



## *Memorandum*

**Date:** August 18, 2022  
**To:** Chris Hodge, **Wood Rodgers, Inc.**  
**From:** Melissa McAssey and Nikki Asi, **WRECO**  
**Subject:** **Preliminary Site Investigation Report Memorandum**  
Meekland Avenue Corridor Improvements - San Lorenzo Creek Bridge -  
Existing Bridge No. 33C0206, Alameda County, California

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### **INTRODUCTION**

The Meekland Avenue Corridor Improvement Project (Project) proposes multimodal connectivity along the Meekland Avenue corridor between East Lewelling Boulevard and Blossom Way, in the community of San Lorenzo, Alameda County (County), California. The Alameda County Public Works Agency (ACPWA) is planning a roadway improvement project for pedestrians and to replace the existing San Lorenzo Creek Bridge (No. 33C0206). The proposed bridge replacement will include sidewalks, Class II bike facilities, and pavement rehabilitation. This is a federally funded project and work is to comply with the Federal Highway Administration (FHWA), Federal and Statewide Transportation Improvement Program (TIP) (Project No. 2019 TIP-ALA190019), the California Department of Transportation (Caltrans), and County requirements.

WRECO submitted the Initial Site Assessment (ISA) Report on June 11, 2021, for the proposed Project. The ISA identified several potential recognized environmental conditions (REC) that included:

- Potential pesticides and metals in exposed soil along the roadway from historical agricultural practices;
- Potential aerially deposited lead (ADL) in exposed soil along the roadway from historical vehicle emissions during the leaded gasoline era;
- Potential petroleum hydrocarbons and volatile organic hydrocarbons (VOC) in soil and groundwater from leaking underground storage tanks (LUST) sites in proximity to (and upgradient) of the Project corridor;
- Utility poles along the Project corridor have pole-mounted transformers, which may contain polychlorinated biphenyls (PCB), and treated wood poles may contain polynuclear aromatic hydrocarbons (PAH) and metals;
- The railroad corridor that runs parallel to the Project corridor has the potential for heavy metals, semi-volatile organic compounds (SVOC), PAHs, and PCBs;
- Potential naturally occurring asbestos (NOA) from ultramafic units mapped within 3 miles of the Project corridor;
- Potential lead-based paint (LBP) in the structural elements of the bridge and traffic striping on the roadway; and
- Potential asbestos-containing materials (ACM) in the structural elements of the bridge.

This Preliminary Site Investigation (PSI) was performed to verify the presence/absence of the RECs identified in the ISA, to evaluate available options for soil disposal and/or reuse, and to



provide guidance for waste management and worker safety during project construction. This report presents the results of the PSI and recommendations for waste management and worker safety during construction. The Project Location Map and Project Vicinity Map are shown in Figure 1 and Figure 2, respectively.

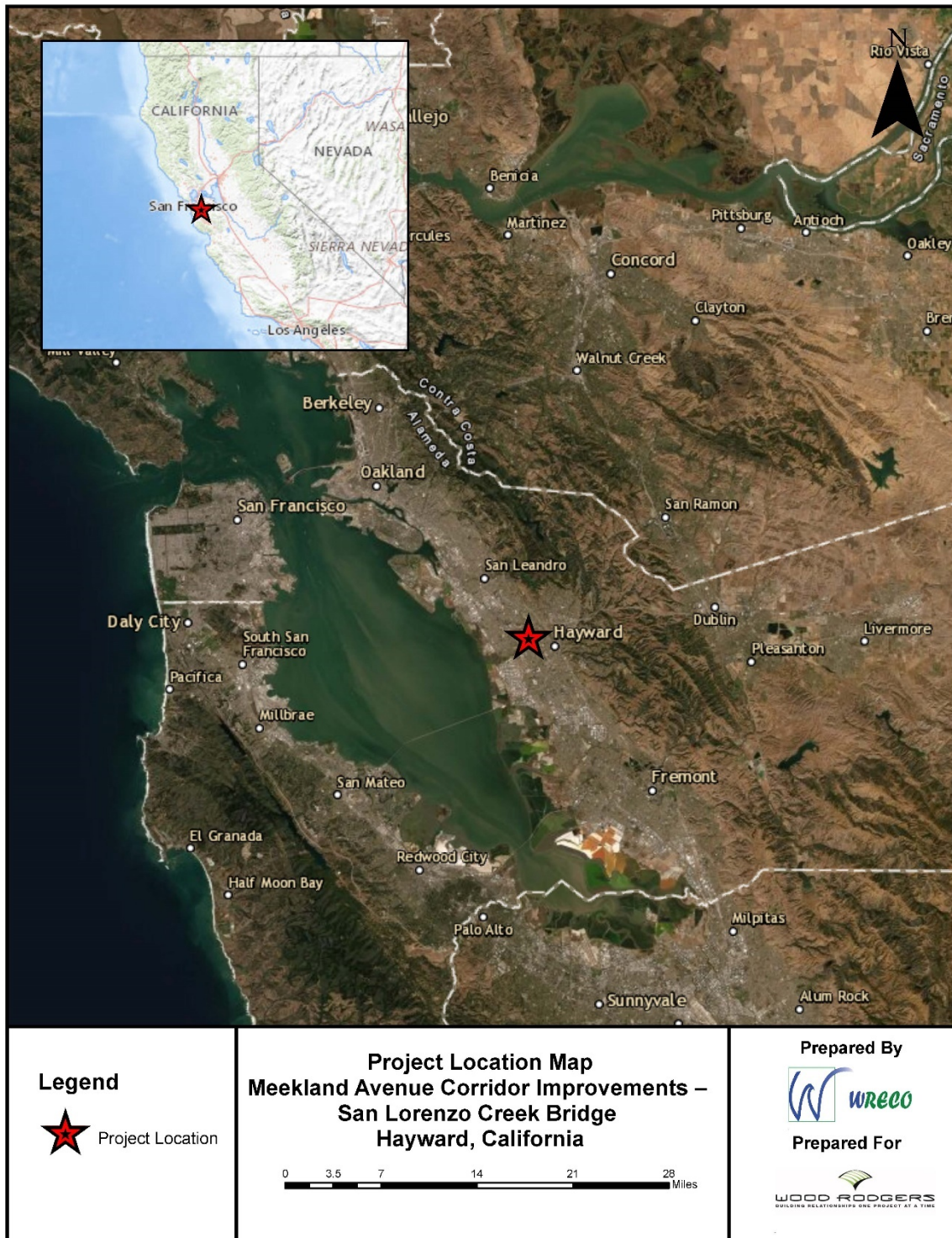


Figure 1. Project Location Map

Source: WRECO, 2021





**Figure 2. Project Vicinity Map**

*Source: WRECO, 2021*



## **Project Description**

ACPWA is proposing to provide a multimodal crossing of San Lorenzo Creek and improve multimodal connectivity along the Meekland Avenue corridor between East Lewelling Boulevard as the north terminus and Blossom Way as the south terminus. The multimodal improvements provide sidewalks and other complete streets and safety improvements to accommodate students and parents walking to school. The Project improves ADA access through the addition of ADA-compliant curb ramps and driveway aprons.

The Project includes replacement of the existing San Lorenzo Creek Bridge (33C0206) with a new bridge that meets current applicable County, American Association of State Highway and Transportation Officials (AASHTO), and Caltrans design criteria and standards. The Project is funded by a mix of federal funds from the Congestion Mitigation and Air Quality (CMAQ) Program and Surface Transportation Program (STP), as well as sales tax and other local funding sources.

## ***Existing Facilities***

The San Lorenzo Creek Bridge is located on Meekland Avenue, south of the intersection with East Lewelling Boulevard. This segment of Meekland Avenue is a generally north-south urban minor arterial comprised of primarily two 12-foot-wide lanes of traffic with narrow bike lanes and sidewalks on each side. The terrain is generally flat, and the road is posted with a 25-mph speed limit.

The Project location is immediately adjacent to residential neighborhoods and businesses, and the bridge serves as a link across San Lorenzo Creek for bicycle and pedestrian traffic, public transit (bus), and access to San Lorenzo High School.

The Project site includes extensive utilities located overhead and underground running parallel to and within Meekland Avenue. At the crossing, the public right-of-way is approximately 60-foot wide. San Lorenzo Creek is a United States Army Corps of Engineers concrete-lined flood control waterway with Operation and Maintenance by the Alameda County Flood Control and Water Conservation District (ACFCWD).

The three-span bridge is comprised of a main 84-foot-long span of three steel girders with concrete deck supported on seat bents with pile-columns. End spans are 30-foot long spans of reinforced concrete T-beams frames. All four corners of the Project include adjacent points of access for ACFCWD driveways and gate, residential business driveways and fence gates, and side streets.

On the southwest bank, there is a large underground trash capture structure founded on deep foundations. The edge of the existing bridge deck lies within 1 foot of a trash capture structure retaining wall.

## ***Proposed Improvements***

The County proposes to replace the existing bridge with a new single-span bridge that will accommodate two travel lanes plus Class II bike lanes, raised concrete sidewalks, and traffic rated vehicular barriers to meet AASHTO standards, for a total bridge width of approximately 54-feet.

The single-span replacement bridge is approximately 125-feet-long with the abutments placed behind the channel walls and will include fill and retaining walls at the ends of the bridge. The superstructure is a precast prestressed concrete wide flange girder over the channel. The abutments are located at the top of the channel banks outside the limits of the creek and founded on cast-in-drilled-hole (CIDH) piles. The existing trash capture structure on the west side will require modification to accommodate the widened bridge deck. This modification will likely include reconstruction of one retaining wall, and it may require raising an access hatch to grade or relocating the hatch.

The roadway profile at the bridge is raised approximately 2 feet for greater flood clearance and improved drainage. The roadway profile along the general corridor is maintained. The existing horizontal alignment is maintained. The roadway surface along the general corridor is improved by a slurry seal treatment. A full structural section replacement of the roadbed is anticipated at only select locations in the parking and shoulder areas and at the bridge roadway approaches. Sidewalks along the corridor are demolished and reconstructed within the existing right-of-way for accessibility/ADA compliance. Accessibility/ADA-compliant curb ramps and driveway aprons are installed where needed. Any drainage modifications will reconnect to the existing storm drainage system.

Rain gardens, landscape tree wells and plantings, and clean water features will be incorporated at some locations as available space allows. Three streetlight poles will be replaced and reconnected to the existing County electrical system. No existing traffic signals will be modified, except for minor modifications to appurtenances associated with the signal on the northern half of the intersection of Meekland Avenue and Blossom Way.

#### Right-of-Way

Based on preliminary records search, Meekland Avenue is within a varying 60- to 64-foot-wide recorded Alameda County right-of-way. The corridor improvements have 102 parcels fronting the Project limits.

Permission to enter agreements or temporary construction easements will be needed from the parcels fronting the Project limits to construct the improvements along the Project corridor as well as the bridge replacement.

Temporary easements do not require relocation of residences or businesses.

No permanent acquisition of right-of-way is required.

#### Utilities

The Project site contains multiple underground and overhead utilities and other facilities, including high risk utilities along the western edge of Meekland Avenue and hung from the eastern edge of the existing bridge. The bridge replacement will require modification of the existing services, including de-energizing, temporary re-routing of lines, resetting boxes and poles, and permanent relocations.

Along the general corridor, no utility relocations are required.

The proposed Project has the following potential impacts:

- Near the bridge, overhead utility lines (electrical and communication) and support poles along the west side will require permanent relocation.
- At the bridge, a 6-inch waterline and 3-inch gas line attached to the eastern edge of the existing bridge will require permanent relocation.
- Along the corridor, three streetlight poles will be relocated.

### ***Anticipate Construction Schedule and Methods***

A full road closure at the bridge location will be implemented throughout the duration of construction. Trips originating near the bridge for local traffic will likely use local surface streets to the west to bypass the Project site. These routes travel through residential neighborhoods with reduced speed limits. The primary route will likely utilize Paseo Grande – Via Cordoba – Via Granada – East Lewelling Boulevard, which is approximately 1 mile.

Construction is anticipated to begin in the summer of 2023 and last for approximately 12 to 18 months as allowed within defined environmental work windows. Construction will take place Monday through Friday during daylight hours; no night work is anticipated. Construction methods will include the following:

- Installing construction area signs – Prior to construction, appropriate signage will be installed, identifying road closures and detour routes. Detailed signage plans will be reviewed and approved by the County. Residents, businesses, and other stakeholders will be informed of the Project developments and impacts to traffic operations during construction. Signs will remain in place throughout the duration of construction.
- Staging Areas – The contractor will mobilize equipment and materials in the designated staging areas located on the closed portions of Meekland Avenue at the bridge site. Staging areas will be returned to pre-Project condition at the conclusion of construction activities.
- Clearing, Grubbing, and Tree Removal – Clearing and grubbing of vegetation and removal of any trees will be completed.
- Demolition – Best management practices will be implemented during construction. Demolition of the existing San Lorenzo Creek bridge and portions of roadway will be performed in accordance with Alameda County standards supplemented by Caltrans Specifications modified to meet environmental permit requirements. All concrete and other debris resulting from the demolition will be removed from the Project site and properly disposed of by the Contractor.
- Stream Diversion – Stream diversion is not anticipated to be required for the demolition of the existing bridge or the construction of the new bridge. There are no existing supports within the channel walls, and the replacement bridge will span over the creek to avoid placing new supports within the channel.



- New Bridge Foundations – The new bridge foundations of the single-span option will likely consist of CIDH concrete piles at the abutments.
- New Bridge Construction – Construction activities will generally include drilling holes for the piles at the abutments. The piles and abutments will be built by the typical form-reinforce-pour operations for reinforced concrete members. Precast girders will be delivered to the site via truck; a large crane will pick the girders off the trucks and lower them in place onto the concrete abutments. Stay-in-place forms will be installed between girders and the deck rebar will be placed. The concrete deck surface will be poured, finished, and cured. Abutment wingwalls and retaining walls will be constructed with form-reinforce-pour operations. Backfill will be placed behind abutment walls. The bridge barrier, roadway approaches, and Midwest Guardrail Systems will be installed, and the roadway will be prepared for final surfacing and striping.
- Corridor Improvements – Construction activities will consist of demolishing and reconstructing the existing concrete sidewalks. Some portions of sidewalks will be widened where allowed by existing County right-of-way. The existing roadway structural section will be removed and reconstructed in select location. The roadway will be resurfaced by slurry seal and final striping.

### Current Land Use

The Project corridor is located in an urban setting, surrounded commercial and residential properties. Figure 3 through Figure 6 show the Assessor's Parcel Number (APN) and surrounding properties adjoining the Project corridor that include:

- The east side of the Project corridor primarily consists of residential properties with some commercial properties. The most notable properties east of the Project corridor include: Shirlene's Iron Horse Cocktail (APN: 413-51-35); Emmanuel Missionary Baptist Church (APN: 429-10-20-2); and Store/Office with Apartments/Loft (APN: 413-31-1).
- The west side of the Project corridor primarily consists of residential properties with some commercial properties. The most notable properties west of the Project corridor include: Vietnamese Buddhist Youth Association of Chanh Hoa (APN: 413-59-2); Colonial Acres Elementary School (APN: 413-59-1-2); Avila's Taqueria (APN: 413-63-12-4); Rick's Auto Care (APN: 413-59-40-4); 99 Cents & Over (APN: 429-5-28-1); and Hank's Liquor (APN: 429-5-27-4).



Figure 3. Assessor Parcel Numbers Map – North Segment

Source: WRECO, 2021





Figure 4. Assessor Parcel Numbers Map – North Middle Segment

Source: WRECO, 2021





Figure 5. Assessor Parcel Numbers Map – South Middle Segment

Source: WRECO, 2021



**Figure 6. Assessor Parcel Numbers Map – Southern Segment**

Source: WRECO, 2021



## **SITE SETTING**

### **Topography**

Based on the GeoCheck® Physical Setting Source Summary included as part of the Environmental Data Resources (EDR) Radius Map™ Report with GeoCheck®, the average elevation of the Project corridor is 50 feet (ft) above mean sea level. The United States Geological Survey (USGS), Hayward, California Topographic Quadrangle map was reviewed. The Project corridor is sloped slightly to the west (WRECO, 2021).

### **Regional Geology**

The Project is located within the Coast Ranges Geomorphic Province of California. This province extends along most of the California coast and is bounded by the Great Valley and Klamath Mountains to the east, the Pacific Ocean to the west, the Transverse Range Mountains Ranges to the south, and the California-Oregon border to the north. Much of the Coast Range province is composed of marine sedimentary deposits and volcanic rocks that form northwest trending mountain ridges and valleys, running subparallel to the San Andreas Fault Zone. The relatively thick marine sediments dip east beneath the alluvium of the Great Valley. The Coast Ranges can be further divided into the northern and southern ranges, which are separated by the San Francisco Bay. The San Francisco Bay lies within a broad depression created from an east-west expansion between the San Andreas and the Hayward fault systems. West of the San Andreas Fault lies the Salinian Block, a granitic core that extends from the southern end of the province to north of the Farallon Islands.

The Coast Ranges are composed chiefly of thick Mesozoic and Cenozoic sedimentary strata that has been uplifted, terraced, and wave-cut. The Northern Coast Ranges are comprised largely of the Franciscan Complex or Assemblage, which consists primarily of graywacke, shale, greenstone (altered volcanic rocks), basalt, chert (ancient silica-rich ocean deposits), and sandstone that originated as ancient sea floor sediments. Franciscan rocks are overlain by volcanic cones and flows of the Quien Sabe, Sonoma and Clear Lake volcanic fields (CGS, 2002).

The Project corridor is identified as stratified sequence of the Cenozoic Era, Quaternary System, and Quaternary Series. The Regional Geologic Map is provided as Figure 7 (WRECO, 2021).



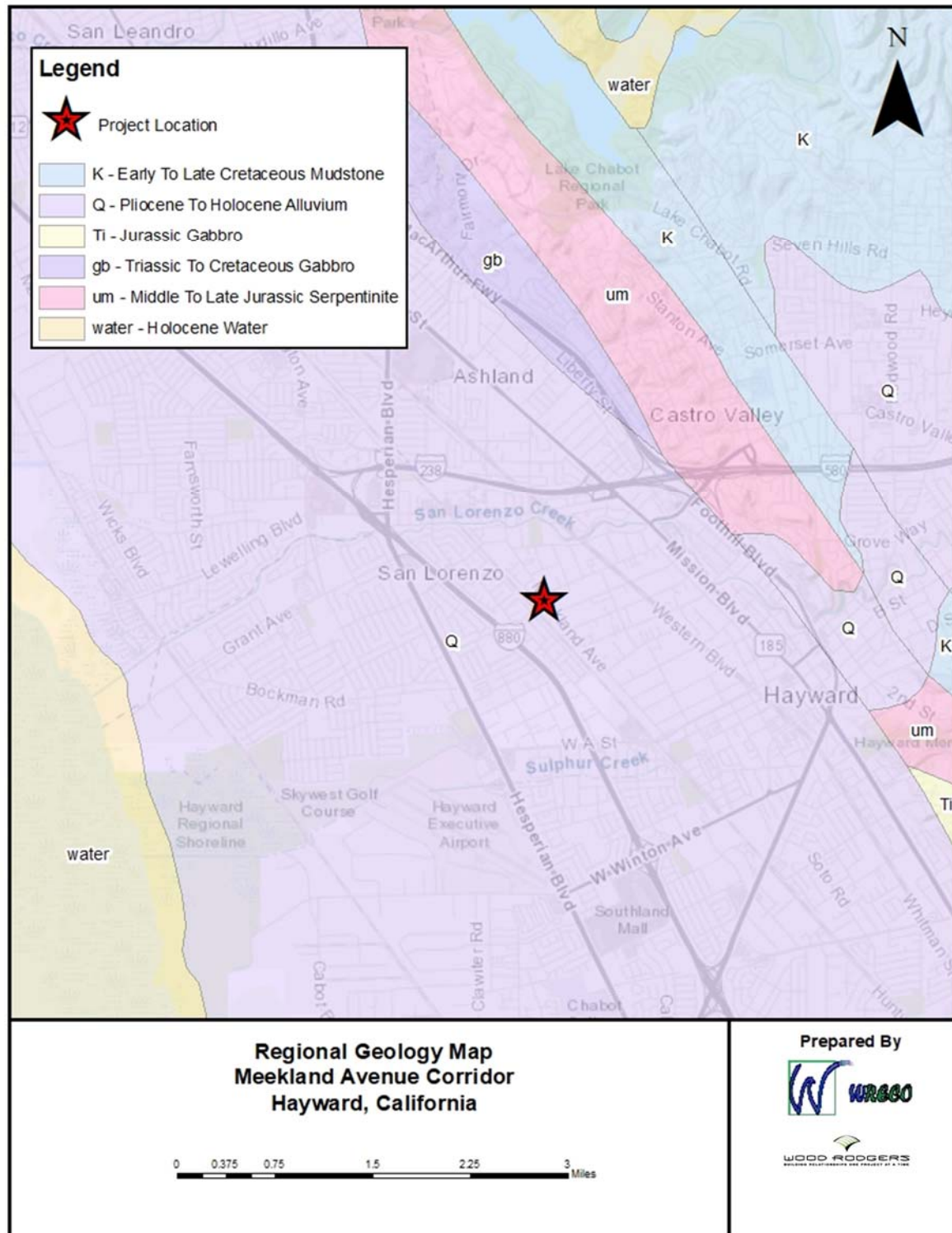


Figure 7. Regional Geology Map

Source: WRECO, 2021

## Local Geology and Soils

The Regional Geology Map (Figure 7) depicts that the Project corridor is underlain by Pliocene to Holocene-aged alluvium labeled as alluvium; lake; playa; and terrace deposits, unconsolidated and semi-consolidated.

The dominant soil compositions in the general vicinity of the Project is the Yolo series, which is the dominant soil compositions in the general vicinity of the Project. The Yolo series is a silt loam with moderately well and well drained soils with moderately coarse textures and moderate infiltration rates (WRECO, 2021).

## Naturally Occurring Asbestos

Naturally occurring asbestos (NOA) can occur in serpentine rock and its parent material, ultramafic rock. These rock types are abundant in the Sierra foothills. NOA has been identified in Alameda County and ultramafic rocks have been mapped along Interstate (I-) 580 in the cities of San Leandro, Castro Valley, Hayward, Oakland, and Richmond. The most common forms of naturally occurring fibrous minerals with NOA are chrysotile, actinolite, and tremolite. A review of the *General Location Guide for Ultramafic Rocks in California – Areas Likely to Contain Naturally Occurring Asbestos* (CGS Open-file Report 2000-19, 2000) indicated that NOA has been mapped in the vicinity of the Project corridor. NOA has been mapped approximately 3-miles northeast and southeast of the Project corridor (WRECO, 2021).

