	47.4	95	52-149
Bromofluorobenzene	50	44.2	88	50	43.8	88	65-135
Toluene-d8	50	44.3	89	50	43.6	87	65-135

METHOD 5035/8260B
VOLATILE ORGANICS BY GC/MS

Client	: IT CORPORATION	Date Collected:	NA
Project	: MCAS EL TORO/18609/D.O. 70	Date Received:	04/14/00
Batch No.	: 00D061	Date Extracted:	04/14/00 14:58
Sample ID:	MBLK2S	Date Analyzed:	04/14/00 14:58
Lab Samp ID:	VOD1601Q	Dilution Factor:	1
Lab File ID:	RDV255	Matrix :	SOIL
Ext Btch ID:	VOD1601	% Moisture :	NA
Calib. Ref.:	RDV251	Instrument ID :	T-001

PARAMETERS	RESULTS (ug/kg)	PRL (ug/kg)	MDL (ug/kg)
1,1,1-TRICHLOROETHANE	ND	5	.34
1,1,2,2-TETRACHLOROETHANE	ND	5	.74
1,1,2-TRICHLOROETHANE	ND	5	.66
1,1-DICHLOROETHANE	ND	5	.52
1,1-DICHLOROETHENE	ND	5	.48
1,2-DICHLOROETHANE	ND	5	.99
1,2-DICHLOROPROPANE	ND	5	.55
2-BUTANONE	ND	50	1.5
2-CHLOROETHYLVINYLETHER	ND	50	.74
2-HEXANONE	ND	50	1.5
4-METHYL-2-PENTANONE	ND	50	2.8
ACETONE	ND	50	2.9
BENZENE	ND	5	.53
BROMODICHLOROMETHANE	ND	5	.42
BROMOFORM	ND	5	.59
BROMOMETHANE	ND	5	3.6
CARBON DISULFIDE	ND	5	.33
CARBON TETRACHLORIDE	ND	5	.54
CHLOROBENZENE	ND	5	.46
CHLOROETHANE	ND	5	.92
CHLOROFORM	ND	5	.52
CHLOROMETHANE	ND	5	.53
CIS-1,2-DICHLOROETHENE	ND	5	.46
CIS-1,3-DICHLOROPROPENE	ND	5	.4
DIBROMOCHLOROMETHANE	ND	5	.37
ETHYLBENZENE	ND	5	.46
MTBE	ND	10	.76
METHYLENE CHLORIDE	ND	5	3
STYRENE	ND	5	.34
TETRACHLOROETHENE	ND	5	.34
TOLUENE	ND	5	.58
TRANS-1,2-DICHLOROETHENE	ND	5	.47
TRANS-1,3-DICHLOROPROPENE	ND	5	.45
TRICHLOROETHENE	ND	5	.61
VINYL ACETATE	ND	50	.83
VINYL CHLORIDE	ND	5	.58
XYLENES	ND	5	1.1

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	87	52-149
BROMOFLUOROBENZENE	86	65-135
TOLUENE-D8	91	65-135

PRL: Project Reporting Limit
* : Out side of QC Limit
J : An estimated value between PRL and MDL
E : Value exceed the upper level of the initial calibration
B : Found in the associated blank
D : Value from dilution analysis

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

CLIENT: IT CORPORATION
PROJECT: MCAS EL TORO/18609/D.O. 70
BATCH NO.: 00D061
METHOD: METHOD 5035/8260B

MATRIX:	SOIL			% MOISTURE:	NA
DILUTION FACTOR:	1	1	1		
SAMPLE ID:	MBLK2S				
LAB SAMP ID:	VOD1601Q	VOD1601L	VOD1601C		
LAB FILE ID:	RDV255	RDV252	RDV253		
DATE EXTRACTED:	04/14/0014:58	04/14/0013:16	04/14/0013:50	DATE COLLECTED:	NA
DATE ANALYZED:	04/14/0014:58	04/14/0013:16	04/14/0013:50	DATE RECEIVED:	04/14/00
PREP. BATCH:	VOD1601	VOD1601	VOD1601		
CALIB. REF:	RDV251	RDV251	RDV251		

ACCESSION:

PARAMETER	BLNK RSLT (ug/kg)	SPIKE AMT (ug/kg)	BS RSLT (ug/kg)	BS % REC	SPIKE AMT (ug/kg)	BSD RSLT (ug/kg)	BSD % REC	RPD (%)	QC LIMIT (%)	MAX RPD (%)
1,1-Dichloroethene	ND	20	20.3	101	20	19.9	99	2	65-135	30
Benzene	ND	20	18.9	95	20	18.1	91	4	65-135	30
Chlorobenzene	ND	20	21.2	106	20	20.8	104	2	65-135	30
Toluene	ND	20	20.3	101	20	19.9	100	2	64-135	30
Trichloroethene	ND	20	22	110	20	21.2	106	4	61-135	30

SURROGATE PARAMETER	SPIKE AMT (ug/kg)	BS RSLT (ug/kg)	BS % REC	SPIKE AMT (ug/kg)	BSD RSLT (ug/kg)	BSD % REC	QC LIMIT (%)
1,2-Dichlorethane-d4	50	45.1	90	50	47.1	94	52-149
Bromofluorobenzene	50	42.3	85	50	40.5	81	65-135
Toluene-d8	50	44.3	89	50	43.9	88	65-135

METHOD 3050B/6010B
METALS BY ICP

Client	: IT CORPORATION	Date Collected:	04/12/00
Project	: MCAS EL TORO/18609/D.O. 70	Date Received:	04/12/00
SDG NO.	: 00D061	Date Extracted:	04/14/00 18:00
Sample ID:	18609-2961	Date Analyzed:	04/18/00 20:43
Lab Samp ID:	D061-01	Dilution Factor:	1
Lab File ID:	I07D051026	Matrix :	SOIL
Ext Btch ID:	IPD039S	% Moisture :	7.8
Calib. Ref.:	I07D051019	Instrument ID :	EMAXTI07

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
Aluminum	6620	54.2	2.98
Antimony	ND	10.8	3.73
Barium	87.8	1.08	.0434
Beryllium	.251	.217	.0108
Cadmium	ND	1.08	.217
Calcium	3420	542	4.73
Chromium	6.2	1.08	.423
Cobalt	2.14	1.08	.347
Copper	4.52	1.08	.727
Iron	9050	21.7	2.14
Magnesium	3680	542	4.57
Manganese	155	2.17	.651
Molybdenum	ND	2.17	.911
Nickel	5.08	2.17	.879
Potassium	2990	542	116
Silver	ND	2.17	.456
Sodium	ND	542	21.1
Vanadium	20.6	1.08	.39
Zinc	32.1	1.08	.39

RL: Reporting Limit

METHOD 3050B/6010B
METALS BY TRACE-ICP

Client	: IT CORPORATION	Date Collected:	04/12/00
Project	: MCAS EL TORO/18609/D.O. 70	Date Received:	04/12/00
SDG NO.	: 00D061	Date Extracted:	04/14/00 18:00
Sample ID:	18609-2961	Date Analyzed:	04/20/00 16:55
Lab Samp ID:	D061-01	Dilution Factor:	1
Lab File ID:	I31D034016	Matrix :	SOIL
Ext Btch ID:	IPD039S	% Moisture :	7.8
Calib. Ref.:	I31D034008	Instrument ID :	EMAXTI31

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
Arsenic	1.84	1.08	.375
Lead	2.94	1.08	.247
Selenium	ND	1.08	.522
Thallium	ND	1.08	.918

RL: Reporting Limit

METHOD 3050B/6010B
METALS BY ICP

Client	: IT CORPORATION	Date Collected:	04/12/00
Project	: MCAS EL TORO/18609/D.O. 70	Date Received:	04/12/00
SDG NO.	: 00D061	Date Extracted:	04/14/00 18:00
Sample ID:	18609-2962	Date Analyzed:	04/18/00 20:18
Lab Samp ID:	D061-02	Dilution Factor:	1
Lab File ID:	I07D051021	Matrix :	SOIL
Ext Btch ID:	IPD039S	% Moisture :	12.5
Calib. Ref.:	I07D051019	Instrument ID :	EMAXTI07

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
Aluminum	7830	57.1	3.14
Antimony	ND	11.4	3.93
Barium	458	1.14	.0457
Beryllium	.742	.229	.0114
Cadmium	ND	1.14	.229
Calcium	5510	571	4.98
Chromium	7.09	1.14	.446
Cobalt	2.78	1.14	.366
Copper	6.04	1.14	.766
Iron	15300	22.9	2.25
Magnesium	4100	571	4.81
Manganese	182	2.29	.686
Molybdenum	2.71	2.29	.96
Nickel	5.41	2.29	.926
Potassium	3240	571	122
Silver	ND	2.29	.48
Sodium	ND	571	22.3
Vanadium	35.6	1.14	.411
Zinc	31.4	1.14	.411

RL: Reporting Limit

METHOD 3050B/6010B
METALS BY TRACE-ICP

Client	: IT CORPORATION	Date Collected:	04/12/00
Project	: MCAS EL TORO/18609/D.O. 70	Date Received:	04/12/00
SDG NO.	: 00D061	Date Extracted:	04/14/00 18:00
Sample ID:	18609-2962	Date Analyzed:	04/20/00 16:37
Lab Samp ID:	D061-02	Dilution Factor:	1
Lab File ID:	I31D034012	Matrix :	SOIL
Ext Btch ID:	IPD039S	% Moisture :	12.5
Calib. Ref.:	I31D034008	Instrument ID :	EMAXTI31

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
Arsenic	6.59	1.14	.395
Lead	2.8	1.14	.261
Selenium	ND	1.14	.55
Thallium	ND	1.14	.967

RL: Reporting Limit

METHOD 3050B/6010B
METALS BY ICP

Client	: IT CORPORATION	Date Collected:	04/12/00
Project	: MCAS EL TORO/18609/D.O. 70	Date Received:	04/12/00
SDG NO.	: 00D061	Date Extracted:	04/14/00 18:00
Sample ID:	18609-2963	Date Analyzed:	04/18/00 20:23
Lab Samp ID:	D061-03	Dilution Factor:	1
Lab File ID:	I07D051022	Matrix :	SOIL
Ext Btch ID:	IPD039S	% Moisture :	5.5
Calib. Ref.:	I07D051019	Instrument ID :	EMAXTI07

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
Aluminum	9110	52.9	2.91
Antimony	ND	10.6	3.64
Barium	130	1.06	.0423
Beryllium	.357	.212	.0106
Cadmium	ND	1.06	.212
Calcium	6560	529	4.61
Chromium	8.46	1.06	.413
Cobalt	3.63	1.06	.339
Copper	6.23	1.06	.709
Iron	12100	21.2	2.08
Magnesium	5300	529	4.46
Manganese	234	2.12	.635
Molybdenum	ND	2.12	.889
Nickel	6.18	2.12	.857
Potassium	4080	529	113
Silver	ND	2.12	.444
Sodium	ND	529	20.6
Vanadium	26.5	1.06	.381
Zinc	37.3	1.06	.381

RL: Reporting Limit

METHOD 3050B/6010B
METALS BY TRACE-ICP

Client	: IT CORPORATION	Date Collected:	04/12/00
Project	: MCAS EL TORO/18609/D.O. 70	Date Received:	04/12/00
SDG NO.	: 00D061	Date Extracted:	04/14/00 18:00
Sample ID:	18609-2963	Date Analyzed:	04/20/00 16:41
Lab Samp ID:	D061-03	Dilution Factor:	1
Lab File ID:	I31D034013	Matrix :	SOIL
Ext Btch ID:	IPD039S	% Moisture :	5.5
Calib. Ref.:	I31D034008	Instrument ID :	EMAXTI31

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
Arsenic	2.13	1.06	.366
Lead	2.33	1.06	.241
Selenium	ND	1.06	.509
Thallium	ND	1.06	.895

RL: Reporting Limit

METHOD 3050B/6010B
METALS BY ICP

Client	: IT CORPORATION	Date Collected:	04/12/00
Project	: MCAS EL TORO/18609/D.O. 70	Date Received:	04/12/00
SDG NO.	: 00D061	Date Extracted:	04/14/00 18:00
Sample ID:	18609-2964	Date Analyzed:	04/18/00 20:28
Lab Samp ID:	D061-04	Dilution Factor:	1
Lab File ID:	I07D051023	Matrix :	SOIL
Ext Btch ID:	IPD039S	% Moisture :	3.5
Calib. Ref.:	I07D051019	Instrument ID :	EMAXTI07

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
Aluminum	7360	51.8	2.85
Antimony	ND	10.4	3.56
Barium	102	1.04	.0415
Beryllium	.284	.207	.0104
Cadmium	ND	1.04	.207
Calcium	5580	518	4.52
Chromium	6.96	1.04	.404
Cobalt	2.91	1.04	.332
Copper	4.67	1.04	.694
Iron	9980	20.7	2.04
Magnesium	4330	518	4.36
Manganese	170	2.07	.622
Molybdenum	ND	2.07	.87
Nickel	4.99	2.07	.839
Potassium	3050	518	111
Silver	ND	2.07	.435
Sodium	ND	518	20.2
Vanadium	22.9	1.04	.373
Zinc	28.7	1.04	.373

RL: Reporting Limit

METHOD 3050B/6010B
METALS BY TRACE-ICP

Client	: IT CORPORATION	Date Collected:	04/12/00
Project	: MCAS EL TORO/18609/D.O. 70	Date Received:	04/12/00
SDG NO.	: 00D061	Date Extracted:	04/14/00 18:00
Sample ID:	18609-2964	Date Analyzed:	04/20/00 16:46
Lab Samp ID:	D061-04	Dilution Factor:	1
Lab File ID:	I31D034014	Matrix :	SOIL
Ext Btch ID:	IPD039S	% Moisture :	3.5
Calib. Ref.:	I31D034008	Instrument ID :	EMAXTI31

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
Arsenic	1.69	1.04	.359
Lead	1.71	1.04	.236
Selenium	ND	1.04	.498
Thallium	ND	1.04	.877

RL: Reporting Limit

METHOD 3050B/6010B
METALS BY ICP

Client	: IT CORPORATION	Date Collected:	04/12/00
Project	: MCAS EL TORO/18609/D.O. 70	Date Received:	04/12/00
SDG NO.	: 00D061	Date Extracted:	04/14/00 18:00
Sample ID:	18609-2965	Date Analyzed:	04/18/00 20:33
Lab Samp ID:	D061-05	Dilution Factor:	1
Lab File ID:	I07D051024	Matrix :	SOIL
Ext Btch ID:	IPD039S	% Moisture :	5.0
Calib. Ref.:	I07D051019	Instrument ID :	EMAXTI07

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
Aluminum	5770	52.6	2.89
Antimony	ND	10.5	3.62
Barium	86	1.05	.0421
Beryllium	.214	.211	.0105
Cadmium	ND	1.05	.211
Calcium	6070	526	4.59
Chromium	5.08	1.05	.411
Cobalt	2.16	1.05	.337
Copper	3.29	1.05	.705
Iron	7870	21.1	2.07
Magnesium	3540	526	4.43
Manganese	147	2.11	.632
Molybdenum	ND	2.11	.884
Nickel	3.67	2.11	.853
Potassium	2370	526	113
Silver	ND	2.11	.442
Sodium	ND	526	20.5
Vanadium	19.6	1.05	.379
Zinc	24.5	1.05	.379

RL: Reporting Limit

METHOD 3050B/6010B
METALS BY TRACE-ICP

Client	: IT CORPORATION	Date Collected:	04/12/00
Project	: MCAS EL TORO/18609/D.O. 70	Date Received:	04/12/00
SDG NO.	: 00D061	Date Extracted:	04/14/00 18:00
Sample ID:	18609-2965	Date Analyzed:	04/20/00 16:51
Lab Samp ID:	D061-05	Dilution Factor:	1
Lab File ID:	I31D034015	Matrix :	SOIL
Ext Btch ID:	IPD039S	% Moisture :	5.0
Calib. Ref.:	I31D034008	Instrument ID :	EMAXTI31

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
Arsenic	1.99	1.05	.364
Lead	1.24	1.05	.24
Selenium	ND	1.05	.506
Thallium	ND	1.05	.891

RL: Reporting Limit

METHOD 3050B/6010B
METALS BY ICP

Client	: IT CORPORATION	Date Collected:	04/12/00
Project	: MCAS EL TORO/18609/D.O. 70	Date Received:	04/12/00
SDG NO.	: 00D061	Date Extracted:	04/14/00 18:00
Sample ID:	18609-2966	Date Analyzed:	04/18/00 20:38
Lab Samp ID:	D061-06	Dilution Factor:	1
Lab File ID:	I07D051025	Matrix :	SOIL
Ext Btch ID:	IPD039S	% Moisture :	4.0
Calib. Ref.:	I07D051019	Instrument ID :	EMAXTI07

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
Aluminum	7720	52.1	2.86
Antimony	ND	10.4	3.58
Barium	98.7	1.04	.0417
Beryllium	.293	.208	.0104
Cadmium	ND	1.04	.208
Calcium	4310	521	4.54
Chromium	7.43	1.04	.406
Cobalt	3.19	1.04	.333
Copper	4.86	1.04	.698
Iron	10300	20.8	2.05
Magnesium	4310	521	4.39
Manganese	181	2.08	.625
Molybdenum	ND	2.08	.875
Nickel	5.03	2.08	.844
Potassium	3320	521	111
Silver	ND	2.08	.438
Sodium	ND	521	20.3
Vanadium	23.6	1.04	.375
Zinc	30.4	1.04	.375

RL: Reporting Limit

METHOD 3050B/6010B
METALS BY TRACE-ICP

Client	: IT CORPORATION	Date Collected:	04/12/00
Project	: MCAS EL TORO/18609/D.O. 70	Date Received:	04/12/00
SDG NO.	: 00D061	Date Extracted:	04/14/00 18:00
Sample ID:	18609-2966	Date Analyzed:	04/20/00 17:28
Lab Samp ID:	D061-06	Dilution Factor:	1
Lab File ID:	I31D034023	Matrix :	SOIL
Ext Btch ID:	IPD039S	% Moisture :	4.0
Calib. Ref.:	I31D034020	Instrument ID :	EMAXTI31

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
Arsenic	1.65	1.04	.36
Lead	1.58	1.04	.238
Selenium	ND	1.04	.501
Thallium	ND	1.04	.881

RL: Reporting Limit

METHOD 3050B/6010B
METALS BY ICP

Client	: IT CORPORATION	Date Collected:	04/12/00
Project	: MCAS EL TORO/18609/D.O. 70	Date Received:	04/12/00
SDG NO.	: 00D061	Date Extracted:	04/14/00 18:00
Sample ID:	18609-2967	Date Analyzed:	04/18/00 21:19
Lab Samp ID:	D061-07	Dilution Factor:	1
Lab File ID:	I07D051033	Matrix :	SOIL
Ext Btch ID:	IPD039S	% Moisture :	3.8
Calib. Ref.:	I07D051031	Instrument ID :	EMAXTI07

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
Aluminum	9440	52	2.86
Antimony	ND	10.4	3.58
Barium	119	1.04	.0416
Beryllium	.362	.208	.0104
Cadmium	ND	1.04	.208
Calcium	3870	520	4.53
Chromium	9.08	1.04	.405
Cobalt	3.69	1.04	.333
Copper	6.05	1.04	.696
Iron	12100	20.8	2.05
Magnesium	5250	520	4.38
Manganese	206	2.08	.624
Molybdenum	ND	2.08	.873
Nickel	6.36	2.08	.842
Potassium	3860	520	111
Silver	ND	2.08	.437
Sodium	ND	520	20.3
Vanadium	27.8	1.04	.374
Zinc	35.2	1.04	.374

RL: Reporting Limit

METHOD 3050B/6010B
METALS BY TRACE-ICP

Client	: IT CORPORATION	Date Collected:	04/12/00
Project	: MCAS EL TORO/18609/D.O. 70	Date Received:	04/12/00
SDG NO.	: 00D061	Date Extracted:	04/14/00 18:00
Sample ID:	18609-2967	Date Analyzed:	04/20/00 17:32
Lab Samp ID:	D061-07	Dilution Factor:	1
Lab File ID:	I31D034024	Matrix :	SOIL
Ext Btch ID:	IPD039S	% Moisture :	3.8
Calib. Ref.:	I31D034020	Instrument ID :	EMAXTI31

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
Arsenic	2.31	1.04	.36
Lead	2.04	1.04	.237
Selenium	ND	1.04	.5
Thallium	ND	1.04	.879

RL: Reporting Limit

METHOD 3050B/6010B
METALS BY ICP

Client	: IT CORPORATION	Date Collected:	04/12/00
Project	: MCAS EL TORO/18609/D.O. 70	Date Received:	04/12/00
SDG NO.	: 00D061	Date Extracted:	04/14/00 18:00
Sample ID:	18609-2968	Date Analyzed:	04/18/00 21:24
Lab Samp ID:	D061-08	Dilution Factor:	1
Lab File ID:	I07D051034	Matrix :	SOIL
Ext Btch ID:	IPD039S	% Moisture :	4.7
Calib. Ref.:	I07D051031	Instrument ID :	EMAXTI07

