Soil Sampling Results Residential Areas Near Anaplex and Aerocraft Heat Treating

Paramount City Council
Meeting
City Hall Council Chambers

September 19, 2017

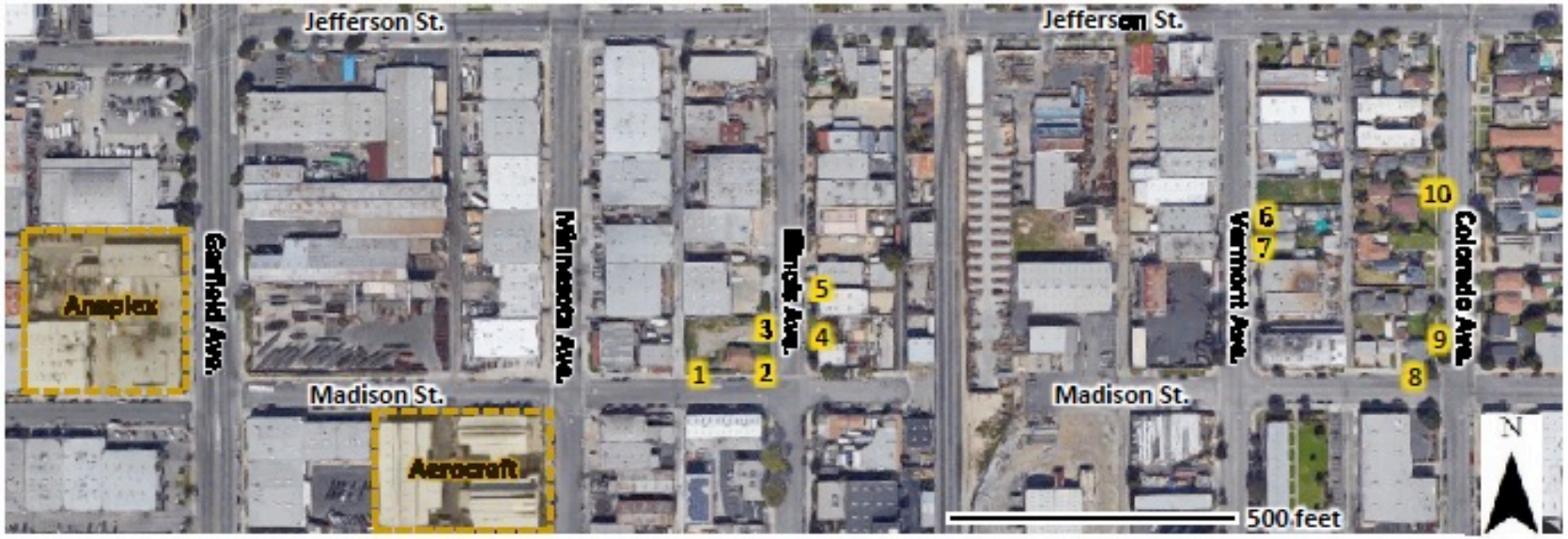
Soil Sampling Work Plan

- A Work Plan dated May 10, 2017 was prepared by Los Angeles County Department of Public Health (DPH) to match previous assessments.
- DPH partnered with the Fire Department Health Hazardous Materials Division (Health Hazmat) and the City to sample surface soil downwind of the Anaplex and Aerocraft facilities.
- Soil samples were collected by Health Hazmat.
  - One set of samples for DPH submitted to American Environmental Testing Laboratory (AETL).
  - One set of samples for Tetra Tech submitted to Eurofins CalScience.

Soil Sampling Work Plan (cont.)

- Soil samples were to be analyzed for Title 22 Metals (also called CAM 17 Metals).
- Soil samples were also to be analyzed for chromium VI, manganese, tin, and titanium, used in nearby metal facilities.

Figure 1: Locations of surface soil sampling near Aerocraft and Anaplex, Paramount, California.



Soil Sampling

- Sampling was done on May 20, 2017.
- Field work was observed by City and Tetra Tech.
- Soil samples were collected by Health HazMat from top 1-inch of soil at ten locations from public right-of-way areas near residences. Samples were homogenized in the field.
- Vegetative matter was removed from the surface sample.
- Soil sampling equipment was decontaminated prior to sampling and in between samples.

Soil Sample Data

Residential Soil Sampling

Chromium 6 in the City of Paramount

County of Los Angeles Public Health

Table 1: Summary of 21 metals from surface soil sampling, Paramount, California.