## Groundwater Hydrology

The Project corridor is in the Santa Clara Valley Groundwater Basin, East Bay Subbasin (2-009.04), as defined by the California Department of Water Resources (DWR) (2006) Bulletin 118. The Santa Clara Subbasin is located within the California Coast Ranges geomorphic province between the San Andreas and Hayward faults at the southern end of the San Francisco Bay. The East Bay Plain Subbasin is a northwest trending alluvial plain bounded on the north by San Pablo Bay, on the east by the contact with the Franciscan Basement rock, on the south by the Niles Cone Groundwater basin. The East Bay Plain Basin extends beneath San Francisco Bay to the west (DWR, 2004).

Based on a review of GeoTracker groundwater monitoring data near the Project corridor, depth to shallow groundwater ranges from 5 to 28 feet below ground surface, and groundwater flow direction is generally to the west-southwest (2021).

## **Surface Water Hydrology**

The Project corridor is within the San Lorenzo Creek Watershed and partially in the Estudillo Canal Watershed. The San Lorenzo Creek, approximately 48 square miles, is one of the largest watersheds draining to the eastern shore of San Francisco Bay. The San Lorenzo Creek flows generally west, entering San Francisco Bay near Roberts Landing, west of San Lorenzo. The creek is fed over by 13 names tributary creek and two constructed lakes. Majority of these tributaries lie in the upper watershed where they generally flow in natural open channels (ACFCWCD, 2021).

The Estudillo Canal Watershed, approximately 9.4 square miles, begins on the ridge between Lake Chabot and Fairmont Hospital in San Leandro and drains west through a network of canals and underground culverts in residential and commercial areas of the City of San Leandro on its way to Estudillo Canal. The canal flows toward the San Francisco Bay and connects via a tide gate to Heron Bay tidal marsh. It continues past Tony Lema Golf Course to the bay near San Leandro Marina (ACFCWCD 2021). Within the Estudillo Canal Watershed is the Estudillo Canal and Heron Bay Marsh; the Estudillo Canal is a 4.8-mile engineered channel that begins just west of Interstate (I-) 580 near Halcyon Drive, where it received drainage from the ridge above Fairmont Hospital and the surrounding area. The canal flows south past East 14th Street and the Bayfair Mall, where it turns west to the San Francisco Bay (ACFCWCD, 2021).

Heron Bay Marsh, also known as San Leandro Shoreline Marsh, is a tidal marsh located between Tony Lema Golf Course and the Heron Bay housing development along Santa Ynez Road and San Lorenzo Creek. To construct the housing development in 2001, the developer was required to restore the adjacent marsh, which had been cut off from San Francisco Bay by an outboard levee. A tide gate connects Estudillo Canal to the inland portion of the marsh and now a culvert connects the marsh to the bay (ACFCWCD, 2021).

## **PRELIMINARY SITE INVESTIGATION**

### **Soil Sampling Methods and Procedures**

From March 2-5, 2021, WRECO conducted a PSI that included sampling of four geotechnical soil borings in areas proposed for soil disturbance during the upcoming construction. Prior to field work being performed, the sample locations were marked in white paint, and USA North 811 was contacted to mark the utilities near the boring locations. The soil samples collected for the PSI were from geotechnical borings that were drilled from 71.5 to 81.5 feet, and a drilling permit was obtained from ACPWA (Permit #W2021-0092) (Attachment A).

Geo-Ex Drilling of Dixon, California (License #954267), used a Dietrich-50 Rig to advance the borings (B-2, B-3, B-4, and B-8) at the Project corridor using a rotary wash drilling method with 6-inch augers. Upon completion, all borings were backfilled with grout.

WRECO collected composite soil samples (0-5 feet below ground surface [ft bgs]) from four soil boring locations (B-2, B-3, B-4, and B-8). The samples were composited and placed in Ziploc bags





and placed in a cooler with ice. The chain of custody was completed in the field and sent to McCampbell Analytical, Inc in Pittsburg, California.

The samples were composited in the laboratory and analyzed for California Administrative Manual 17 (CAM 17) Metals using EPA Method 6020; organophosphorus pesticides (OPP) using EPA Method 8141; organochlorine pesticides + polychlorinated biphenyl (OCP+PCB) using EPA Methods 8081/8082; total petroleum hydrocarbons (TPH) as diesel, gasoline, and motor oil (TPHd, TPHg, and TPHmo) using EPA Method 8015B; polynuclear aromatic hydrocarbons (PAH) using EPA Method 8270C; semi-volatile organic compounds (SVOC) using EPA Method 8270C; volatile organic compounds (VOC) using EPA Method 8260B); and naturally occurring asbestos (NOA) using California Air Resources Board (CARB) 435. The boring location map is provided as Figure 8, and the sampling locations, sampling intervals, and laboratory analyses are described in Table 1.



**Figure 8. Boring Location Map**

*Source: WRECO, 2021*

**Table 1. Sampling Location, Interval, Analyses**

Boring	Sampling Interval (ft bgs)	Constituents of Concern
B-2	0-5	CAM 17 (EPA 6020); PAH (8270); VOC (EPA 8260); NOA (CARB 435)
B-3	0-5	OPP (EPA 8141); OCP + PCB (EPA 8081 + 8082); TPHd/g/mo (EPA 8015); SVOC (EPA 8270)
B-4	0-5	CAM 17 (EPA 6020); OPP (EPA 8141); OCP + PCB (EPA 8081 + 8082); TPHd/g/mo (EPA 8015); VOC (EPA 8260)
B-8	0-5	TPHd/g/mo (EPA 8015); PAH (8270); SVOC (EPA 8270)

Notes: ft bgs = feet below ground surface; CAM 17 = California Administrative Manual 17 Metals; OPP = organophosphorus pesticides; OCP = organochlorine pesticides; PCB = polychlorinated biphenyl; TPHd/g/mo = total petroleum hydrocarbons as diesel/gasoline/motor oil; PAH = polynuclear aromatic hydrocarbons; SVOC = semi-volatile organic compounds; VOC = volatile organic compounds; NOA naturally occurring asbestos; EPA = Environmental Protection Agency

## Soil Analytical Results

Laboratory results from the shallow composite soil samples, indicated detectable concentrations of specific constituents of concern (COC) at each boring location. The results of the analyses for each boring are discussed below:

- PAHs were detected in B-2 including benzo (g,h,i) perylene at 0.21 milligrams per kilogram (mg/kg) and pyrene at 0.23 mg/kg, respectively.
- SVOCs were detected in B-3 including acenaphthylene at 0.029 mg/kg, benzo (a) pyrene at 0.16 mg/kg, benzo (b) fluoranthene at 0.16 mg/kg, benzo (g,h,i) perylene at 0.20 mg/kg, benzo (k) fluoranthene at 0.052 mg/kg, chrysene at 0.080 mg/kg, fluoranthene at 0.21 mg/kg, and pyrene at 0.29 mg/kg
- Metals were detected in B-2 and B-4 including arsenic at 7.6 and 6.0 mg/kg, barium at 230 and 130 mg/kg, chromium at 25 and 38 mg/kg, cobalt at 9.6 and 8.8 mg/kg, copper at 30 and 20 mg/kg, lead at 9.9 and 6.3 mg/kg, mercury at 0.2 and 0.062 mg/kg, nickel at 28 and 40 mg/kg, vanadium at 56 and 43 mg/kg, and zinc at 71 and 49 mg/kg.
- Petroleum hydrocarbons were detected in B-3 including TPHd at 2.2 mg/kg and TPHmo at 21 mg/kg.

Based on the results, soil samples did not exceed the total threshold limit concentration (TTLC) (1,000 mg/kg) or 10 times the soluble threshold limit concentration (STLC) (5 mg/L), and soil can be pre-classified as Non-hazardous and may be disposed of at a Class III facility, or reused at the Project corridor. Detectable soil analytical results are summarized in Table 2, and the laboratory report is provided in Attachment B.

The above regulatory criteria are based on chemical concentrations. Wastes may also be classified as hazardous based on other criteria such as ignitability and corrosivity; however, for the purposes of this investigation, toxicity (i.e., representative lead concentrations) is the primary factor considered for waste classification since waste generated during the construction activities would not likely warrant testing for ignitability or corrosivity.



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**Table 2. Soil Analytical Results**

Boring	Analyte	Results (mg/kg)	Environmental Screening Level (mg/kg)			Hazardous Waste Criteria		Waste Classification
			Residential	Commercial/ Industrial	Construction Worker	STLC/ TCLP (mg/kg)	TTLC (mg/L)	
B-2	Benzo (g,h,i) perylene	0.21	--	--	--	--	--	Non- Hazardous
	Pyrene	0.23	1,800	23,000	5,000	--	--	
	Arsenic	7.6	0.26	3.6	0.98	500	5	
	Barium	230	15,000	220,000	3,300	10,000	100	
	Chromium	25	230	3,500	400	2,500	5	
	Cobalt	9.6	23	350	28	8,000	80	
	Copper	30	31	47,000	14,000	2,500	25	
	Lead	9.9	80	320	160	5	1,000	
	Mercury	0.20	13	190	44	20	0.2	
	Molybdenum	0.73	390	5,800	1,800	3,500	350	
	Nickel	28	820	11,000	86	2,000	20	
	Vanadium	56	390	5,800	300	2,400	24	
	Zinc	71	23,000	350,000	110,000	5,000	250	
B-3	Acenaphthylene	0.029	3,600	45,000	10,000	--	--	
	Benzo (a) pyrene	0.16	18	220	10	--	--	
	Benzo (b) fluoranthene	0.16	1.1	21	110	--	--	
	Benzo (g,h,i) perylene	0.20	--	--	--	--	--	
	Benzo (k) fluoranthene	0.052	11	210	910	--	--	
	Chrysene	0.080	11	2,100	9,100	--	--	
	Fluoranthene	0.21	2,400	30,000	6,700	--	--	
	Pyrene	0.29	1,800	23,000	5,000	--	--	
	TPHd	2.2	260	1,200	1,100	--	--	
	TPHmo	21	12,000	180,000	54,000	--	--	

Boring	Analyte	Results (mg/kg)	Environmental Screening Level (mg/kg)			Hazardous Waste Criteria		Waste Classification
			Residential	Commercial/ Industrial	Construction Worker	STLC/ TCLP (mg/kg)	TTLC (mg/L)	
B-4	Arsenic	<b>6.0</b>	0.26	3.6	0.98	500	5	
	Barium	130	15,000	220,000	3,300	10,000	100	
	Chromium	38	230	3,500	400	2,500	5	
	Cobalt	8.8	23	350	28	8,000	80	
	Copper	20	31	47,000	14,000	2,500	25	
	Lead	6.3	80	320	160	5	1,000	
	Mercury	0.062	13	190	44	20	0.2	
	Nickel	40	390	5,800	1,800	3,500	350	
	Vanadium	43	820	11,000	86	2,000	20	
	Zinc	49	390	5,800	300	2,400	24	

Note: **Bolded** values indicate exceedances in ESL for residential, commercial/industrial, and construction worker; STLC = Soluble Threshold Limit Concentration; TTLC = Total Threshold Limit Concentration; TCLP = Toxicity Characteristic Leaching Procedure; mg/kg = milligram per kilogram; mg/L = milligram per liter; -- = not analyzed/not applicable;



### Naturally Occurring Asbestos

One composite sample (B-2) was analyzed for NOA using CARB 435 to evaluate the soil for waste characterization. No detectable amount of NOA was identified in the soil sample, and results are summarized in Table 3.

**Table 3. Analytical Results for NOA in Soil**

<i>Composite Sample</i>	<i>Composite Depth</i>	<i>Results (%)</i>	<i>Point Count</i>	<i>Reporting Limit</i>
B-2	0-5 ft	ND	400	0.25

Note: ft = feet; % = percent

### Regulatory Screening Criteria

The analytical results were screened against the San Francisco Bay Regional Water Quality Control Board (RWQCB) Environmental Screening Levels (ESL) (2019). These screening criteria take into consideration direct exposure to human health risk levels and shallow soil exposure to residential, commercial/industrial, and construction worker (any land use/any depth soil exposure). The ESLs are not criteria to be used for determining how and where to dispose of waste soils, they are instead used for human exposure levels and will determine worker safety requirements during Project construction.

Under most circumstances, the presence of a chemical in soil, soil-gas, or groundwater, at concentrations below the corresponding ESL, can be assumed to not pose a significant threat to human health, water resources, or the environment. Additional evaluation will generally be recommended at sites where a chemical is present at concentrations above the corresponding ESL. The ESLs are not criteria to be used for determining how or where to dispose of waste soils or water, they are instead used for human exposure levels and will determine worker safety requirements during Project construction.

Arsenic concentrations in both B-2 and B-4 exceeded all ESLs and soil should be managed for worker safety.

### STRUCTURAL ELEMENTS SAMPLING

On June 8, 2021, WRECO conducted structural elements sampling for lead based paint (LBP) and asbestos-containing material (ACM) on the San Lorenzo Creek Bridge. Two (2) bulk sample were collected for LBP and 9 bulk samples were collected for ACM from the Bridge. The LBP and ACM samples were sent to EMSL Analytical, Inc in San Leandro, California to be analyzed for total lead using EPA Method SW 846 3050B/7000B Flame Atomic Absorption Spectroscopy and asbestos content using Polarized Light Microscopy (PLM).

### Lead Based Paint

LBP is defined in Title 17, CCR, Division 1, Chapter 8, as paint or other surface coatings that contain an amount of lead equal to, or in excess of one milligram per square centimeter (1.0

mg/cm<sup>2</sup>); or half of one percent (0.5%) by weight. The EPA and California Department of Public Health (CDPH) define LBP as paint having a lead content equal to or greater than 0.5% by weight or 5,000 parts per million (ppm) by paint chip analysis. California Division of Occupational Safety and Health Administration (Cal/OSHA) considers any level of lead in paint to be a potential exposure hazard for the worker.

Before 1978, lead was a common ingredient in paint because it added strength, shine, and extended the life of the paint. LBP is recognized as a potential health risk due to the known toxic effects of lead exposure (primarily through ingestion) on the central nervous system, kidneys, and blood stream. Title 17 of the CCR presumes that paint on structures built before January 1, 1978, is LBP, and disturbance of that structure requires use of lead-safe work practices including containment and cleaning the work area after the Project is completed.

In 1972, the Consumer Products Safety Commission limited lead content in new paint to 0.5% (5,000 ppm), in 1978 it was lowered to 0.06% (600 ppm), and in 2008 (effective 2011) it was lowered to 0.009% (90 ppm). Cal/OSHA governs all construction work where an employee may be occupationally exposed to lead (Construction Lead Standard, CCR Title 8, Section 1432.1). The Cal/OSHA Construction Lead Standard was effective as of November 4, 1993. The Lead Standard states that work which involves the disturbance of materials containing more than 0.50 percent lead by weight must be conducted in accordance with the standard. In addition, Cal/OSHA regulations (Standards – 29CFR 1926.62 App A) would apply to workers exposed to lead through inhalation. California regulates lead-containing construction wastes through its hazardous waste regulation in Title 22 CCR Chapter 8. The LBP investigation was conducted under the direction and quality control of a California Certified Lead Inspector/Assessor (CLIA) #LRC-2886.

### **Lead Based Paint – Results**

On June 8, 2021, LBP samples were collected from the yellow center line road striping of the San Lorenzo Creek Bridge, and gray paint on the structural support adjacent to the abutment on the northern end of the bridge. The paint samples were collected to evaluate the presence of regulated LBP and to assess worker safety and waste disposal options. Suspect LBP samples were obtained by scraping or chipping off small pieces of the paint. Each LBP sample was bagged in a sealable plastic bag (i.e., Ziploc), labeled with the sample ID number, time, date, and approximate location, and logged on the Chain of Custody form. The suspect LBP samples were transported to EMSL Laboratory in San Leandro, California to be analyzed using EPA Method SW 846 3050B/7000B Flame Atomic Absorption Spectroscopy.

Laboratory results indicated that lead results from the yellow road striping had lead concentration less than 80 ppm (0.008%) and the gray paint on the structural support of the bridge abutment had lead concentrations of 94,000 ppm (9.4 %). This sample result is a defined LBP and also exceeded the Consumer Products Safety Commission (CPSC) threshold of 90 ppm (0.009%) and should have abatement work completed by a licensed contractor for proper disposal. The paint on the bridge abutment is pre-classified as Hazardous and removal should follow OSHA regulations for worker safety. Laboratory results are summarized in Table 4 and the sample locations are shown

on Figure 9, the laboratory analytical report is included in Attachment C and photographs of the sample locations are shown in Attachment D.

**Table 4. Analytical Results for Paint Chip Samples**

Sample ID	Location	Results (ppm)	Reporting Limits	Matrix	Results (%)	Hazard Level
MKA-LP-01	Yellow center line paint south end of bridge	< 80	0.008%	Paint Chips	<.008%	Non-Hazardous
MKA-LP-02	Gray paint on structural support at the northern abutment	<b>94,000</b>			9.4%	Hazardous

Note: EPA Method SE 846 3050B/7000B; Lead in paint levels are determined by lab test results of 80 ppm (parts per million) or more, or 0.008% or more (by weight).

### Asbestos-Containing Material

ACM is defined in Title 8, CCR Section 1529, as any material that has more than one percent (1%) asbestos. Title 8 of the California Code of Regulations Section 1735 requires a pre-demolition survey for ACM. Under the National Emission Standard for Hazardous Air Pollutants (NESHAP), Title 40 Code of Federal Regulations (CFR) Part 61, ACM is material containing more than 1% asbestos as determined using the methods specified in Appendix A, Subpart E, 40 CFR Part 763, Section 1, PLM.

The NESHAP classifies ACM as friable or non-friable. Friable ACM contains more than 1% asbestos and when dry, can be crumbled, pulverized, or reduced to powder by hand pressure. Non-friable ACM also contains more than 1% asbestos, and is classified as either Category I ACM, which are more likely to release fibers when damaged (such as acoustical ceilings), or Category II ACM, which are less likely to release fibers (such as transite pipe, boards or panels). Per Cal/OSHA standards, 1926.1101, ACMs are defined as any material with an asbestos content greater than one-tenth of one percent (>0.1%), and Cal/OSHA regulates work requirements for disturbance of ACMs including removal operations.

In accordance with the United State Environmental Protection Agency's (EPA) NESHAP regulation, facilities planned for renovation or demolition must be inspected for ACMs prior to the planned renovation or demolition. The DTSC classifies ACM as hazardous waste if it is friable and contains 1% or more asbestos as hazardous waste. DTSC considers non-friable bulk asbestos-containing waste to be non-hazardous regardless of its asbestos content, so it is not subject to regulation under Title 22, Division 4.5, of the CCR. The asbestos NESHAP (40 CFR 61, Subpart M, Section 61.145), requires the identification and removal of all ACM prior to demolition or renovation.

In combination, the EPA and Cal/OSHA requirements govern the testing, handling, and disposal of materials containing asbestos. The ACM survey was conducted under the direction and quality control of a California Certified Asbestos Consultant (CAC #05-3872). The survey was performed as part of the PSI, and followed Title 22 California Code of Regulations §69200 (d) and (j) and as



part of a greater environmental review pursuant to California Health and Safety Code §25570.2 (f).

### Asbestos Containing Materials – Results

On June 8, 2021, nine (9) ACM samples were collected from the San Lorenzo Creek Bridge sidewalks on the east and west sides of the bridge, and one sample, MKA-09, was collected from material in the expansion joint on the west side of the bridge. Laboratory results indicated that no asbestos content was detected in any of the samples (

Table 5). The location of the samples are shown on Figure 9, the laboratory analytical report is provided in Appendix B, and photographs of the sample locations are shown in Appendix C.

**Table 5. Asbestos-Containing Material Sample Analyses Results**

Sample ID	Sample Location	Results (%)	Matrix	Reporting Limits	Hazard Level
MKA-01	Southeast side of bridge sidewalk	ND	Gray Non-Fibrous Heterogeneous	<1%	Non-Hazardous
MKA-01-Felt	Southeast side of the bridge sidewalk	ND	Gray Fibrous Homogeneous		
MKA-02	Northwest side of bridge sidewalk	ND	Gray Non-Fibrous Heterogeneous		
MKA-03	Southeast side of bridge sidewalk	ND			
MKA-04	Southeast side of bridge sidewalk	ND			
MKA-05	East side of bridge side walk	ND			
MKA-06	West side of bridge sidewalk	ND			
MKA-07	West side of bridge sidewalk	ND			
MKA-08	West side of bridge sidewalk	ND			
MKA-09	West side of bridge sidewalk at joint compound abutment	ND	Black Non-Fibrous Homogeneous		

Note: Asbestos PLM (EPA Methods 600/R-93/116) ND means no fibers were detected; the minimum detection and reporting limit is less than 1%



Figure 9. Structural Elements Sampling Locations for Borings

Source: WRECO  
2021

## CONCLUSIONS AND RECOMMENDATIONS

On March 2-5, 2021, WRECO performed a PSI along the Project corridor, by collecting shallow soil samples from geotechnical borings. The results of the analyses indicated that PAHs were detected in B-2 including benzo (g,h,i) perylene (0.21 mg/kg) and pyrene (0.23 mg/kg), respectively; SVOCs were detected in B-3 including acenaphthylene (0.029 mg/kg), benzo (a) pyrene (0.16 mg/kg), benzo (b) fluoranthene (0.16 mg/kg), benzo (g,h,i) perylene (0.20 mg/kg), benzo (k) fluoranthene (0.052 mg/kg), chrysene (0.080 mg/kg), fluoranthene (0.21 mg/kg), and pyrene (0.29 mg/kg); metals were detected in B-2 and B-4 including arsenic (7.6 and 6.0 mg/kg), barium (230 and 130 mg/kg), chromium (25 and 38 mg/kg), cobalt (9.6 and 8.8 mg/kg), copper (30 and 20 mg/kg), lead (9.9 and 6.3 mg/kg), mercury (0.2 and 0.062 mg/kg), nickel (28 and 40 mg/kg), vanadium (56 and 43 mg/kg), and zinc (71 and 49 mg/kg). Petroleum hydrocarbons were detected in B-3 including TPHd (2.2 mg/kg) and TPHmo (21 mg/kg). Based on the results, soil samples did not exceed the total threshold limit concentration (TTLC) (1,000 mg/kg) or 10 times the soluble threshold limit concentration (STLC) (5 mg/L), and soil can be pre-classified as Non-hazardous and may be disposed of at a Class III facility, or reused at the Project corridor.