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
Aluminum	7000	52.5	2.89
Antimony	ND	10.5	3.61
Barium	104	1.05	.042
Beryllium	.266	.21	.0105
Cadmium	ND	1.05	.21
Calcium	3800	525	4.58
Chromium	6.98	1.05	.409
Cobalt	2.57	1.05	.336
Copper	4.78	1.05	.703
Iron	9490	21	2.07
Magnesium	3890	525	4.42
Manganese	164	2.1	.63
Molybdenum	ND	2.1	.881
Nickel	4.45	2.1	.85
Potassium	3040	525	112
Silver	ND	2.1	.441
Sodium	ND	525	20.5
Vanadium	23.4	1.05	.378
Zinc	28.1	1.05	.378

RL: Reporting Limit

METHOD 3050B/6010B
METALS BY TRACE-ICP

Client	: IT CORPORATION	Date Collected:	04/12/00
Project	: MCAS EL TORO/18609/D.O. 70	Date Received:	04/12/00
SDG NO.	: 00D061	Date Extracted:	04/14/00 18:00
Sample ID:	18609-2968	Date Analyzed:	04/20/00 17:37
Lab Samp ID:	D061-08	Dilution Factor:	1
Lab File ID:	I31D034025	Matrix :	SOIL
Ext Btch ID:	IPD039S	% Moisture :	4.7
Calib. Ref.:	I31D034020	Instrument ID :	EMAXTI31

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
Arsenic	1.86	1.05	.363
Lead	1.58	1.05	.239
Selenium	ND	1.05	.505
Thallium	ND	1.05	.888

RL: Reporting Limit

METHOD 3050B/6010B
METALS BY ICP

Client	: IT CORPORATION	Date Collected:	04/12/00
Project	: MCAS EL TORO/18609/D.O. 70	Date Received:	04/12/00
SDG NO.	: 00D061	Date Extracted:	04/14/00 18:00
Sample ID:	18609-2969	Date Analyzed:	04/18/00 21:29
Lab Samp ID:	D061-09	Dilution Factor:	1
Lab File ID:	I07D051035	Matrix :	SOIL
Ext Btch ID:	IPD039S	% Moisture :	3.4
Calib. Ref.:	I07D051031	Instrument ID :	EMAXTI07

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
Aluminum	5910	51.8	2.85
Antimony	ND	10.4	3.56
Barium	84.1	1.04	.0414
Beryllium	.223	.207	.0104
Cadmium	ND	1.04	.207
Calcium	5690	518	4.51
Chromium	5.6	1.04	.404
Cobalt	2.33	1.04	.331
Copper	3.51	1.04	.694
Iron	8200	20.7	2.04
Magnesium	3550	518	4.36
Manganese	163	2.07	.621
Molybdenum	ND	2.07	.87
Nickel	4.08	2.07	.839
Potassium	2520	518	111
Silver	ND	2.07	.435
Sodium	ND	518	20.2
Vanadium	19	1.04	.373
Zinc	23.5	1.04	.373

RL: Reporting Limit

METHOD 3050B/6010B
METALS BY TRACE-ICP

Client	: IT CORPORATION	Date Collected:	04/12/00
Project	: MCAS EL TORO/18609/D.O. 70	Date Received:	04/12/00
SDG NO.	: 00D061	Date Extracted:	04/14/00 18:00
Sample ID:	18609-2969	Date Analyzed:	04/20/00 17:42
Lab Samp ID:	D061-09	Dilution Factor:	1
Lab File ID:	I31D034026	Matrix :	SOIL
Ext Btch ID:	IPD039S	% Moisture :	3.4
Calib. Ref.:	I31D034020	Instrument ID :	EMAXTI31

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
Arsenic	1.58	1.04	.358
Lead	1.26	1.04	.236
Selenium	ND	1.04	.498
Thallium	ND	1.04	.876

RL: Reporting Limit

METHOD 3050B/6010B
METALS BY ICP

Client	: IT CORPORATION	Date Collected:	04/12/00
Project	: MCAS EL TORO/18609/D.O. 70	Date Received:	04/12/00
SDG NO.	: 00D061	Date Extracted:	04/14/00 18:00
Sample ID:	18609-2970	Date Analyzed:	04/18/00 21:34
Lab Samp ID:	D061-10	Dilution Factor:	1
Lab File ID:	I07D051036	Matrix :	SOIL
Ext Btch ID:	IPD039S	% Moisture :	6.1
Calib. Ref.:	I07D051031	Instrument ID :	EMAXTI07

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
Aluminum	8430	53.2	2.93
Antimony	ND	10.6	3.66
Barium	103	1.06	.0426
Beryllium	.295	.213	.0106
Cadmium	ND	1.06	.213
Calcium	9220	532	4.64
Chromium	7.16	1.06	.415
Cobalt	3.14	1.06	.341
Copper	4.7	1.06	.714
Iron	11400	21.3	2.1
Magnesium	5240	532	4.48
Manganese	196	2.13	.639
Molybdenum	ND	2.13	.895
Nickel	4.83	2.13	.863
Potassium	3600	532	114
Silver	ND	2.13	.447
Sodium	ND	532	20.8
Vanadium	26.5	1.06	.383
Zinc	32.3	1.06	.383

RL: Reporting Limit

METHOD 3050B/6010B
METALS BY TRACE-ICP

Client	: IT CORPORATION	Date Collected:	04/12/00
Project	: MCAS EL TORO/18609/D.O. 70	Date Received:	04/12/00
SDG NO.	: 00D061	Date Extracted:	04/14/00 18:00
Sample ID:	18609-2970	Date Analyzed:	04/20/00 17:46
Lab Samp ID:	D061-10	Dilution Factor:	1
Lab File ID:	I31D034027	Matrix :	SOIL
Ext Btch ID:	IPD039S	% Moisture :	6.1
Calib. Ref.:	I31D034020	Instrument ID :	EMAXTI31

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
Arsenic	2.29	1.06	.368
Lead	1.65	1.06	.243
Selenium	ND	1.06	.512
Thallium	ND	1.06	.901

RL: Reporting Limit

METHOD 3050B/6010B
METALS BY ICP

Client	: IT CORPORATION	Date Collected:	04/12/00
Project	: MCAS EL TORO/18609/D.O. 70	Date Received:	04/12/00
SDG NO.	: 00D061	Date Extracted:	04/14/00 18:00
Sample ID:	18609-2971	Date Analyzed:	04/18/00 21:39
Lab Samp ID:	D061-11	Dilution Factor:	1
Lab File ID:	I07D051037	Matrix :	SOIL
Ext Btch ID:	IPD039S	% Moisture :	5.7
Calib. Ref.:	I07D051031	Instrument ID :	EMAXTI07

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
Aluminum	8190	53	2.92
Antimony	ND	10.6	3.65
Barium	135	1.06	.0424
Beryllium	.297	.212	.0106
Cadmium	ND	1.06	.212
Calcium	8310	530	4.62
Chromium	7.5	1.06	.414
Cobalt	3.24	1.06	.339
Copper	5.04	1.06	.71
Iron	10600	21.2	2.09
Magnesium	5010	530	4.46
Manganese	181	2.12	.636
Molybdenum	ND	2.12	.891
Nickel	4.62	2.12	.859
Potassium	3060	530	113
Silver	ND	2.12	.445
Sodium	ND	530	20.7
Vanadium	25	1.06	.382
Zinc	30.4	1.06	.382

RL: Reporting Limit

METHOD 3050B/6010B
METALS BY TRACE-ICP

Client	: IT CORPORATION	Date Collected:	04/12/00
Project	: MCAS EL TORO/18609/D.O. 70	Date Received:	04/12/00
SDG NO.	: 00D061	Date Extracted:	04/14/00 18:00
Sample ID:	18609-2971	Date Analyzed:	04/20/00 17:51
Lab Samp ID:	D061-11	Dilution Factor:	1
Lab File ID:	I31D034028	Matrix :	SOIL
Ext Btch ID:	IPD039S	% Moisture :	5.7
Calib. Ref.:	I31D034020	Instrument ID :	EMAXTI31

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
Arsenic	2.52	1.06	.367
Lead	1.65	1.06	.242
Selenium	ND	1.06	.51
Thallium	ND	1.06	.897

RL: Reporting Limit

METHOD 3050B/6010B
METALS BY ICP

Client	: IT CORPORATION	Date Collected:	04/12/00
Project	: MCAS EL TORO/18609/D.O. 70	Date Received:	04/12/00
SDG NO.	: 00D061	Date Extracted:	04/14/00 18:00
Sample ID:	18609-2972	Date Analyzed:	04/18/00 21:45
Lab Samp ID:	D061-12	Dilution Factor:	1
Lab File ID:	I07D051038	Matrix :	SOIL
Ext Btch ID:	IPD039S	% Moisture :	6.4
Calib. Ref.:	I07D051031	Instrument ID :	EMAXTI07

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
Aluminum	7780	53.4	2.94
Antimony	ND	10.7	3.68
Barium	108	1.07	.0427
Beryllium	.285	.214	.0107
Cadmium	ND	1.07	.214
Calcium	6680	534	4.66
Chromium	7.01	1.07	.417
Cobalt	2.86	1.07	.342
Copper	4.66	1.07	.716
Iron	10200	21.4	2.1
Magnesium	4540	534	4.5
Manganese	173	2.14	.641
Molybdenum	ND	2.14	.897
Nickel	4.63	2.14	.865
Potassium	3210	534	114
Silver	ND	2.14	.449
Sodium	ND	534	20.8
Vanadium	23.2	1.07	.385
Zinc	29.9	1.07	.385

RL: Reporting Limit

METHOD 3050B/6010B
METALS BY TRACE-ICP

Client	: IT CORPORATION	Date Collected:	04/12/00
Project	: MCAS EL TORO/18609/D.O. 70	Date Received:	04/12/00
SDG NO.	: 00D061	Date Extracted:	04/14/00 18:00
Sample ID:	18609-2972	Date Analyzed:	04/20/00 17:56
Lab Samp ID:	D061-12	Dilution Factor:	1
Lab File ID:	I31D034029	Matrix :	SOIL
Ext Btch ID:	IPD039S	% Moisture :	6.4
Calib. Ref.:	I31D034020	Instrument ID :	EMAXTI31

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
Arsenic	1.71	1.07	.37
Lead	1.76	1.07	.244
Selenium	ND	1.07	.514
Thallium	ND	1.07	.904

RL: Reporting Limit

METHOD 3050B/6010B
METALS BY ICP

Client	: IT CORPORATION	Date Collected:	NA
Project	: MCAS EL TORO/18609/D.O. 70	Date Received:	04/14/00
SDG NO.	: 00D061	Date Extracted:	04/14/00 18:00
Sample ID:	MBLK1S	Date Analyzed:	04/18/00 19:17
Lab Samp ID:	IPD039SB	Dilution Factor:	1
Lab File ID:	I07D051009	Matrix :	SOIL
Ext Btch ID:	IPD039S	% Moisture :	NA
Calib. Ref.:	I07D051007	Instrument ID :	EMAXTI07

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
Aluminum	ND	50	2.75
Antimony	ND	10	3.44
Barium	ND	1	.04
Beryllium	ND	.2	.01
Cadmium	ND	1	.2
Calcium	ND	500	4.36
Chromium	ND	1	.39
Cobalt	ND	1	.32
Copper	ND	1	.67
Iron	ND	20	1.97
Magnesium	ND	500	4.21
Manganese	ND	2	.6
Molybdenum	ND	2	.84
Nickel	ND	2	.81
Potassium	ND	500	107
Silver	ND	2	.42
Sodium	ND	500	19.5
Vanadium	ND	1	.36
Zinc	ND	1	.36

RL: Reporting Limit

METHOD 3050B/6010B
METALS BY TRACE-ICP

Client	: IT CORPORATION	Date Collected:	NA
Project	: MCAS EL TORO/18609/D.O. 70	Date Received:	04/14/00
SDG NO.	: 00D061	Date Extracted:	04/14/00 18:00
Sample ID:	MBLK1S	Date Analyzed:	04/20/00 16:28
Lab Samp ID:	IPD039SB	Dilution Factor:	1
Lab File ID:	I31D034010	Matrix :	SOIL
Ext Btch ID:	IPD039S	% Moisture :	NA
Calib. Ref.:	I31D034008	Instrument ID :	EMAXTI31

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
Arsenic	ND	1	.346
Lead	ND	1	.228
Selenium	ND	1	.481
Thallium	ND	1	.846

RL: Reporting Limit

EMAX QUALITY CONTROL DATA
LCS ANALYSIS

CLIENT: IT CORPORATION
PROJECT: MCAS EL TORO/18609/D.O. 70
SDG NO.: 00D061
METHOD: METHOD 3050B/6010B

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MATRIX:	SOIL		% MOISTURE:	NA
DILTN FACTR:	1	1		
SAMPLE ID:	MBLK1S			
CONTROL NO.:	IPD039SB	IPD039SL		
LAB FILE ID:	I07D051009	I07D051010		
DATIME EXTRCTD:	04/14/0018:00	04/14/0018:00	DATE COLLECTED:	NA
DATIME ANALYZD:	04/18/0019:17	04/18/0019:22	DATE RECEIVED:	04/14/00
PREP. BATCH:	IPD039S	IPD039S		
CALIB. REF:	I07D051007	I07D051007		

ACCESSION:

PARAMETER	BLNK RSLT (mg/kg)	SPIKE AMT (mg/kg)	BS RSLT (mg/kg)	BS % REC	QC LIMIT (%)
Aluminum	ND	1000	866	87	80-120
Antimony	ND	500	419	84	80-120
Barium	ND	100	91.7	92	80-120
Beryllium	ND	100	88.2	88	80-120
Cadmium	ND	100	84.3	84	80-120
Calcium	ND	5000	4270	85	80-120
Chromium	ND	100	87.2	87	80-120
Cobalt	ND	100	86.6	87	80-120
Copper	ND	100	87.2	87	80-120
Iron	ND	1000	866	87	80-120
Magnesium	ND	5000	4160	83	80-120
Manganese	ND	100	85.5	85	80-120
Molybdenum	ND	100	88.6	89	80-120
Nickel	ND	100	84.2	84	80-120
Potassium	ND	5000	4540	91	80-120
Silver	ND	100	91.9	92	80-120
Sodium	ND	5000	4340	87	80-120
Vanadium	ND	100	88.9	89	80-120
Zinc	ND	100	87.1	87	80-120

EMAX QUALITY CONTROL DATA
LCS ANALYSIS

CLIENT: IT CORPORATION
PROJECT: MCAS EL TORO/18609/D.O. 70
LOG NO.: 00D061
METHOD: METHOD 3050B/6010B

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MATRIX:	SOIL		% MOISTURE:	NA
DILTN FACTR:	1	1		
SAMPLE ID:	MBLK1S			
CONTROL NO.:	IPD039SB	IPD039SL		
LAB FILE ID:	I31D034010	I31D034011		
DATIME EXTRCTD:	04/14/0018:00	04/14/0018:00	DATE COLLECTED:	NA
DATIME ANALYZD:	04/20/0016:28	04/20/0016:32	DATE RECEIVED:	04/14/00
PREP. BATCH:	IPD039S	IPD039S		
CALIB. REF:	I31D034008	I31D034008		

ACCESSION:

PARAMETER	BLNK RSLT (mg/kg)	SPIKE AMT (mg/kg)	BS RSLT (mg/kg)	BS % REC	QC LIMIT (%)
Arsenic	ND	100	93	93	80-120
Lead	ND	100	86.8	87	80-120
Selenium	ND	100	92.2	92	80-120
Thallium	ND	100	95.2	95	80-120

EMAX QUALITY CONTROL DATA
MS/MSD ANALYSIS

CLIENT: IT CORPORATION
PROJECT: MCAS EL TORO/18609/D.O. 70
SDG NO.: 00D061
METHOD: METHOD 3050B/6010B

MATRIX:	SOIL			% MOISTURE:	7.8
DILTN FACTR:	1	1	1		
SAMPLE ID:	18609-2961				
CONTROL NO.:	D061-01	D061-01M	D061-01S		
LAB FILE ID:	I07D051026	I07D051028	I07D051029		
DATIME EXTRCTD:	04/14/0018:00	04/14/0018:00	04/14/0018:00	DATE COLLECTED:	04/12/00
DATIME ANALYZD:	04/18/0020:43	04/18/0020:54	04/18/0020:59	DATE RECEIVED:	04/12/00
PREP. BATCH:	IPD039S	IPD039S	IPD039S		
CALIB. REF:	I07D051019	I07D051019	I07D051019		

ACCESSION:

PARAMETER	SMPL RSLT mg/kg	SPIKE AMT mg/kg	MS RSLT mg/kg	MS % REC	SPIKE AMT mg/kg	MSD RSLT mg/kg	MSD % REC	RPD %	QC LIMIT %	MAX RPD %
Aluminum	6620	1080	9750	288*	1080	12300	519*	23*	80-120	20
Antimony	ND	542	237	44*	542	275	51*	15	80-120	20
Barium	87.8	108	173	79*	108	211	114	20	80-120	20
Beryllium	.251	108	84	77*	108	101	93	18	80-120	20
Cadmium	ND	108	81.4	75*	108	93.3	86	14	80-120	20
Calcium	3420	5420	7700	79*	5420	9130	105	17	80-120	20
Chromium	6.2	108	89.4	77*	108	107	93	18	80-120	20
Cobalt	2.14	108	83.4	75*	108	99.1	89	17	80-120	20
Copper	4.52	108	89	78*	108	107	95	19	80-120	20
Iron	9050	1080	10200	108	1080	12700	337*	22*	80-120	20
Magnesium	3680	5420	8290	85	5420	10000	117	19	80-120	20
Manganese	155	108	239	78*	108	282	118	17	80-120	20
Molybdenum	ND	108	80.9	75*	108	94.5	87	15	80-120	20
Nickel	5.08	108	84	73*	108	99.8	87	17	80-120	20
Potassium	2990	5420	7300	80	5420	8860	108	19	80-120	20
Silver	ND	108	90.8	84	108	100	92	10	80-120	20
Sodium	ND	5420	4190	77*	5420	4960	91	17	80-120	20
Vanadium	20.6	108	107	79*	108	128	99	18	80-120	20
Zinc	32.1	108	109	71*	108	131	91	18	80-120	20

* Out of QC limit

EMAX QUALITY CONTROL DATA
MS/MSD ANALYSIS

CLIENT: IT CORPORATION
PROJECT: MCAS EL TORO/18609/D.O. 70
JOB NO.: 00D061
METHOD: METHOD 3050B/6010B

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MATRIX: SOIL % MOISTURE: 7.8

DILTN FACTR:	1	1	1
SAMPLE ID:	18609-2961		
CONTROL NO.:	D061-01	D061-01M	D061-01S
LAB FILE ID:	I31D034016	I31D034017	I31D034018
DATIME EXTRCTD:	04/14/0018:00	04/14/0018:00	04/14/0018:00
DATIME ANALYZD:	04/20/0016:55	04/20/0017:00	04/20/0017:05
PREP. BATCH:	IPD039S	IPD039S	IPD039S
CALIB. REF:	I31D034008	I31D034008	I31D034008

DATE COLLECTED: 04/12/00
DATE RECEIVED: 04/12/00

ACCESSION:

PARAMETER	SMPL RSLT mg/kg	SPIKE AMT mg/kg	MS RSLT mg/kg	MS % REC	SPIKE AMT mg/kg	MSD RSLT mg/kg	MSD % REC	RPD %	QC LIMIT %	MAX RPD %
Arsenic	1.84	108	86.4	78*	108	97.9	89	12	80-120	20
Lead	2.94	108	82.2	73*	108	93.1	83	12	80-120	20
Selenium	ND	108	84.9	78*	108	96.4	89	13	80-120	20
Thallium	ND	108	86.2	79*	108	96.1	89	11	80-120	20

EMAX QUALITY CONTROL DATA
SERIAL DILUTION ANALYSIS

CLIENT: IT CORPORATION
PROJECT: MCAS EL TORO/18609/D.O. 70
BATCH NO.: 00D061
METHOD: METHOD 3050B/6010B

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MATRIX:	SOIL		% MOISTURE:	7.8
DILUTION FACTOR:	1	5		
SAMPLE ID:	18609-2961	18609-2961DL		
EMAX SAMP ID:	D061-01	D061-01T		
LAB FILE ID:	I07D051026	I07D051027		
DATE EXTRACTED:	04/14/0018:00	04/14/0018:00	DATE COLLECTED:	04/12/00
DATE ANALYZED:	04/18/0020:43	04/18/0020:49	DATE RECEIVED:	04/12/00
PREP. BATCH:	IPD039S	IPD039S		
CALIB. REF:	I07D051019	I07D051019		

ACCESSION:

PARAMETER	SMPL RSLT (mg/kg)	SERIAL DIL RSLT (mg/kg)	DIF RSLT %	QC LIMIT (%)
Aluminum	6620	9150	38*	10
Antimony	ND	ND	0	10
Barium	87.8	113	29*	10
Beryllium	.251	ND	NA	10
Cadmium	ND	ND	0	10
Calcium	3420	4680	37*	10
Chromium	6.2	7.1	15*	10
Cobalt	2.14	ND	NA	10
Copper	4.52	ND	NA	10
Iron	9050	12500	38*	10
Magnesium	3680	5070	38*	10
Manganese	155	210	36*	10
Molybdenum	ND	ND	0	10
Nickel	5.08	ND	NA	10
Potassium	2990	3960	33*	10
Silver	ND	ND	0	10
Sodium	ND	ND	0	10
Vanadium	20.6	25.8	26*	10
Zinc	32.1	43.1	34*	10

* Out of QC limit

EMAX QUALITY CONTROL DATA
SERIAL DILUTION ANALYSIS

CLIENT: IT CORPORATION
PROJECT: MCAS EL TORO/18609/D.O. 70
BATCH NO.: 00D061
METHOD: METHOD 3050B/6010B

==========

MATRIX:	SOIL		% MOISTURE:	7.8
DILUTION FACTOR:	1	5		
SAMPLE ID:	18609-2961	18609-2961DL		
EMAX SAMP ID:	D061-01	D061-01T		
LAB FILE ID:	I31D034016	I31D034022		
DATE EXTRACTED:	04/14/0018:00	04/14/0018:00	DATE COLLECTED:	04/12/00
DATE ANALYZED:	04/20/0016:55	04/20/0017:23	DATE RECEIVED:	04/12/00
PREP. BATCH:	IPD039S	IPD039S		
CALIB. REF:	I31D034008	I31D034020		

ACCESSION:

PARAMETER	SMPL RSLT (mg/kg)	SERIAL DIL RSLT (mg/kg)	DIF RSLT %	QC LIMIT (%)
Arsenic	1.84	ND	NA	10
Lead	2.94	ND	NA	10
Selenium	ND	ND	0	10
Thallium	ND	ND	0	10

EMAX QUALITY CONTROL DATA
ANALYTICAL SPIKE ANALYSIS

CLIENT: IT CORPORATION
PROJECT: MCAS EL TORO/18609/D.O. 70
SDG NO.: 00D061
METHOD: METHOD 3050B/6010B

==========

MATRIX:	SOIL		% MOISTURE:	7.8
DILTN FACTR:	1	1		
SAMPLE ID:	18609-2961			
CONTROL NO.:	D061-01	D061-01A		
LAB FILE ID:	I07D051026	I07D051030		
DATIME EXTRCTD:	04/14/0018:00	04/14/0018:00	DATE COLLECTED:	04/12/00
DATIME ANALYZD:	04/18/0020:43	04/18/0021:04	DATE RECEIVED:	04/12/00
PREP. BATCH:	IPD039S	IPD039S		
CALIB. REF:	I07D051019	I07D051019		

ACCESSION:

PARAMETER	SMPL RSLT (mg/kg)	SPIKE AMT (mg/kg)	AS RSLT (mg/kg)	AS % REC	QC LIMIT (%)
Aluminum	6620	1080	9230	241*	75-125
Antimony	ND	54.2	52	96	75-125
Barium	87.8	108	213	116	75-125
Beryllium	.251	108	105	96	75-125
Cadmium	ND	108	96.2	89	75-125
Calcium	3420	5420	8790	99	75-125
Chromium	6.2	108	109	94	75-125
Cobalt	2.14	108	102	92	75-125
Copper	4.52	108	111	98	75-125
Iron	9050	10800	22300	123	75-125
Magnesium	3680	5420	9350	104	75-125
Manganese	155	108	279	115	75-125
Molybdenum	ND	108	99.3	92	75-125
Nickel	5.08	108	103	91	75-125
Potassium	2990	5420	8530	102	75-125
Silver	ND	108	100	93	75-125
Sodium	ND	5420	4990	92	75-125
Vanadium	20.6	108	128	99	75-125
Zinc	32.1	108	133	93	75-125

EMAX QUALITY CONTROL DATA
ANALYTICAL SPIKE ANALYSIS

CLIENT: IT CORPORATION
PROJECT: MCAS EL TORO/18609/D.O. 70
DG NO.: 00D061
METHOD: METHOD 3050B/6010B

==========

MATRIX:	SOIL		% MOISTURE:	7.8
DILTN FACTR:	1	1		
SAMPLE ID:	18609-2961			
CONTROL NO.:	D061-01	D061-01A		
LAB FILE ID:	I31D034016	I31D034019		
DATIME EXTRCTD:	04/14/0018:00	04/14/0018:00	DATE COLLECTED:	04/12/00
DATIME ANALYZD:	04/20/0016:55	04/20/0017:09	DATE RECEIVED:	04/12/00
PREP. BATCH:	IPD039S	IPD039S		
CALIB. REF:	I31D034008	I31D034008		

ACCESSION:

PARAMETER	SMPL RSLT (mg/kg)	SPIKE AMT (mg/kg)	AS RSLT (mg/kg)	AS % REC	QC LIMIT (%)
Arsenic	1.84	54.2	56	100	75-125
Lead	2.94	54.2	53	92	75-125
Selenium	ND	54.2	54.2	100	75-125
Thallium	ND	54.2	53.7	99	75-125

METHOD 7471A
MERCURY BY COLD VAPOR

Client : IT CORPORATION
Project : MCAS EL TORO/18609/D.O. 70
Batch No. : 00D061

Matrix : SOIL
Instrument ID : TI023

SAMPLE ID	EMAX SAMPLE ID	RESULTS (mg/kg)	DLF	MOIST	RL (mg/kg)	MDL (mg/kg)	Analysis DATETIME	Extraction DATETIME	LFID	CAL REF	PREP BATCH	Collection DATETIME	Received DATETIME
MBLK1S	HGD011SB	ND	1	NA	.1	.02	04/14/0019:35	04/14/0012:00	M00D018008	M00D018006	HGD011S	NA	04/14/00
LCS1S	HGD011SL	.826	1	NA	.1	.02	04/14/0019:37	04/14/0012:00	M00D018009	M00D018006	HGD011S	NA	04/14/00
LCD1S	HGD011SC	.803	1	NA	.1	.02	04/14/0019:38	04/14/0012:00	M00D018010	M00D018006	HGD011S	NA	04/14/00
18609-2950	D050-01	ND	1	6.3	.107	.0213	04/14/0019:41	04/14/0012:00	M00D018011	M00D018006	HGD011S	04/11/00	04/11/00
18609-2950MS	D050-01M	.847	1	6.3	.107	.0213	04/14/0019:42	04/14/0012:00	M00D018012	M00D018006	HGD011S	04/11/00	04/11/00
18609-2950MSD	D050-01S	.877	1	6.3	.107	.0213	04/14/0019:44	04/14/0012:00	M00D018013	M00D018006	HGD011S	04/11/00	04/11/00
18609-2961	D061-01	ND	1	7.8	.108	.0217	04/14/0020:07	04/14/0012:00	M00D018025	M00D018018	HGD011S	04/12/00	04/12/00
18609-2962	D061-02	ND	1	12.5	.114	.0229	04/14/0020:09	04/14/0012:00	M00D018026	M00D018018	HGD011S	04/12/00	04/12/00
18609-2963	D061-03	ND	1	5.5	.106	.0212	04/14/0020:10	04/14/0012:00	M00D018027	M00D018018	HGD011S	04/12/00	04/12/00
18609-2964	D061-04	ND	1	3.5	.104	.0207	04/14/0020:12	04/14/0012:00	M00D018028	M00D018018	HGD011S	04/12/00	04/12/00
18609-2965	D061-05	ND	1	5.0	.105	.0211	04/14/0020:14	04/14/0012:00	M00D018029	M00D018018	HGD011S	04/12/00	04/12/00
18609-2966	D061-06	ND	1	4.0	.104	.0208	04/14/0020:20	04/14/0012:00	M00D018032	M00D018030	HGD011S	04/12/00	04/12/00
18609-2967	D061-07	ND	1	3.8	.104	.0208	04/14/0020:22	04/14/0012:00	M00D018033	M00D018030	HGD011S	04/12/00	04/12/00
18609-2968	D061-08	ND	1	4.7	.105	.021	04/14/0020:24	04/14/0012:00	M00D018034	M00D018030	HGD011S	04/12/00	04/12/00
18609-2969	D061-09	ND	1	3.4	.104	.0207	04/14/0020:26	04/14/0012:00	M00D018035	M00D018030	HGD011S	04/12/00	04/12/00
18609-2970	D061-10	ND	1	6.1	.106	.0213	04/14/0020:27	04/14/0012:00	M00D018036	M00D018030	HGD011S	04/12/00	04/12/00
18609-2971	D061-11	ND	1	5.7	.106	.0212	04/14/0020:29	04/14/0012:00	M00D018037	M00D018030	HGD011S	04/12/00	04/12/00
18609-2972	D061-12	ND	1	6.4	.107	.0214	04/14/0020:31	04/14/0012:00	M00D018038	M00D018030	HGD011S	04/12/00	04/12/00

RL: Reporting Limit

EMAX QUALITY CONTROL DATA
MS/MSD ANALYSIS

:LIENT: IT CORPORATION
'ROJECT: MCAS EL TORO/18609/D.O. 70
:DG NO.: 00D061
IETHOD: METHOD 7471A

IATRIX:	SOIL			% MOISTURE:	6.3
)ILTN FACTR:	1	1	1		
SAMPLE ID:	18609-2950				
:ONTROL NO.:	D050-01	D050-01M	D050-01S		
.AB FILE ID:	M00D018011	M00D018012	M00D018013		
)ATIME EXTRCTD:	04/14/0012:00	04/14/0012:00	04/14/0012:00	DATE COLLECTED:	04/11/00
)ATIME ANALYZD:	04/14/0019:41	04/14/0019:42	04/14/0019:44	DATE RECEIVED:	04/11/00
'REP. BATCH:	HGD011S	HGD011S	HGD011S		
:ALIB. REF:	M00D018006	M00D018006	M00D018006		

ACCESSION:

'ARAMETER	SMPL RSLT mg/kg	SPIKE AMT mg/kg	MS RSLT mg/kg	MS % REC	SPIKE AMT mg/kg	MSD RSLT mg/kg	MSD % REC	RPD %	QC LIMIT %	MAX RPD %
Mercury	ND	.833	.847	102	.877	.877	100	3	77-120	25

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EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

:LIENT: IT CORPORATION
'ROJECT: MCAS EL TORO/18609/D.O. 70
;DG NO.: 00D061
IETHOD: METHOD 7471A

IATRIX:	SOIL			% MOISTURE:	NA
)ILTN FACTR:	1	1	1		
;AMPLE ID:	MBLK1S				
:ONTROL NO.:	HGD011SB	HGD011SL	HGD011SC		
.AB FILE ID:	M00D018008	M00D018009	M00D018010		
)ATIME EXTRCTD:	04/14/0012:00	04/14/0012:00	04/14/0012:00	DATE COLLECTED:	NA
)ATIME ANALYZD:	04/14/0019:35	04/14/0019:37	04/14/0019:38	DATE RECEIVED:	04/14/00
'REP. BATCH:	HGD011S	HGD011S	HGD011S		
:ALIB. REF:	M00D018006	M00D018006	M00D018006		

ACCESSION:

'ARAMETER	BLNK RSLT mg/kg	SPIKE AMT mg/kg	BS RSLT mg/kg	BS % REC	SPIKE AMT mg/kg	BSD RSLT mg/kg	BSD % REC	RPD %	QC LIMIT %	MAX RPD %
Iercury	ND	.820	.826	101	.806	.803	100	3	77-120	25

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Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: MCAS El Toro

Collection Date: April 12, 2000

LDC Report Date: May 23, 2000

Matrix: Soil

Parameters: Volatiles

Validation Level: NFESC Level C & D

Laboratory: EMAX Laboratories, Inc.

Sample Delivery Group (SDG): 00D061

Sample Identification

18609-2961
18609-2965
18609-2972**

**Indicates sample underwent NFESC Level D review

Introduction

This data review covers 3 soil samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8260B for Volatiles.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (October 1999) as there are no current guidelines for the method stated above.

A table summarizing all data qualification is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section V.

Field duplicates are summarized in Section XVI.

Samples indicated by a double asterisk on the front cover underwent a NFESC Level D review. A NFESC Level C review was performed on all of the other samples. Raw data were not evaluated for the samples reviewed by Level C criteria since this review is based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance was checked at 12 hour intervals.

All ion abundance requirements were met.

III. Initial Calibration

Initial calibration was performed using required standard concentrations.

Percent relative standard deviations (%RSD) were less than or equal to 30.0% for all calibration check compounds and less than or equal to 50.0% for all other compounds.

Average relative response factors (RRF) for all volatile target compounds and system monitoring compounds were within validation criteria.

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

All of the continuing calibration percent differences (%D) between the initial calibration RRF and the continuing calibration RRF were less than or equal to 20.0% for all calibration check compounds and less than or equal to 50.0% for all other compounds.

All of the continuing calibration RRF values were within validation criteria.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No volatile contaminants were found in the method blanks.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

All internal standard areas and retention times were within QC limits.

XI. Target Compound Identifications

All target compound identifications were within validation criteria for samples on which a NFESC Level D review was performed. Raw data were not evaluated for the samples reviewed by Level C criteria.

XII. Compound Quantitation and CRQLs

All compound quantitation and CRQLs were within validation criteria for samples on which a NFESC Level D review was performed. Raw data were not evaluated for the samples reviewed by Level C criteria.

XIII. Tentatively Identified Compounds (TICs)

Tentatively identified compounds were not reported by the laboratory.

XIV. System Performance

The system performance was within validation criteria for samples on which a NFESC Level D review was performed. Raw data were not evaluated for the samples reviewed by Level C criteria.

XV. Overall Assessment of Data

Data flags have been summarized at the end of the report.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

XVII. Field Blanks

No field blanks were identified in this SDG.

MCAS El Toro
Volatiles - Data Qualification Summary - SDG 00D061

No Sample Data Qualified in this SDG

MCAS El Toro
Volatiles - Laboratory Blank Data Qualification Summary - SDG 00D061

No Sample Data Qualified in this SDG

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: MCAS El Toro

Collection Date: April 12, 2000

LDC Report Date: May 23, 2000

Matrix: Soil

Parameters: Metals

Validation Level: NFESC Level C & D

Laboratory: EMAX Laboratories, Inc.

Sample Delivery Group (SDG): 00D061

Sample Identification

18609-2961
18609-2965
18609-2972**
18609-2961MS
18609-2961MSD

**Indicates sample underwent NFESC Level D review

Introduction

This data review covers 5 soil samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Methods 6010 and 7000 for Metals. The metals analyzed were Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Vanadium, and Zinc.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (February 1994) as there are no current guidelines for the methods stated above.

A table summarizing all data qualification flags is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from specified protocols or is of technical advisory nature.

Blanks are summarized in Section III.

Field duplicates are summarized in Section XIII.

Samples indicated by a double asterisk on the front cover underwent a NFESC Level D review. A NFESC Level C review was performed on all of the other samples. Raw data were not evaluated for the samples reviewed by Level C criteria since this review is based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Calibration

An initial calibration was performed.

The frequency and analysis criteria of the initial calibration verification (ICV) and continuing calibration verification (CCV) were met with the following exceptions:

Date	Lab. Reference/ID	Analyte	%R (Limits)	Associated Samples	Flag	A or P
4/20/00	ICV	Lead	89 (90-110)	All samples in SDG 00D061	None	P

III. Blanks

Method blanks were reviewed for each matrix as applicable.

Data qualification by the initial, continuing and preparation blanks (ICB/CCB/PBs) was based on the maximum contaminant concentration in the ICB/CCB/PBs in the analysis of each analyte. No contaminant concentrations were found above the reporting limit in the initial, continuing and preparation blanks with the following exceptions:

Method Blank ID	Analyte	Maximum Concentration	Associated Samples
ICB/CCB	Aluminum Barium Beryllium Selenium Thallium Zinc	32 ug/L 0.5 ug/L 0.47 ug/L 4.37 ug/L 6.68 ug/L 4.48 ug/L	All samples in SDG 00D061

Sample concentrations were compared to the maximum contaminant concentrations detected in the ICB/CCB/PBs. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Analyte	Reported Concentration	Modified Final Concentration
18609-2965	Beryllium	0.214 mg/Kg	0.214U mg/Kg

IV. ICP Interference Check Sample (ICS) Analysis

The frequency of analysis was met.

The criteria for analysis were met.

V. Matrix Spike Analysis

Matrix spike (MS) and matrix spike duplicate (MSD) analyses were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits with the following exceptions:

Spike ID (Associated Samples)	Analyte	MS (%R) (Limits)	MSD (%R) (Limits)	RPD (Limits)	Flag	A or P
18609-2961MS/MSD (All samples in SDG 00D061)	Barium	79 (75-125)	-	-	J (all detects)	A
	Beryllium	77 (75-125)	-	-	UJ (all non-detects)	
	Calcium	79 (75-125)	-	-		
	Antimony	44 (75-125)	51 (75-125)	-		
	Cadmium	75 (75-125)	-	-		
	Chromium	77 (75-125)	-	-		
	Cobalt	75 (75-125)	-	-		
	Copper	78 (75-125)	-	-		
	Manganese	78 (75-125)	-	-		
	Molybdenum	75 (75-125)	-	-		
	Nickel	73 (75-125)	-	-		
	Sodium	77 (75-125)	-	-		
	Vanadium	79 (75-125)	-	-		
	Zinc	71 (75-125)	-	-		
	Arsenic	78 (75-125)	-	-		
	Lead	73 (75-125)	-	-		
	Selenium	78 (75-125)	-	-		
	Thallium	79 (75-125)	-	-		
	Aluminum	-	-	23 (≤35)		
	Iron	-	-	22 (≤35)		

VI. Duplicate Sample Analysis

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable. Results were within QC limits.

VII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

VIII. Internal Standards

ICP-MS was not utilized in this SDG.

IX. Furnace Atomic Absorption QC

Graphite furnace atomic absorption was not utilized in this SDG.

X. ICP Serial Dilution

Although ICP serial dilution analysis was not required by the method, it was performed by the laboratory. The analysis criteria were met with the following exceptions:

Diluted Sample	Analyte	%D (Limits)	Associated Samples	Flag	A or P
18609-2961L	Aluminum	38 (≤10)	All samples in SDG 00D061	J (all detects)	A
	Barium	29 (≤10)		J (all detects)	
	Calcium	37 (≤10)		J (all detects)	
	Iron	38 (≤10)		J (all detects)	
	Magnesium	38 (≤10)		J (all detects)	
	Manganese	36 (≤10)		J (all detects)	
	Vanadium	26 (≤10)		J (all detects)	
	Zinc	34 (≤10)		J (all detects)	

XI. Sample Result Verification

All sample result verifications met validation criteria for samples on which a NFESC Level D review was performed. Raw data were not evaluated for the samples reviewed by Level C criteria.

XII. Overall Assessment of Data

Data flags have been summarized at the end of this report.

XIII. Field Duplicates

No field duplicates were identified in this SDG.

XIV. Field Blanks

No field blanks were identified in this SDG.

MCAS El Toro
Metals - Data Qualification Summary - SDG 00D061

SDG	Sample	Analyte	Flag	A or P	Reason
00D061	18609-2961 18609-2965 18609-2972**	Lead	None	P	Calibration (%R)
00D061	18609-2961 18609-2965 18609-2972**	Barium Beryllium Calcium Antimony Cadmium Chromium Cobalt Copper Manganese Molybdenum Nickel Sodium Vanadium Zinc Arsenic Lead Selenium Thallium Aluminum Iron	J (all detects) UJ (all non-detects)	A	Matrix spike/Matrix spike duplicates (%R)(RPD)
00D061	18609-2961 18609-2965 18609-2972**	Aluminum Barium Calcium Iron Magnesium Manganese Vanadium Zinc	J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects)	A	ICP serial dilution (%D)

MCAS El Toro
Metals - Laboratory Blank Data Qualification Summary - SDG 00D061

SDG	Sample	Analyte	Modified Final Concentration	A or P
00D061	18609-2965	Beryllium	0.214U mg/Kg	A

COMPASS ROSE NO.
SALUTING BATTERIES
S. 1st ST.
S. 2nd ST.
S. 3rd ST.
S. 4th ST.
S. 5th ST.
S. 6th ST.
S. 3rd PL
N. 3rd PL
N. 4th PL
G ST.
N. 1st ST.

SITE VISIT CHECKLIST

Marine Corps Air Station, El Toro
Building 46 – Historic Photographic Laboratory

Recommendation: If no leaks from sewer are identified during sampling, No Further Action

Building Description: Building 46 – single story, approximate date of construction: 1943

Building 46 is a 2,280 square foot, single story building of wood and stucco construction. Most of the inside floor is exposed concrete. According to the Station records, the most recent use of the building was for Station Reproduction.

Visual Inspection Date (s): Exterior – 4/11/00, Interior – 3/15/01

Participant(s) (with affiliation (s)) in inspection(s): Dhananjay Rawal, Bill Sedlak, and Mark Fishel
OHM Remediation Corporation

Current Site Conditions:

The building is unoccupied with limited remaining furniture. No facilities were identified that might be associated with any photographic operations, such as a dark room, or walls painted black, rooms without windows, etc. Floor drains were found in two rooms and the bathroom. The floor surrounding the two floor drains is clean, without any stains or discoloration and the drains themselves are in good condition. The drain in the bathroom has some surface staining leading from the toilet to the drain, but no stains from external sources were visible.