Metals	EPA Screening Level[a]	CA Health Screening Level[b]	Background Level[c]	Min[d]	-	Max[d]	Avg[e]	Spilt Soil Samples (1 – 10)[f]									
								1A/1B	2A/2B	3A/3B	4A/4B	5A/5B	6A/6B	7A/7B	8A/8B	9A/9B	10A/10B
Antimony	31	30	1.04	0.32	-	1.25	0.59	0.52^	1.25^	0.41^	0.60^	0.49^	0.32^	0.47^	0.84^	0.60^	0.45^
Arsenic	0.68[*]	0.07	5.50	1.74	-	4.16	3.0	3.41	3.51	3.83	2.76	4.16	2.88	2.61	1.74	2.63	2.89
Barium	15,000	5,200	200	87	-	176	130	132	176	139	145	172	103	87	103	118	130
Beryllium	160	16	0.29	0.21	-	0.33	0.27	0.28^	0.33	0.30^	0.24^	0.31^	0.21^	<1.0	<1.0	0.25^	0.27^
Cadmium	71	1.7	4.3	0.32	-	2.26	0.98	2.26	1.09	0.73^	1.22	2.08	0.32^	0.45^	0.41^	0.45^	0.81^
Chromium	120,000	100,000	64	21	-	57	34	49	45	27	30	41	23	21	24	57	23
Chromium 6	0.3[†]	17	NA[‡]	0.12	-	0.41	0.23	0.41	0.13^	<0.4	<0.4	0.25^	<0.4	0.12^	0.22^	<0.4	0.14^
Cobalt	23	660	12	8	-	22	12	16	15	10	11	10	9	8	11	22	9
Copper	3,100	3,000	140	57	-	151	93	102	85	151	74	80	67	68	138	113	57
Lead	400	80	465	29	-	106	62	35	83	106	74	72	29	31	45	64	79
Manganese	1,800	NA[§]	340	233	-	442	349	354	442	424	327	391	327	262	233	303	423
Mercury	11	18	0.69	0.02	-	0.11	0.06	0.03^	0.04^	0.03^	0.06^	0.09	0.02	0.02^	0.11	0.102^	0.10^
Molybdenum	390	380	6.3	1.6	-	11.1	3.7	4.8	7.0	2.0	2.6	1.7	1.6	1.8	2.8	11.1	1.9
Nickel	1,500	1,600	65	33	-	166	71	132	85	33	48	35	39	51	85	166	36
Selenium	390	380	NA[‡]	0.27	-	0.68	0.44	0.68^	0.59^	0.31^	0.34^	0.56^	<1.0	0.27^	0.44^	<1.0	0.37^
Silver	390	380	NA[‡]	0.26	-	0.80	0.46	<1.0	0.26^	<1.0	0.34^	0.80^	<1.0	<1.0	<1.0	<1.0	<1.0
Thallium	0.78	5	NA[‡]	NA	-	NA	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Tin	47,000	NA[§]	NA[‡]	12	-	18	15	14	14	18	16	16	15	12	13	14	14
Titanium	NA[§]	NA[§]	1002	612	-	1040	882	961	836	1020	797	986	1040	878	612	843	845
Vanadium	390	530	33	19	-	36	28	30	31	36	26	31	29	25	19	28	25
Zinc	23,000	23,000	500	186	-	1650	467	399	654	231	524	1650	186	250	260	260	255

Soil Sample Results Summary

- Metals were compared to EPA Regional Screening Levels (RSLs), California Human Health Screening Levels (HHSLs) and background levels.
- Four metals arsenic (10 samples), cadmium (2 samples), chromium VI (1 sample) and lead (2 samples) were detected at concentrations above their respective RSL or HHSL.
- Arsenic, cadmium, and lead were found to be within background levels.
- One soil sample had a detectable concentration of chromium VI at 0.4 mg/kg which exceeds RSL (0.3 mg/kg) but is below CA HHSL (17.0 mg/kg).

Soil Sample Results Summary (cont.)

- Chromium VI results for the other 9 locations were either below or estimated to be below the laboratory reporting limit of 0.4 mg/kg.
- Ten other metals (antimony, beryllium, cobalt, copper, manganese, molybdenum, nickel, titanium, vanadium and zinc) were detected at concentrations above local background levels but below all available health screening levels.

Conclusions (based on DPH's Report)

- One soil sample detected chromium VI above the EPA RSL but below the CA HHSL. This location is approximately 300 feet east of Aerocraft.
- Low detections of chromium VI suggests that majority of air emissions from Anaplex and Aerocraft have either not settled or not persisted on surface soils of nearby residential areas.
- Historical deposits of chromium VI may have been converted to chromium III, the non-toxic form of chromium by organic matter in soil.

Conclusions (cont.)

- Direct contact with or accidental ingestion of these surface soils would not appear to represent an exposure pathway of public health concern for chromium VI.
- Inhaling chromium VI poses the most significant threat to public health, and efforts to reduce health risks should continue to focus on reducing air emissions from facilities emitting chromium VI.
- As the interagency investigation continues, additional soil sampling may be warranted to evaluate soil near other industrial sources of chromium VI in the City.
- Full report available at paramountenvironment.org.

TETRA TECH

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Source: *Engineering News-Record* issues: 5/1/17, 6/19/17, 7/3/17, 7/13/17, and 8/7/17

8/30/17

Questions?