WRECO screened the soil results against the RWQCB ESLs that take into consideration risks of direct and indirect exposure to construction workers (as well as residential and commercial/industrial use). Under most circumstances, the presence of a chemical in soil, soil gas, or groundwater at concentrations below the corresponding ESL can be assumed to not pose a significant threat to human health, water resources, or the environment. Arsenic concentrations in both B-2 and B-4 exceeded the ESLs for residential, commercial/industrial, and construction, therefore, excavated soil near B-2 and B-4 should be managed for worker safety during construction.

Results of the LBP sampling indicated that lead concentrations from the yellow road striping was less than 80 ppm (0.008%) and the gray paint on the structural support of the bridge abutment was 94,000 ppm (9.4 %). This result is a defined LBP and sample exceeded the CPSC threshold of 90 ppm (0.009%) and should have abatement work completed by a licensed contractor for proper disposal. The paint on the bridge abutment is pre-classified as Hazardous and removal should follow OSHA regulations for worker safety. Demolition and construction work at the Project site is subject to California General Construction Order 1532.1(a) Lead-in-Construction Standard (8 CCR 1532.1), and Title 17, California Code of Regulations, Division 1, Chapter 8 Accreditation, Certification, and Work Practices for Lead-Based Paint and Lead Hazards.

WRECO recommends that contractors protect its workers by following the lead in Construction Standard Title 8 CCR 1532.1 or have the leaded paint hazard abated prior to performing work likely to disturb the LBP. Abatement must be performed by a licensed contractor in accordance with 17 CCR 3500 et seq.

Results of the ACM sampling indicated that asbestos concentrations were below the detection limits, and can be pre-classified as Non-hazardous. Recommendations from the PSI are summarized in Table 4.



**Table 4. PSI Recommendations Summary**

Material	Description	Recommended Actions
Asphalt Concrete (AC)	All AC and concrete removed during the bridge replacement construction can be reclaimed and recycled.	<ul style="list-style-type: none"> <li>AC paving materials such as cement, asphalt, and rock products are nonrenewable resources and should be recycled and reclaimed.</li> </ul>
Treated Wood Waste (TWW)	TWW comes from old wood that has been treated with chemical preservatives, and includes treated wood supports for metal beam guard rails, Roadside Signs, and Utility Poles. Arsenic, chromium, copper, creosote, and pentachlorophenol are among the chemicals used to preserve wood and are known to be toxic or carcinogenic.	<p><b>-Caltrans SSP 14-11.14A</b> SSP Update for January 2021 - Treated Wood Waste; <b>14-11.14B - Storage of Treated Wood Waste</b> - Until disposal, store treated wood waste in metal containers approved by the US Department of Transportation for the transportation and temporary storage of hazardous waste.</p> <ul style="list-style-type: none"> <li><b>14-11.14C - Transport and Disposal of Treated Wood Waste</b> - Transport and dispose of treated wood waste. Dispose of treated wood waste at a California disposal site operating under a DTSC permit.</li> </ul>
Shallow soil with arsenic	The composite samples from B-2 and B-4 had detectable arsenic concentrations that exceeded all ESLs.	<ul style="list-style-type: none"> <li>Excavated soil near B-2 and B-4 should be managed for worker safety, with respect to arsenic.</li> </ul>
LBP on bridge abutment	Cal/OSHA considers any level of lead in paint to be a potential exposure hazard for construction workers. LBP was detected at hazardous levels on the bridge abutment.	<p>Abate lead-based paint prior to bridge demolition.</p> <ul style="list-style-type: none"> <li><b>Caltrans SSP 14-11.13 (DOCX) (10/19/2018) - Disturbance of Existing Paint Systems on Bridges</b> - Use for removal or disturbance of paint containing lead, chrome, etc., on bridges.</li> <li><b>Caltrans SSP 36-4 (DOCX) (10/19/2018) - Containing Lead from Paint and Thermoplastic</b> - Requires a lead compliance plan for removal when residue is definitely non-hazardous.</li> </ul>



## LIMITATIONS

The PSI was performed to verify the presence/absence of RECs as identified in the Project ISA Report (WRECO, 2021), to evaluate the available options for soil disposal or reuse, and to provide specific guidance for waste management and worker safety during construction. As is the case for any project that proposes excavation, the potential exists for unknown hazardous contamination to be revealed during Project construction (such as previous contamination from a previous business).

The PSI for the Project located in Alameda County, California, was performed in general accordance with the ASTM E1903-11 Standard Guide for Environmental Site Assessments: Phase II Environmental Site Assessment Process. All readily available materials pertaining to the Project were reviewed prior to performing the investigation and used to help prepare this report. This assessment is not a full-scale environmental site investigation to prove that the Project is environmentally devoid of hazardous or toxic materials. Samples were collected in specific locations for the Project corridor improvement construction to determine baseline concentrations of potential contaminants of concern at the Project location.

This PSI Report consists of professional opinions and recommendations made in accordance with generally-accepted environmental principles and practices. The conclusions are based upon an evaluation of the information gathered and analytical data from the soil samples collected from the Project corridor area. This PSI does not provide any implied or expressed guarantees regarding the characteristics or environmental conditions at the Project corridor area.

Opinions given in this PSI Report, relative to the potential for hazardous materials to exist within the Project corridor, are based upon the information from the ISA Report (WRECO, 2021). The findings and conclusions in this report are based solely on the limited scope of the additional PSI work and it is not warranted that the Project corridor does not contain hazardous materials or petroleum hydrocarbon releases in areas that weren't tested or discussed in this report.

This PSI is not intended to identify ALL hazards or unsafe conditions, or to imply that others do not exist. This soil sampling and testing investigation was planned and implemented based on a mutually agreed scope of work and WRECO's experience in performing this type of assessment.

WRECO has performed this investigation in a professional manner using the degree of skill and care exercised for similar projects under similar conditions by reputable and competent environmental consultants. WRECO shall not be responsible for conditions or consequences arising from relevant facts that were not identified or disclosed at the time that this investigation was conducted.

WRECO further states that no warranties, expressed or implied, are made regarding the quality, fitness, or results to be achieved because of this report or impacted by information not properly disclosed to WRECO at the time of this report. In addition, no responsibility is assumed for the control or correction of conditions or practices existing at the premises of the client.



Verification of material quantities is the responsibility of the contractor that will be performing construction activities at the Project location. It is the responsibility of the construction contractor to determine the appropriate waste management and disposal actions for shallow soil within the Project location. Hazardous materials must be handled in strict accordance with the various federal, state, and local regulations. Failure to abide by these regulations can result in penalties to both the contractor as well as the property owner.

### **Qualifications and Signature of Environmental Professional**

WRECO has conducted this PSI in accordance with ASTM E1903-11, for the Project area located at Meekland Avenue, in Hayward, California, in general conformance with the scope and limitations stated earlier in this report. WRECO declares that, to the best of our professional knowledge and belief, the undersigned meets the definition of Environmental Professionals as defined in §312.10 of 40 CFR Part 312, and have the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the Project area.

This report has been prepared by or under the supervision of the following Professional Geologist. The Registered Professional Geologist attests to the technical information contained herein and has judged the qualifications of any technical specialists providing environmental data upon which recommendations, conclusions, and decisions are based.

A handwritten signature in blue ink that reads 'Melissa McAssey'.

Melissa McAssey  
CA Professional Geologist No. 8132

This report has been prepared by or under the supervision of the following Certified Asbestos Consultant (CAC) and Certified Lead Inspector/Assessor (CLIA). The CAC and CLIA attests to the technical information contained herein and has judged the qualifications of any technical specialists providing asbestos and lead expertise upon which recommendations, conclusions, and decisions are based.

A handwritten signature in black ink that reads 'Jim Koniuto'.

Jim Koniuto, CAC/CLIA  
CA State Certified Asbestos Consultant (CAC #05-3872)  
CA State Certified Lead Inspector/Assessor (CLIA #LRC-2886)



## REFERENCES

- Alameda County Flood Control and Water Conservation District (ACFCWCD). San Lorenzo Creek Watershed. <<https://acfloodcontrol.org/the-work-we-do/resources/san-lorenzo-creek-watershed/>> (Last Accessed: January 6, 2021).
- ACFCWD. Estudillo Canal Watershed. <<https://acfloodcontrol.org/the-work-we-do/resources/estudillo-canal-watershed/>> (Last Accessed: January 6, 2021).
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- State Water Resources Control Board (SWRCB). 2021. GeoTracker (January 15, 2021).



1243 Alpine Road, Suite 108  
Walnut Creek, CA 94596  
Phone: 925.395.9500  
[www.wreco.com](http://www.wreco.com)

WRECO. 2021. *Draft Initial Site Assessment. Meekland Avenue Corridor Improvements – San Lorenzo Creek Bridge.* June 11.

## ATTACHMENTS

- A – Alameda County Public Works Agency Drilling Permit (Permit #W2021-0092)
- B – Laboratory Reports - McCampbell Analytical, Inc.
- C – Structural Elements Laboratory Reports - EMSL Analytical, Inc.
- D – Photolog - June 8, 2021

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Walnut Creek, CA 94596  
Phone: 925.395.9500  
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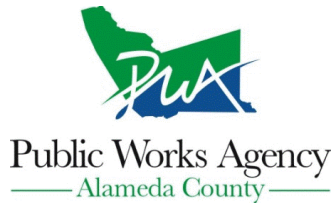
**Attachment A**  
**Drilling Permit (Alameda County Public Works Agency Permit #W2021-0092)**





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# Alameda County Public Works Agency - Water Resources Well Permit



399 Elmhurst Street  
Hayward, CA 94544-1395  
Telephone: (510)670-6633 Fax:(510)782-1939

Application Approved on: 02/08/2021 By jamesy

Permit Numbers: W2021-0092  
Permits Valid from 03/02/2021 to 03/04/2021

**Application Id:** 1612313533543  
**Site Location:** Meekland Ave, Hayward, CA, USA from E. Lewelling Blvd to Blossom Way-County Health Order  
**Project Start Date:** 20-10 Appendix B Protocol Being Used-Project#R32073  
**Assigned Inspector:** 03/02/2021  
Contact Eneyew Amberber at (510) 670-5759 or eneyew@acpwa.org  
**Applicant:** WRECO - Jason Olsson  
7807 Laguna Boulevard, Suite 400, Elk Grove, CA 95758  
**Property Owner:** Alameda County Public Works Agency  
399 Elmhurst Street, Hayward, CA 94544  
**Client:** James Chu  
399 Elmhurst Street, Hayward, CA 94544  
**Contact:** Jason Olsson  
**City of Project Site:** Hayward  
**Completion Date:** 03/04/2021  
**Phone:** 206-229-3780  
**Phone:** 510-670-5480  
**Phone:** 510-670-5566  
**Phone:** 916-513-7428  
**Cell:** 206-229-3780

**Receipt Number:** **Total Due:** \$265.00  
**Total Amount Paid:** \$0.00  
Payment Type: EXMPT **PAYMENT EXEMPT**

## Works Requesting Permits:

Borehole(s) for Investigation-Geotechnical Study/CPT's - 8 Boreholes  
Driller: Geo-Ex Subsurface Exploration - Lic #: 954267 - Method: auger

**Work Total: \$265.00**

## Specifications

Permit Number	Issued Dt	Expire Dt	# Boreholes	Hole Diam	Max Depth
W2021-0092	02/08/2021	05/31/2021	8	6.00 in.	80.00 ft

## Specific Work Permit Conditions

1. Backfill borehole by tremie with cement grout or cement grout/sand mixture. Upper two-three feet replaced in kind or with bentonite compacted cuttings. All cuttings remaining or unused shall be containerized and hauled off site. The containers shall be clearly labeled to the ownership of the container and labeled hazardous or non-hazardous.
2. Boreholes shall not be left open for a period of more than 24 hours. All boreholes left open more than 24 hours will need approval from Alameda County Public Works Agency, Water Resources Section. All boreholes shall be backfilled according to permit destruction requirements and all concrete material and asphalt material shall be to Caltrans Spec or County/City Codes. No borehole(s) shall be left in a manner to act as a conduit at any time.
3. Permittee shall assume entire responsibility for all activities and uses under this permit and shall indemnify, defend and save the Alameda County Public Works Agency, its officers, agents, and employees free and harmless from any and all expense, cost, liability in connection with or resulting from the exercise of this Permit including, but not limited to, properly damage, personal injury and wrongful death.
4. Geologic logs are required to be filed with ACPWA within 30 days of completion of drilling. Please email to wells@acpwa.org
5. Applicant shall contact assigned inspector listed on the top of the permit at least five (5) working days prior to starting, once the permit has been approved. Confirm the scheduled date(s) at least 24 hours prior to drilling.

## **Alameda County Public Works Agency - Water Resources Well Permit**

6. If contamination is discovered during drilling, the consultant is to notify Alameda County Public Works Agency and Alameda County Department of Environmental Health within 72-hours of discovery.

7. Permittee, permittee's contractors, consultants or agents shall be responsible to assure that all material or waters generated during drilling, boring destruction, and/or other activities associated with this Permit will be safely handled, properly managed, and disposed of according to all applicable federal, state, and local statutes regulating such. In no case shall these materials and/or waters be allowed to enter, or potentially enter, on or off-site storm sewers, dry wells, or waterways or be allowed to move off the property where work is being completed.

8. Copy of approved drilling permit must be on site at all times. Failure to present or show proof of the approved permit application on site shall result in a fine of \$500.00.

9. Prior to any drilling activities onto any public right-of-ways, it shall be the applicants responsibilities to contact and coordinate a Underground Service Alert (USA), obtain encroachment permit(s), excavation permit(s) or any other permits required for that City or to the County and follow all City or County Ordinances. It shall also be the applicants responsibilities to provide to the Cities or to Alameda County a Traffic Safety Plan for any lane closures or detours planned. No work shall begin until all the permits and requirements have been approved or obtained. Provide copies of all approved permits obtained to County inspector prior to starting drilling.

10. Permit is valid only for the purpose specified herein. No changes in construction procedures, as described on this permit application. Boreholes shall not be converted to monitoring wells, without a permit application process.

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1243 Alpine Road, Suite 108  
Walnut Creek, CA 94596  
Phone: 925.395.9500  
[www.wreco.com](http://www.wreco.com)

**Attachment B**  
**Laboratory Reports – McCampbell Analytical, Inc.**



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| Civil Engineering | Environmental Compliance | Geotechnical Engineering | Water Resources |



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# McC Campbell Analytical, Inc.

"When Quality Counts"

## Analytical Report

**WorkOrder:** 2103451

**Report Created for:** WRECO

1243 Alpine Road, Suite 108  
Walnut Creek, CA 94596

**Project Contact:** Melissa McAssey

**Project P.O.:**

**Project:** P20101; Meekland Avenue

**Project Received:** 03/08/2021

Analytical Report reviewed & approved for release on 03/17/2021 by:

Yen Cao

Project Manager

*The report shall not be reproduced except in full, without the written approval of the laboratory. The analytical results relate only to the items tested. Results reported conform to the most current NELAP standards, where applicable, unless otherwise stated in a case narrative.*





## Glossary of Terms & Qualifier Definitions

**Client:** WRECO  
**Project:** P20101; Meekland Avenue  
**WorkOrder:** 2103451

### Glossary Abbreviation

%D	Serial Dilution Percent Difference
95% Interval	95% Confident Interval
CPT	Consumer Product Testing not NELAP Accredited
DF	Dilution Factor
DI WET	(DISTLC) Waste Extraction Test using DI water
DISS	Dissolved (direct analysis of 0.45 µm filtered and acidified water sample)
DLT	Dilution Test (Serial Dilution)
DUP	Duplicate
EDL	Estimated Detection Limit
ERS	External reference sample. Second source calibration verification.
ITEF	International Toxicity Equivalence Factor
LCS	Laboratory Control Sample
LQL	Lowest Quantitation Level
MB	Method Blank
MB % Rec	% Recovery of Surrogate in Method Blank, if applicable
MDL	Method Detection Limit
ML	Minimum Level of Quantitation
MS	Matrix Spike
MSD	Matrix Spike Duplicate
N/A	Not Applicable
ND	Not detected at or above the indicated MDL or RL
NR	Data Not Reported due to matrix interference or insufficient sample amount.
PDS	Post Digestion Spike
PDSD	Post Digestion Spike Duplicate
PF	Prep Factor
RD	Relative Difference
RL	Reporting Limit (The RL is the lowest calibration standard in a multipoint calibration.)
RPD	Relative Percent Deviation
RRT	Relative Retention Time
SPK Val	Spike Value
SPKRef Val	Spike Reference Value
SPLP	Synthetic Precipitation Leachate Procedure
ST	Sorbent Tube
TCLP	Toxicity Characteristic Leachate Procedure
TEQ	Toxicity Equivalents
TZA	TimeZone Net Adjustment for sample collected outside of MAI's UTC.
WET (STLC)	Waste Extraction Test (Soluble Threshold Limit Concentration)



## **Glossary of Terms & Qualifier Definitions**

**Client:** WRECO  
**Project:** P20101; Meekland Avenue  
**WorkOrder:** 2103451

### **Analytical Qualifiers**

S	Surrogate recovery outside accepted recovery limits.
a1	Sample diluted due to matrix interference.
a3	Sample diluted due to high organic content interfering with quantitative/or qualitative analysis.
a4	Reporting limits raised due to the sample's matrix prohibiting a full volume extraction.
c1	Surrogate recovery outside of the control limits due to the dilution of the sample.
e2	Diesel range compounds are detected; no recognizable pattern.
e7	Oil range compounds are detected.
k10	CARB 435 Exception 1 - No asbestos detected. The limit of quantitation (LOQ) = 0.25%.





## Analytical Report

**Client:** WRECO  
**Date Received:** 03/08/2021 10:44  
**Date Prepared:** 03/10/2021  
**Project:** P20101; Meekland Avenue

**WorkOrder:** 2103451  
**Extraction Method:** SW3550B  
**Analytical Method:** SW8081A/8082  
**Unit:** mg/kg

### Organochlorine Pesticides + PCBs

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-3	2103451-002A	Soil	03/03/2021 14:30	GC20 03112115.D	217099

Analytes	Result	RL	DF	Date Analyzed
Aldrin	ND	0.0050	5	03/11/2021 22:43
a-BHC	ND	0.0050	5	03/11/2021 22:43
b-BHC	ND	0.0050	5	03/11/2021 22:43
d-BHC	ND	0.0050	5	03/11/2021 22:43
g-BHC	ND	0.0050	5	03/11/2021 22:43
Chlordane (Technical)	ND	0.12	5	03/11/2021 22:43
a-Chlordane	ND	0.0050	5	03/11/2021 22:43
g-Chlordane	ND	0.0050	5	03/11/2021 22:43
p,p-DDD	ND	0.0050	5	03/11/2021 22:43
p,p-DDE	ND	0.0050	5	03/11/2021 22:43
p,p-DDT	ND	0.0050	5	03/11/2021 22:43
Dieldrin	ND	0.0050	5	03/11/2021 22:43
Endosulfan I	ND	0.0050	5	03/11/2021 22:43
Endosulfan II	ND	0.0050	5	03/11/2021 22:43
Endosulfan sulfate	ND	0.0050	5	03/11/2021 22:43
Endrin	ND	0.0050	5	03/11/2021 22:43
Endrin aldehyde	ND	0.0050	5	03/11/2021 22:43
Endrin ketone	ND	0.0050	5	03/11/2021 22:43
Heptachlor	ND	0.0050	5	03/11/2021 22:43
Heptachlor epoxide	ND	0.0050	5	03/11/2021 22:43
Hexachlorobenzene	ND	0.050	5	03/11/2021 22:43
Hexachlorocyclopentadiene	ND	0.10	5	03/11/2021 22:43
Methoxychlor	ND	0.0050	5	03/11/2021 22:43
Toxaphene	ND	0.25	5	03/11/2021 22:43
Aroclor1016	ND	0.25	5	03/11/2021 22:43
Aroclor1221	ND	0.25	5	03/11/2021 22:43
Aroclor1232	ND	0.25	5	03/11/2021 22:43
Aroclor1242	ND	0.25	5	03/11/2021 22:43
Aroclor1248	ND	0.25	5	03/11/2021 22:43
Aroclor1254	ND	0.25	5	03/11/2021 22:43
Aroclor1260	ND	0.25	5	03/11/2021 22:43
PCBs, total	ND	0.25	5	03/11/2021 22:43

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	87	60-130	03/11/2021 22:43

Analyst(s): CK

Analytical Comments: a3

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CA ELAP 1644 • NELAP 4033ORELAP



## Analytical Report

**Client:** WRECO  
**Date Received:** 03/08/2021 10:44  
**Date Prepared:** 03/10/2021  
**Project:** P20101; Meekland Avenue

**WorkOrder:** 2103451  
**Extraction Method:** SW3550B  
**Analytical Method:** SW8081A/8082  
**Unit:** mg/kg

### Organochlorine Pesticides + PCBs

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-4	2103451-003A	Soil	03/04/2021 13:20	GC40 03112128.d	217099

Analytes	Result	RL	DF	Date Analyzed
Aldrin	ND	0.0010	1	03/11/2021 14:04
a-BHC	ND	0.0010	1	03/11/2021 14:04
b-BHC	ND	0.0010	1	03/11/2021 14:04
d-BHC	ND	0.0010	1	03/11/2021 14:04
g-BHC	ND	0.0010	1	03/11/2021 14:04
Chlordane (Technical)	ND	0.025	1	03/11/2021 14:04
a-Chlordane	ND	0.0010	1	03/11/2021 14:04
g-Chlordane	ND	0.0010	1	03/11/2021 14:04
p,p-DDD	ND	0.0010	1	03/11/2021 14:04
p,p-DDE	ND	0.0010	1	03/11/2021 14:04
p,p-DDT	ND	0.0010	1	03/11/2021 14:04
Dieldrin	ND	0.0010	1	03/11/2021 14:04
Endosulfan I	ND	0.0010	1	03/11/2021 14:04
Endosulfan II	ND	0.0010	1	03/11/2021 14:04
Endosulfan sulfate	ND	0.0010	1	03/11/2021 14:04
Endrin	ND	0.0010	1	03/11/2021 14:04
Endrin aldehyde	ND	0.0010	1	03/11/2021 14:04
Endrin ketone	ND	0.0010	1	03/11/2021 14:04
Heptachlor	ND	0.0010	1	03/11/2021 14:04
Heptachlor epoxide	ND	0.0010	1	03/11/2021 14:04
Hexachlorobenzene	ND	0.010	1	03/11/2021 14:04
Hexachlorocyclopentadiene	ND	0.020	1	03/11/2021 14:04
Methoxychlor	ND	0.0010	1	03/11/2021 14:04
Toxaphene	ND	0.050	1	03/11/2021 14:04
Aroclor1016	ND	0.050	1	03/11/2021 14:04
Aroclor1221	ND	0.050	1	03/11/2021 14:04
Aroclor1232	ND	0.050	1	03/11/2021 14:04
Aroclor1242	ND	0.050	1	03/11/2021 14:04
Aroclor1248	ND	0.050	1	03/11/2021 14:04
Aroclor1254	ND	0.050	1	03/11/2021 14:04
Aroclor1260	ND	0.050	1	03/11/2021 14:04
PCBs, total	ND	0.050	1	03/11/2021 14:04