There is a concrete patch located in the hall adjacent to the bathroom. However, there is no indication that there was a floor drain associated with the patched area. No pipes or supports are visible in the vicinity.

A wash basin was present on the northeastern wall of the building. This basin drained directly into a sewer connection with a roof vent. There are visible stains on the floor surrounding the basin from past use and poor housekeeping. However, the staining appears to be related to overfilling the basin and/or leakage from the basin drainpipe. There appears to be a build up of soap residue on the edges and back of the basin.

Is there visual evidence of any release or possible activities that could have caused a release at the site?

No visual evidence of any photographic development work was found. No staining associated with photographic processing or chemicals was visible.

Date of preparation of checklist: March 20, 2001

65	A-3	ADMINISTRATION BLDG
66	A-3	MESSHALL (ENLISTED MEN)
67	A-3	ENLISTED CLUB
68	A-3	BARRACKS (ENLISTED MEN
69	A-3	DO
70	A-3	DO
71	A-3	DO
72	A-3	DO
73	A-3	DO
74	A-283	AUDITORIUM
75	A-283	RECREATION BLDG (PX)
76	B-2	POST EXCHANGE
77	A-2	BARRACKS (ENLISTED MEN)
78	A-2	DO
79	A-2	DO
80	A-2	DO
81	A-2	DO
82	A-2	DO
83	A-2	MESSHALL (ENLISTED MEN)
84	A-2	STAFF N.C.O. CLUB
85	A-2	BARRACKS (ENLISTED MEN)
86	A-2	DO
87	K-8	GOLF COURSE CLUB HOUSE
88	D-8	BUILDINGS AND GROUNDS
89	E-9	TRANSPORTATION STORAGE
90	E-9	TRANSPORTATION STORAGE
91	D-8	BUILDINGS AND GROUNDS
92	A-1	DO
93	GH-2	REMOVED
94	A-1	TOILET & SHOWER BLDG
95	E-9	TRANSPORTATION STORAGE
96	E-9	TRANSPORTATION STORAGE
97	E-8	LUMBER STORAGE
98	B-3	FIREHOUSE
99	C-3	PAINT & OIL STORAGE BLDG
100	C-4	DO
101	C-5	STANDBY POWER BLDG
102	C-5	PAINT & OIL STORAGE BLDG.
102-A	C-5	SWITCH BLDG
103	C-6	PAINT & OIL STORAGE BLDG
104	A-586	RADIO TRANSMITTER BLDG.
105	G-1	GROUP ADMINISTRATION BLDG.
106	E-2	NOSE HANGAR
107	F-2	FIREHOUSE & ARMORY
108	F-2	DO
109	F-2	NOSE HANGAR
110	G-2	DO
111	G-2	FIREHOUSE & ARMORY BLDG.
112	G-2	DO
113	G-2	NOSE HANGAR
114	G-2	SQUADRON HEADQUARTERS
115	G-2	DO
116	F-2	DO
117	E-2	DO
118	E-1	STOREHOUSE
119	F-1	DO
120	F-2	DO
121	F-2	DO
122	G-2	DO
123	G-2	DO
124	G-2	DO
125	G-2	DO
126	G-2	PARACHUTE BLDG
127	G-2	PROPELLER SHOP
128	G-2	GROUP MAINT HANGAR
129	G-2	AIRCRAFT ACCESS & MAINT BLDG
130	G-1	DOPE & SPRAY BLDG.
131	G-1	STOREHOUSE
132	G-1	DO
133	G-1	PHOTO LAB. BLDG.
134	F-1	STOREHOUSE
135	F-1	DO
136	F-1	STOREHOUSE
137	F-1	DO
138	E-1	DO
139	E-1	DO
140	G-1	INCINERATOR
140-A	G-1	DO

[illegible]	H-2	DO 25,000 GAL.
[illegible]	H-2	DO 50,000 GAL.
207	H-2	DO 50,000 GAL.
208	H-2	DO 50,000 GAL.
209	H-2	DO 25,000 GAL.
[illegible]	H-2	DO 50,000 GAL.
[illegible]	H-2	DO 50,000 GAL.
212	H-2	DO 25,000 GAL.
213	H-2	DO 25,000 GAL.
214	H-2	DO 25,000 GAL.
215	H-2	DO 50,000 GAL.
216	F-1	FUEL OIL TANK 50,000 GAL.
217	F-1	DO 25,000 GAL.
218	F-1	DO 25,000 GAL.
219	A-3	DO [illegible] GAL.
220	B-3	DO 25,000 GAL.
221	B-3	DO 25,000 GAL.
222	A-2	ELEVATED WATER TANK 200,000 GAL.
223	A-5	SENTRY HOUSE
224	B-7	PUBLIC WORKS OFFICE
225	B-7	P.W. STOCK & CARPENTER SHOP
226	B-7	P.W. HEATING SHOP
227	B-7	P.W. PAINT SHOP
228	A-4	RECREATION GEAR ROOM
229	F-2	STORAGE
230	F-2	DO
231	F-2	DO
232	F-2	SQUADRON OFFICE
233	F-2	STORAGE
234	F-1	(R)
235	H-2	BORE SIGHTING RANGE
236	[illegible]	SKEET RANGE (R)
237	B-6	PAINT & OIL STORAGE BLDG. (R)
238	B-5	OXYGEN STORAGE BLDG.
239	A-6	HOMOJA HUTS (HEADQUARTERS)
240	B-6	LUMBER STOREHOUSE
241	B-6	GENERAL STOREHOUSE
242	B-7	SQUADRON STOREHOUSE
243	B-7	SQUADRON HEADQUARTERS
244	B-7	SQUADRON HANGAR
245	B-7	SQUADRON STOREHOUSE
246	B-7	SALVAGE BLDG.
247	A-7	BACHELOR OFFICERS' QUARTERS
248	A-7	DO
249	A-7	DO
250	A-7	DO
251	A-7	OFFICERS' MESS
252	A-6	BACHELOR OFFICERS' QUARTERS (R)
253	A-6	MARRIED OFFICERS QUARTERS
254	A-6	DO
255	A-6	DO
256	B-5	GROUND TRAINING BLDG.
257	B-4	ADMINISTRATION BLDG
[illegible]	[illegible]	HOSTESS HOUSE
[illegible]	A-4	BARRACKS (ENLISTED MEN)
[illegible]	ABB-4	DO
261	B-4	CIVIL GUARDS
[illegible]	A-4	MESSHALL (ENLISTED MEN)
[illegible]	A-3	MESSHALL (ENLISTED MEN)
[illegible]	B-3	SPECIAL SERVICES BLDG.
[illegible]	A-3	BARRACKS (ENLISTED MEN)
265	A-3	DO
[illegible]	A-3	DO
[illegible]	A-3	DO
[illegible]	A-3	DO
[illegible]	[illegible]	LECTURE HALL (THEATRE)
[illegible]	[illegible]	BOWLING ALLEY
[illegible]	B-2	POST OFFICE
274	A-2	BARRACKS (ENLISTED MEN)
275	A-2	DO
276	A-2	DO
277	B-2	DO
278	A-2	DO
279	B-2	DO
280	A-2	MESSHALL (ENLISTED MEN)
281	B-2	DO

343	H-4	SWITCH BLDG
344	A-1	MARRIED ENL.MENS QRTS.
345	E-8	MARRIED ENLISTED MENS QTRS.
346	A-2	MARRIED OFFICERS QRTS.
347	A-3	OIL STATION
348	D-8	GREENHOUSE
349	B-8	P.W. STORES BLDG.
350A	I-6	WATER TANK (400,000 GALLON)
350B	I-6	DO
350C	I-7	PUMP HOUSE
351	B-1	ORDNANCE SCHOOL BLD
352	G-2	OFFICE BLDG
353	H-2	TIP TANK BLDG
354	E-8	PAINT STORAGE
66A	A-3	GARBAGE HOUSE
67A	A-3	DO
83A	A-2	DO
84	A-2	DO
159M	D-9	EFFLUENT TANK
159N	D-9	PUMP HOUSE
251A	A-6	GARBAGE HOUSE
262A	A-4	DO
263A	A-3	DO
280A	A-2	DO
281A	B-2	DO
285A	B-2	DO
306A	D-8	RAW WATER TANK (ELEVATED)
306B	D-8	WASH WATER TANK (ELEVATED)
		159 SEWAGE DISPOSAL
159-C	D-9	CHLORINE CONTACT
159-D	D-9	SECONDARY SETTLING TANK
159-E	D-9	CLARIGESTER
159-F	D-9	SECONDARY CLARIFIER
159-G	D-9	SLUDGE DIGESTER
159-H	D-9	TRICKLING FILTER
159-I	D-9	PRIMARY SETTLING TANK
159-J	D-9	TRICKLING FILTER
159-K	D-9	GREASE PUMPHOUSE
159-L	D-9	STANDBY POWER BLDG.

REVISION	BY	DATE	APPRVD
ded Engine Test Stand & Paving Location H-9 ranged Legend Use for Bldg 146	Eliz J. Toepfer Sgt	21 March 1945	J LAMBIE CAPT
npleted W.R. Messhall & Bks 327,328,329. Added Bldg 333 nged Location of Engine Test Stands to G-9. Added Bldg Designations from 309 to 335 included (Proposed STATUS	Eliz J. Toepfer Sgt	11 June 1945	J LAMBIE CAPT
eut Range Added Location L-6 ded [illegible] Location [illegible]	Ann M. [illegible]	26 June 1945	J LAMBIE CAPT
HA Project Added (42 Units) rbage Sheds Relocated.	Ann M. Miller	2 July 1945	J LAMBIE CAPT
ded Tennis Volley & Basketball Courts. Removed ash Equipment Bldg. Loc H-6 Removed Conc Cem c G-8 Added Conc Cem Loc F & G-7 Radio Trans	Eliz J. Toepfer Sgt	18 August 1945	J Lambie Capt
DDED GATE HOUSE 336, CHAPEL 337, & NGINE TEST STANDS 338-A, B, C.	W. C. Walton T. Sgt	23 OCT 1945	J Lambie Capt
RRECTED TO DATE	L.W.S.	15 MAY 1946	N. NEFF DESIGN SUPT. PW
RRECTED TO DATE	J.Z.R.	12 DEC 1946	N.H. / NEFF

JAN 17, 1950 484,594

U.S. MARINE CORPS AIR STATION
EL TORO, (SANTA ANA) CALIFORNIA

MASTER PLOT PLAN
OF
EXISTING AND FUTURE FACILITIES

PUBLIC WORKS DEPARTMENT

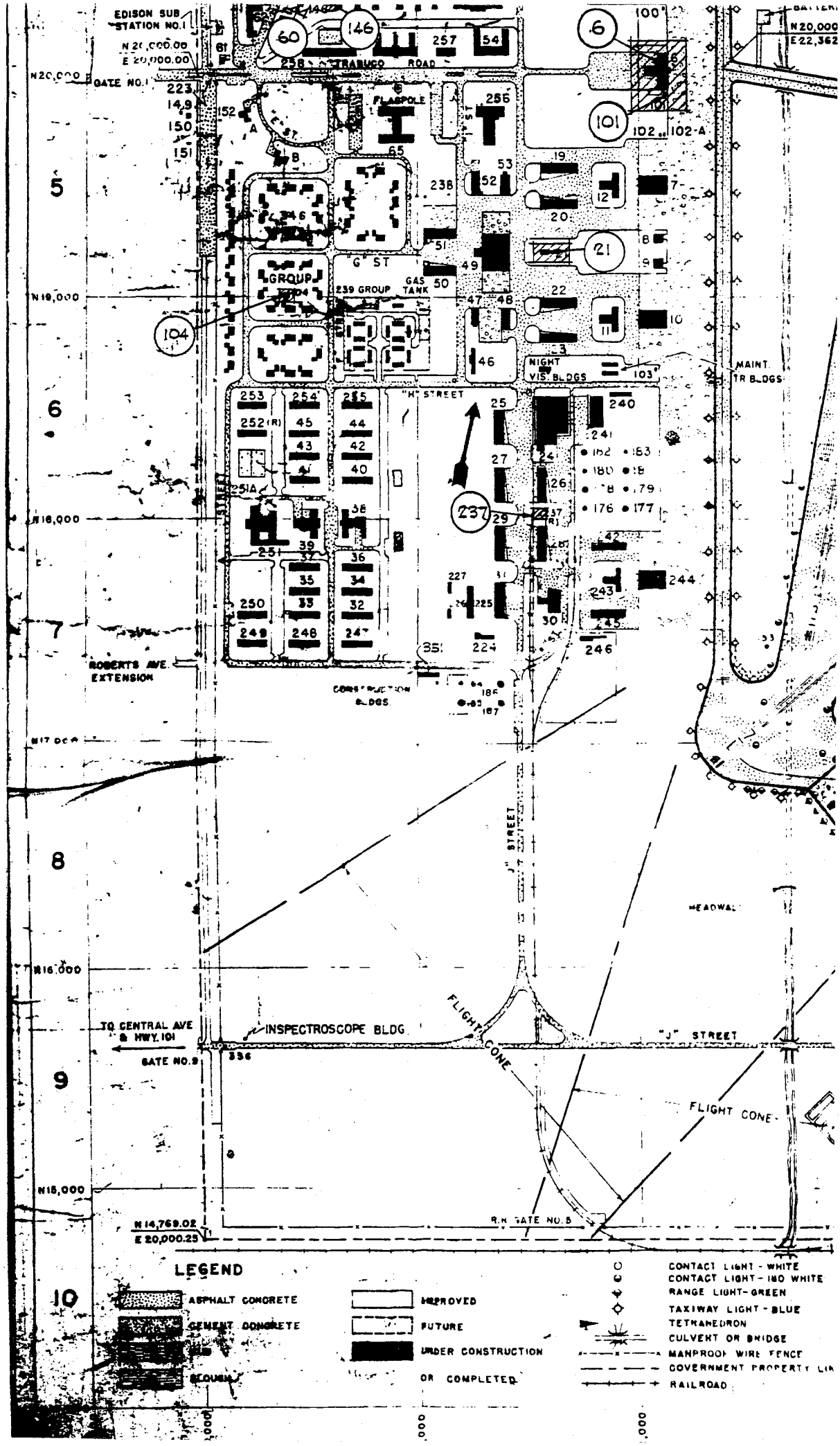
Drawn by: Approved by:
Checked by: Date:
SCALE (1" = 400')
200 0 200 400 800 1200

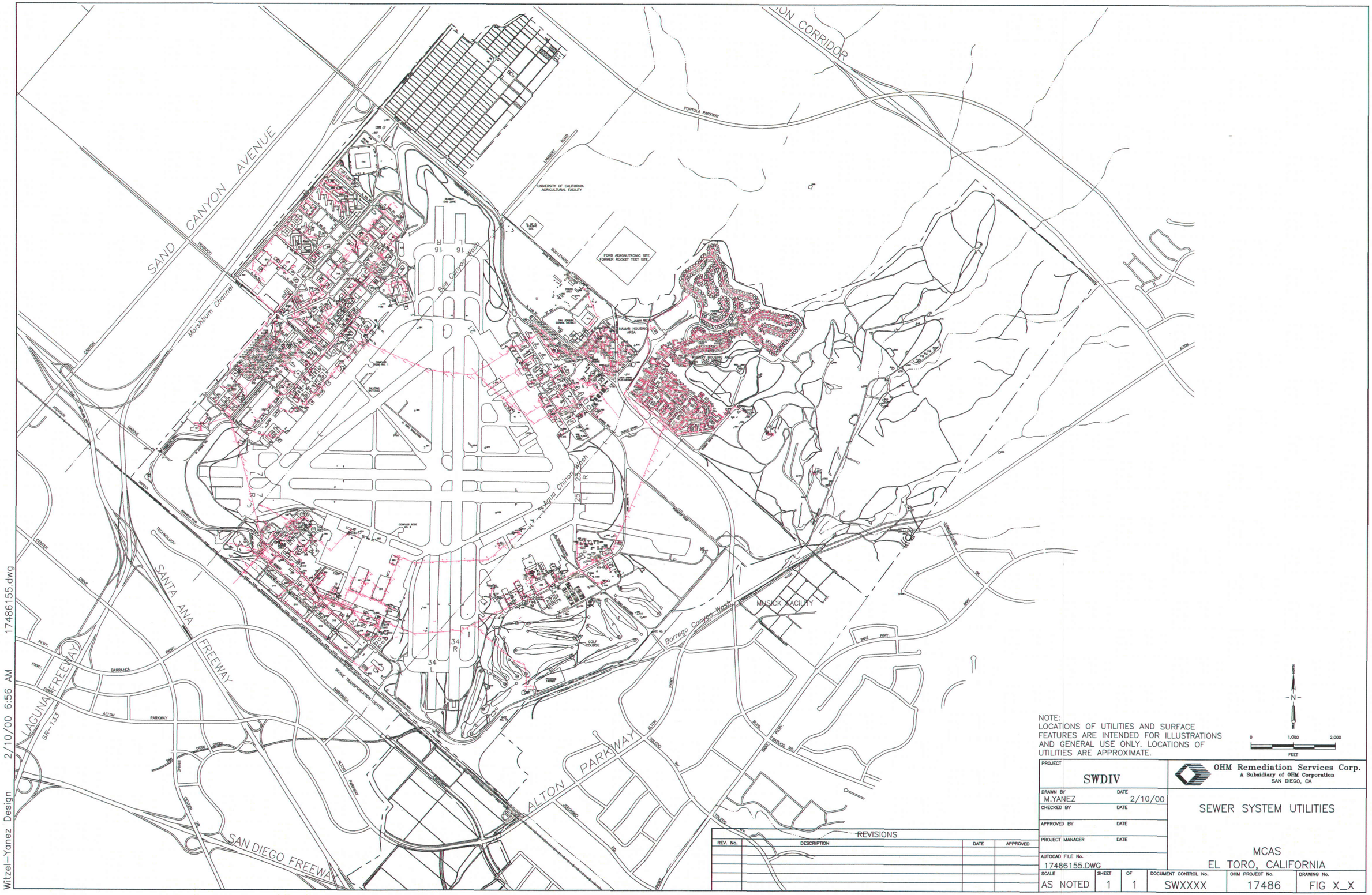
1261-3-35

NO.	LOC.	USE
A	A-5	OFFICERS' QUARTERS
B	A-5	DO
1	A-4	GROUP ADMINISTRATION BLDG.
2	C-3	NOSE HANGAR
3	C-4	FIREHOUSE & ARMORY BLDG.
4	C-4	DO
5	C-4	NOSE HANGAR
6	C-4&5	OPERATIONS BLDG.
7	C-5	NOSE HANGAR
8	C-5	FIREHOUSE & ARMORY BLDG.
9	C-5	DO
10	C-6	NOSE HANGAR
11	B-6	SQDN HDQTRS
12	B-5	DO
13	B-4	DO
14	B-3	DO
15	B-3	STOREHOUSE
16	B-3	DO
17	B-4	DO
18	B-4	DESTROYED BY FIRE
19	B-5	STOREHOUSE
20	B-5	DO
21	B-5	PAINT & OIL STORAGE BLDG
22	B-6	STOREHOUSE
23	B-6	DO
24	B-6	COLD STORAGE BLDG
25	B-6	STOREHOUSE
26	B-6	DO
27	B-6	DO
28	B-7	DO
29	B-7	DO
30	B-7	COMMISSARY
31	B-7	STOREHOUSE
32	A-7	BACHELOR OFFICERS' QUARTERS
33	A-7	DO
34	A-7	DO
35	A-7	DO
36	A-7	DO
37	A-7	DO
38	A-7	OFFICERS' CLUB
39	A-7	OFFICERS' MESS & CLUB
40	A-6	BACHELOR OFFICERS' QUARTERS
41	A-6	DO
42	A-6	DO
43	A-6	DO
44	A-6	DO
45	A-6	DO
46	B-6	PHOTO LAB. BLDG.
47	B-6	DOPE & SPRAY BLDG.
48	B-6	AIRCRAFT ACCESS. & MAINT. BLDG.
49	B-5	GROUP MAINT. HANGAR
50	B-5	STOREHOUSE
51	B-5	DO
52	B-5	PROPELLER SHOP
53	B-5	PARACHUTE BLDG
54	B-4	GUARD HOUSE
55	B-4	GASOLINE STATION
56	B-4	MAINT & GARAGE BLDG
57	B-4	SWIMMING POOL
58	A-4	**ADMINISTRATION BLDG.**
59	A-4	ADMINISTRATION BLDG.
60	A-4	WOMEN OFFICERS' QUARTERS
61	A-4	GATE HOUSE
62	A-4	SUPPLY OFFICE
63	A-4	OUT PATIENTS CLINIC
64	A-4	DISPENSARY
64-A	A-4	BOILER HOUSE
65	A-4	ADMINISTRATION BLDG
66	A-3	MESSHALL (ENLISTED MEN)
67	A-3	ENLISTED CLUB
68	A-3	BARRACKS (ENLISTED MEN)
69	A-3	DO
70	A-3	DO
71	A-3	DO
72	A-3	DO
73	A-3	DO
74	A-2&3	AUDITORIUM
75	A-2&3	RECREATION BLDG (P.X.)
76	[illegible]	POST EXCHANGE
77	A-2	BARRACKS (ENLISTED MEN)
78	A-2	DO
79	A-2	DO
80	A-2	DO
81	A-2	DO
82	A-2	DO
83	A-2	MESSHALL (ENLISTED MEN)
84	A-2	STAFF N.C.O. CLUB
85	A-2	BARRACKS (ENLISTED MEN)
86	A-2	DO
87	K-8	GOLF COURSE CLUB HOUSE
88	D-8	BUILDINGS AND GROUNDS
89	E-9	TRANSPORTATION STORAGE
90	E-9	TRANSPORTATION STORAGE
91	D-8	BUILDINGS AND GROUNDS
92	A-1	DO
93	GH-2	REMOVED
94	A-1	TOILET & SHOWER BLDG
95	E-9	TRANSPORTATION STORAGE
96	E-9	TRANSPORTATION STORAGE
97	E-8	LUMBER STORAGE
98	B-3	FIREHOUSE
99	C-3	PAINT & OIL STORAGE BLDG
100	C-4	DO
101	C-5	STANDBY POWER BLDG
102	C-5	PAINT & OIL STORAGE BLDG.
102-A	C-5	SWITCH BLDG.