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	79	60-130	03/11/2021 14:04

**Analyst(s):** CN



## Analytical Report

**Client:** WRECO  
**Date Received:** 03/08/2021 10:44  
**Date Prepared:** 03/11/2021  
**Project:** P20101; Meekland Avenue

**WorkOrder:** 2103451  
**Extraction Method:** SW3550B  
**Analytical Method:** SW8270C  
**Unit:** mg/kg

### Organophosphorous Pesticides by GC-MS (EPA 8141 Basic Target List)

Client ID	Lab ID	Matrix	Date Collected		Instrument	Batch ID
B-3	2103451-002A	Soil	03/03/2021 14:30		GC25 F0311210918.D	217138
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>	
Alachlor	ND		2.0	20	03/11/2021 17:10	
Atrazine	ND		2.0	20	03/11/2021 17:10	
Azinphos methyl (Guthion)	ND		2.0	20	03/11/2021 17:10	
Bolstar (Sulprofos)	ND		2.0	20	03/11/2021 17:10	
Chlorpyrifos	ND		2.0	20	03/11/2021 17:10	
Coumaphos	ND		2.0	20	03/11/2021 17:10	
Demeton	ND		2.0	20	03/11/2021 17:10	
Diazinon	ND		2.0	20	03/11/2021 17:10	
Dichlorvos (DDVP)	ND		2.0	20	03/11/2021 17:10	
Dimethoate	ND		2.0	20	03/11/2021 17:10	
Disulfoton (Di-Syston)	ND		2.0	20	03/11/2021 17:10	
EPN	ND		2.0	20	03/11/2021 17:10	
EPTC	ND		2.0	20	03/11/2021 17:10	
Ethion	ND		2.0	20	03/11/2021 17:10	
Ethoprop	ND		2.0	20	03/11/2021 17:10	
Ethyl parathion	ND		2.0	20	03/11/2021 17:10	
Fensulfothion	ND		2.0	20	03/11/2021 17:10	
Fenthion	ND		2.0	20	03/11/2021 17:10	
Fonofos	ND		2.0	20	03/11/2021 17:10	
Malathion	ND		2.0	20	03/11/2021 17:10	
Mevinphos (Phosdrin)	ND		2.0	20	03/11/2021 17:10	
Molinate	ND		2.0	20	03/11/2021 17:10	
Methyl parathion	ND		2.0	20	03/11/2021 17:10	
Phorate (Thimet)	ND		2.0	20	03/11/2021 17:10	
Prometon	ND		2.0	20	03/11/2021 17:10	
Ronnel	ND		2.0	20	03/11/2021 17:10	
Simazine	ND		2.0	20	03/11/2021 17:10	
Stirofos (Tetrachlorvinphos)	ND		2.0	20	03/11/2021 17:10	
Terbacil	ND		2.0	20	03/11/2021 17:10	
Terbufos (Terbuphos)	ND		2.0	20	03/11/2021 17:10	
Thiobencarb	ND		2.0	20	03/11/2021 17:10	
Tokuthion (Prothiofos)	ND		2.0	20	03/11/2021 17:10	
Trichloronate (Agritox)	ND		2.0	20	03/11/2021 17:10	

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## Analytical Report

**Client:** WRECO  
**Date Received:** 03/08/2021 10:44  
**Date Prepared:** 03/11/2021  
**Project:** P20101; Meekland Avenue

**WorkOrder:** 2103451  
**Extraction Method:** SW3550B  
**Analytical Method:** SW8270C  
**Unit:** mg/kg

### Organophosphorous Pesticides by GC-MS (EPA 8141 Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-3	2103451-002A	Soil	03/03/2021 14:30	GC25 F0311210918.D	217138

<u>Analytes</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
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<u>Surrogates</u>	<u>REC (%)</u>	<u>Qualifiers</u>	<u>Limits</u>	
Triphenyl phosphate	188	S	60-140	03/11/2021 17:10

Analyst(s): STA Analytical Comments: a1,c1





## Analytical Report

**Client:** WRECO  
**Date Received:** 03/08/2021 10:44  
**Date Prepared:** 03/11/2021  
**Project:** P20101; Meekland Avenue

**WorkOrder:** 2103451  
**Extraction Method:** SW3550B  
**Analytical Method:** SW8270C  
**Unit:** mg/kg

### Organophosphorous Pesticides by GC-MS (EPA 8141 Basic Target List)

Client ID	Lab ID	Matrix	Date Collected		Instrument	Batch ID
B-4	2103451-003A	Soil	03/04/2021 13:20		GC25 F0311210919.D	217138
Analytes	Result		RL	DF	Date Analyzed	
Alachlor	ND		2.0	20	03/11/2021 17:37	
Atrazine	ND		2.0	20	03/11/2021 17:37	
Azinphos methyl (Guthion)	ND		2.0	20	03/11/2021 17:37	
Bolstar (Sulprofos)	ND		2.0	20	03/11/2021 17:37	
Chlorpyrifos	ND		2.0	20	03/11/2021 17:37	
Coumaphos	ND		2.0	20	03/11/2021 17:37	
Demeton	ND		2.0	20	03/11/2021 17:37	
Diazinon	ND		2.0	20	03/11/2021 17:37	
Dichlorvos (DDVP)	ND		2.0	20	03/11/2021 17:37	
Dimethoate	ND		2.0	20	03/11/2021 17:37	
Disulfoton (Di-Syston)	ND		2.0	20	03/11/2021 17:37	
EPN	ND		2.0	20	03/11/2021 17:37	
EPTC	ND		2.0	20	03/11/2021 17:37	
Ethion	ND		2.0	20	03/11/2021 17:37	
Ethoprop	ND		2.0	20	03/11/2021 17:37	
Ethyl parathion	ND		2.0	20	03/11/2021 17:37	
Fensulfothion	ND		2.0	20	03/11/2021 17:37	
Fenthion	ND		2.0	20	03/11/2021 17:37	
Fonofos	ND		2.0	20	03/11/2021 17:37	
Malathion	ND		2.0	20	03/11/2021 17:37	
Mevinphos (Phosdrin)	ND		2.0	20	03/11/2021 17:37	
Molinate	ND		2.0	20	03/11/2021 17:37	
Methyl parathion	ND		2.0	20	03/11/2021 17:37	
Phorate (Thimet)	ND		2.0	20	03/11/2021 17:37	
Prometon	ND		2.0	20	03/11/2021 17:37	
Ronnel	ND		2.0	20	03/11/2021 17:37	
Simazine	ND		2.0	20	03/11/2021 17:37	
Stirofos (Tetrachlorvinphos)	ND		2.0	20	03/11/2021 17:37	
Terbacil	ND		2.0	20	03/11/2021 17:37	
Terbufos (Terbuphos)	ND		2.0	20	03/11/2021 17:37	
Thiobencarb	ND		2.0	20	03/11/2021 17:37	
Tokuthion (Prothiofos)	ND		2.0	20	03/11/2021 17:37	
Trichloronate (Agritox)	ND		2.0	20	03/11/2021 17:37	

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## Analytical Report

**Client:** WRECO  
**Date Received:** 03/08/2021 10:44  
**Date Prepared:** 03/11/2021  
**Project:** P20101; Meekland Avenue

**WorkOrder:** 2103451  
**Extraction Method:** SW3550B  
**Analytical Method:** SW8270C  
**Unit:** mg/kg

### Organophosphorous Pesticides by GC-MS (EPA 8141 Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-4	2103451-003A	Soil	03/04/2021 13:20	GC25 F0311210919.D	217138

<u>Analytes</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
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<u>Surrogates</u>	<u>REC (%)</u>	<u>Qualifiers</u>	<u>Limits</u>	
Triphenyl phosphate	167	S	60-140	03/11/2021 17:37

Analyst(s): STA Analytical Comments: a1,c1



## Analytical Report

**Client:** WRECO  
**Date Received:** 03/08/2021 10:44  
**Date Prepared:** 03/10/2021  
**Project:** P20101; Meekland Avenue

**WorkOrder:** 2103451  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** mg/kg

### Volatile Organics

Client ID	Lab ID	Matrix	Date Collected		Instrument	Batch ID
B-2	2103451-001A	Soil	03/02/2021 10:20		GC16 03152136.D	217097
Analytes	Result	RL	DF	Date Analyzed		
Acetone	ND	0.20	1	03/16/2021 04:46		
tert-Amyl methyl ether (TAME)	ND	0.0050	1	03/16/2021 04:46		
Benzene	ND	0.0050	1	03/16/2021 04:46		
Bromobenzene	ND	0.0050	1	03/16/2021 04:46		
Bromochloromethane	ND	0.0050	1	03/16/2021 04:46		
Bromodichloromethane	ND	0.0050	1	03/16/2021 04:46		
Bromoform	ND	0.0050	1	03/16/2021 04:46		
Bromomethane	ND	0.0050	1	03/16/2021 04:46		
2-Butanone (MEK)	ND	0.050	1	03/16/2021 04:46		
t-Butyl alcohol (TBA)	ND	0.050	1	03/16/2021 04:46		
n-Butyl benzene	ND	0.0050	1	03/16/2021 04:46		
sec-Butyl benzene	ND	0.0050	1	03/16/2021 04:46		
tert-Butyl benzene	ND	0.0050	1	03/16/2021 04:46		
Carbon Disulfide	ND	0.0050	1	03/16/2021 04:46		
Carbon Tetrachloride	ND	0.0050	1	03/16/2021 04:46		
Chlorobenzene	ND	0.0050	1	03/16/2021 04:46		
Chloroethane	ND	0.0050	1	03/16/2021 04:46		
Chloroform	ND	0.0050	1	03/16/2021 04:46		
Chloromethane	ND	0.0050	1	03/16/2021 04:46		
2-Chlorotoluene	ND	0.0050	1	03/16/2021 04:46		
4-Chlorotoluene	ND	0.0050	1	03/16/2021 04:46		
Dibromochloromethane	ND	0.0050	1	03/16/2021 04:46		
1,2-Dibromo-3-chloropropane	ND	0.0050	1	03/16/2021 04:46		
1,2-Dibromoethane (EDB)	ND	0.0050	1	03/16/2021 04:46		
Dibromomethane	ND	0.0050	1	03/16/2021 04:46		
1,2-Dichlorobenzene	ND	0.0050	1	03/16/2021 04:46		
1,3-Dichlorobenzene	ND	0.0050	1	03/16/2021 04:46		
1,4-Dichlorobenzene	ND	0.0050	1	03/16/2021 04:46		
Dichlorodifluoromethane	ND	0.0050	1	03/16/2021 04:46		
1,1-Dichloroethane	ND	0.0050	1	03/16/2021 04:46		
1,2-Dichloroethane (1,2-DCA)	ND	0.0050	1	03/16/2021 04:46		
1,1-Dichloroethene	ND	0.0050	1	03/16/2021 04:46		
cis-1,2-Dichloroethene	ND	0.0050	1	03/16/2021 04:46		
trans-1,2-Dichloroethene	ND	0.0050	1	03/16/2021 04:46		
1,2-Dichloropropane	ND	0.0050	1	03/16/2021 04:46		
1,3-Dichloropropane	ND	0.0050	1	03/16/2021 04:46		
2,2-Dichloropropane	ND	0.0050	1	03/16/2021 04:46		

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## Analytical Report

**Client:** WRECO  
**Date Received:** 03/08/2021 10:44  
**Date Prepared:** 03/10/2021  
**Project:** P20101; Meekland Avenue

**WorkOrder:** 2103451  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** mg/kg

### Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-2	2103451-001A	Soil	03/02/2021 10:20	GC16 03152136.D	217097
<u>Analytes</u>	<u>Result</u>		<u>RL</u> <u>DE</u>		<u>Date Analyzed</u>
1,1-Dichloropropene	ND		0.0050 1		03/16/2021 04:46
cis-1,3-Dichloropropene	ND		0.0050 1		03/16/2021 04:46
trans-1,3-Dichloropropene	ND		0.0050 1		03/16/2021 04:46
Diisopropyl ether (DIPE)	ND		0.0050 1		03/16/2021 04:46
Ethylbenzene	ND		0.0050 1		03/16/2021 04:46
Ethyl tert-butyl ether (ETBE)	ND		0.0050 1		03/16/2021 04:46
Freon 113	ND		0.0050 1		03/16/2021 04:46
Hexachlorobutadiene	ND		0.0050 1		03/16/2021 04:46
Hexachloroethane	ND		0.0050 1		03/16/2021 04:46
2-Hexanone	ND		0.0050 1		03/16/2021 04:46
Isopropylbenzene	ND		0.0050 1		03/16/2021 04:46
4-Isopropyl toluene	ND		0.0050 1		03/16/2021 04:46
Methyl-t-butyl ether (MTBE)	ND		0.0050 1		03/16/2021 04:46
Methylene chloride	ND		0.020 1		03/16/2021 04:46
4-Methyl-2-pentanone (MIBK)	ND		0.0050 1		03/16/2021 04:46
Naphthalene	ND		0.0050 1		03/16/2021 04:46
n-Propyl benzene	ND		0.0050 1		03/16/2021 04:46
Styrene	ND		0.0050 1		03/16/2021 04:46
1,1,1,2-Tetrachloroethane	ND		0.0050 1		03/16/2021 04:46
1,1,2,2-Tetrachloroethane	ND		0.0050 1		03/16/2021 04:46
Tetrachloroethene	ND		0.0050 1		03/16/2021 04:46
Toluene	ND		0.0050 1		03/16/2021 04:46
1,2,3-Trichlorobenzene	ND		0.0050 1		03/16/2021 04:46
1,2,4-Trichlorobenzene	ND		0.0050 1		03/16/2021 04:46
1,1,1-Trichloroethane	ND		0.0050 1		03/16/2021 04:46
1,1,2-Trichloroethane	ND		0.0050 1		03/16/2021 04:46
Trichloroethene	ND		0.0050 1		03/16/2021 04:46
Trichlorofluoromethane	ND		0.0050 1		03/16/2021 04:46
1,2,3-Trichloropropane	ND		0.0050 1		03/16/2021 04:46
1,2,4-Trimethylbenzene	ND		0.0050 1		03/16/2021 04:46
1,3,5-Trimethylbenzene	ND		0.0050 1		03/16/2021 04:46
Vinyl Chloride	ND		0.0050 1		03/16/2021 04:46
m,p-Xylene	ND		0.0050 1		03/16/2021 04:46
o-Xylene	ND		0.0050 1		03/16/2021 04:46
Xylenes, Total	ND		0.0050 1		03/16/2021 04:46

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## Analytical Report

**Client:** WRECO  
**Date Received:** 03/08/2021 10:44  
**Date Prepared:** 03/10/2021  
**Project:** P20101; Meekland Avenue

**WorkOrder:** 2103451  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** mg/kg

### Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-2	2103451-001A	Soil	03/02/2021 10:20	GC16 03152136.D	217097

Analytes	Result	RL	DE	Date Analyzed
<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>		
Dibromofluoromethane	110	70-140		03/16/2021 04:46
Toluene-d8	131	70-140		03/16/2021 04:46
4-BFB	123	70-140		03/16/2021 04:46
Benzene-d6	87	50-140		03/16/2021 04:46
Ethylbenzene-d10	108	50-140		03/16/2021 04:46
1,2-DCB-d4	69	40-140		03/16/2021 04:46

Analyst(s): KF



## Analytical Report

**Client:** WRECO  
**Date Received:** 03/08/2021 10:44  
**Date Prepared:** 03/10/2021  
**Project:** P20101; Meekland Avenue

**WorkOrder:** 2103451  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** mg/kg

### Volatile Organics

Client ID	Lab ID	Matrix	Date Collected		Instrument	Batch ID
B-4	2103451-003A	Soil	03/04/2021 13:20		GC28 03162131.D	217097
Analytes	Result	RL	DE	Date Analyzed		
Acetone	ND	0.20	1	03/17/2021 02:47		
tert-Amyl methyl ether (TAME)	ND	0.0050	1	03/17/2021 02:47		
Benzene	ND	0.0050	1	03/17/2021 02:47		
Bromobenzene	ND	0.0050	1	03/17/2021 02:47		
Bromochloromethane	ND	0.0050	1	03/17/2021 02:47		
Bromodichloromethane	ND	0.0050	1	03/17/2021 02:47		
Bromoform	ND	0.0050	1	03/17/2021 02:47		
Bromomethane	ND	0.0050	1	03/17/2021 02:47		
2-Butanone (MEK)	ND	0.050	1	03/17/2021 02:47		
t-Butyl alcohol (TBA)	ND	0.050	1	03/17/2021 02:47		
n-Butyl benzene	ND	0.0050	1	03/17/2021 02:47		
sec-Butyl benzene	ND	0.0050	1	03/17/2021 02:47		
tert-Butyl benzene	ND	0.0050	1	03/17/2021 02:47		
Carbon Disulfide	ND	0.0050	1	03/17/2021 02:47		
Carbon Tetrachloride	ND	0.0050	1	03/17/2021 02:47		
Chlorobenzene	ND	0.0050	1	03/17/2021 02:47		
Chloroethane	ND	0.0050	1	03/17/2021 02:47		
Chloroform	ND	0.0050	1	03/17/2021 02:47		
Chloromethane	ND	0.0050	1	03/17/2021 02:47		
2-Chlorotoluene	ND	0.0050	1	03/17/2021 02:47		
4-Chlorotoluene	ND	0.0050	1	03/17/2021 02:47		
Dibromochloromethane	ND	0.0050	1	03/17/2021 02:47		
1,2-Dibromo-3-chloropropane	ND	0.0050	1	03/17/2021 02:47		
1,2-Dibromoethane (EDB)	ND	0.0050	1	03/17/2021 02:47		
Dibromomethane	ND	0.0050	1	03/17/2021 02:47		
1,2-Dichlorobenzene	ND	0.0050	1	03/17/2021 02:47		
1,3-Dichlorobenzene	ND	0.0050	1	03/17/2021 02:47		
1,4-Dichlorobenzene	ND	0.0050	1	03/17/2021 02:47		
Dichlorodifluoromethane	ND	0.0050	1	03/17/2021 02:47		
1,1-Dichloroethane	ND	0.0050	1	03/17/2021 02:47		
1,2-Dichloroethane (1,2-DCA)	ND	0.0050	1	03/17/2021 02:47		
1,1-Dichloroethene	ND	0.0050	1	03/17/2021 02:47		
cis-1,2-Dichloroethene	ND	0.0050	1	03/17/2021 02:47		
trans-1,2-Dichloroethene	ND	0.0050	1	03/17/2021 02:47		
1,2-Dichloropropane	ND	0.0050	1	03/17/2021 02:47		
1,3-Dichloropropane	ND	0.0050	1	03/17/2021 02:47		
2,2-Dichloropropane	ND	0.0050	1	03/17/2021 02:47		

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## Analytical Report

**Client:** WRECO  
**Date Received:** 03/08/2021 10:44  
**Date Prepared:** 03/10/2021  
**Project:** P20101; Meekland Avenue

**WorkOrder:** 2103451  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** mg/kg

### Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-4	2103451-003A	Soil	03/04/2021 13:20	GC28 03162131.D	217097

Analytes	Result	RL	DE	Date Analyzed
1,1-Dichloropropene	ND	0.0050	1	03/17/2021 02:47
cis-1,3-Dichloropropene	ND	0.0050	1	03/17/2021 02:47
trans-1,3-Dichloropropene	ND	0.0050	1	03/17/2021 02:47
Diisopropyl ether (DIPE)	ND	0.0050	1	03/17/2021 02:47
Ethylbenzene	ND	0.0050	1	03/17/2021 02:47
Ethyl tert-butyl ether (ETBE)	ND	0.0050	1	03/17/2021 02:47
Freon 113	ND	0.0050	1	03/17/2021 02:47
Hexachlorobutadiene	ND	0.0050	1	03/17/2021 02:47
Hexachloroethane	ND	0.0050	1	03/17/2021 02:47
2-Hexanone	ND	0.0050	1	03/17/2021 02:47
Isopropylbenzene	ND	0.0050	1	03/17/2021 02:47
4-Isopropyl toluene	ND	0.0050	1	03/17/2021 02:47
Methyl-t-butyl ether (MTBE)	ND	0.0050	1	03/17/2021 02:47
Methylene chloride	ND	0.020	1	03/17/2021 02:47
4-Methyl-2-pentanone (MIBK)	ND	0.0050	1	03/17/2021 02:47
Naphthalene	ND	0.0050	1	03/17/2021 02:47
n-Propyl benzene	ND	0.0050	1	03/17/2021 02:47
Styrene	ND	0.0050	1	03/17/2021 02:47
1,1,1,2-Tetrachloroethane	ND	0.0050	1	03/17/2021 02:47
1,1,2,2-Tetrachloroethane	ND	0.0050	1	03/17/2021 02:47
Tetrachloroethene	ND	0.0050	1	03/17/2021 02:47
Toluene	ND	0.0050	1	03/17/2021 02:47
1,2,3-Trichlorobenzene	ND	0.0050	1	03/17/2021 02:47
1,2,4-Trichlorobenzene	ND	0.0050	1	03/17/2021 02:47
1,1,1-Trichloroethane	ND	0.0050	1	03/17/2021 02:47
1,1,2-Trichloroethane	ND	0.0050	1	03/17/2021 02:47
Trichloroethene	ND	0.0050	1	03/17/2021 02:47
Trichlorofluoromethane	ND	0.0050	1	03/17/2021 02:47
1,2,3-Trichloropropane	ND	0.0050	1	03/17/2021 02:47
1,2,4-Trimethylbenzene	ND	0.0050	1	03/17/2021 02:47
1,3,5-Trimethylbenzene	ND	0.0050	1	03/17/2021 02:47
Vinyl Chloride	ND	0.0050	1	03/17/2021 02:47
m,p-Xylene	ND	0.0050	1	03/17/2021 02:47
o-Xylene	ND	0.0050	1	03/17/2021 02:47
Xylenes, Total	ND	0.0050	1	03/17/2021 02:47