NO.	LOC.	USE
141	G-2	PAINT & OIL STORAGE BLDG.
142	G-2	DO
143	G-1	OXYGEN STORAGE BLDG.
144	E-2	PAINT & OIL STORAGE BLDG.
145		NOT CONSTR.
146	A-4	STORAGE
147	B-2	BOOSTER PUMPHOUSE NO.2
148	B-2	10,000 GAL. PRESSURE TANK
149	A-A-5	WELL
150	A-A-5	STANDBY PUMPHOUSE
151	A-A-5	BOOSTER PUMPHOUSE NO 4
152	A-5	DO NO.3
153	C-7	WELL
153-A	F-7	DO
154	E-8	DO
155	D-8	STANDBY PUMPHOUSE
156	D-8	10,000 GAL. PRESSURE TANK
157	D-8	BOOSTER PUMPHOUSE NO.1
158		NOT CONSTR.
159	D-9	SEWAGE TREATMENT PLANT
159-A	D-9	CHLORINE BLDG.
159-B	D-9	PUMPHOUSE (SEE END OF BLDG. LIST)
160	J-3	INERT STORAGE MAGAZINE (R)
161	J-4	DO (R)
162	J-4	SMOKE DRUM STORAGE
163	J-5	HIGH EXPLOSIVE MAGAZINE
164	J-5	DO
165	J-5	DO
166	I-6	DO
167	I-7	DO
168	I-7	DO
169	J-6	FUSE & DETONATOR MAGAZINE
170	J-5	SMALL ARMS & PYROTECHNIC
171	K-5	FUSE & DETONATOR MAGAZINE
172	K-4	SMALL ARMS & PYROTECHNIC
173	K-4	SMOKE DRUM STORAGE (R)
174	E-8	1,000,000 GAL. RESERVOIR (WATER)
175	D-5	DO
176	B-6	GASOLINE STORAGE TANK 25,000 GAL.
177	B-6	DO 50,000 GAL.
178	B-6	DO 50,000 GAL.
179	B-6	DO 25,000 GAL.
180	B-6	DO 25,000 GAL.
181	B-6	DO 50,000 GAL.
182	B-6	DO 50,000 GAL.
183	B-6	DO 25,000 GAL.
184	B-7	DO 25,000 GAL.
185	B-7	DO 50,000 GAL.
186	B-7	DO 50,000 GAL.
187	[illegible]	DO 50,000 GAL.
188	B-3	DO 25,000 GAL.
189	B-3	DO 50,000 GAL.
190	B-3	DO 50,000 GAL.
191	B-3	DO 25,000 GAL.
192	B-3	DO 25,000 GAL.
193	B-3	DO 50,000 GAL.
[illegible]	[illegible]	50,000 GAL.
[illegible]	[illegible]	25,000 GAL.
[illegible]	[illegible]	25,000 GAL.
[illegible]	F-2	50,000 GAL.
[illegible]	[illegible]	50,000 GAL.
[illegible]	F-2	25,000 GAL.
[illegible]	F-[illegible]	25,000 GAL.
[illegible]	F-[illegible]	50,000 GAL.
202	E-1	DO 50,000 GAL.
203	E-1	DO 25,000 GAL.
[illegible]	H-2	DO 50,000 GAL.
[illegible]	H-2	DO 25,000 GAL.
[illegible]	H-2	DO 50,000 GAL.
207	H-2	DO 50,000 GAL.
208	H-2	DO 50,000 GAL.
209	H-2	DO 25,000 GAL.
[illegible]	H-2	DO 25,000 GAL.
[illegible]	H-2	DO 50,000 GAL.
212	H-2	DO 50,000 GAL.
213	H-2	DO 25,000 GAL.
214	H-2	DO 25,000 GAL.
215	H-2	DO 50,000 GAL.
216	F-1	FUEL OIL TANK 50,000 GAL.
217	F-1	DO 25,000 GAL.
218	F-[illegible]	DO 25,000 GAL.
219	B-3	DO 50,000 GAL.
220	B-3	DO 25,000 GAL.
221	B-3	DO 25,000 GAL.
222	A-2	ELEVATED WATER TANK 200,000 GAL.
223	A-5	SENTRY HOUSE
224	B-7	PUBLIC WORKS OFFICE
225	B-7	P.W. STOCK & CARPENTER SHOP
226	B-7	P.W. HEATING SHOP
227	B-7	P.W. PAINT SHOP
228	A-4	RECREATION GEAR ROOM
229	F-2	STORAGE
230	F-2	DO
231	F-2	DO
232	F-2	SQUADRON OFFICE
233	F-2	STORAGE
234	F-1	(R)
235	H-2	BORE SIGHTING RANGE
236	J-7	SKEET RANGE (R)
237	B-6	PAINT & OIL STORAGE BLDG. (R)
238	B-5	OXYGEN STORAGE BLDG.
239	A-6	HOMOJA HUTS ([illegible] QUARTERS)
240	B-[illegible]	LUMBER STOREHOUSE
241	B-6	GENERAL STOREHOUSE
242	B-7	SQUADRON STOREHOUSE
243	B-7	SQUADRON HEADQUARTERS

NO.	LOC.	USE
282	A-2	BARRACKS (ENLISTED MEN)
283	A-1	DO
284	A-1	**MARRIED ENLISTED MENS QTRS.**
285	B-2	BAKERY
286	B-2	SQUADRON STOREHOUSE
287	B-2	DO
288	C-2	SQUADRON HEADQUARTERS
289	C-2	SQUADRON HANGAR
290	E-1	PAINT & OIL STOREHOUSE
291	F-1	STOREHOUSE
292	F-2	GROUND TRAINING BLDG.
293	G-1	WATER RESERVOIR 1,000,000 GAL.
294	H-5	CONTROL TOWER & OPERATIONS BLDG.
294-A	H-5	STANDBY POWER BLDG.
295	G&F-7	FLIGHT TEST & CHECK HANGAR
296	G-8	A&R HANGAR NO.2
297	F-8	A&R HANGAR NO.3
298	E-9	GARAGE
299	E-9	PAINT & SPRAY SHOP
300	D-8	MILL BLDG.
301	D-8	CARPENTER & PAINT SHOP
302	D-9	UTILITIES BLDG.
303	D-8	BLACKSMITH, WELD., & EQUIP. REPAIR
304	C-8	PUBLIC WORKS OFFICE
305	D-8	BUILDING & GROUNDS SHOP
306	D-9	WATER TREATMENT PLANT
307	D-8&9	LAUNDRY BLDG.
307-A	D-9	LAUNDRY BOILER HOUSE
308	G-1	PUMPHOUSE NO.5 (BOOSTER)
309	F-9	ADMINISTRATION BLDG
310	G-8	PAINT & OIL STORAGE
311	F-9	FIRE HOUSE
312	F-9	PHOTO LABORATORY
313	F-9	GENERAL STOREHOUSE
314	G-9	HEATING PLANT
315	G-8	DROP FORGE BLDG
316	G-8	COMPRESSOR BLDG
317	E-9&10	STRUCTURAL SPARES STOREHOUSE
318	E&F-8&9	ENGINE SPARE PARTS & ACC STOREHSE
319	F-9&10	GEN. AERONAUTICAL MAT. STOREHOUSE
320	E-9	PAINT & CHEMICALS STOREHOUSE
321	E&F-9	RECEIVING, SHIPPING & SUPPLY OFFICE
322	E-9	CIVILIAN CAFETERIA
323	D&E-9	UNLOADING PLATFORM
324	G-9	ENGINE OVERHALL & TEST CELLS
325	G-9	HAZARDOUS MATERIALS BLDG.
326	G-8	TEST CELLS
327	B-4	BARRACKS (ENLISTED MEN)
328	B-4	OFFICERS QUARTERS
329	A-4	DO
330	D-8	PUMPHOUSE WELL NO.4
331	D-8	PUMP PIT WELL NO.5
332	E-8	PUMPHOUSE WELL NO.6
333	F-9	FIRST AID DISPENSARY
334	F-2	SQUADRON HDQTRS.
335	D-8	PUMPHOUSE
336	A-2	GATE HOUSE
337	A-2	CHAPEL
338A	G-9	ENGINE TEST STAND
338B	G-9	DO
338C	G-9	DO
339	G-1	GATE HOUSE
340	D-9	INDUSTRIAL WASTE SEW PLANT
340A	D-9	SLUDGE SUMP IND. WASTE PLANT
340B	D-9	SETTLING BASIN DO.
340C	D-9	DO
341	G-1	[illegible] BOOSTER PUMPHOUSE
342	G-1	10,000 GAL PRESSURE TANK
343	H-4	SWITCH BLDG
344	A-1	**MARRIED ENL. MENS QRTS.**
345	E F&G	**MARRIED ENLISTED MENS QTRS.**
346	A-2&6	**MARRIED OFFICERS QRTS.**
347	A-3	**OIL STATION**
348	D-[illegible]	**GREENHOUSE**
349	[illegible]	**P.W. STORES BLDG.**
350A	I-6	**WATER TANK ([illegible],000 GALLON)**
350B	I-6	DO
350C	I-7	**PUMP HOUSE**
351	B-1	ORDNANCE SCHOOL BLDG
352	G-2	OFFICE BLDG
353	H-2	TIP TANK BLDG
354	E-8	PAINT STORAGE


EDISON SUB STATION NO.1
N 20,000.00
E 20,000.00
N20,000
GATE NO.1
TRABUCO ROAD
FLAGPOLE
"E" ST
"G" ST
GROUP
239 GROUP
GAS TANK
N19,000
NIGHT VIS. BLDGS
MAINT. TR BLDGS
"H" STREET
N18,000
ROBERTS AVE. EXTENSION
CONSTRUCTION BLDGS.
N17,000
"J" STREET
MEADOWL
N16,000
FLIGHT CONE
TO CENTRAL AVE & HWY. 101
INSPECTROSCOPE BLDG.
"J" STREET
GATE NO.9
FLIGHT CONE
N15,000
N 14,769.02
E 20,000.25
R.N. GATE NO.5
LEGEND
ASPHALT CONCRETE
CEMENT CONCRETE
GRASS
SHRUBS
IMPROVED
FUTURE
UNDER CONSTRUCTION OR COMPLETED
CONTACT LIGHT - WHITE
CONTACT LIGHT - IRO WHITE
RANGE LIGHT - GREEN
TAXIWAY LIGHT - BLUE
TETRAHEDRON
CULVERT OR BRIDGE
MANPROOF WIRE FENCE
GOVERNMENT PROPERTY LIN
RAILROAD



NOTE:
LOCATIONS OF UTILITIES AND SURFACE FEATURES ARE INTENDED FOR ILLUSTRATIONS AND GENERAL USE ONLY. LOCATIONS OF UTILITIES ARE APPROXIMATE.

N

0 1,000 2,000
FEET

REVISIONS			
REV. No.	DESCRIPTION	DATE	APPROVED

PROJECT	SWDIV
DRAWN BY	M.YANEZ
DATE	2/10/00
CHECKED BY	
DATE	
APPROVED BY	
DATE	
PROJECT MANAGER	
DATE	
AUTOCAD FILE No.	17486155.DWG

OHM Remediation Services Corp.
A Subsidiary of OHM Corporation
SAN DIEGO, CA

SEWER SYSTEM UTILITIES

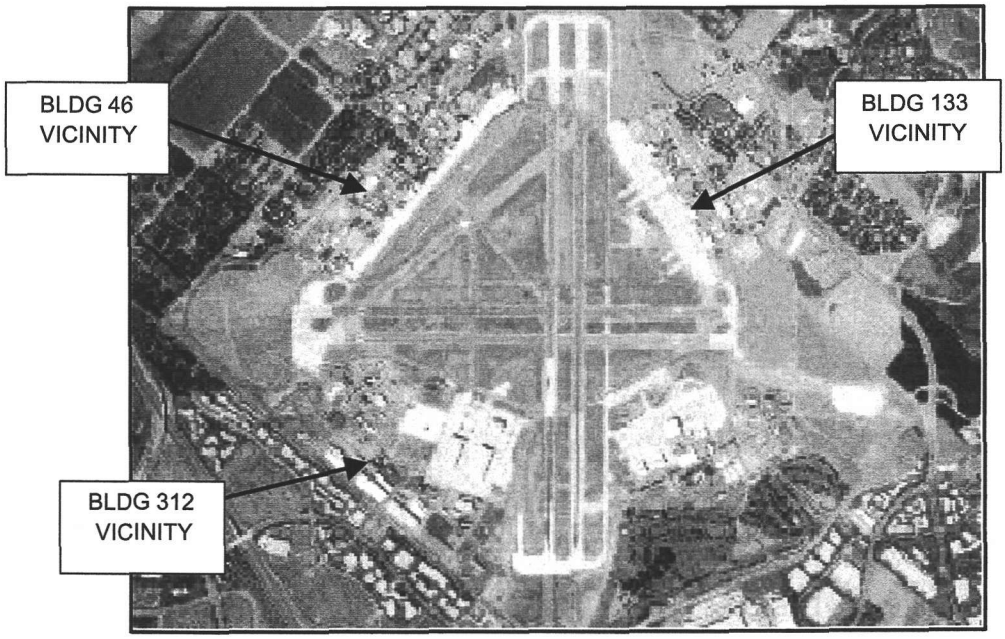
MCAS
EL TORO, CALIFORNIA

SCALE	SHEET	OF	DOCUMENT CONTROL No.	OHM PROJECT No.	DRAWING No.
AS NOTED	1	1	SWXXXX	17486	FIG X_X

Witzel–Yanez Design 2/10/00 6:56 AM 17486155.dwg

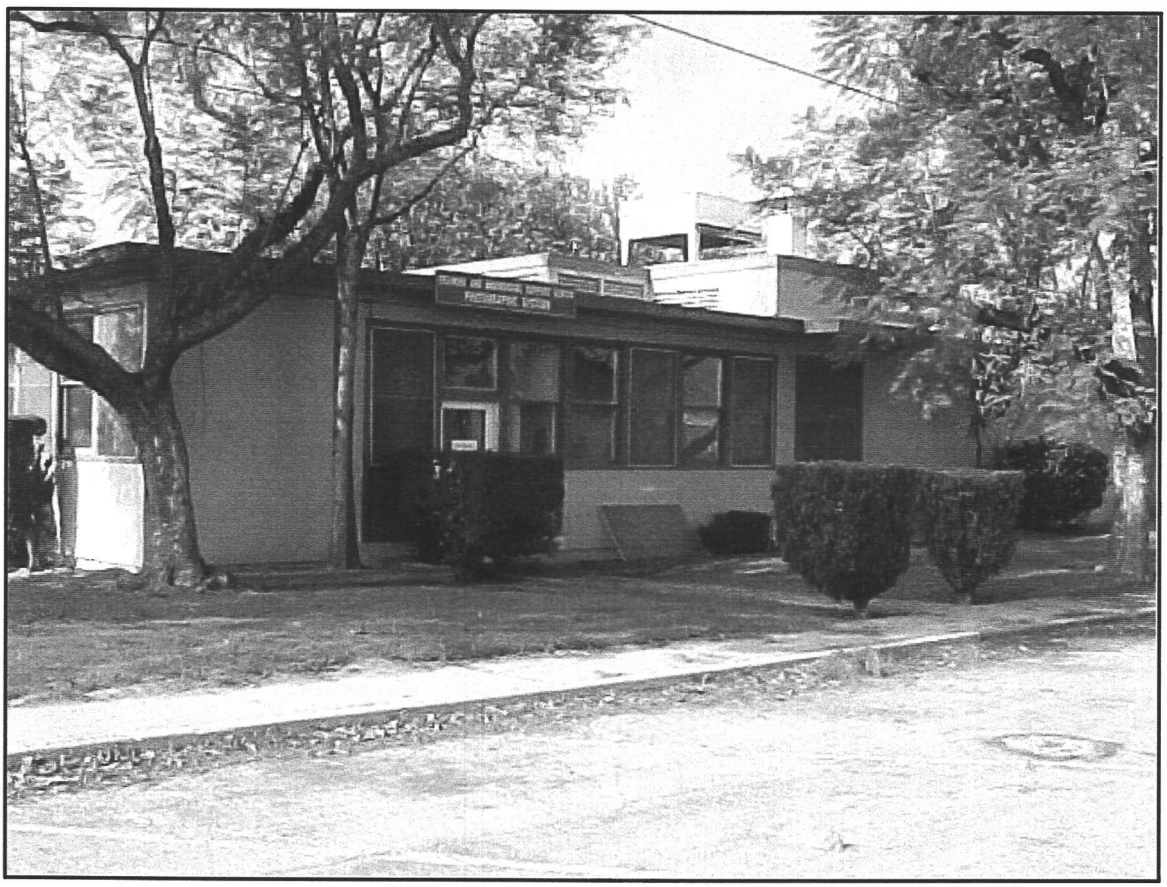
Silver Recovery Unit (SRU) Group 3 Locations
At Original (Historical) Photographic Laboratories
Marine Corps Air Station, El Toro

Photograph 1. Former Silver Recovery Unit (SRU) Group 3 Locations
Date of Photograph: 1994



Silver Recovery Unit (SRU) Group 3 Locations
At Original (Historical) Photographic Laboratories
Marine Corps Air Station, El Toro

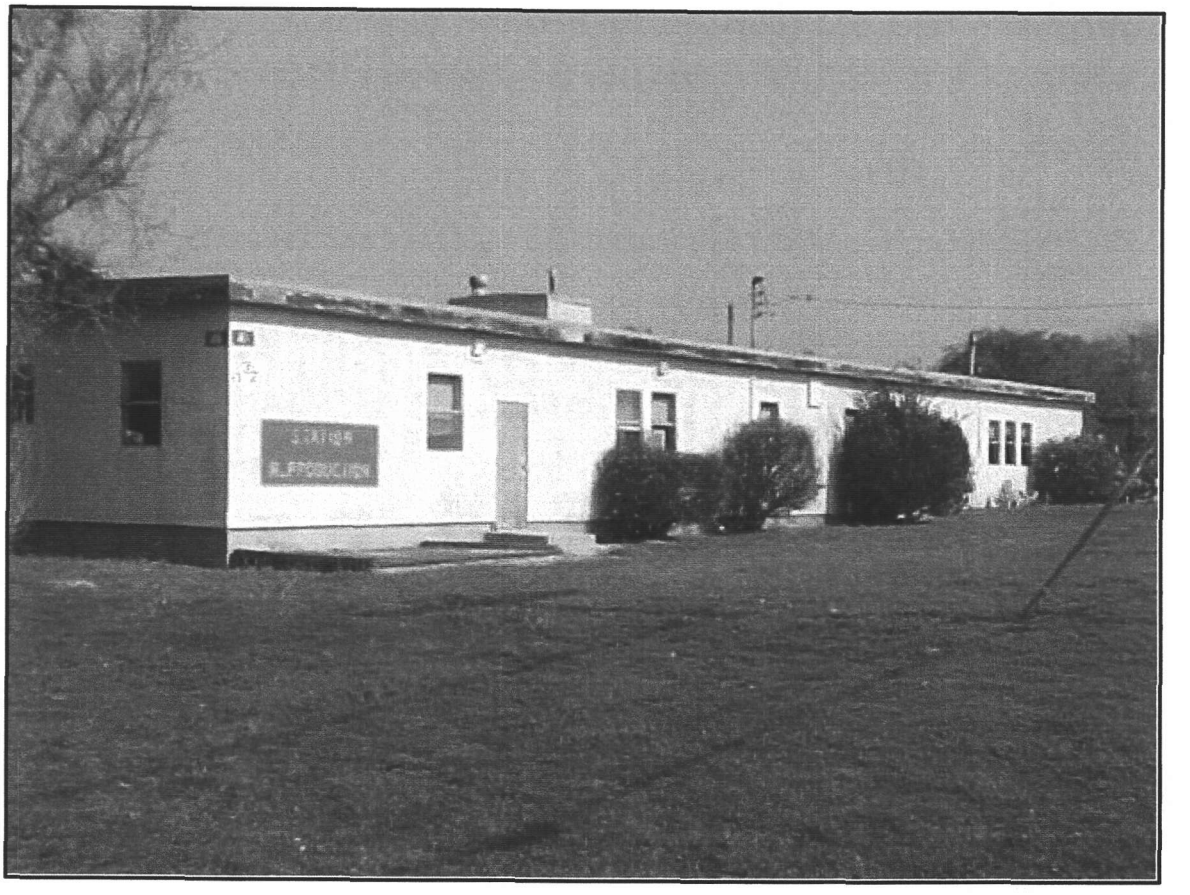
Photograph 2. Former Silver Recovery Unit (SRU) 3 at Building 312
Located near South Marine Way within the investigation boundary of IRP Site 24
Approximate Date of Building Construction: 1944
Date of Photograph: March 2000