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## Analytical Report

**Client:** WRECO  
**Date Received:** 03/08/2021 10:44  
**Date Prepared:** 03/10/2021  
**Project:** P20101; Meekland Avenue

**WorkOrder:** 2103451  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** mg/kg

### Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-4	2103451-003A	Soil	03/04/2021 13:20	GC28 03162131.D	217097

Analytes	Result	RL	DE	Date Analyzed
<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>		
Dibromofluoromethane	98	70-140		03/17/2021 02:47
Toluene-d8	101	70-140		03/17/2021 02:47
4-BFB	93	70-140		03/17/2021 02:47
Benzene-d6	76	50-140		03/17/2021 02:47
Ethylbenzene-d10	86	50-140		03/17/2021 02:47
1,2-DCB-d4	65	40-140		03/17/2021 02:47

Analyst(s): KF



## Analytical Report

**Client:** WRECO  
**Date Received:** 03/08/2021 10:44  
**Date Prepared:** 03/15/2021  
**Project:** P20101; Meekland Avenue

**WorkOrder:** 2103451  
**Extraction Method:** SW3550B  
**Analytical Method:** SW8270C  
**Unit:** mg/kg

### Polynuclear Aromatic Hydrocarbons (PAHs / PNAs) using SIM Mode

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-2	2103451-001A	Soil	03/02/2021 10:20	GC48 03152117.D	217414

Analytes	Result	RL	DF	Date Analyzed
Acenaphthene	ND	0.10	10	03/15/2021 18:29
Acenaphthylene	ND	0.10	10	03/15/2021 18:29
Anthracene	ND	0.10	10	03/15/2021 18:29
Benzo (a) anthracene	ND	1.0	10	03/15/2021 18:29
Benzo (a) pyrene	ND	0.20	10	03/15/2021 18:29
Benzo (b) fluoranthene	ND	0.20	10	03/15/2021 18:29
Benzo (g,h,i) perylene	0.21	0.20	10	03/15/2021 18:29
Benzo (k) fluoranthene	ND	0.20	10	03/15/2021 18:29
Chrysene	ND	0.20	10	03/15/2021 18:29
Dibenzo (a,h) anthracene	ND	0.20	10	03/15/2021 18:29
Fluoranthene	ND	0.20	10	03/15/2021 18:29
Fluorene	ND	0.20	10	03/15/2021 18:29
Indeno (1,2,3-cd) pyrene	ND	1.0	10	03/15/2021 18:29
1-Methylnaphthalene	ND	0.10	10	03/15/2021 18:29
2-Methylnaphthalene	ND	0.10	10	03/15/2021 18:29
Naphthalene	ND	0.10	10	03/15/2021 18:29
Phenanthrene	ND	0.40	10	03/15/2021 18:29
Pyrene	0.23	0.20	10	03/15/2021 18:29

Surrogates	REC (%)	Limits	
2-Fluorobiphenyl	94	60-130	03/15/2021 18:29
2-Fluorophenol	96	60-130	03/15/2021 18:29

**Analyst(s):** HD

**Analytical Comments:** a4





## Analytical Report

**Client:** WRECO  
**Date Received:** 03/08/2021 10:44  
**Date Prepared:** 03/15/2021  
**Project:** P20101; Meekland Avenue

**WorkOrder:** 2103451  
**Extraction Method:** SW3550B  
**Analytical Method:** SW8270C  
**Unit:** mg/Kg

### Semi-Volatile Organics

Client ID	Lab ID	Matrix	Date Collected		Instrument	Batch ID
B-3	2103451-002A	Soil	03/03/2021 14:30		GC48 03152118.D	217414
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DE</u>	<u>Date Analyzed</u>	
Acenaphthene	ND		0.021	2	03/15/2021 18:56	
Acenaphthylene	0.029		0.021	2	03/15/2021 18:56	
Acetochlor	ND		4.0	2	03/15/2021 18:56	
Anthracene	ND		0.021	2	03/15/2021 18:56	
Benzidine	ND		20	2	03/15/2021 18:56	
Benzo (a) anthracene	ND		0.21	2	03/15/2021 18:56	
Benzo (a) pyrene	0.16		0.040	2	03/15/2021 18:56	
Benzo (b) fluoranthene	0.16		0.040	2	03/15/2021 18:56	
Benzo (g,h,i) perylene	0.20		0.040	2	03/15/2021 18:56	
Benzo (k) fluoranthene	0.052		0.040	2	03/15/2021 18:56	
Benzyl Alcohol	ND		20	2	03/15/2021 18:56	
1,1-Biphenyl	ND		0.21	2	03/15/2021 18:56	
Bis (2-chloroethoxy) Methane	ND		4.0	2	03/15/2021 18:56	
Bis (2-chloroethyl) Ether	ND		0.021	2	03/15/2021 18:56	
Bis (2-chloroisopropyl) Ether	ND		0.21	2	03/15/2021 18:56	
Bis (2-ethylhexyl) Adipate	ND		4.0	2	03/15/2021 18:56	
Bis (2-ethylhexyl) Phthalate	ND		0.40	2	03/15/2021 18:56	
4-Bromophenyl Phenyl Ether	ND		4.0	2	03/15/2021 18:56	
Butylbenzyl Phthalate	ND		0.40	2	03/15/2021 18:56	
4-Chloroaniline	ND		0.021	2	03/15/2021 18:56	
4-Chloro-3-methylphenol	ND		4.0	2	03/15/2021 18:56	
2-Chloronaphthalene	ND		4.0	2	03/15/2021 18:56	
2-Chlorophenol	ND		0.21	2	03/15/2021 18:56	
4-Chlorophenyl Phenyl Ether	ND		4.0	2	03/15/2021 18:56	
Chrysene	0.080		0.040	2	03/15/2021 18:56	
Dibenzo (a,h) anthracene	ND		0.040	2	03/15/2021 18:56	
Dibenzofuran	ND		4.0	2	03/15/2021 18:56	
Di-n-butyl Phthalate	ND		0.21	2	03/15/2021 18:56	
1,2-Dichlorobenzene	ND		4.0	2	03/15/2021 18:56	
1,3-Dichlorobenzene	ND		4.0	2	03/15/2021 18:56	
1,4-Dichlorobenzene	ND		4.0	2	03/15/2021 18:56	
3,3-Dichlorobenzidine	ND		0.040	2	03/15/2021 18:56	
2,4-Dichlorophenol	ND		0.021	2	03/15/2021 18:56	
Diethyl Phthalate	ND		0.21	2	03/15/2021 18:56	
2,4-Dimethylphenol	ND		4.0	2	03/15/2021 18:56	
Dimethyl Phthalate	ND		0.040	2	03/15/2021 18:56	
4,6-Dinitro-2-methylphenol	ND		20	2	03/15/2021 18:56	

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## Analytical Report

**Client:** WRECO  
**Date Received:** 03/08/2021 10:44  
**Date Prepared:** 03/15/2021  
**Project:** P20101; Meekland Avenue

**WorkOrder:** 2103451  
**Extraction Method:** SW3550B  
**Analytical Method:** SW8270C  
**Unit:** mg/Kg

### Semi-Volatile Organics

Client ID	Lab ID	Matrix	Date Collected		Instrument	Batch ID
B-3	2103451-002A	Soil	03/03/2021 14:30		GC48 03152118.D	217414
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DE</u>	<u>Date Analyzed</u>	
2,4-Dinitrophenol	ND		4.0	2	03/15/2021 18:56	
2,4-Dinitrotoluene	ND		0.21	2	03/15/2021 18:56	
2,6-Dinitrotoluene	ND		0.21	2	03/15/2021 18:56	
Di-n-octyl Phthalate	ND		0.21	2	03/15/2021 18:56	
1,2-Diphenylhydrazine	ND		4.0	2	03/15/2021 18:56	
Fluoranthene	0.21		0.040	2	03/15/2021 18:56	
Fluorene	ND		0.040	2	03/15/2021 18:56	
Hexachlorobenzene	ND		0.040	2	03/15/2021 18:56	
Hexachlorobutadiene	ND		0.021	2	03/15/2021 18:56	
Hexachlorocyclopentadiene	ND		32	2	03/15/2021 18:56	
Hexachloroethane	ND		0.21	2	03/15/2021 18:56	
Indeno (1,2,3-cd) pyrene	ND		0.21	2	03/15/2021 18:56	
Isophorone	ND		4.0	2	03/15/2021 18:56	
1-Methylnaphthalene	ND		0.021	2	03/15/2021 18:56	
2-Methylnaphthalene	ND		0.021	2	03/15/2021 18:56	
2-Methylphenol (o-Cresol)	ND		4.0	2	03/15/2021 18:56	
3 & 4-Methylphenol (m,p-Cresol)	ND		4.0	2	03/15/2021 18:56	
Naphthalene	ND		0.021	2	03/15/2021 18:56	
2-Nitroaniline	ND		20	2	03/15/2021 18:56	
3-Nitroaniline	ND		20	2	03/15/2021 18:56	
4-Nitroaniline	ND		20	2	03/15/2021 18:56	
Nitrobenzene	ND		4.0	2	03/15/2021 18:56	
2-Nitrophenol	ND		20	2	03/15/2021 18:56	
4-Nitrophenol	ND		20	2	03/15/2021 18:56	
N-Nitrosodiphenylamine	ND		4.0	2	03/15/2021 18:56	
N-Nitrosodi-n-propylamine	ND		4.0	2	03/15/2021 18:56	
Pentachlorophenol	ND		1.0	2	03/15/2021 18:56	
Phenanthrene	ND		0.080	2	03/15/2021 18:56	
Phenol	ND		0.80	2	03/15/2021 18:56	
Pyrene	0.29		0.040	2	03/15/2021 18:56	
Pyridine	ND		4.0	2	03/15/2021 18:56	
2,3,4,6-Tetrachlorophenol	ND		4.0	2	03/15/2021 18:56	
1,2,4-Trichlorobenzene	ND		4.0	2	03/15/2021 18:56	
2,4,5-Trichlorophenol	ND		0.040	2	03/15/2021 18:56	
2,4,6-Trichlorophenol	ND		0.040	2	03/15/2021 18:56	

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## Analytical Report

**Client:** WRECO  
**Date Received:** 03/08/2021 10:44  
**Date Prepared:** 03/15/2021  
**Project:** P20101; Meekland Avenue

**WorkOrder:** 2103451  
**Extraction Method:** SW3550B  
**Analytical Method:** SW8270C  
**Unit:** mg/Kg

### Semi-Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-3	2103451-002A	Soil	03/03/2021 14:30	GC48 03152118.D	217414

<u>Analytes</u>	<u>Result</u>	<u>RL</u>	<u>DE</u>	<u>Date Analyzed</u>
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<u>Surrogates</u>	<u>REC (%)</u>	<u>Qualifiers</u>	<u>Limits</u>	
2-Fluorophenol	108		60-130	03/15/2021 18:56
Phenol-d5	102		50-130	03/15/2021 18:56
Nitrobenzene-d5	76		60-130	03/15/2021 18:56
2-Fluorobiphenyl	81		60-130	03/15/2021 18:56
2,4,6-Tribromophenol	21	S	50-130	03/15/2021 18:56
4-Terphenyl-d14	83		50-130	03/15/2021 18:56

Analyst(s): HD

Analytical Comments: a4,c1



## Analytical Report

**Client:** WRECO  
**Date Received:** 03/08/2021 10:44  
**Date Prepared:** 03/15/2021  
**Project:** P20101; Meekland Avenue

**WorkOrder:** 2103451  
**Extraction Method:** SW3550B  
**Analytical Method:** SW8270C  
**Unit:** mg/Kg

### Semi-Volatile Organics

Client ID	Lab ID	Matrix	Date Collected		Instrument	Batch ID
B-8	2103451-004A	Soil	03/05/2021 14:10		GC48 03152119.D	217414
Analytes	Result	RL	DF	Date Analyzed		
Acenaphthene	ND	0.0026	2	03/15/2021 19:23		
Acenaphthylene	ND	0.0026	2	03/15/2021 19:23		
Acetochlor	ND	0.50	2	03/15/2021 19:23		
Anthracene	ND	0.0026	2	03/15/2021 19:23		
Benzidine	ND	2.5	2	03/15/2021 19:23		
Benzo (a) anthracene	ND	0.026	2	03/15/2021 19:23		
Benzo (a) pyrene	ND	0.0050	2	03/15/2021 19:23		
Benzo (b) fluoranthene	ND	0.0050	2	03/15/2021 19:23		
Benzo (g,h,i) perylene	ND	0.0050	2	03/15/2021 19:23		
Benzo (k) fluoranthene	ND	0.0050	2	03/15/2021 19:23		
Benzyl Alcohol	ND	2.5	2	03/15/2021 19:23		
1,1-Biphenyl	ND	0.026	2	03/15/2021 19:23		
Bis (2-chloroethoxy) Methane	ND	0.50	2	03/15/2021 19:23		
Bis (2-chloroethyl) Ether	ND	0.0026	2	03/15/2021 19:23		
Bis (2-chloroisopropyl) Ether	ND	0.026	2	03/15/2021 19:23		
Bis (2-ethylhexyl) Adipate	ND	0.50	2	03/15/2021 19:23		
Bis (2-ethylhexyl) Phthalate	ND	0.050	2	03/15/2021 19:23		
4-Bromophenyl Phenyl Ether	ND	0.50	2	03/15/2021 19:23		
Butylbenzyl Phthalate	ND	0.050	2	03/15/2021 19:23		
4-Chloroaniline	ND	0.0026	2	03/15/2021 19:23		
4-Chloro-3-methylphenol	ND	0.50	2	03/15/2021 19:23		
2-Chloronaphthalene	ND	0.50	2	03/15/2021 19:23		
2-Chlorophenol	ND	0.026	2	03/15/2021 19:23		
4-Chlorophenyl Phenyl Ether	ND	0.50	2	03/15/2021 19:23		
Chrysene	ND	0.0050	2	03/15/2021 19:23		
Dibenzo (a,h) anthracene	ND	0.0050	2	03/15/2021 19:23		
Dibenzofuran	ND	0.50	2	03/15/2021 19:23		
Di-n-butyl Phthalate	ND	0.026	2	03/15/2021 19:23		
1,2-Dichlorobenzene	ND	0.50	2	03/15/2021 19:23		
1,3-Dichlorobenzene	ND	0.50	2	03/15/2021 19:23		
1,4-Dichlorobenzene	ND	0.50	2	03/15/2021 19:23		
3,3-Dichlorobenzidine	ND	0.0050	2	03/15/2021 19:23		
2,4-Dichlorophenol	ND	0.0026	2	03/15/2021 19:23		
Diethyl Phthalate	ND	0.026	2	03/15/2021 19:23		
2,4-Dimethylphenol	ND	0.50	2	03/15/2021 19:23		
Dimethyl Phthalate	ND	0.0050	2	03/15/2021 19:23		
4,6-Dinitro-2-methylphenol	ND	2.5	2	03/15/2021 19:23		

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## Analytical Report

**Client:** WRECO  
**Date Received:** 03/08/2021 10:44  
**Date Prepared:** 03/15/2021  
**Project:** P20101; Meekland Avenue

**WorkOrder:** 2103451  
**Extraction Method:** SW3550B  
**Analytical Method:** SW8270C  
**Unit:** mg/Kg

### Semi-Volatile Organics

Client ID	Lab ID	Matrix	Date Collected		Instrument	Batch ID
B-8	2103451-004A	Soil	03/05/2021 14:10		GC48 03152119.D	217414
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DE</u>	<u>Date Analyzed</u>	
2,4-Dinitrophenol	ND		0.50	2	03/15/2021 19:23	
2,4-Dinitrotoluene	ND		0.026	2	03/15/2021 19:23	
2,6-Dinitrotoluene	ND		0.026	2	03/15/2021 19:23	
Di-n-octyl Phthalate	ND		0.026	2	03/15/2021 19:23	
1,2-Diphenylhydrazine	ND		0.50	2	03/15/2021 19:23	
Fluoranthene	ND		0.0050	2	03/15/2021 19:23	
Fluorene	ND		0.0050	2	03/15/2021 19:23	
Hexachlorobenzene	ND		0.0050	2	03/15/2021 19:23	
Hexachlorobutadiene	ND		0.0026	2	03/15/2021 19:23	
Hexachlorocyclopentadiene	ND		4.0	2	03/15/2021 19:23	
Hexachloroethane	ND		0.026	2	03/15/2021 19:23	
Indeno (1,2,3-cd) pyrene	ND		0.026	2	03/15/2021 19:23	
Isophorone	ND		0.50	2	03/15/2021 19:23	
1-Methylnaphthalene	ND		0.0026	2	03/15/2021 19:23	
2-Methylnaphthalene	ND		0.0026	2	03/15/2021 19:23	
2-Methylphenol (o-Cresol)	ND		0.50	2	03/15/2021 19:23	
3 & 4-Methylphenol (m,p-Cresol)	ND		0.50	2	03/15/2021 19:23	
Naphthalene	ND		0.0026	2	03/15/2021 19:23	
2-Nitroaniline	ND		2.5	2	03/15/2021 19:23	
3-Nitroaniline	ND		2.5	2	03/15/2021 19:23	
4-Nitroaniline	ND		2.5	2	03/15/2021 19:23	
Nitrobenzene	ND		0.50	2	03/15/2021 19:23	
2-Nitrophenol	ND		2.5	2	03/15/2021 19:23	
4-Nitrophenol	ND		2.5	2	03/15/2021 19:23	
N-Nitrosodiphenylamine	ND		0.50	2	03/15/2021 19:23	
N-Nitrosodi-n-propylamine	ND		0.50	2	03/15/2021 19:23	
Pentachlorophenol	ND		0.12	2	03/15/2021 19:23	
Phenanthrene	ND		0.010	2	03/15/2021 19:23	
Phenol	ND		0.10	2	03/15/2021 19:23	
Pyrene	ND		0.0050	2	03/15/2021 19:23	
Pyridine	ND		0.50	2	03/15/2021 19:23	
2,3,4,6-Tetrachlorophenol	ND		0.50	2	03/15/2021 19:23	
1,2,4-Trichlorobenzene	ND		0.50	2	03/15/2021 19:23	
2,4,5-Trichlorophenol	ND		0.0050	2	03/15/2021 19:23	
2,4,6-Trichlorophenol	ND		0.0050	2	03/15/2021 19:23	

(Cont.)





## Analytical Report

**Client:** WRECO  
**Date Received:** 03/08/2021 10:44  
**Date Prepared:** 03/15/2021  
**Project:** P20101; Meekland Avenue

**WorkOrder:** 2103451  
**Extraction Method:** SW3550B  
**Analytical Method:** SW8270C  
**Unit:** mg/Kg

### Semi-Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-8	2103451-004A	Soil	03/05/2021 14:10	GC48 03152119.D	217414

<u>Analytes</u>	<u>Result</u>	<u>RL</u>	<u>DE</u>	<u>Date Analyzed</u>
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<u>Surrogates</u>	<u>REC (%)</u>	<u>Qualifiers</u>	<u>Limits</u>	
2-Fluorophenol	91		60-130	03/15/2021 19:23
Phenol-d5	74		50-130	03/15/2021 19:23
Nitrobenzene-d5	62		60-130	03/15/2021 19:23
2-Fluorobiphenyl	67		60-130	03/15/2021 19:23
2,4,6-Tribromophenol	3	S	50-130	03/15/2021 19:23
4-Terphenyl-d14	74		50-130	03/15/2021 19:23

Analyst(s): HD

Analytical Comments: a3,c1



## Analytical Report

**Client:** WRECO  
**Date Received:** 03/08/2021 10:44  
**Date Prepared:** 03/10/2021  
**Project:** P20101; Meekland Avenue

**WorkOrder:** 2103451  
**Extraction Method:** SW3050B  
**Analytical Method:** SW6020  
**Unit:** mg/Kg

### CAM / CCR 17 Metals

Client ID	Lab ID	Matrix	Date Collected		Instrument	Batch ID
B-2	2103451-001A	Soil	03/02/2021 10:20		ICP-MS2 028SMPL.D	217073
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>		<u>Date Analyzed</u>
Antimony	ND		0.50	1		03/11/2021 11:28
Arsenic	7.6		0.50	1		03/11/2021 11:28
Barium	230		5.0	1		03/11/2021 11:28
Beryllium	ND		0.50	1		03/11/2021 11:28
Cadmium	ND		0.50	1		03/11/2021 11:28
Chromium	25		0.50	1		03/11/2021 11:28
Cobalt	9.6		0.50	1		03/11/2021 11:28
Copper	30		0.50	1		03/11/2021 11:28
Lead	9.9		0.50	1		03/11/2021 11:28
Mercury	0.20		0.050	1		03/11/2021 11:28
Molybdenum	0.73		0.50	1		03/11/2021 11:28
Nickel	28		0.50	1		03/11/2021 11:28
Selenium	ND		0.50	1		03/11/2021 11:28
Silver	ND		0.50	1		03/11/2021 11:28
Thallium	ND		0.50	1		03/11/2021 11:28
Vanadium	56		0.50	1		03/11/2021 11:28
Zinc	71		5.0	1		03/11/2021 11:28
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>			
Terbium	100		70-130			03/11/2021 11:28
Analyst(s): DB						

(Cont.)



## Analytical Report

**Client:** WRECO  
**Date Received:** 03/08/2021 10:44  
**Date Prepared:** 03/10/2021  
**Project:** P20101; Meekland Avenue

**WorkOrder:** 2103451  
**Extraction Method:** SW3050B  
**Analytical Method:** SW6020  
**Unit:** mg/Kg

### CAM / CCR 17 Metals

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-4	2103451-003A	Soil	03/04/2021 13:20	ICP-MS2 029SMPL.D	217073

Analytes	Result	RL	DF	Date Analyzed
Antimony	ND	0.50	1	03/11/2021 11:33
Arsenic	6.0	0.50	1	03/11/2021 11:33
Barium	130	5.0	1	03/11/2021 11:33
Beryllium	ND	0.50	1	03/11/2021 11:33
Cadmium	ND	0.50	1	03/11/2021 11:33
Chromium	38	0.50	1	03/11/2021 11:33
Cobalt	8.8	0.50	1	03/11/2021 11:33
Copper	20	0.50	1	03/11/2021 11:33
Lead	6.3	0.50	1	03/11/2021 11:33
Mercury	0.062	0.050	1	03/11/2021 11:33
Molybdenum	ND	0.50	1	03/11/2021 11:33
Nickel	40	0.50	1	03/11/2021 11:33
Selenium	ND	0.50	1	03/11/2021 11:33
Silver	ND	0.50	1	03/11/2021 11:33
Thallium	ND	0.50	1	03/11/2021 11:33
Vanadium	43	0.50	1	03/11/2021 11:33
Zinc	49	5.0	1	03/11/2021 11:33

Surrogates	REC (%)	Limits	
Terbium	104	70-130	03/11/2021 11:33

**Analyst(s):** DB



## Analytical Report

**Client:** WRECO  
**Date Received:** 03/08/2021 10:44  
**Date Prepared:** 03/12/2021  
**Project:** P20101; Meekland Avenue

**WorkOrder:** 2103451  
**Extraction Method:** CARB 435 Asbestos  
**Analytical Method:** 435 CARB  
**Unit:** %

### Asbestos (CARB 435) 400 Point Count

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-2	2103451-001A	Soil	03/02/2021 10:20	Microscope	217484

<u>Analytes</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
Asbestos	ND	0.25	1	03/16/2021 15:10

Analyst(s): DA

Analytical Comments: k10



## Analytical Report

**Client:** WRECO  
**Date Received:** 03/08/2021 10:44  
**Date Prepared:** 03/10/2021  
**Project:** P20101; Meekland Avenue

**WorkOrder:** 2103451  
**Extraction Method:** SW5035  
**Analytical Method:** SW8021B/8015Bm  
**Unit:** mg/Kg

### Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline with BTEX and MTBE

Client ID	Lab ID	Matrix	Date Collected		Instrument	Batch ID
B-3	2103451-002A	Soil	03/03/2021 14:30		GC19 03102132.D	216996
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>		<u>Date Analyzed</u>
TPH(g) (C6-C12)	ND		1.0	1		03/11/2021 06:19
MTBE	---		0.050	1		03/11/2021 06:19
Benzene	---		0.0050	1		03/11/2021 06:19
Toluene	---		0.0050	1		03/11/2021 06:19
Ethylbenzene	---		0.0050	1		03/11/2021 06:19
m,p-Xylene	---		0.010	1		03/11/2021 06:19
o-Xylene	---		0.0050	1		03/11/2021 06:19
Xylenes	---		0.0050	1		03/11/2021 06:19
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>			
2-Fluorotoluene	88		62-126			03/11/2021 06:19
<u>Analyst(s):</u> IA						

Client ID	Lab ID	Matrix	Date Collected		Instrument	Batch ID
B-8	2103451-004A	Soil	03/05/2021 14:10		GC7 03112110.D	217098
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>	
TPH(g) (C6-C12)	ND		1.0	1	03/11/2021 17:09	
MTBE	---		0.050	1	03/11/2021 17:09	
Benzene	---		0.0050	1	03/11/2021 17:09	
Toluene	---		0.0050	1	03/11/2021 17:09	
Ethylbenzene	---		0.0050	1	03/11/2021 17:09	
m,p-Xylene	---		0.010	1	03/11/2021 17:09	
o-Xylene	---		0.0050	1	03/11/2021 17:09	
Xylenes	---		0.0050	1	03/11/2021 17:09	
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>			
2-Fluorotoluene	86		62-126		03/11/2021 17:09	
<u>Analyst(s):</u> IA						





## Analytical Report

**Client:** WRECO  
**Date Received:** 03/08/2021 10:44  
**Date Prepared:** 03/10/2021  
**Project:** P20101; Meekland Avenue

**WorkOrder:** 2103451  
**Extraction Method:** SW3550B  
**Analytical Method:** SW8015B  
**Unit:** mg/Kg

### Total Extractable Petroleum Hydrocarbons w/out SG Clean-Up

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-3	2103451-002A	Soil	03/03/2021 14:30	GC31A 03112152.D	217083

Analytes	Result	RL	DF	Date Analyzed
TPH-Diesel (C10-C23)	2.2	1.0	1	03/12/2021 01:43
TPH-Motor Oil (C18-C36)	21	5.0	1	03/12/2021 01:43

Surrogates	REC (%)	Limits	
C9	78	70-130	03/12/2021 01:43

Analyst(s): JIS

Analytical Comments: e2,e7

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-8	2103451-004A	Soil	03/05/2021 14:10	GC6B 03112127.D	217083

Analytes	Result	RL	DF	Date Analyzed
TPH-Diesel (C10-C23)	ND	1.0	1	03/11/2021 18:44
TPH-Motor Oil (C18-C36)	ND	5.0	1	03/11/2021 18:44

Surrogates	REC (%)	Limits	
C9	94	70-130	03/11/2021 18:44

Analyst(s): JIS



## Quality Control Report

**Client:** WRECO  
**Date Prepared:** 03/10/2021  
**Date Analyzed:** 03/11/2021  
**Instrument:** GC20, GC40  
**Matrix:** Soil  
**Project:** P20101; Meekland Avenue

**WorkOrder:** 2103451  
**BatchID:** 217099  
**Extraction Method:** SW3550B  
**Analytical Method:** SW8081A/8082  
**Unit:** mg/kg  
**Sample ID:** MB/LCS/LCSD-217099  
2103451-002AMS/MSD

### QC Summary Report for SW8081A/8082

Analyte	MB Result	MDL	RL	SPK Val	MB SS %REC	MB SS Limits
Aldrin	ND	0.000120	0.00100	-	-	-
a-BHC	ND	0.000270	0.00100	-	-	-
b-BHC	ND	0.0000920	0.00100	-	-	-
d-BHC	ND	0.000150	0.00100	-	-	-
g-BHC	ND	0.000140	0.00100	-	-	-
Chlordane (Technical)	ND	0.00250	0.0250	-	-	-
a-Chlordane	ND	0.000120	0.00100	-	-	-
g-Chlordane	ND	0.0000990	0.00100	-	-	-
p,p-DDD	ND	0.000150	0.00100	-	-	-
p,p-DDE	ND	0.000140	0.00100	-	-	-
p,p-DDT	ND	0.000200	0.00100	-	-	-
Dieldrin	ND	0.000120	0.00100	-	-	-
Endosulfan I	ND	0.000130	0.00100	-	-	-
Endosulfan II	ND	0.000130	0.00100	-	-	-
Endosulfan sulfate	ND	0.000130	0.00100	-	-	-
Endrin	ND	0.000100	0.00100	-	-	-
Endrin aldehyde	ND	0.000110	0.00100	-	-	-
Endrin ketone	ND	0.000140	0.00100	-	-	-
Heptachlor	ND	0.000170	0.00100	-	-	-
Heptachlor epoxide	ND	0.000110	0.00100	-	-	-
Hexachlorobenzene	ND	0.000290	0.0100	-	-	-
Hexachlorocyclopentadiene	ND	0.000360	0.0200	-	-	-
Methoxychlor	ND	0.000310	0.00100	-	-	-
Toxaphene	ND	0.0120	0.0500	-	-	-
Aroclor1016	ND	0.00810	0.0500	-	-	-
Aroclor1221	ND	0.00810	0.0500	-	-	-
Aroclor1232	ND	0.00810	0.0500	-	-	-
Aroclor1242	ND	0.00810	0.0500	-	-	-
Aroclor1248	ND	0.00810	0.0500	-	-	-
Aroclor1254	ND	0.00810	0.0500	-	-	-
Aroclor1260	ND	0.00810	0.0500	-	-	-
<b>Surrogate Recovery</b>						
Decachlorobiphenyl	0.0439			0.05	88	70-130

(Cont.)



## Quality Control Report

**Client:** WRECO  
**Date Prepared:** 03/10/2021  
**Date Analyzed:** 03/11/2021  
**Instrument:** GC20, GC40  
**Matrix:** Soil  
**Project:** P20101; Meekland Avenue

**WorkOrder:** 2103451  
**BatchID:** 217099  
**Extraction Method:** SW3550B  
**Analytical Method:** SW8081A/8082  
**Unit:** mg/kg  
**Sample ID:** MB/LCS/LCSD-217099  
2103451-002AMS/MSD

### QC Summary Report for SW8081A/8082

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
Aldrin	0.0486	0.0494	0.050	97	99	70-130	1.54	20
a-BHC	0.0494	0.0497	0.050	99	99	70-130	0.576	20
b-BHC	0.0536	0.0545	0.050	107	109	70-130	1.78	20
d-BHC	0.0502	0.0512	0.050	101	102	70-130	1.91	20
g-BHC	0.0498	0.0505	0.050	100	101	70-130	1.38	20
a-Chlordane	0.0463	0.0473	0.050	93	95	70-130	2.17	20
g-Chlordane	0.0455	0.0464	0.050	91	93	70-130	2.09	20
p,p-DDD	0.0518	0.0535	0.050	104	107	70-130	3.19	20
p,p-DDE	0.0474	0.0485	0.050	95	97	70-130	2.14	20
p,p-DDT	0.0481	0.0477	0.050	96	95	70-130	0.839	20
Dieldrin	0.0524	0.0535	0.050	105	107	70-130	1.98	20
Endosulfan I	0.0484	0.0491	0.050	97	98	70-130	1.53	20
Endosulfan II	0.0469	0.0483	0.050	94	97	70-130	2.89	20
Endosulfan sulfate	0.0463	0.0477	0.050	93	95	70-130	2.95	20
Endrin	0.0547	0.0560	0.050	109	112	70-130	2.36	20
Endrin aldehyde	0.0462	0.0474	0.050	92	95	70-130	2.44	20
Endrin ketone	0.0487	0.0500	0.050	97	100	70-130	2.79	20
Heptachlor	0.0550	0.0554	0.050	110	111	70-130	0.748	20
Heptachlor epoxide	0.0458	0.0465	0.050	92	93	70-130	1.67	20
Hexachlorobenzene	0.0444	0.0446	0.050	89	89	70-130	0.430	20
Hexachlorocyclopentadiene	0.0265	0.0251	0.050	53	50	50-130	5.34	20
Methoxychlor	0.0474	0.0490	0.050	95	98	70-130	3.17	20
Aroclor1016	0.140	0.136	0.15	94	91	70-130	2.86	20
Aroclor1260	0.125	0.130	0.15	83	86	70-130	3.56	20

#### Surrogate Recovery

Decachlorobiphenyl	0.0415	0.0429	0.050	83	86	70-130	3.31	20
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Analyte	MS DF	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
Aldrin	5	0.0527	0.0534	0.050	ND<0.0050	105	107	60-130	1.32	20
a-BHC	5	0.0623	0.0617	0.050	ND<0.0050	125	123	60-130	1.06	20
b-BHC	5	0.0539	0.0548	0.050	ND<0.0050	108	110	60-130	1.72	20
d-BHC	5	0.0520	0.0525	0.050	ND<0.0050	104	105	60-130	1.07	20
g-BHC	5	0.0503	0.0509	0.050	ND<0.0050	101	102	60-130	1.23	20
a-Chlordane	5	0.0500	0.0499	0.050	ND<0.0050	100	100	60-130	0.383	20
g-Chlordane	5	0.0488	0.0487	0.050	ND<0.0050	98	97	60-130	0.222	20

(Cont.)



## Quality Control Report

**Client:** WRECO  
**Date Prepared:** 03/10/2021  
**Date Analyzed:** 03/11/2021  
**Instrument:** GC20, GC40  
**Matrix:** Soil  
**Project:** P20101; Meekland Avenue

**WorkOrder:** 2103451  
**BatchID:** 217099  
**Extraction Method:** SW3550B  
**Analytical Method:** SW8081A/8082  
**Unit:** mg/kg  
**Sample ID:** MB/LCS/LCSD-217099  
2103451-002AMS/MSD

### QC Summary Report for SW8081A/8082

Analyte	MS DF	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
p,p-DDD	5	0.0516	0.0519	0.050	ND<0.0050	103	104	60-130	0.634	20
p,p-DDE	5	0.0466	0.0476	0.050	ND<0.0050	90	92	60-130	2.07	20
p,p-DDT	5	0.0458	0.0467	0.050	ND<0.0050	83	84	60-130	1.85	20
Dieldrin	5	0.0533	0.0531	0.050	ND<0.0050	107	106	60-130	0.327	20
Endosulfan I	5	0.0429	0.0481	0.050	ND<0.0050	86	96	60-130	11.4	20
Endosulfan II	5	0.0435	0.0441	0.050	ND<0.0050	87	88	60-130	1.22	20
Endosulfan sulfate	5	0.0417	0.0434	0.050	ND<0.0050	83	87	60-130	4.09	20
Endrin	5	0.0524	0.0528	0.050	ND<0.0050	105	106	60-130	0.955	20
Endrin aldehyde	5	0.0445	0.0454	0.050	ND<0.0050	89	91	60-130	2.15	20
Endrin ketone	5	0.0436	0.0441	0.050	ND<0.0050	87	88	60-130	1.19	20
Heptachlor	5	0.0648	0.0658	0.050	ND<0.0050	130	132,F1	60-130	1.55	20
Heptachlor epoxide	5	0.0480	0.0486	0.050	ND<0.0050	96	97	60-130	1.33	20
Hexachlorobenzene	5	0.0400	0.0413	0.050	ND<0.050	80	83	60-130	3.26	20
Hexachlorocyclopentadiene	5	0.0264	0.0266	0.050	ND<0.10	53	53	50-130	0.640	20
Methoxychlor	5	0.0493	0.0506	0.050	ND<0.0050	99	101	60-130	2.42	20
<b>Surrogate Recovery</b>										
Decachlorobiphenyl	5	0.0608	0.0580	0.050		122	116	60-130	4.58	20



## Quality Control Report

**Client:** WRECO  
**Date Prepared:** 03/11/2021  
**Date Analyzed:** 03/11/2021  
**Instrument:** GC25  
**Matrix:** Soil  
**Project:** P20101; Meekland Avenue

**WorkOrder:** 2103451  
**BatchID:** 217138  
**Extraction Method:** SW3550B  
**Analytical Method:** SW8270C  
**Unit:** mg/kg  
**Sample ID:** MB/LCS/LCSD-217138

### QC Summary Report for SW8270C (ON/P Pesticides)

Analyte	MB Result	MDL	RL	SPK Val	MB SS %REC	MB SS Limits
Alachlor	ND	0.0470	0.100	-	-	-
Atrazine	ND	0.0560	0.100	-	-	-
Azinphos methyl (Guthion)	ND	0.0720	0.100	-	-	-
Bolstar (Sulprofos)	ND	0.0490	0.100	-	-	-
Chlorpyrifos	ND	0.0510	0.100	-	-	-
Coumaphos	ND	0.0640	0.100	-	-	-
Demeton	ND	0.0490	0.100	-	-	-
Diazinon	ND	0.0450	0.100	-	-	-
Dichlorvos (DDVP)	ND	0.0440	0.100	-	-	-
Dimethoate	ND	0.0370	0.100	-	-	-
Disulfoton (Di-Syston)	ND	0.0460	0.100	-	-	-
EPN	ND	0.0520	0.100	-	-	-
EPTC	ND	0.0370	0.100	-	-	-
Ethion	ND	0.0490	0.100	-	-	-
Ethoprop	ND	0.0400	0.100	-	-	-
Ethyl parathion	ND	0.0470	0.100	-	-	-
Fensulfothion	ND	0.0640	0.100	-	-	-
Fenthion	ND	0.0420	0.100	-	-	-
Fonofos	ND	0.0410	0.100	-	-	-
Malathion	ND	0.0460	0.100	-	-	-
Mevinphos (Phosdrin)	ND	0.0650	0.100	-	-	-
Molinate	ND	0.0380	0.100	-	-	-
Methyl parathion	ND	0.0420	0.100	-	-	-
Phorate (Thimet)	ND	0.0430	0.100	-	-	-
Prometon	ND	0.0490	0.100	-	-	-
Ronnel	ND	0.0430	0.100	-	-	-
Simazine	ND	0.0600	0.100	-	-	-
Stirofos (Tetrachlorvinphos)	ND	0.0490	0.100	-	-	-
Terbacil	ND	0.0500	0.100	-	-	-
Terbufos (Terbuphos)	ND	0.0450	0.100	-	-	-
Thiobencarb	ND	0.0390	0.100	-	-	-
Tokuthion (Prothiofos)	ND	0.0400	0.100	-	-	-
Trichloronate (Agritox)	ND	0.0480	0.100	-	-	-

#### Surrogate Recovery

Triphenyl phosphate	0.186	0.2	93	60-140
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## Quality Control Report

**Client:** WRECO  
**Date Prepared:** 03/11/2021  
**Date Analyzed:** 03/11/2021  
**Instrument:** GC25  
**Matrix:** Soil  
**Project:** P20101; Meekland Avenue

**WorkOrder:** 2103451  
**BatchID:** 217138  
**Extraction Method:** SW3550B  
**Analytical Method:** SW8270C  
**Unit:** mg/kg  
**Sample ID:** MB/LCS/LCSD-217138

### QC Summary Report for SW8270C (ON/P Pesticides)

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
Alachlor	0.520	0.531	0.60	87	88	50-160	2.18	20
Atrazine	0.536	0.523	0.60	89	87	50-160	2.53	20
Azinphos methyl (Guthion)	0.633	0.620	0.60	106	103	60-140	2.02	20
Bolstar (Sulprofos)	0.555	0.532	0.60	92	89	60-140	4.06	20
Chlorpyrifos	0.494	0.508	0.60	82	85	60-140	2.80	20
Coumaphos	0.614	0.528	0.60	102	88	60-140	15.1	20
Demeton	0.476	0.478	0.60	79	80	60-140	0.622	20
Diazinon	0.516	0.511	0.60	86	85	60-140	0.889	20
Dichlorvos (DDVP)	0.460	0.453	0.60	77	76	60-140	1.46	20
Dimethoate	0.547	0.532	0.60	91	89	60-140	2.90	20
Disulfoton (Di-Syston)	0.528	0.518	0.60	88	86	50-160	2.02	20
EPN	0.621	0.580	0.60	104	97	60-140	6.92	20
EPTC	0.445	0.467	0.60	74	78	60-140	4.72	20
Ethion	0.539	0.554	0.60	90	92	60-140	2.87	20
Ethoprop	0.524	0.526	0.60	87	88	60-140	0.293	20
Ethyl parathion	0.542	0.543	0.60	90	90	60-140	0.266	20
Fensulfothion	0.668	0.680	0.60	111	113	60-140	1.75	20
Fenthion	0.519	0.513	0.60	87	85	50-160	1.29	20
Fonofos	0.505	0.508	0.60	84	85	60-140	0.637	20
Malathion	0.531	0.543	0.60	88	90	60-140	2.24	20
Mevinphos (Phosdrin)	0.537	0.518	0.60	89	86	60-140	3.51	20
Molinate	0.488	0.490	0.60	81	82	60-140	0.564	20
Methyl parathion	0.516	0.495	0.60	86	82	50-160	4.28	20
Phorate (Thimet)	0.495	0.523	0.60	83	87	60-140	5.46	20
Prometon	0.536	0.536	0.60	89	89	60-140	0.0119	20
Ronnel	0.514	0.511	0.60	86	85	60-140	0.448	20
Simazine	0.554	0.527	0.60	92	88	60-140	4.96	20
Stirofos (Tetrachlorvinphos)	0.562	0.527	0.60	94	88	60-140	6.40	20
Terbacil	0.587	0.569	0.60	98	95	60-140	3.14	20
Terbufos (Terbuphos)	0.506	0.526	0.60	84	88	60-140	3.76	20
Thiobencarb	0.524	0.512	0.60	87	85	60-140	2.33	20
Tokuthion (Prothiofos)	0.516	0.519	0.60	86	87	60-140	0.620	20
Trichloronate (Agritox)	0.518	0.524	0.60	86	87	60-140	1.16	20
<b>Surrogate Recovery</b>								
Triphenyl phosphate	0.192	0.192	0.20	96	96	60-140	0.284	20



## Quality Control Report

**Client:** WRECO  
**Date Prepared:** 03/10/2021  
**Date Analyzed:** 03/10/2021 - 03/16/2021  
**Instrument:** GC28, GC45  
**Matrix:** Soil  
**Project:** P20101; Meekland Avenue

**WorkOrder:** 2103451  
**BatchID:** 217097  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** mg/kg  
**Sample ID:** MB/LCS/LCSD-217097  
2103451-001AMS/MSD

### QC Summary Report for SW8260B

Analyte	MB Result	MDL	RL	SPK Val	MB SS %REC	MB SS Limits
Acetone	ND	0.120	0.200	-	-	-
tert-Amyl methyl ether (TAME)	ND	0.000740	0.00500	-	-	-
Benzene	ND	0.000870	0.00500	-	-	-
Bromobenzene	ND	0.000910	0.00500	-	-	-
Bromochloromethane	ND	0.000910	0.00500	-	-	-
Bromodichloromethane	ND	0.0000940	0.00500	-	-	-
Bromoform	ND	0.00390	0.00500	-	-	-
Bromomethane	ND	0.00250	0.00500	-	-	-
2-Butanone (MEK)	ND	0.0230	0.0500	-	-	-
t-Butyl alcohol (TBA)	ND	0.0230	0.0500	-	-	-
n-Butyl benzene	ND	0.00140	0.00500	-	-	-
sec-Butyl benzene	ND	0.00150	0.00500	-	-	-
tert-Butyl benzene	ND	0.00170	0.00500	-	-	-
Carbon Disulfide	ND	0.00150	0.00500	-	-	-
Carbon Tetrachloride	ND	0.000120	0.00500	-	-	-
Chlorobenzene	ND	0.000870	0.00500	-	-	-
Chloroethane	ND	0.00160	0.00500	-	-	-
Chloroform	ND	0.000190	0.00500	-	-	-
Chloromethane	ND	0.00170	0.00500	-	-	-
2-Chlorotoluene	ND	0.00130	0.00500	-	-	-
4-Chlorotoluene	ND	0.00100	0.00500	-	-	-
Dibromochloromethane	ND	0.000420	0.00500	-	-	-
1,2-Dibromo-3-chloropropane	ND	0.000490	0.00500	-	-	-
1,2-Dibromoethane (EDB)	ND	0.000120	0.00500	-	-	-
Dibromomethane	ND	0.000950	0.00500	-	-	-
1,2-Dichlorobenzene	ND	0.00230	0.00500	-	-	-
1,3-Dichlorobenzene	ND	0.00100	0.00500	-	-	-
1,4-Dichlorobenzene	ND	0.00100	0.00500	-	-	-
Dichlorodifluoromethane	ND	0.00170	0.00500	-	-	-
1,1-Dichloroethane	ND	0.000810	0.00500	-	-	-
1,2-Dichloroethane (1,2-DCA)	ND	0.0000710	0.00500	-	-	-
1,1-Dichloroethene	ND	0.0000690	0.00500	-	-	-
cis-1,2-Dichloroethene	ND	0.000750	0.00500	-	-	-
trans-1,2-Dichloroethene	ND	0.00120	0.00500	-	-	-
1,2-Dichloropropane	ND	0.000780	0.00500	-	-	-
1,3-Dichloropropane	ND	0.00100	0.00500	-	-	-
2,2-Dichloropropane	ND	0.00120	0.00500	-	-	-
1,1-Dichloropropene	ND	0.000960	0.00500	-	-	-