Silver Recovery Unit (SRU) Group 3 Locations
At Original (Historical) Photographic Laboratories
Marine Corps Air Station, El Toro

Photograph 3. Former Silver Recovery Unit (SRU) 3a at Building 46
Located near West Marine Way northeast of IRP Site 15
Approximate Date of Building Construction: 1943

Date of Photograph: March 2000

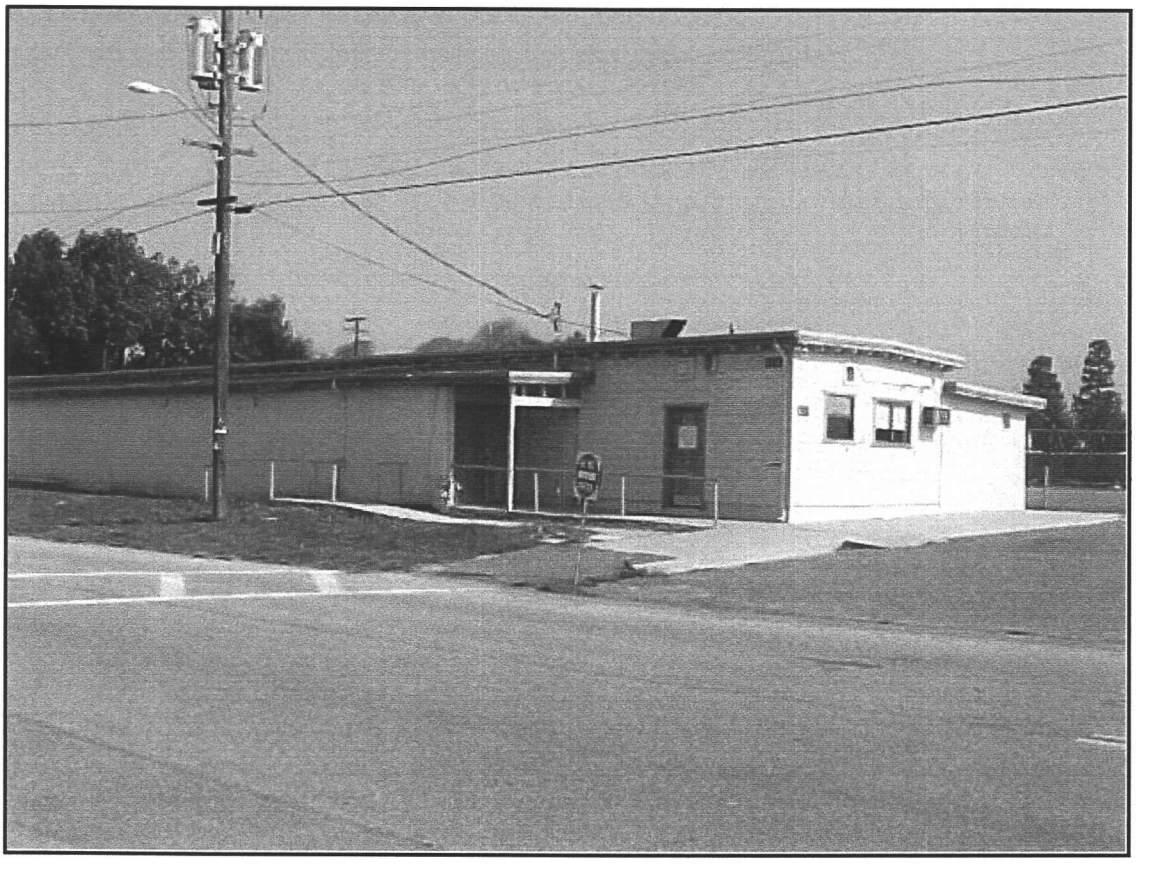


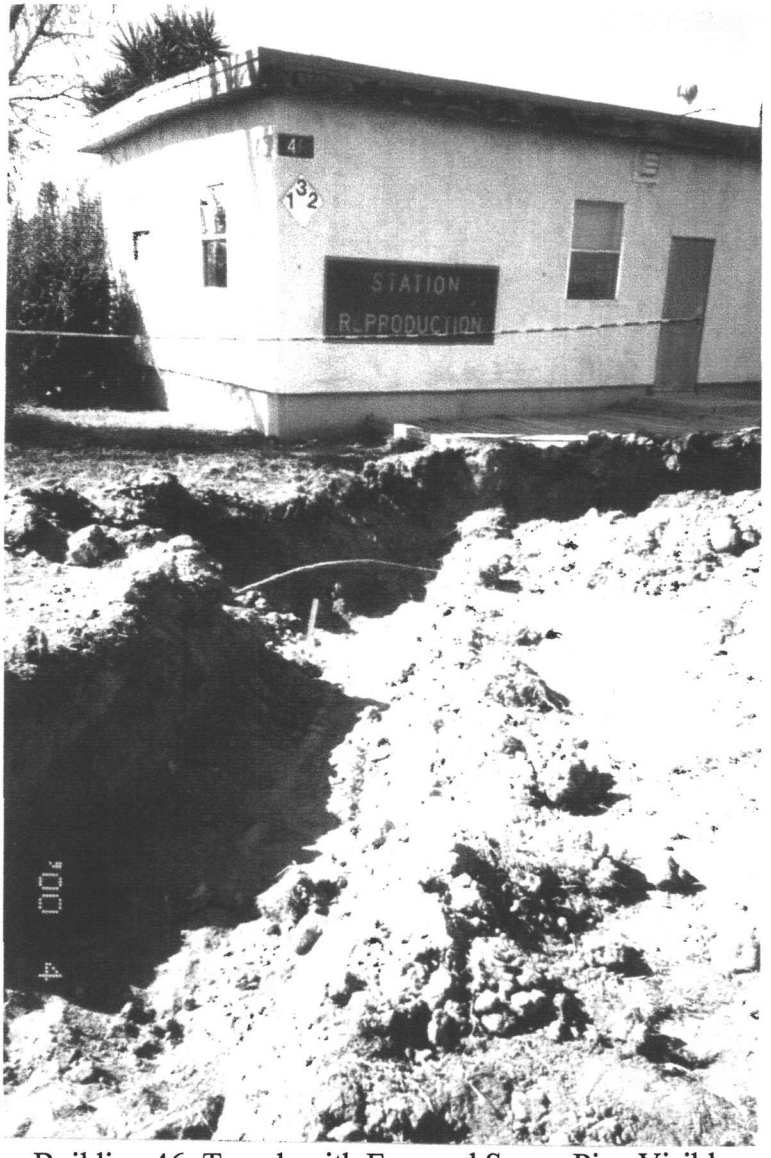
Silver Recovery Unit (SRU) Group 3 Locations
At Original (Historical) Photographic Laboratories
Marine Corps Air Station, El Toro

Photograph 4. Former Silver Recovery Unit (SRU) 3b at Building 133

Located near North Marine Way northwest of IRP Site 3
Approximate Date of Building Construction: 1943

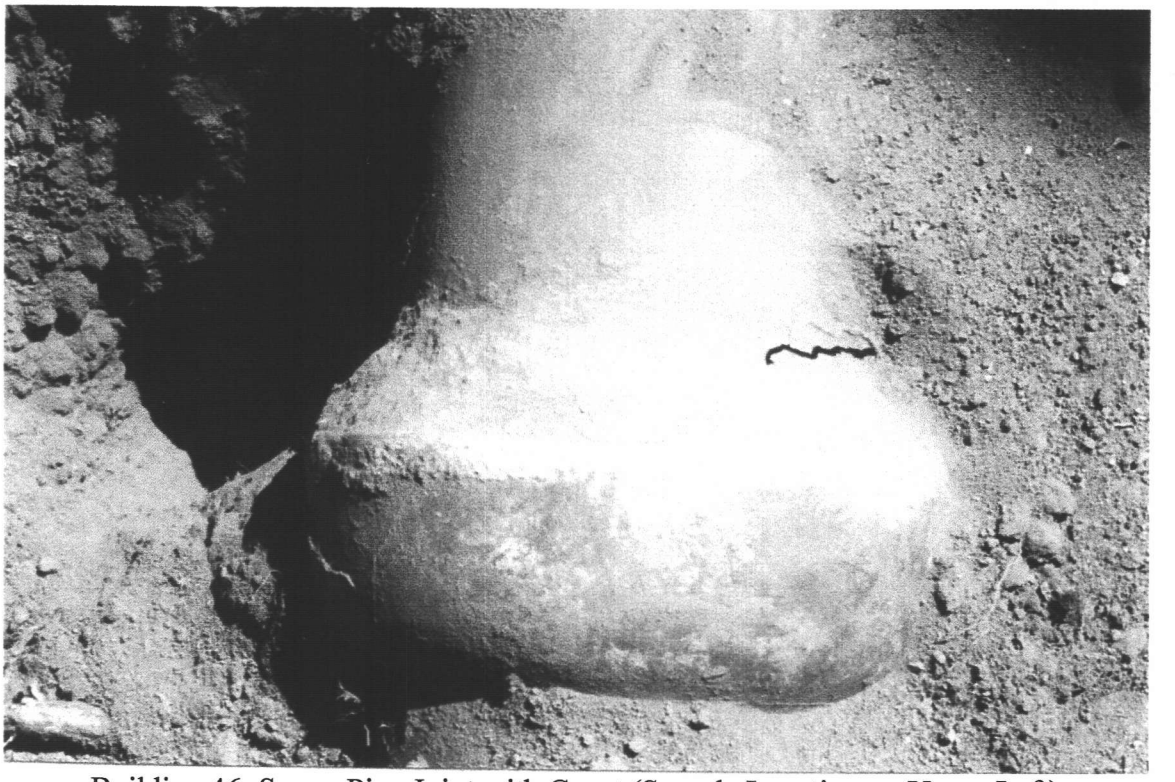
Date of Photograph: March 2000





Building 46: Trench with Exposed Sewer Pipe Visible

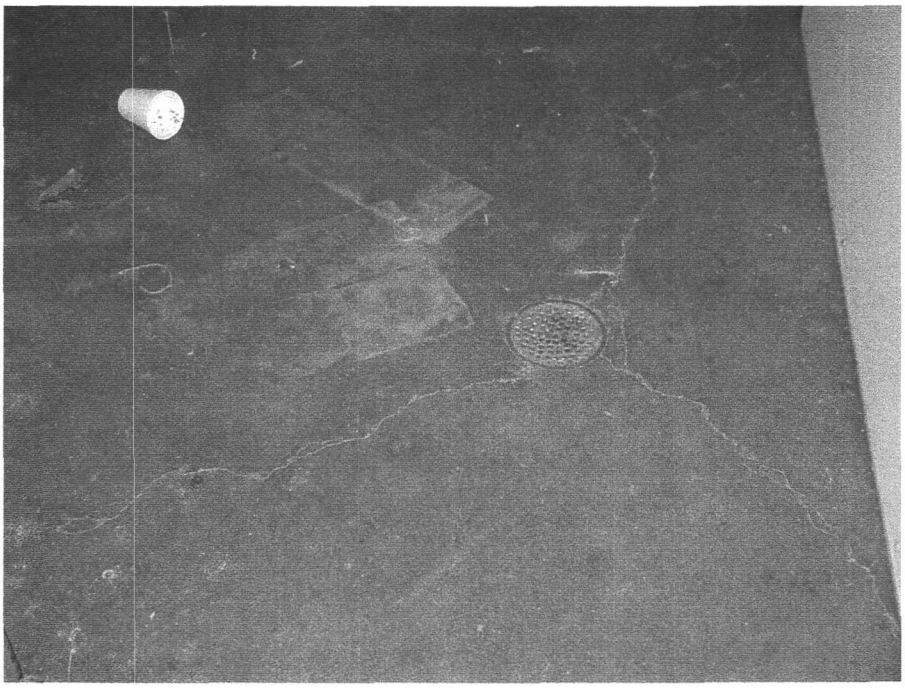
Building 46: Trench, Shows Sample Location in Foreground



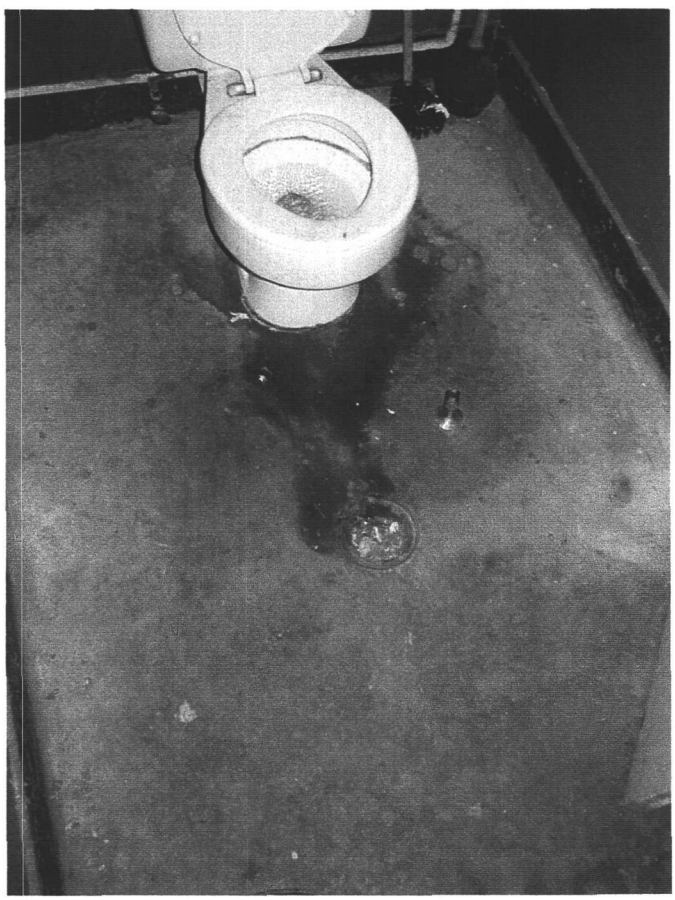
Building 46: Sewer Pipe Joint with Grout (Sample Location on Upper Left)

Building 46: Filled In Floor Cavity in Hallway

Building 46: Floor Drain in Common Area



Building 46: Floor Drain in Room



Building 46: Floor Drain in Bathroom

Building 46: Wash Basin with Adjacent Sewer Vent Pipe

GEOVision
geophysical services
a division of Blackhawk Geometrics

BLACKHAWK
GEOMETRICS

GEOPHYSICAL SURVEY RESULTS
BUILDING 46 – SEWER LATERAL SURVEY

MARINE CORPS AIR STATION, EL TORO
SANTA ANA, CALIFORNIA

Prepared for

IT/OHM Remediation Services Corporation
Irvine, California

Prepared by

GEOVISION GEOPHYSICAL SERVICES
1785 Pomona Road, Suite B
Corona, California, 91720

May 24, 2000

GEOVISION JOB NUMBER: 9254

1.0 Introduction

A geophysical investigation was carried out April 3, 2000 for IT/OHM Remediation Services Corporation at Building 46 at Marine Corps Air Station (MCAS) El Toro, Santa Ana, California under Delivery Order 070.

The investigation was conducted to locate a sewer lateral and to locate and mark utilities transecting the survey area.

2.0 Field Procedures

GeoVision's standard geophysical clearance procedures were used to locate the target line. The GEOVision field team used the attached GEOPHYSICAL CLEARANCE FORM CHECKLISTS to ensure that the following investigation methods were used:

- Base utility maps were reviewed in order to identify utilities in the site vicinity. Non metallic utilities from the maps were identified as such on the GEOPHYSICAL CLEARANCE FORMS

- Subsurface utilities apparent from surface features, (cracks in asphalt, manholes, valve boxes, pipe stickups, etc.) within the vicinity of the site were traced and marked.

- All nearby manholes, vaults and valve boxes were opened, if possible, to determine depth, type of pipe, and direction.

- The site was scanned with the EM utility locator in passive 50/60 Hz mode to locate any active electrical lines not already located by other means.

- The utility locator transmitter was held over the suspected lateral location and circled at about a 40-foot radius with the receiver, tracing and marking any utilities encountered.

- Multiple perpendicular GPR profiles were collected across the survey area using a GSSI SIR2 system with a 300MHz or 500 MHz antenna. A marker switch on the antenna handle was used to place 5' spaced distance marks on each profile as the antenna was pulled along the ground. Multiple discretionary GPR profiles were collected for interpretation purposes. All GPR records were stored on the system's hard drive and printed on site using a portable printer.

- An accurate, scaled geophysical survey map was then drawn on the back of the geophysical clearance form. All landmarks and buildings in the vicinity were drawn in and labeled. All utilities identified and marked on the ground were also accurately plotted on the survey map.

All GPR profiles collected are shown on the map along with their corresponding file numbers.

- All utilities located by the geophysical survey or inferred from base utility drawings or GPR were marked on the ground with surveyor's paint using APWA color codes. The locations of the pipes/utilities were also recorded on the GEOPHYSICAL CLEARANCE FORMS. Copies of the area utility maps were copied and attached to the geophysical clearance form.

3.0 Conclusions

- A sewer lateral was located solely from plans. The lateral was not detectable via standard methodologies.
- We do NOT recommend drilling within 3 feet of any marked utilities, fences or structures.
- It is our opinion that all detectable utilities have been marked which transect the survey area. Extreme caution should be used when drilling in the vicinity of utilities marked from base utility maps only. Extreme caution should be used when drilling in areas of disturbed soil as utilities may be present but, beyond the depth of penetration of the ground penetrating radar unit.
- All underground lines detectable using geophysical methods or inferred from base utility maps were marked on the ground and are accurately recorded on the back of the GEOPHYSICAL CLEARANCE FORMS. Use extreme caution when excavating within 3 feet of a marked utility line. Do not drill over cracks in the concrete.

This report was written by:

for Rod Merrill
Project Geophysicist
GeoVision Geophysical Services

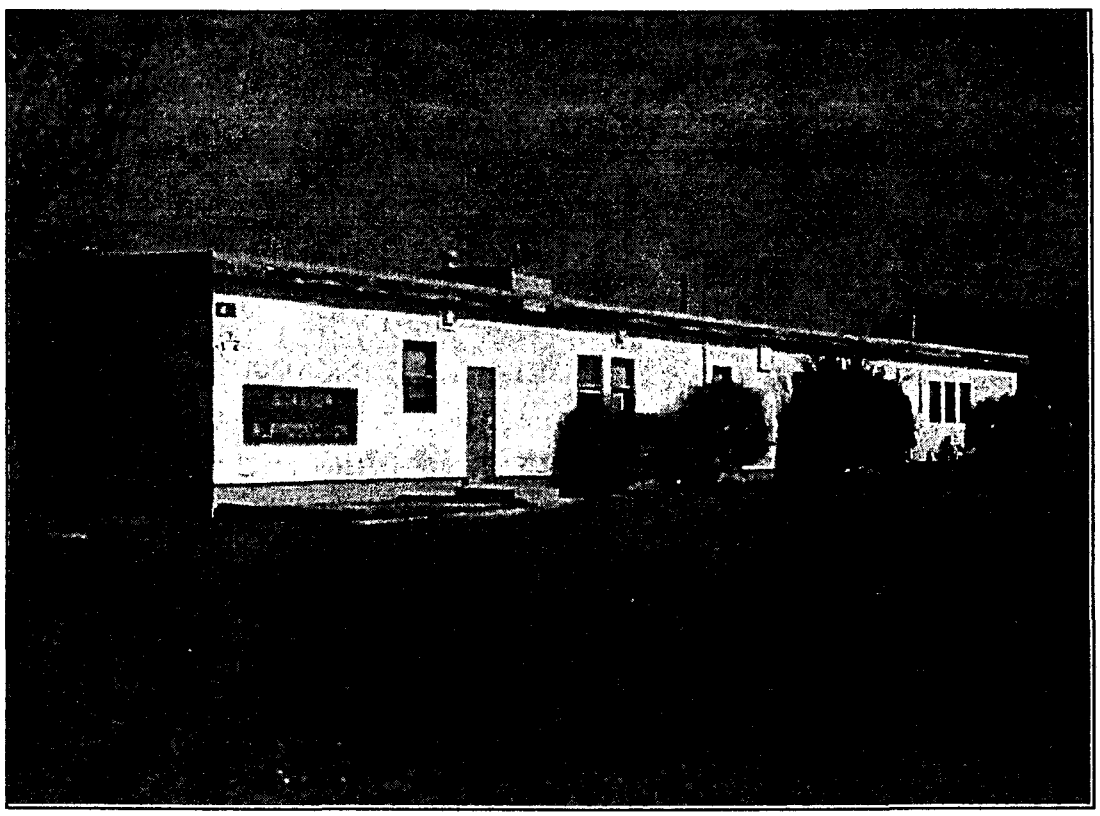
This report was reviewed and approved by:

Mark Riches, R.GP. 1025
Senior Geophysicist
GeoVision Geophysical Services

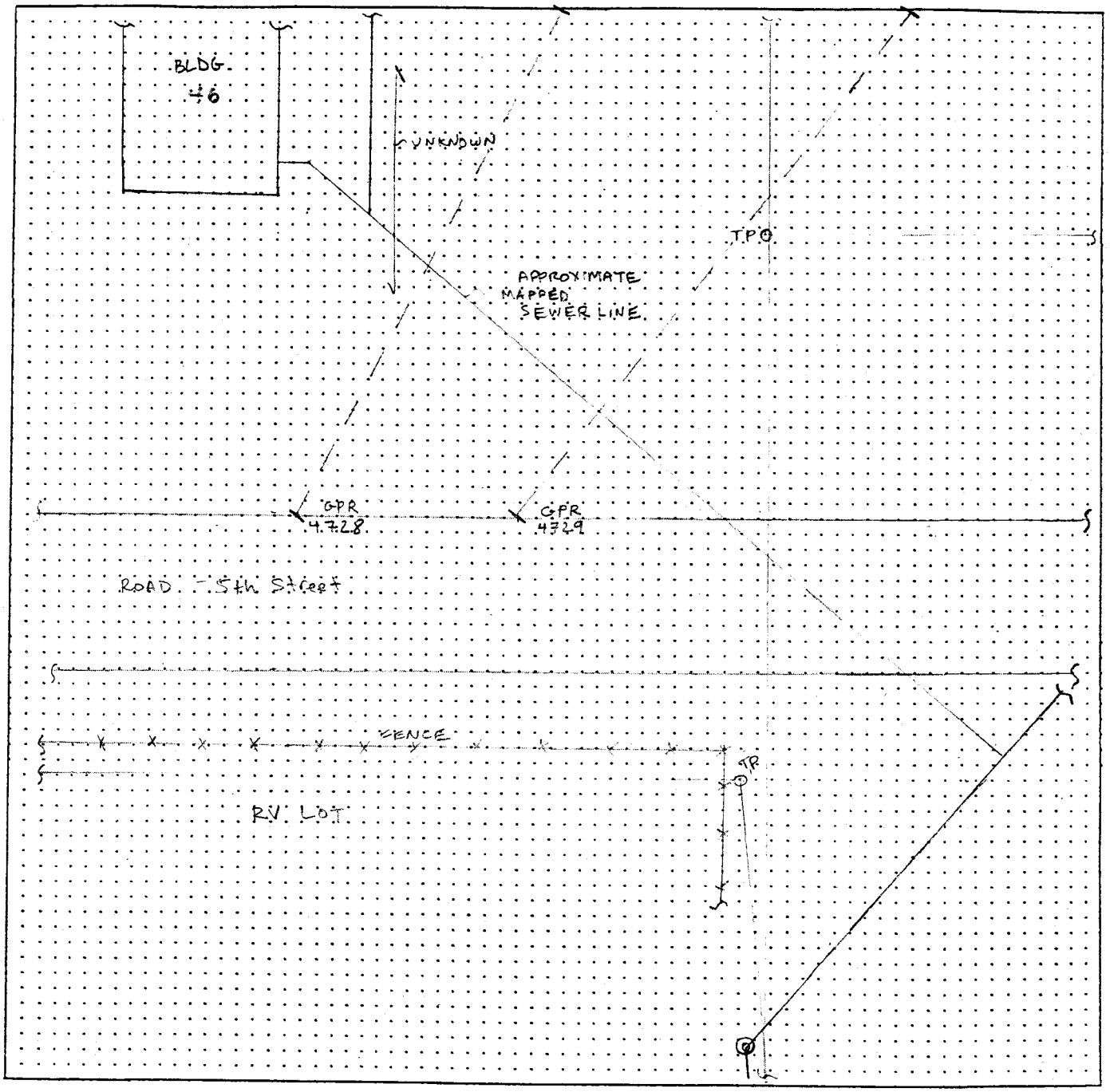
Silver Recovery Unit (SRU) Group 3 Locations
At Original (Historical) Photographic Laboratories
Marine Corps Air Station, El Toro

Photograph 3. Former Silver Recovery Unit (SRU) 3a at Building 46
Located near West Marine Way northeast of IRP Site 15
Approximate Date of Building Construction: 1943

Date of Photograph: March 2000



GEOPHYSICAL SURVEY MAP



LEGEND

GEOPHYSICAL TRAVERSE

UTILITY:
E=ELECTRICAL, T=TELEPHONE,
G=GAS, S=SEWER, SD=STORM DRAIN,
W=WATER, P=PRODUCT LINE,
V=VENT LINE, L=UNKNOWN LINE

SCALE:
0 10' 20'

NOTE: All geophysical methods have limitations dependent on instrumentation used, soil conditions, and local cultural noise and other interference. The geophysical conditions interpretation presented above comprises a declaration of the geophysicist's professional judgment using methods and a degree of care and skill ordinarily exercised, under similar circumstances, by reputable members of their profession practicing in the same or similar locality. It does not constitute a warranty or guarantee, expressed or implied, nor does it relieve any other party of its responsibility to abide by contract documents, applicable codes, standards, regulations or ordinances. If you require further information about the limitations of the instruments and/or methods used on this project please contact GEOVision Geophysical Services.

CLEARFRM.DOC 02/96

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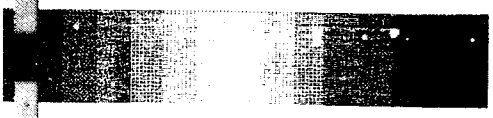

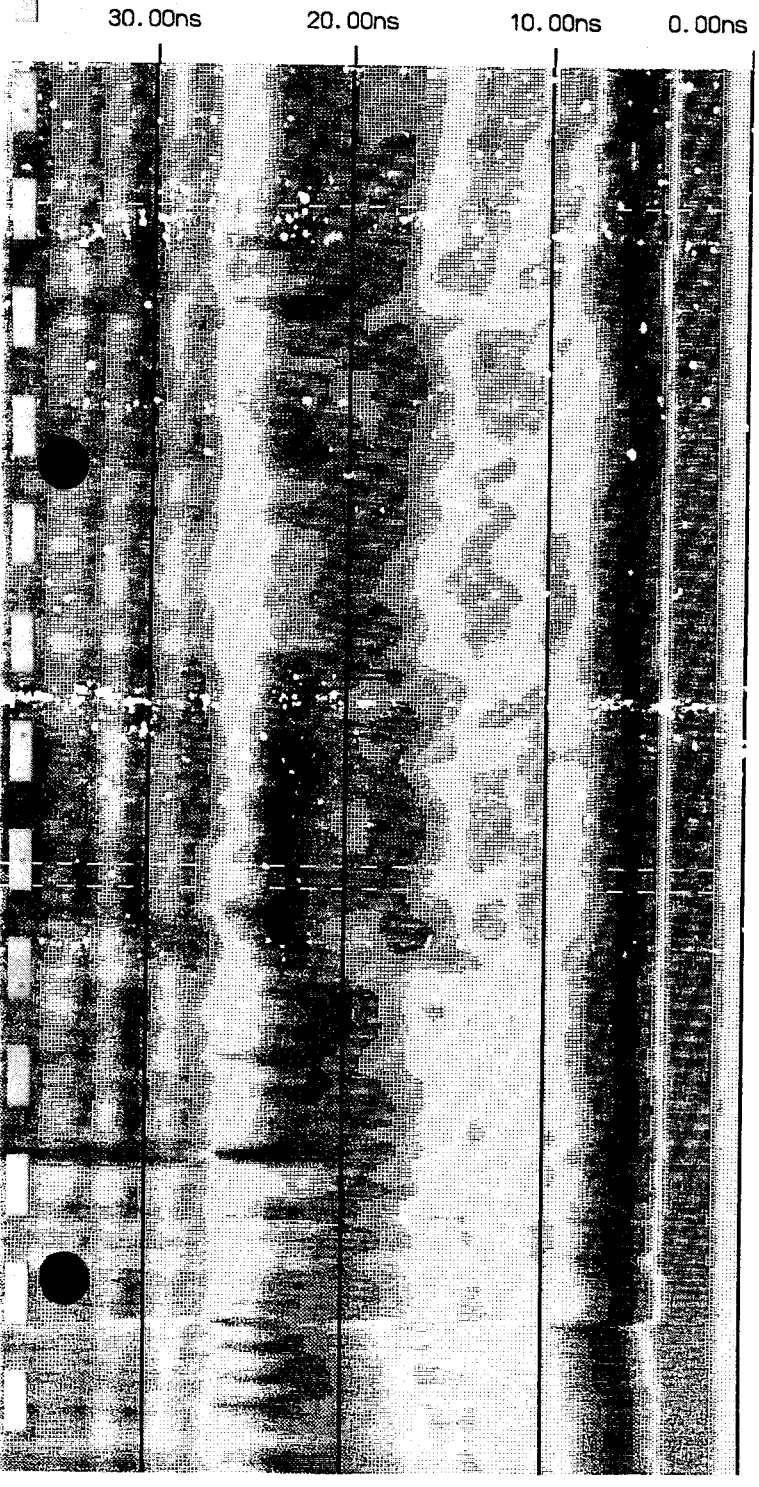

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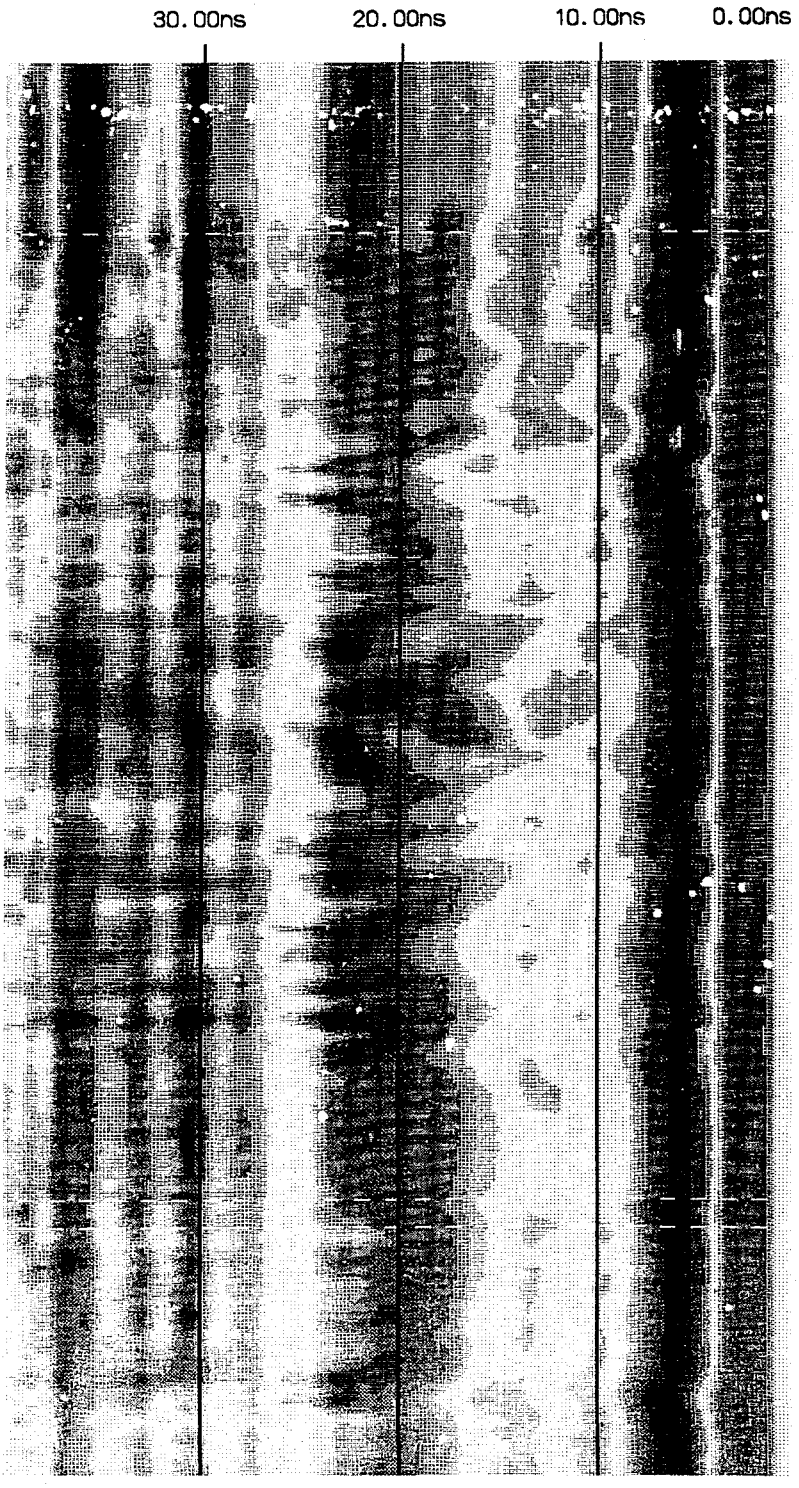