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## Quality Control Report

**Client:** WRECO  
**Date Prepared:** 03/10/2021  
**Date Analyzed:** 03/10/2021 - 03/16/2021  
**Instrument:** GC28, GC45  
**Matrix:** Soil  
**Project:** P20101; Meekland Avenue

**WorkOrder:** 2103451  
**BatchID:** 217097  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** mg/kg  
**Sample ID:** MB/LCS/LCSD-217097  
2103451-001AMS/MSD

### QC Summary Report for SW8260B

Analyte	MB Result	MDL	RL	SPK Val	MB SS %REC	MB SS Limits
cis-1,3-Dichloropropene	ND	0.000660	0.00500	-	-	-
trans-1,3-Dichloropropene	ND	0.000670	0.00500	-	-	-
Diisopropyl ether (DIPE)	ND	0.000780	0.00500	-	-	-
Ethylbenzene	ND	0.00110	0.00500	-	-	-
Ethyl tert-butyl ether (ETBE)	ND	0.000730	0.00500	-	-	-
Freon 113	ND	0.00110	0.00500	-	-	-
Hexachlorobutadiene	ND	0.00120	0.00500	-	-	-
Hexachloroethane	ND	0.000670	0.00500	-	-	-
2-Hexanone	ND	0.00430	0.00500	-	-	-
Isopropylbenzene	ND	0.00140	0.00500	-	-	-
4-Isopropyl toluene	ND	0.00130	0.00500	-	-	-
Methyl-t-butyl ether (MTBE)	ND	0.00140	0.00500	-	-	-
Methylene chloride	ND	0.00580	0.0200	-	-	-
4-Methyl-2-pentanone (MIBK)	ND	0.00150	0.00500	-	-	-
Naphthalene	ND	0.00220	0.00500	-	-	-
n-Propyl benzene	ND	0.00160	0.00500	-	-	-
Styrene	ND	0.00120	0.00500	-	-	-
1,1,1,2-Tetrachloroethane	ND	0.00100	0.00500	-	-	-
1,1,2,2-Tetrachloroethane	ND	0.000280	0.00500	-	-	-
Tetrachloroethene	ND	0.000310	0.00500	-	-	-
Toluene	ND	0.00120	0.00500	-	-	-
1,2,3-Trichlorobenzene	ND	0.00170	0.00500	-	-	-
1,2,4-Trichlorobenzene	ND	0.00120	0.00500	-	-	-
1,1,1-Trichloroethane	ND	0.000840	0.00500	-	-	-
1,1,2-Trichloroethane	ND	0.000920	0.00500	-	-	-
Trichloroethene	ND	0.000810	0.00500	-	-	-
Trichlorofluoromethane	ND	0.00130	0.00500	-	-	-
1,2,3-Trichloropropane	ND	0.000150	0.00500	-	-	-
1,2,4-Trimethylbenzene	ND	0.00320	0.00500	-	-	-
1,3,5-Trimethylbenzene	ND	0.00120	0.00500	-	-	-
Vinyl Chloride	ND	0.000130	0.00500	-	-	-
m,p-Xylene	ND	0.00250	0.00500	-	-	-
o-Xylene	ND	0.00120	0.00500	-	-	-

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## Quality Control Report

**Client:** WRECO  
**Date Prepared:** 03/10/2021  
**Date Analyzed:** 03/10/2021 - 03/16/2021  
**Instrument:** GC28, GC45  
**Matrix:** Soil  
**Project:** P20101; Meekland Avenue

**WorkOrder:** 2103451  
**BatchID:** 217097  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** mg/kg  
**Sample ID:** MB/LCS/LCSD-217097  
2103451-001AMS/MSD

### QC Summary Report for SW8260B

Analyte	MB Result	MDL	RL	SPK Val	MB SS %REC	MB SS Limits
<b>Surrogate Recovery</b>						
Dibromofluoromethane	0.121			0.125	97	70-140
Toluene-d8	0.128			0.125	103	70-140
4-BFB	0.0119			0.0125	95	70-140
Benzene-d6	0.0839			0.1	84	70-140
Ethylbenzene-d10	0.0962			0.1	96	70-140
1,2-DCB-d4	0.0698			0.1	70	70-140



## Quality Control Report

**Client:** WRECO  
**Date Prepared:** 03/10/2021  
**Date Analyzed:** 03/10/2021 - 03/16/2021  
**Instrument:** GC28, GC45  
**Matrix:** Soil  
**Project:** P20101; Meekland Avenue

**WorkOrder:** 2103451  
**BatchID:** 217097  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** mg/kg  
**Sample ID:** MB/LCS/LCSD-217097  
2103451-001AMS/MSD

### QC Summary Report for SW8260B

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
Acetone	0.209	0.214	0.20	104	107	60-140	2.28	20
tert-Amyl methyl ether (TAME)	0.0158	0.0162	0.020	79	81	50-140	2.73	20
Benzene	0.0169	0.0170	0.020	85	85	60-140	0.555	20
Bromobenzene	0.0183	0.0185	0.020	92	93	60-140	0.975	20
Bromochloromethane	0.0181	0.0182	0.020	90	91	60-140	0.600	20
Bromodichloromethane	0.0162	0.0163	0.020	81	82	60-140	0.943	20
Bromoform	0.0136	0.0139	0.020	68	69	40-140	1.99	20
Bromomethane	0.0188	0.0186	0.020	94	93	30-140	0.858	20
2-Butanone (MEK)	0.0703	0.0706	0.080	88	88	50-140	0.489	20
t-Butyl alcohol (TBA)	0.0679	0.0700	0.080	85	88	50-140	3.06	20
n-Butyl benzene	0.0238	0.0237	0.020	119	119	60-150	0.369	20
sec-Butyl benzene	0.0236	0.0236	0.020	118	118	60-150	0.0326	20
tert-Butyl benzene	0.0221	0.0218	0.020	110	109	60-140	1.49	20
Carbon Disulfide	0.0162	0.0164	0.020	81	82	50-140	0.813	20
Carbon Tetrachloride	0.0163	0.0165	0.020	82	83	60-140	1.18	20
Chlorobenzene	0.0184	0.0187	0.020	92	94	60-140	1.75	20
Chloroethane	0.0196	0.0198	0.020	98	99	50-140	0.913	20
Chloroform	0.0173	0.0173	0.020	86	87	60-140	0.474	20
Chloromethane	0.0137	0.0140	0.020	69	70	20-140	1.99	20
2-Chlorotoluene	0.0212	0.0209	0.020	106	104	60-140	1.33	20
4-Chlorotoluene	0.0202	0.0203	0.020	101	102	60-140	0.792	20
Dibromochloromethane	0.0154	0.0156	0.020	77	78	50-140	1.45	20
1,2-Dibromo-3-chloropropane	0.00736	0.00751	0.010	74	75	30-140	2.02	20
1,2-Dibromoethane (EDB)	0.00828	0.00845	0.010	83	85	40-140	2.07	20
Dibromomethane	0.0166	0.0166	0.020	83	83	60-140	0.271	20
1,2-Dichlorobenzene	0.0170	0.0172	0.020	85	86	60-140	0.942	20
1,3-Dichlorobenzene	0.0196	0.0195	0.020	98	98	60-140	0.606	20
1,4-Dichlorobenzene	0.0192	0.0190	0.020	96	95	60-140	0.848	20
Dichlorodifluoromethane	0.00427	0.00436	0.020	21	22	10-140	2.06	20
1,1-Dichloroethane	0.0177	0.0176	0.020	89	88	60-140	0.537	20
1,2-Dichloroethane (1,2-DCA)	0.0166	0.0168	0.020	83	84	60-140	0.833	20
1,1-Dichloroethene	0.0150	0.0151	0.020	75	76	60-140	1.11	20
cis-1,2-Dichloroethene	0.0171	0.0172	0.020	86	86	60-140	0.609	20
trans-1,2-Dichloroethene	0.0164	0.0166	0.020	82	83	60-140	0.898	20
1,2-Dichloropropane	0.0180	0.0179	0.020	90	90	60-140	0.113	20
1,3-Dichloropropane	0.0183	0.0190	0.020	91	95	60-140	3.84	20
2,2-Dichloropropane	0.0178	0.0179	0.020	89	89	60-140	0.653	20
1,1-Dichloropropene	0.0172	0.0174	0.020	86	87	60-140	0.912	20

(Cont.)



## Quality Control Report

**Client:** WRECO  
**Date Prepared:** 03/10/2021  
**Date Analyzed:** 03/10/2021 - 03/16/2021  
**Instrument:** GC28, GC45  
**Matrix:** Soil  
**Project:** P20101; Meekland Avenue

**WorkOrder:** 2103451  
**BatchID:** 217097  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** mg/kg  
**Sample ID:** MB/LCS/LCSD-217097  
2103451-001AMS/MSD

### QC Summary Report for SW8260B

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
cis-1,3-Dichloropropene	0.0185	0.0185	0.020	92	92	60-140	0.0810	20
trans-1,3-Dichloropropene	0.0183	0.0184	0.020	91	92	60-140	0.701	20
Diisopropyl ether (DIPE)	0.0176	0.0174	0.020	88	87	60-140	1.21	20
Ethylbenzene	0.0200	0.0202	0.020	100	101	60-140	1.04	20
Ethyl tert-butyl ether (ETBE)	0.0171	0.0172	0.020	86	86	60-140	0.637	20
Freon 113	0.0149	0.0149	0.020	74	75	50-140	0.163	20
Hexachlorobutadiene	0.0227	0.0227	0.020	113	114	60-140	0.262	20
Hexachloroethane	0.0206	0.0206	0.020	103	103	60-140	0.349	20
2-Hexanone	0.0148	0.0152	0.020	74	76	40-140	2.49	20
Isopropylbenzene	0.0224	0.0226	0.020	112	113	60-140	0.741	20
4-Isopropyl toluene	0.0224	0.0225	0.020	112	112	60-150	0.513	20
Methyl-t-butyl ether (MTBE)	0.0163	0.0166	0.020	82	83	50-140	1.40	20
Methylene chloride	0.0168	0.0170	0.020	84	85	60-140	1.02	20
4-Methyl-2-pentanone (MIBK)	0.0150	0.0157	0.020	75	78	50-140	4.23	20
Naphthalene	0.0104	0.0107	0.020	52	53	30-140	2.45	20
n-Propyl benzene	0.0229	0.0223	0.020	115	112	60-140	2.60	20
Styrene	0.0173	0.0172	0.020	87	86	60-140	0.892	20
1,1,1,2-Tetrachloroethane	0.0176	0.0178	0.020	88	89	60-140	0.687	20
1,1,2,2-Tetrachloroethane	0.0166	0.0169	0.020	83	85	40-140	2.09	20
Tetrachloroethene	0.0180	0.0184	0.020	90	92	60-140	2.21	20
Toluene	0.0190	0.0190	0.020	95	95	60-140	0.206	20
1,2,3-Trichlorobenzene	0.0132	0.0133	0.020	66	67	40-140	0.652	20
1,2,4-Trichlorobenzene	0.0164	0.0169	0.020	82	85	50-140	3.13	20
1,1,1-Trichloroethane	0.0170	0.0171	0.020	85	85	60-140	0.220	20
1,1,2-Trichloroethane	0.0179	0.0183	0.020	89	91	60-140	2.17	20
Trichloroethene	0.0180	0.0182	0.020	90	91	60-140	1.00	20
Trichlorofluoromethane	0.0145	0.0147	0.020	73	74	50-140	1.26	20
1,2,3-Trichloropropane	0.00845	0.00847	0.010	84	85	40-140	0.273	20
1,2,4-Trimethylbenzene	0.0209	0.0213	0.020	105	106	30-140	1.53	20
1,3,5-Trimethylbenzene	0.0217	0.0216	0.020	109	108	60-140	0.537	20
Vinyl Chloride	0.00579	0.00582	0.010	58	58	30-140	0.593	20
m,p-Xylene	0.0382	0.0384	0.040	96	96	60-140	0.525	20
o-Xylene	0.0184	0.0186	0.020	92	93	60-140	1.16	20

(Cont.)





## Quality Control Report

**Client:** WRECO  
**Date Prepared:** 03/10/2021  
**Date Analyzed:** 03/10/2021 - 03/16/2021  
**Instrument:** GC28, GC45  
**Matrix:** Soil  
**Project:** P20101; Meekland Avenue

**WorkOrder:** 2103451  
**BatchID:** 217097  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** mg/kg  
**Sample ID:** MB/LCS/LCSD-217097  
2103451-001AMS/MSD

### QC Summary Report for SW8260B

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
<b>Surrogate Recovery</b>								
Dibromofluoromethane	0.118	0.118	0.12	95	95	70-140	0.103	20
Toluene-d8	0.127	0.128	0.12	102	102	70-140	0.440	20
4-BFB	0.0114	0.0116	0.012	91	93	70-140	1.47	20
Benzene-d6	0.0799	0.0802	0.10	80	80	70-140	0.464	20
Ethylbenzene-d10	0.0919	0.0930	0.10	92	93	70-140	1.18	20
1,2-DCB-d4	0.0712	0.0713	0.10	71	71	70-140	0.172	20

Analyte	MS DF	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
Acetone	1	0.221	0.223	0.20	ND	110	112	40-140	1.16	20
tert-Amyl methyl ether (TAME)	1	0.0140	0.0143	0.020	ND	70	72	40-140	2.42	20
Benzene	1	0.0155	0.0156	0.020	ND	78	78	50-140	0.657	20
Bromobenzene	1	0.0182	0.0180	0.020	ND	91	90	40-140	1.34	20
Bromochloromethane	1	0.0152	0.0155	0.020	ND	76	77	40-140	2.13	20
Bromodichloromethane	1	0.0140	0.0141	0.020	ND	70	71	40-140	1.03	20
Bromoform	1	0.0121	0.0121	0.020	ND	60	60	30-140	0.269	20
Bromomethane	1	0.00955	0.00948	0.020	ND	48	47	20-140	0.685	20
2-Butanone (MEK)	1	0.0652	0.0678	0.080	ND	52	56	40-140	3.83	20
t-Butyl alcohol (TBA)	1	0.0626	0.0623	0.080	ND	78	78	40-140	0.411	20
n-Butyl benzene	1	0.0225	0.0225	0.020	ND	113	112	40-150	0.155	20
sec-Butyl benzene	1	0.0227	0.0223	0.020	ND	114	111	40-150	1.96	20
tert-Butyl benzene	1	0.0225	0.0227	0.020	ND	112	114	40-140	1.12	20
Carbon Disulfide	1	0.0141	0.0142	0.020	ND	70	71	20-140	1.26	20
Carbon Tetrachloride	1	0.0151	0.0152	0.020	ND	76	76	30-140	0.324	20
Chlorobenzene	1	0.0172	0.0174	0.020	ND	86	87	40-140	1.17	20
Chloroethane	1	0.0123	0.0122	0.020	ND	62	61	40-140	1.26	20
Chloroform	1	0.0163	0.0164	0.020	ND	82	82	40-140	0.677	20
Chloromethane	1	0.00940	0.00937	0.020	ND	47	47	30-140	0.298	20
2-Chlorotoluene	1	0.0201	0.0197	0.020	ND	100	98	40-140	1.95	20
4-Chlorotoluene	1	0.0204	0.0201	0.020	ND	102	101	40-140	1.15	20
Dibromochloromethane	1	0.0133	0.0132	0.020	ND	66	66	20-140	0.0751	20
1,2-Dibromo-3-chloropropane	1	0.00690	0.00687	0.010	ND	69	69	20-140	0.477	20
1,2-Dibromoethane (EDB)	1	0.00735	0.00740	0.010	ND	73	74	30-140	0.647	20
Dibromomethane	1	0.0145	0.0148	0.020	ND	72	74	40-140	1.99	20
1,2-Dichlorobenzene	1	0.0149	0.0149	0.020	ND	74	74	40-140	0.132	20

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## Quality Control Report

**Client:** WRECO  
**Date Prepared:** 03/10/2021  
**Date Analyzed:** 03/10/2021 - 03/16/2021  
**Instrument:** GC28, GC45  
**Matrix:** Soil  
**Project:** P20101; Meekland Avenue

**WorkOrder:** 2103451  
**BatchID:** 217097  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** mg/kg  
**Sample ID:** MB/LCS/LCSD-217097  
2103451-001AMS/MSD

### QC Summary Report for SW8260B

Analyte	MS DF	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
1,3-Dichlorobenzene	1	0.0177	0.0176	0.020	ND	88	88	40-140	0.513	20
1,4-Dichlorobenzene	1	0.0173	0.0174	0.020	ND	86	87	40-140	0.554	20
Dichlorodifluoromethane	1	0.00418	0.00401	0.020	ND	21	20	10-140	4.19	20
1,1-Dichloroethane	1	0.0163	0.0161	0.020	ND	81	81	40-140	0.786	20
1,2-Dichloroethane (1,2-DCA)	1	0.0148	0.0151	0.020	ND	74	75	40-140	1.55	20
1,1-Dichloroethene	1	0.0143	0.0144	0.020	ND	71	72	30-140	0.524	20
cis-1,2-Dichloroethene	1	0.0158	0.0160	0.020	ND	79	80	40-140	0.981	20
trans-1,2-Dichloroethene	1	0.0153	0.0154	0.020	ND	76	77	30-140	1.07	20
1,2-Dichloropropane	1	0.0161	0.0162	0.020	ND	80	81	40-140	1.19	20
1,3-Dichloropropane	1	0.0168	0.0171	0.020	ND	84	85	40-140	1.68	20
2,2-Dichloropropane	1	0.0165	0.0167	0.020	ND	82	83	30-140	1.07	20
1,1-Dichloropropene	1	0.0159	0.0160	0.020	ND	80	80	30-140	0.119	20
cis-1,3-Dichloropropene	1	0.0157	0.0158	0.020	ND	79	79	20-140	0.199	20
trans-1,3-Dichloropropene	1	0.0151	0.0153	0.020	ND	76	76	20-140	1.00	20
Diisopropyl ether (DIPE)	1	0.0155	0.0157	0.020	ND	78	78	40-140	1.01	20
Ethylbenzene	1	0.0182	0.0183	0.020	ND	91	91	40-140	0.504	20
Ethyl tert-butyl ether (ETBE)	1	0.0148	0.0149	0.020	ND	74	75	40-140	1.04	20
Freon 113	1	0.0132	0.0132	0.020	ND	66	66	20-140	0.554	20
Hexachlorobutadiene	1	0.0214	0.0222	0.020	ND	107	111	20-140	3.72	20
Hexachloroethane	1	0.0185	0.0181	0.020	ND	93	91	20-140	2.02	20
2-Hexanone	1	0.0129	0.0122	0.020	ND	64	61	30-140	5.50	20
Isopropylbenzene	1	0.0230	0.0231	0.020	ND	115	115	50-140	0.430	20
4-Isopropyl toluene	1	0.0225	0.0225	0.020	ND	113	113	40-150	0.117	20
Methyl-t-butyl ether (MTBE)	1	0.0153	0.0157	0.020	ND	77	78	40-140	2.17	20
Methylene chloride	1	0.0140	0.0145	0.020	ND	70	73	40-140	3.82	20
4-Methyl-2-pentanone (MIBK)	1	0.0138	0.0140	0.020	ND	69	70	30-140	1.59	20
Naphthalene	1	0.00822	0.00813	0.020	ND	41	41	30-140	1.14	20
n-Propyl benzene	1	0.0226	0.0226	0.020	ND	113	113	40-140	0.0281	20
Styrene	1	0.0164	0.0166	0.020	ND	82	83	40-140	1.27	20
1,1,1,2-Tetrachloroethane	1	0.0158	0.0159	0.020	ND	79	80	30-140	0.557	20
1,1,2,2-Tetrachloroethane	1	0.0161	0.0161	0.020	ND	81	80	30-140	0.292	20
Tetrachloroethene	1	0.0187	0.0186	0.020	ND	94	93	30-140	0.513	20
Toluene	1	0.0185	0.0184	0.020	ND	93	92	40-140	0.971	20
1,2,3-Trichlorobenzene	1	0.0106	0.0103	0.020	ND	53	52	30-140	2.94	20
1,2,4-Trichlorobenzene	1	0.0134	0.0136	0.020	ND	67	68	40-140	1.57	20
1,1,1-Trichloroethane	1	0.0160	0.0163	0.020	ND	80	81	40-140	2.05	20
1,1,2-Trichloroethane	1	0.0160	0.0162	0.020	ND	80	81	30-140	0.743	20
Trichloroethene	1	0.0176	0.0176	0.020	ND	88	88	30-140	0.109	20

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## Quality Control Report

**Client:** WRECO  
**Date Prepared:** 03/10/2021  
**Date Analyzed:** 03/10/2021 - 03/16/2021  
**Instrument:** GC28, GC45  
**Matrix:** Soil  
**Project:** P20101; Meekland Avenue

**WorkOrder:** 2103451  
**BatchID:** 217097  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** mg/kg  
**Sample ID:** MB/LCS/LCSD-217097  
2103451-001AMS/MSD

### QC Summary Report for SW8260B

Analyte	MS DF	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
Trichlorofluoromethane	1	0.0180	0.0179	0.020	ND	90	90	30-140	0.222	20
1,2,3-Trichloropropane	1	0.00891	0.00890	0.010	ND	89	89	30-140	0.106	20
1,2,4-Trimethylbenzene	1	0.0201	0.0204	0.020	ND	100	102	40-140	1.84	20
1,3,5-Trimethylbenzene	1	0.0213	0.0214	0.020	ND	107	107	40-140	0.548	20
Vinyl Chloride	1	0.00385	0.00380	0.010	ND	39	38	30-140	1.24	20
m,p-Xylene	1	0.0345	0.0344	0.040	ND	86	86	40-140	0.426	20
o-Xylene	1	0.0174	0.0174	0.020	ND	87	87	40-140	0.423	20
<b>Surrogate Recovery</b>										
Dibromofluoromethane	1	0.115	0.114	0.12		92	92	70-140	0.375	20
Toluene-d8	1	0.138	0.138	0.12		111	111	70-140	0.0728	20
4-BFB	1	0.0142	0.0145	0.012		114	116	70-140	1.87	20
Benzene-d6	1	0.0828	0.0835	0.10		83	84	50-140	0.838	20
Ethylbenzene-d10	1	0.103	0.104	0.10		103	104	50-140	1.26	20
1,2-DCB-d4	1	0.0765	0.0780	0.10		76	78	40-140	1.97	20