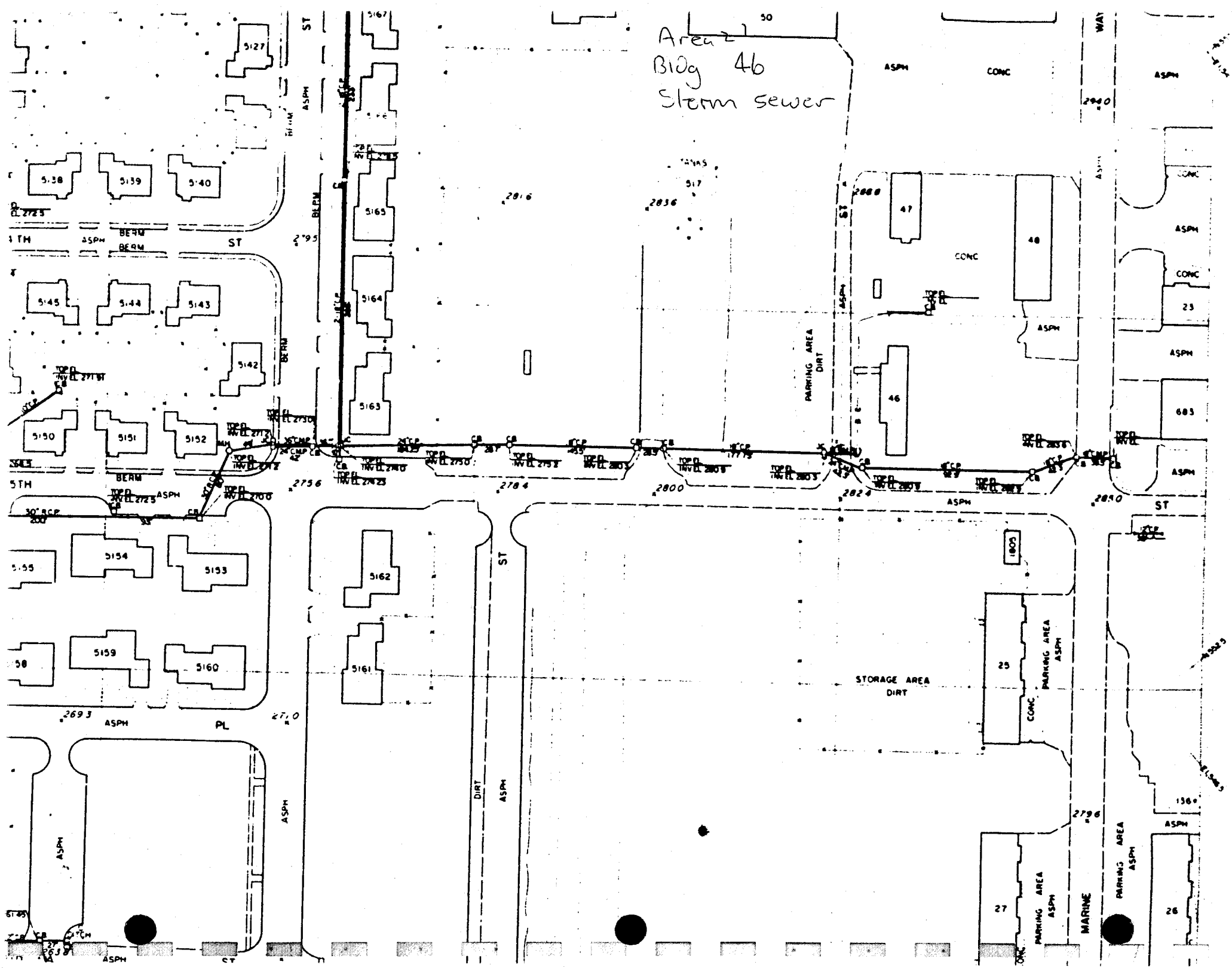
Area 2
Bldg 46
Storm sewer
STORAGE AREA
DIRT
PARKING AREA
DIRT
PARKING AREA
ASPH
CONC
ASPH
BERM
ST
PL
MARINE
WAY
5127
5138
5139
5140
5145
5144
5143
5142
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683
1806
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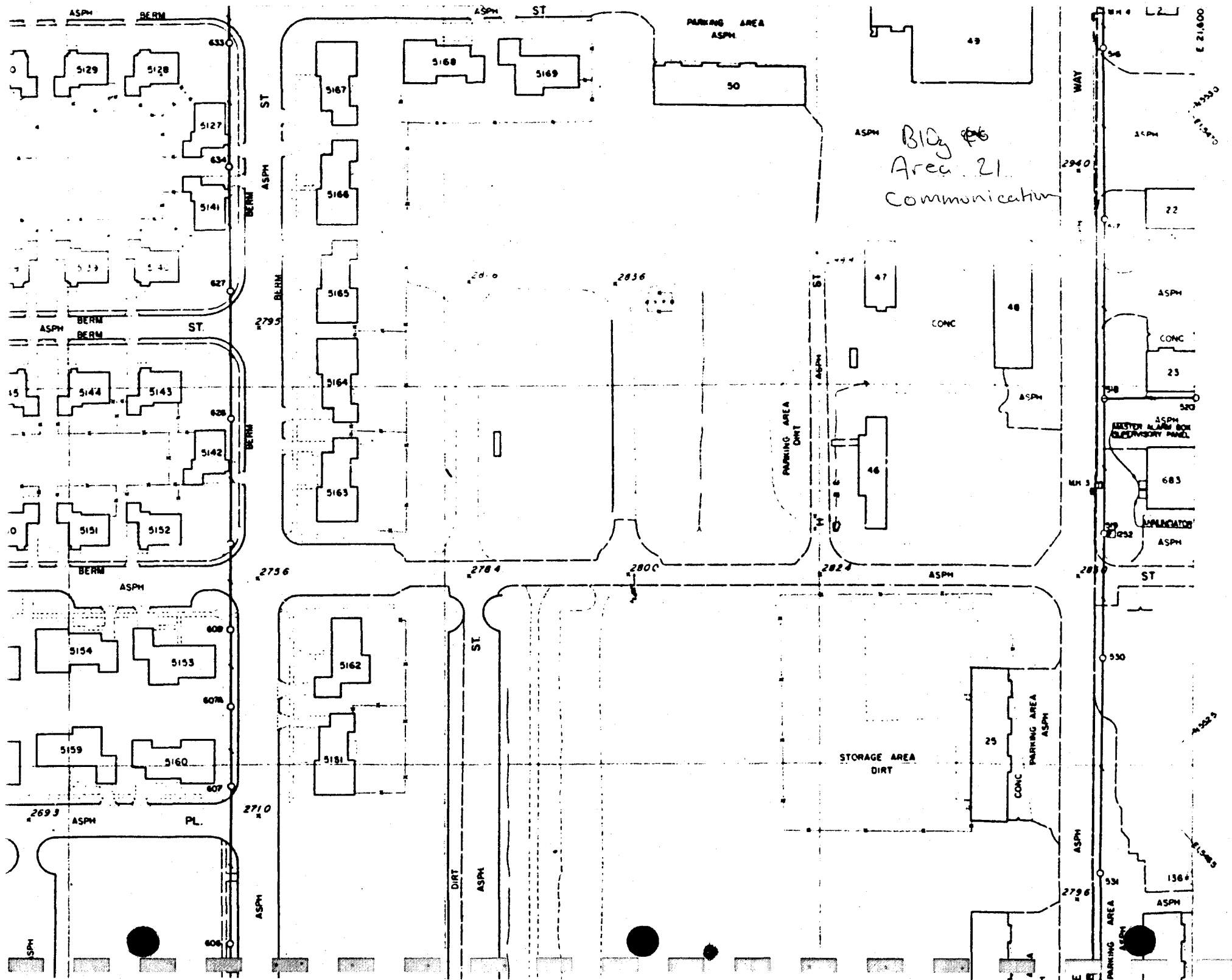
Bldg #6
Area 21
Communication
ASPH
BERM
ST
PARKING AREA
ASPH
5129
5128
5127
5141
5139
5140
5144
5143
5142
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5152
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5161
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47
48
46
CONC
PARKING AREA
DIRT
STORAGE AREA
DIRT
25
22
23
683
WAY
MASTER ALARM BOX
SUPERVISORY PANEL
ANNUNCIATOR
PL.
DIRT
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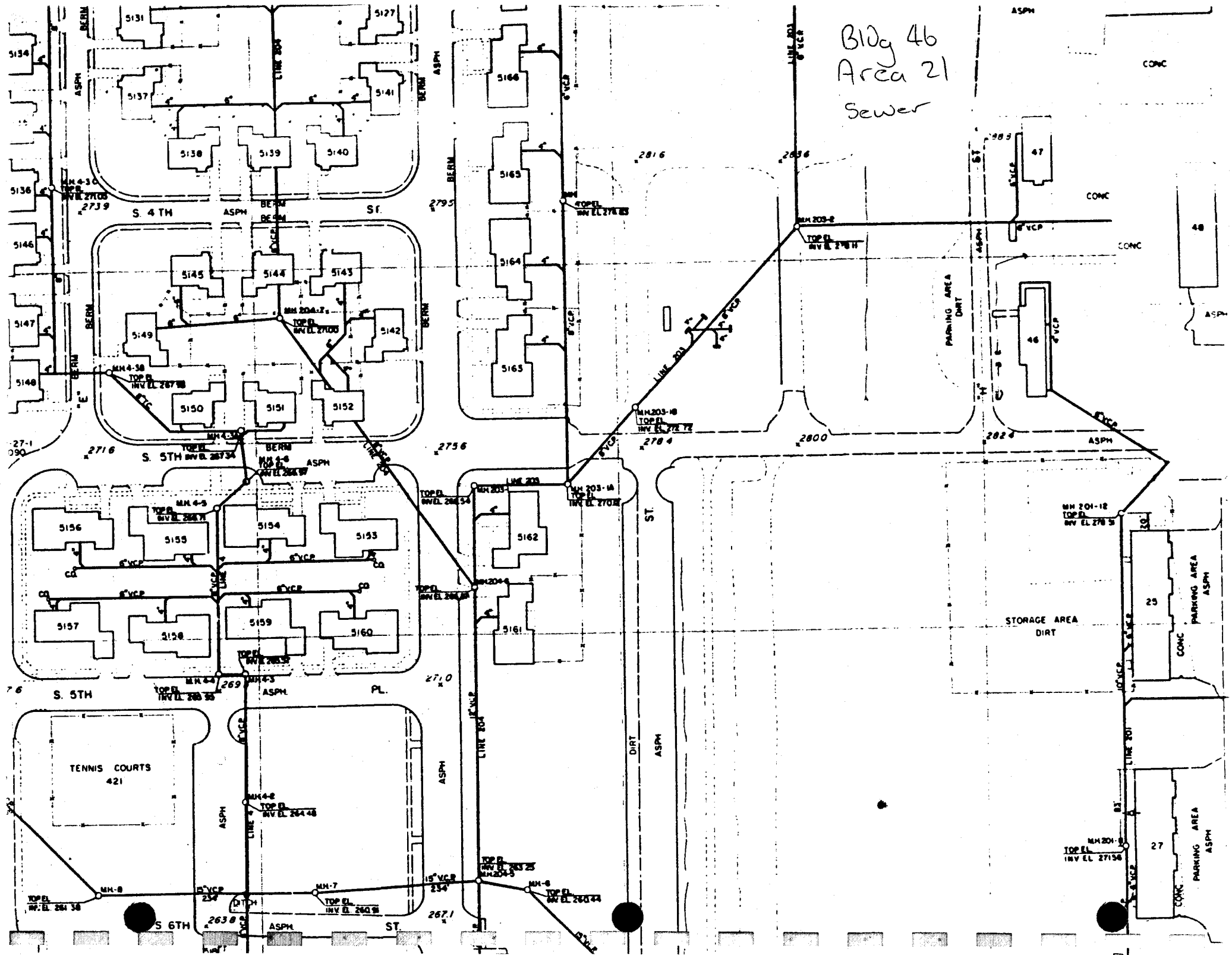
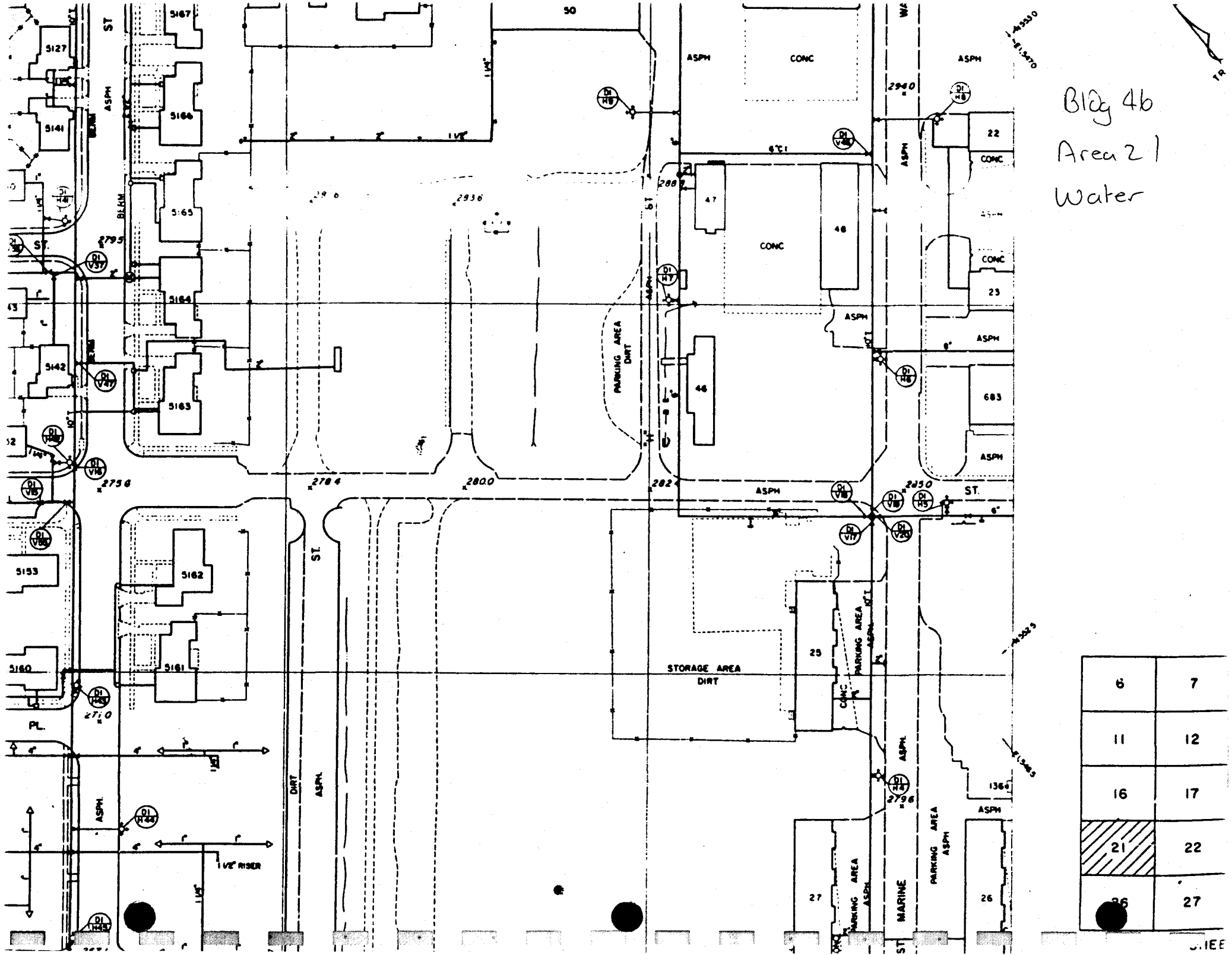
2784
2800
2824
2836
2795
2940
2796
E 21,600

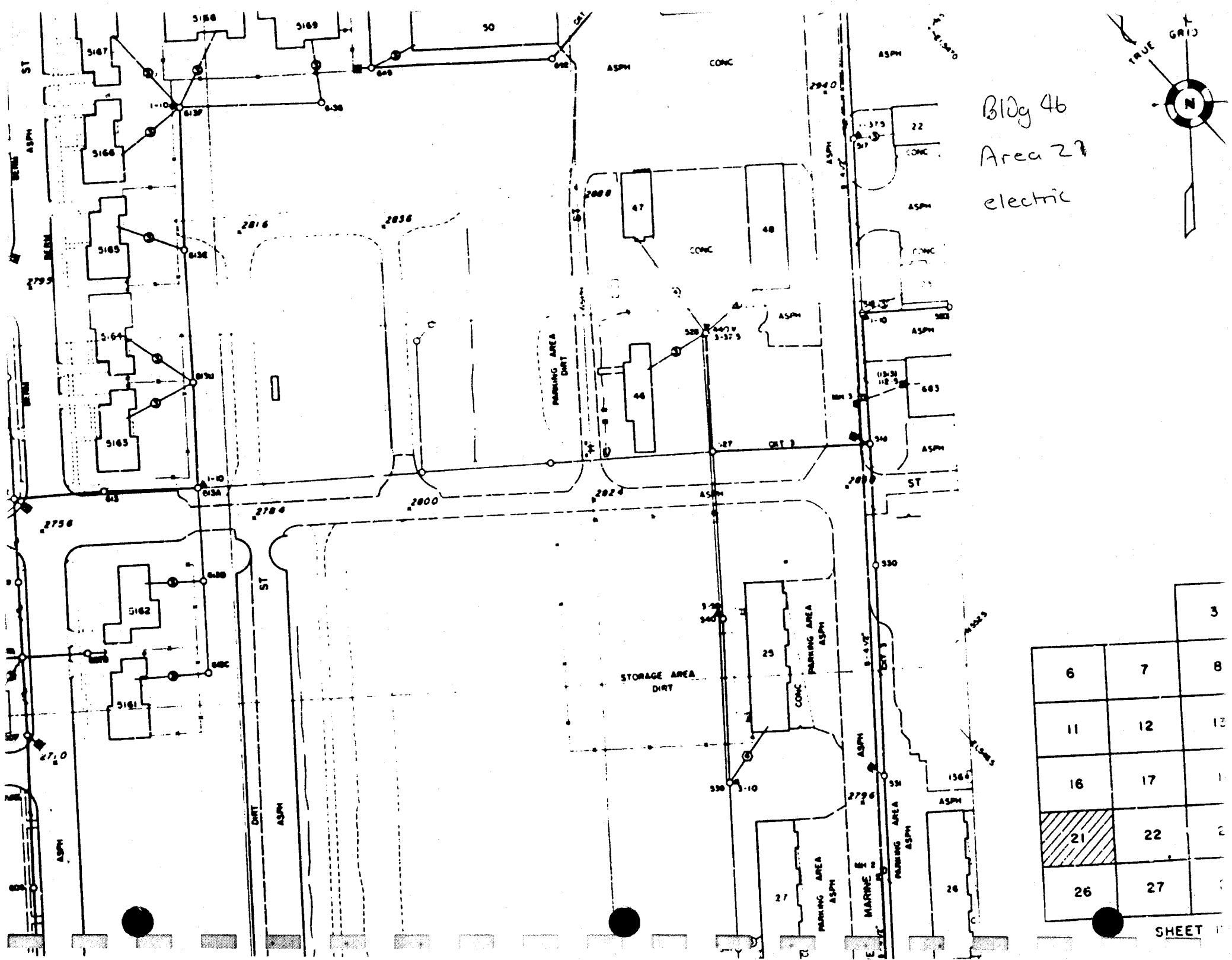
Bldg 46
Area 21
Sewer



Bldg 4b
Area 21
Water



Bldg 46
Area 27
electric



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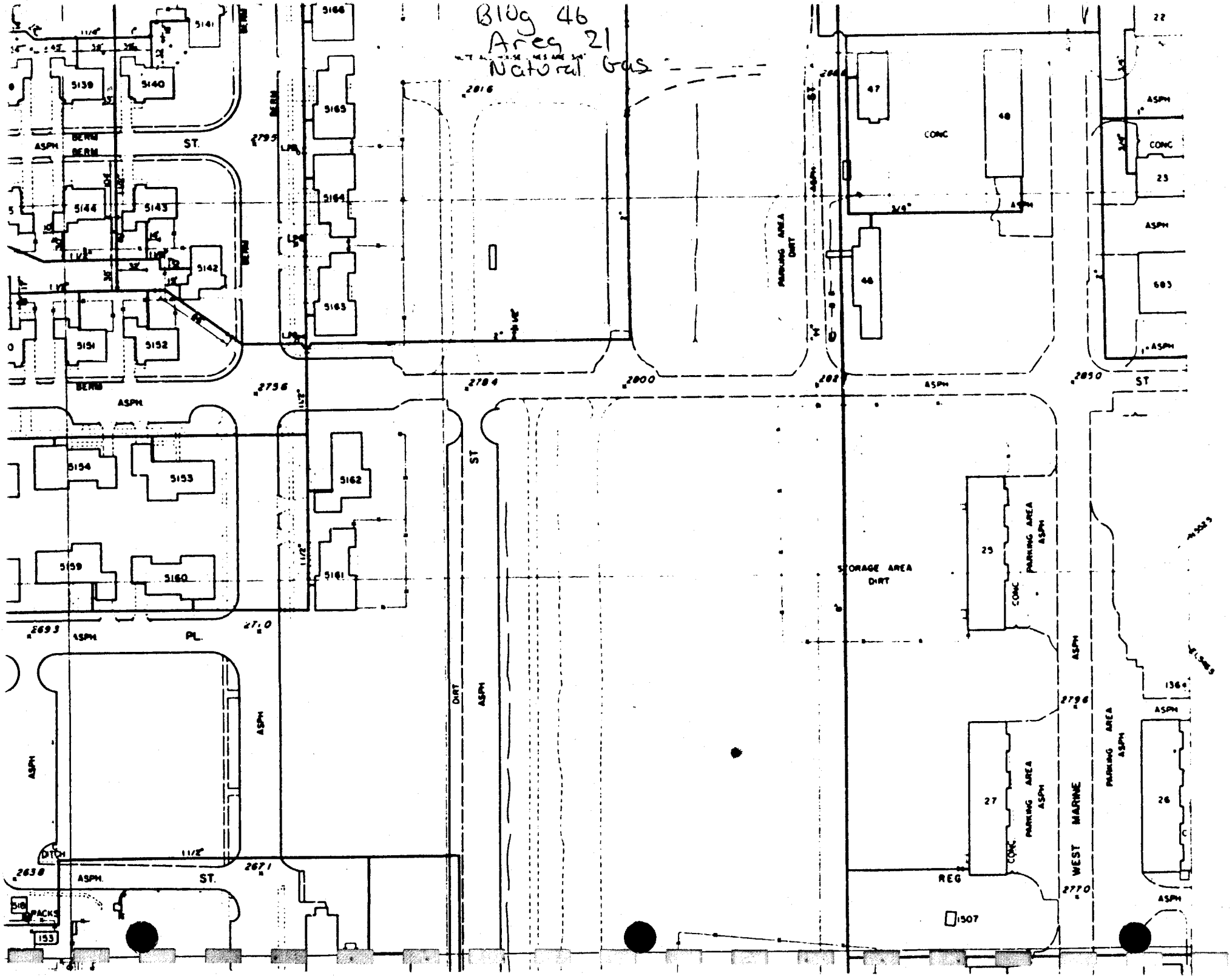
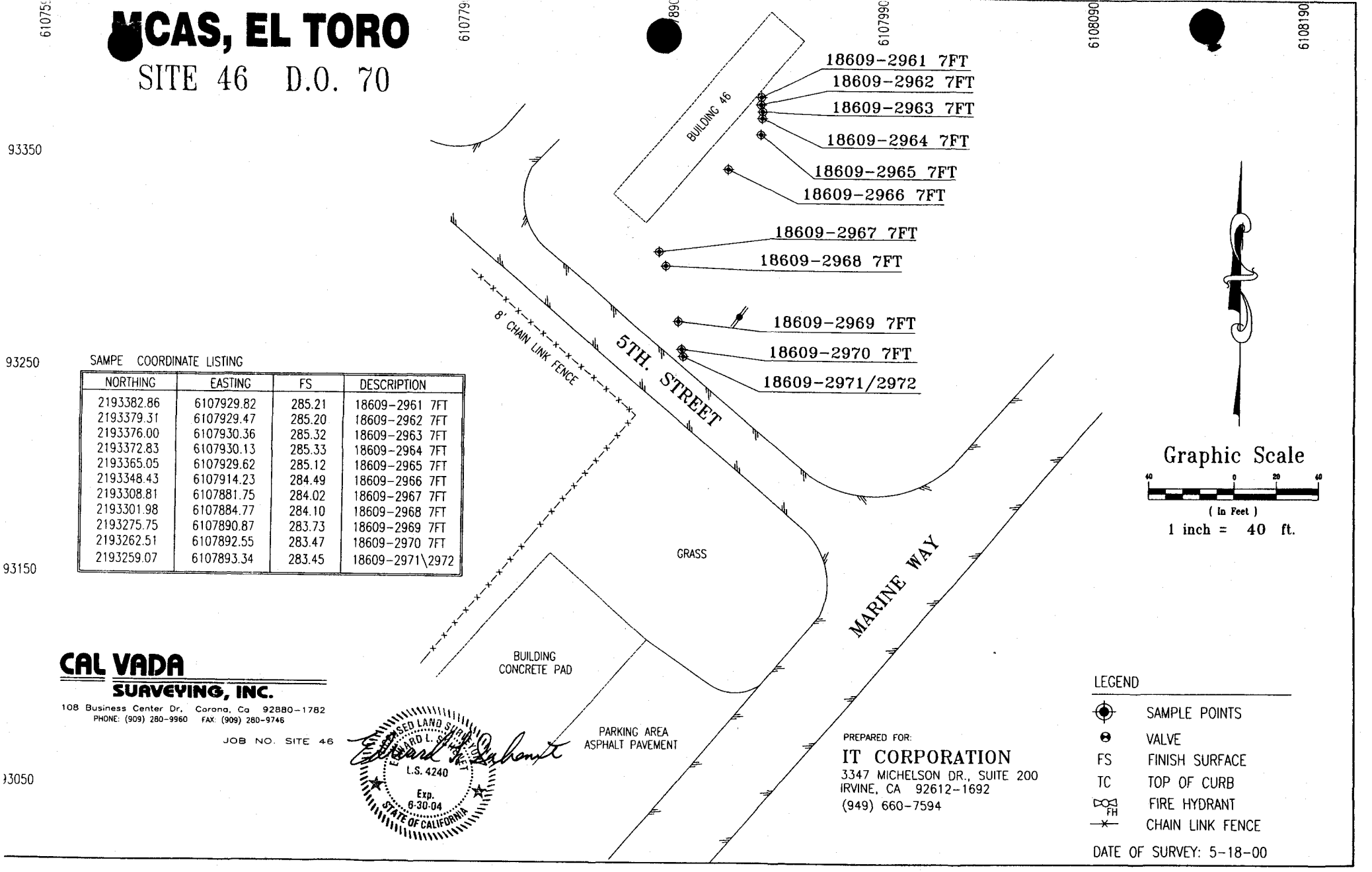
Area 21
Natural Gas



MCAS, EL TORO

SITE 46 D.O. 70



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2193376.00	6107930.36	285.32	18609-2963 7FT
2193372.83	6107930.13	285.33	18609-2964 7FT
2193365.05	6107929.62	285.12	18609-2965 7FT
2193348.43	6107914.23	284.49	18609-2966 7FT
2193308.81	6107881.75	284.02	18609-2967 7FT
2193301.98	6107884.77	284.10	18609-2968 7FT
2193275.75	6107890.87	283.73	18609-2969 7FT
2193262.51	6107892.55	283.47	18609-2970 7FT
2193259.07	6107893.34	283.45	18609-2971\2972

CAL VADA SURVEYING, INC.
108 Business Center Dr. Corona, Ca 92880-1782
PHONE: (909) 280-9960 FAX: (909) 280-9746

JOB NO. SITE 46

LICENSED LAND SURVEYOR EDWARD L. DAHOUT L.S. 4240 Exp. 6-30-04 STATE OF CALIFORNIA

PREPARED FOR:
IT CORPORATION
3347 MICHELSON DR., SUITE 200
IRVINE, CA 92612-1692
(949) 660-7594

LEGEND

- SAMPLE POINTS
- VALVE
- FS FINISH SURFACE
- TC TOP OF CURB
- FH FIRE HYDRANT
- CHAIN LINK FENCE

DATE OF SURVEY: 5-18-00