## Quality Control Report

**Client:** WRECO  
**Date Prepared:** 03/15/2021  
**Date Analyzed:** 03/15/2021 - 03/16/2021  
**Instrument:** GC17, GC21  
**Matrix:** Soil  
**Project:** P20101; Meekland Avenue

**WorkOrder:** 2103451  
**BatchID:** 217414  
**Extraction Method:** SW3550B  
**Analytical Method:** SW8270C  
**Unit:** mg/Kg  
**Sample ID:** MB/LCS/LCSD-217414

### QC Summary Report for SW8270C

Analyte	MB Result	MDL	RL	SPK Val	MB SS %REC	MB SS Limits
1,1-Biphenyl	ND	0.00280	0.0130	-	-	-
1,2,4-Trichlorobenzene	ND	0.0270	0.250	-	-	-
1,2-Dichlorobenzene	ND	0.0330	0.250	-	-	-
1,2-Diphenylhydrazine	ND	0.0280	0.250	-	-	-
1,3-Dichlorobenzene	ND	0.0350	0.250	-	-	-
1,4-Dichlorobenzene	ND	0.0330	0.250	-	-	-
1-Methylnaphthalene	ND	0.000420	0.00130	-	-	-
2,3,4,6-Tetrachlorophenol	ND	0.0510	0.250	-	-	-
2,4,5-Trichlorophenol	ND	0.000760	0.00250	-	-	-
2,4,6-Trichlorophenol	ND	0.000820	0.00250	-	-	-
2,4-Dichlorophenol	ND	0.000670	0.00130	-	-	-
2,4-Dimethylphenol	ND	0.0570	0.250	-	-	-
2,4-Dinitrophenol	ND	0.150	0.250	-	-	-
2,4-Dinitrotoluene	ND	0.00250	0.0130	-	-	-
2,6-Dinitrotoluene	ND	0.00140	0.0130	-	-	-
2-Chloronaphthalene	ND	0.0270	0.250	-	-	-
2-Chlorophenol	ND	0.00210	0.0130	-	-	-
2-Methylnaphthalene	ND	0.000450	0.00130	-	-	-
2-Methylphenol (o-Cresol)	ND	0.0360	0.250	-	-	-
2-Nitroaniline	ND	0.170	1.20	-	-	-
2-Nitrophenol	ND	0.170	1.20	-	-	-
3 & 4-Methylphenol (m,p-Cresol)	ND	0.0420	0.250	-	-	-
3,3-Dichlorobenzidine	ND	0.00100	0.00250	-	-	-
3-Nitroaniline	ND	0.150	1.20	-	-	-
4,6-Dinitro-2-methylphenol	ND	0.190	1.20	-	-	-
4-Bromophenyl Phenyl Ether	ND	0.0300	0.250	-	-	-
4-Chloro-3-methylphenol	ND	0.0310	0.250	-	-	-
4-Chloroaniline	ND	0.000970	0.00130	-	-	-
4-Chlorophenyl Phenyl Ether	ND	0.0500	0.250	-	-	-
4-Nitroaniline	ND	0.190	1.20	-	-	-
4-Nitrophenol	ND	0.420	1.20	-	-	-
Acenaphthene	ND	0.000530	0.00130	-	-	-
Acenaphthylene	ND	0.000370	0.00130	-	-	-
Acetochlor	ND	0.0290	0.250	-	-	-
Anthracene	ND	0.000950	0.00130	-	-	-
Benzidine	ND	0.120	1.20	-	-	-
Benzo (a) anthracene	ND	0.00400	0.0130	-	-	-
Benzo (a) pyrene	ND	0.000980	0.00250	-	-	-

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## Quality Control Report

**Client:** WRECO  
**Date Prepared:** 03/15/2021  
**Date Analyzed:** 03/15/2021 - 03/16/2021  
**Instrument:** GC17, GC21  
**Matrix:** Soil  
**Project:** P20101; Meekland Avenue

**WorkOrder:** 2103451  
**BatchID:** 217414  
**Extraction Method:** SW3550B  
**Analytical Method:** SW8270C  
**Unit:** mg/Kg  
**Sample ID:** MB/LCS/LCSD-217414

### QC Summary Report for SW8270C

Analyte	MB Result	MDL	RL	SPK Val	MB SS %REC	MB SS Limits
Benzo (b) fluoranthene	ND	0.00140	0.00250	-	-	-
Benzo (g,h,i) perylene	ND	0.00120	0.00250	-	-	-
Benzo (k) fluoranthene	ND	0.00110	0.00250	-	-	-
Benzyl Alcohol	ND	0.560	1.20	-	-	-
Bis (2-chloroethoxy) Methane	ND	0.0270	0.250	-	-	-
Bis (2-chloroethyl) Ether	ND	0.000550	0.00130	-	-	-
Bis (2-chloroisopropyl) Ether	ND	0.00300	0.0130	-	-	-
Bis (2-ethylhexyl) Adipate	ND	0.0480	0.250	-	-	-
Bis (2-ethylhexyl) Phthalate	ND	0.00520	0.0250	-	-	-
Butylbenzyl Phthalate	ND	0.00360	0.0250	-	-	-
Chrysene	ND	0.00130	0.00250	-	-	-
Dibenzo (a,h) anthracene	ND	0.00140	0.00250	-	-	-
Dibenzofuran	ND	0.0290	0.250	-	-	-
Diethyl Phthalate	ND	0.00470	0.0130	-	-	-
Dimethyl Phthalate	ND	0.00110	0.00250	-	-	-
Di-n-butyl Phthalate	ND	0.00380	0.0130	-	-	-
Di-n-octyl Phthalate	ND	0.00660	0.0130	-	-	-
Fluoranthene	ND	0.000910	0.00250	-	-	-
Fluorene	ND	0.00120	0.00250	-	-	-
Hexachlorobenzene	ND	0.00120	0.00250	-	-	-
Hexachlorobutadiene	ND	0.000230	0.00130	-	-	-
Hexachlorocyclopentadiene	ND	0.520	2.00	-	-	-
Hexachloroethane	ND	0.00170	0.0130	-	-	-
Indeno (1,2,3-cd) pyrene	ND	0.00300	0.0130	-	-	-
Isophorone	ND	0.0480	0.250	-	-	-
Naphthalene	ND	0.000280	0.00130	-	-	-
Nitrobenzene	ND	0.0490	0.250	-	-	-
N-Nitrosodimethylamine	ND	0.180	1.20	-	-	-
N-Nitrosodi-n-propylamine	ND	0.0640	0.250	-	-	-
N-Nitrosodiphenylamine	ND	0.0240	0.250	-	-	-
Pentachlorophenol	ND	0.00600	0.0620	-	-	-
Phenanthrene	ND	0.00110	0.00500	-	-	-
Phenol	ND	0.00680	0.0500	-	-	-
Pyrene	ND	0.00180	0.00250	-	-	-
Pyridine	ND	0.0610	0.250	-	-	-

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## Quality Control Report

**Client:** WRECO  
**Date Prepared:** 03/15/2021  
**Date Analyzed:** 03/15/2021 - 03/16/2021  
**Instrument:** GC17, GC21  
**Matrix:** Soil  
**Project:** P20101; Meekland Avenue

**WorkOrder:** 2103451  
**BatchID:** 217414  
**Extraction Method:** SW3550B  
**Analytical Method:** SW8270C  
**Unit:** mg/Kg  
**Sample ID:** MB/LCS/LCSD-217414

### QC Summary Report for SW8270C

Analyte	MB Result	MDL	RL	SPK Val	MB SS %REC	MB SS Limits
<b>Surrogate Recovery</b>						
2-Fluorophenol	1.44			1.25	115	70-130
Phenol-d5	1.40			1.25	112	70-130
Nitrobenzene-d5	1.21			1.25	97	60-130
2-Fluorobiphenyl	1.18			1.25	95	60-130
2,4,6-Tribromophenol	0.887			1.25	71	30-130
4-Terphenyl-d14	1.21			1.25	97	40-130





## Quality Control Report

**Client:** WRECO  
**Date Prepared:** 03/15/2021  
**Date Analyzed:** 03/15/2021 - 03/16/2021  
**Instrument:** GC17, GC21  
**Matrix:** Soil  
**Project:** P20101; Meekland Avenue

**WorkOrder:** 2103451  
**BatchID:** 217414  
**Extraction Method:** SW3550B  
**Analytical Method:** SW8270C  
**Unit:** mg/Kg  
**Sample ID:** MB/LCS/LCSD-217414

### QC Summary Report for SW8270C

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
1,1-Biphenyl	0.0637	0.0515	0.062	102	82	60-130	21.1	30
1,2,4-Trichlorobenzene	1.20	0.987	1.25	96	79	60-130	19.7	30
1,2-Dichlorobenzene	1.24	1.00	1.25	99	80	60-130	20.7	30
1,2-Diphenylhydrazine	1.27	1.04	1.25	102	83	60-130	19.8	30
1,3-Dichlorobenzene	1.12	0.902	1.25	90	72	60-130	21.5	30
1,4-Dichlorobenzene	1.16	0.959	1.25	93	77	60-130	18.9	30
1-Methylnaphthalene	0.0618	0.0521	0.062	99	83	70-130	17.0	30
2,3,4,6-Tetrachlorophenol	1.24	0.987	1.25	99	79	60-130	22.8	30
2,4,5-Trichlorophenol	0.0618	0.0502	0.062	99	80	60-130	20.7	30
2,4,6-Trichlorophenol	0.0583	0.0502	0.062	93	80	60-130	14.9	30
2,4-Dichlorophenol	0.0647	0.0526	0.062	104	84	60-130	20.6	30
2,4-Dimethylphenol	1.28	1.04	1.25	102	83	70-130	21.1	30
2,4-Dinitrophenol	1.17	0.994	1.25	94	80	15-130	16.6	30
2,4-Dinitrotoluene	0.0701	0.0576	0.062	112	92	70-130	19.6	30
2,6-Dinitrotoluene	0.0670	0.0547	0.062	107	88	60-130	20.1	30
2-Chloronaphthalene	1.25	1.02	1.25	100	81	60-130	20.8	30
2-Chlorophenol	0.0668	0.0564	0.062	107	90	60-130	16.9	30
2-Methylnaphthalene	0.0635	0.0512	0.062	102	82	70-130	21.5	30
2-Methylphenol (o-Cresol)	1.47	1.14	1.25	118	91	60-130	25.7	30
2-Nitroaniline	6.02	4.78	6.25	96	76	70-130	23.0	30
2-Nitrophenol	6.14	5.15	6.25	98	82	70-130	17.6	30
3 & 4-Methylphenol (m,p-Cresol)	1.42	1.15	1.25	114	92	60-130	21.5	30
3,3-Dichlorobenzidine	0.0387	0.0387	0.062	62	62	40-130	0.0326	30
3-Nitroaniline	4.58	4.43	6.25	73	71	50-130	3.31	30
4,6-Dinitro-2-methylphenol	5.78	4.97	6.25	92	80	20-130	15.0	30
4-Bromophenyl Phenyl Ether	1.21	1.01	1.25	96	81	60-130	17.8	30
4-Chloro-3-methylphenol	1.24	0.960	1.25	99	77	70-130	25.7	30
4-Chloroaniline	0.0427	0.0463	0.062	68	74	40-130	8.15	30
4-Chlorophenyl Phenyl Ether	1.28	1.01	1.25	102	81	70-130	23.8	30
4-Nitroaniline	5.22	4.37	6.25	84	70	60-130	17.8	30
4-Nitrophenol	5.70	4.51	6.25	91	72	60-130	23.3	30
Acenaphthene	0.0603	0.0490	0.062	97	78	60-130	20.7	30
Acenaphthylene	0.0609	0.0502	0.062	97	80	60-130	19.3	30
Acetochlor	1.15	0.943	1.25	92	75	60-130	19.7	30
Anthracene	0.0623	0.0509	0.062	100	81	60-130	20.0	30
Benzidine	2.01	2.41	6.25	32	38	20-130	17.7	30
Benzo (a) anthracene	0.0600	0.0507	0.062	96	81	70-130	16.8	30
Benzo (a) pyrene	0.0649	0.0557	0.062	104	89	70-130	15.2	30

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## Quality Control Report

**Client:** WRECO  
**Date Prepared:** 03/15/2021  
**Date Analyzed:** 03/15/2021 - 03/16/2021  
**Instrument:** GC17, GC21  
**Matrix:** Soil  
**Project:** P20101; Meekland Avenue

**WorkOrder:** 2103451  
**BatchID:** 217414  
**Extraction Method:** SW3550B  
**Analytical Method:** SW8270C  
**Unit:** mg/Kg  
**Sample ID:** MB/LCS/LCSD-217414

### QC Summary Report for SW8270C

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
Benzo (b) fluoranthene	0.0544	0.0466	0.062	87	75	60-130	15.6	30
Benzo (g,h,i) perylene	0.0578	0.0488	0.062	93	78	70-130	16.9	30
Benzo (k) fluoranthene	0.0669	0.0540	0.062	107	86	70-130	21.3	30
Benzyl Alcohol	5.74	4.80	6.25	92	77	70-130	17.8	30
Bis (2-chloroethoxy) Methane	1.26	1.05	1.25	101	84	70-130	18.2	30
Bis (2-chloroethyl) Ether	0.0602	0.0520	0.062	96	83	60-130	14.6	30
Bis (2-chloroisopropyl) Ether	0.0594	0.0498	0.062	95	80	60-130	17.5	30
Bis (2-ethylhexyl) Adipate	1.17	1.05	1.25	94	84	60-130	11.0	30
Bis (2-ethylhexyl) Phthalate	0.0538	0.0507	0.062	86	81	60-130	5.94	30
Butylbenzyl Phthalate	0.0565	0.0552	0.062	90	88	60-130	2.39	30
Chrysene	0.0611	0.0502	0.062	98	80	70-130	19.5	30
Dibenzo (a,h) anthracene	0.0550	0.0451	0.062	88	72	70-130	19.7	30
Dibenzofuran	1.24	0.996	1.25	99	80	60-130	21.4	30
Diethyl Phthalate	0.0675	0.0520	0.062	108	83	70-130	25.9	30
Dimethyl Phthalate	0.0620	0.0493	0.062	99	79	70-130	22.7	30
Di-n-butyl Phthalate	0.0562	0.0472	0.062	90	75	60-130	17.4	30
Di-n-octyl Phthalate	0.0675	0.0641	0.062	108	103	60-130	5.14	30
Fluoranthene	0.0591	0.0490	0.062	95	78	70-130	18.6	30
Fluorene	0.0661	0.0518	0.062	106	83	60-130	24.3	30
Hexachlorobenzene	0.0589	0.0489	0.062	94	78	70-130	18.5	30
Hexachlorobutadiene	0.0596	0.0487	0.062	95	78	70-130	20.2	30
Hexachlorocyclopentadiene	4.79	3.91	6.25	77	63	60-130	20.1	30
Hexachloroethane	0.0582	0.0479	0.062	93	77	70-130	19.5	30
Indeno (1,2,3-cd) pyrene	0.0576	0.0474	0.062	92	76	70-130	19.5	30
Isophorone	1.24	1.01	1.25	99	81	60-130	20.4	30
Naphthalene	0.0596	0.0484	0.062	95	77	70-130	20.7	30
Nitrobenzene	1.25	1.03	1.25	100	82	60-130	19.7	30
N-Nitrosodimethylamine	5.91	4.87	6.25	95	78	70-130	19.4	30
N-Nitrosodi-n-propylamine	1.12	0.955	1.25	90	76	60-130	15.8	30
N-Nitrosodiphenylamine	1.25	1.02	1.25	100	82	70-130	20.0	30
Pentachlorophenol	0.302	0.257	0.31	97	82	50-130	16.2	30
Phenanthrene	0.0589	0.0480	0.062	94	77	60-130	20.3	30
Phenol	0.275	0.228	0.25	110	91	60-130	18.8	30
Pyrene	0.0649	0.0537	0.062	104	86	70-130	18.8	30
Pyridine	1.07	0.815	1.25	86	65	60-130	27.2	30

(Cont.)



## Quality Control Report

**Client:** WRECO  
**Date Prepared:** 03/15/2021  
**Date Analyzed:** 03/15/2021 - 03/16/2021  
**Instrument:** GC17, GC21  
**Matrix:** Soil  
**Project:** P20101; Meekland Avenue

**WorkOrder:** 2103451  
**BatchID:** 217414  
**Extraction Method:** SW3550B  
**Analytical Method:** SW8270C  
**Unit:** mg/Kg  
**Sample ID:** MB/LCS/LCSD-217414

### QC Summary Report for SW8270C

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
<b>Surrogate Recovery</b>								
2-Fluorophenol	1.28	1.13	1.25	102	91	70-130	12.1	30
Phenol-d5	1.29	1.10	1.25	103	88	70-130	15.3	30
Nitrobenzene-d5	1.16	1.03	1.25	93	82	60-130	12.1	30
2-Fluorobiphenyl	1.12	0.966	1.25	89	77	60-130	14.3	30
2,4,6-Tribromophenol	0.982	0.896	1.25	79	72	30-130	9.15	30
4-Terphenyl-d14	1.14	1.02	1.25	91	81	40-130	11.1	30



## Quality Control Report

**Client:** WRECO  
**Date Prepared:** 03/10/2021  
**Date Analyzed:** 03/11/2021  
**Instrument:** ICP-MS5  
**Matrix:** Soil  
**Project:** P20101; Meekland Avenue

**WorkOrder:** 2103451  
**BatchID:** 217073  
**Extraction Method:** SW3050B  
**Analytical Method:** SW6020  
**Unit:** mg/kg  
**Sample ID:** MB/LCS/LCSD-217073

### QC Summary Report for Metals

Analyte	MB Result	MDL	RL	SPK Val	MB SS %REC	MB SS Limits
Antimony	ND	0.160	0.500	-	-	-
Arsenic	ND	0.150	0.500	-	-	-
Barium	ND	0.570	5.00	-	-	-
Beryllium	ND	0.0730	0.500	-	-	-
Cadmium	ND	0.0940	0.500	-	-	-
Chromium	ND	0.130	0.500	-	-	-
Cobalt	ND	0.0520	0.500	-	-	-
Copper	ND	0.180	0.500	-	-	-
Lead	ND	0.140	0.500	-	-	-
Mercury	ND	0.0320	0.0500	-	-	-
Molybdenum	ND	0.160	0.500	-	-	-
Nickel	ND	0.170	0.500	-	-	-
Selenium	ND	0.150	0.500	-	-	-
Silver	ND	0.120	0.500	-	-	-
Thallium	ND	0.0670	0.500	-	-	-
Vanadium	ND	0.130	0.500	-	-	-
Zinc	ND	3.00	5.00	-	-	-
<b>Surrogate Recovery</b>						
Terbium	511			500	102	70-130

(Cont.)

CA ELAP 1644 • NELAP 4033ORELAP



## Quality Control Report

**Client:** WRECO  
**Date Prepared:** 03/10/2021  
**Date Analyzed:** 03/11/2021  
**Instrument:** ICP-MS5  
**Matrix:** Soil  
**Project:** P20101; Meekland Avenue

**WorkOrder:** 2103451  
**BatchID:** 217073  
**Extraction Method:** SW3050B  
**Analytical Method:** SW6020  
**Unit:** mg/kg  
**Sample ID:** MB/LCS/LCSD-217073

### QC Summary Report for Metals

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
Antimony	52.1	52.2	50	104	104	75-125	0.175	20
Arsenic	52.0	53.2	50	104	106	75-125	2.24	20
Barium	499	506	500	100	101	75-125	1.44	20
Beryllium	50.2	51.2	50	100	102	75-125	1.90	20
Cadmium	48.7	49.8	50	97	100	75-125	2.27	20
Chromium	50.0	50.5	50	100	101	75-125	1.03	20
Cobalt	49.4	50.1	50	99	100	75-125	1.37	20
Copper	51.1	52.0	50	102	104	75-125	1.74	20
Lead	50.0	50.8	50	100	102	75-125	1.59	20
Mercury	1.13	1.16	1.25	91	93	75-125	2.27	20
Molybdenum	51.4	50.9	50	103	102	75-125	0.931	20
Nickel	51.1	52.8	50	102	106	75-125	3.28	20
Selenium	50.4	50.7	50	101	101	75-125	0.540	20
Silver	49.4	49.6	50	99	99	75-125	0.509	20
Thallium	51.1	50.8	50	102	102	75-125	0.639	20
Vanadium	49.5	50.1	50	99	100	75-125	1.19	20
Zinc	510	525	500	102	105	75-125	2.97	20
<b>Surrogate Recovery</b>								
Terbium	520	526	500	104	105	70-130	1.16	20



## Quality Control Report

**Client:** WRECO  
**Date Prepared:** 03/09/2021  
**Date Analyzed:** 03/09/2021 - 03/11/2021  
**Instrument:** GC19, GC7  
**Matrix:** Soil  
**Project:** P20101; Meekland Avenue

**WorkOrder:** 2103451  
**BatchID:** 216996  
**Extraction Method:** SW5035  
**Analytical Method:** SW8021B/8015Bm  
**Unit:** mg/Kg  
**Sample ID:** MB/LCS/LCSD-216996

### QC Summary Report for SW8021B/8015Bm

Analyte	MB Result	MDL	RL	SPK Val	MB SS %REC	MB SS Limits
TPH(g) (C6-C12)	ND	0.610	1.00	-	-	-
MTBE	ND	0.00340	0.0500	-	-	-
Benzene	ND	0.00190	0.00500	-	-	-
Toluene	ND	0.00240	0.00500	-	-	-
Ethylbenzene	ND	0.00170	0.00500	-	-	-
m,p-Xylene	ND	0.00260	0.0100	-	-	-
o-Xylene	ND	0.000910	0.00500	-	-	-

#### Surrogate Recovery

2-Fluorotoluene	0.0924			0.1	92	75-134
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Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
TPH(btex)	0.666	0.661	0.60	111	110	82-118	0.820	20
MTBE	0.0844	0.0845	0.10	84	84	61-119	0.0605	20
Benzene	0.0841	0.0916	0.10	84	92	77-128	8.58	20
Toluene	0.0981	0.106	0.10	98	106	74-132	7.68	20
Ethylbenzene	0.111	0.114	0.10	111	114	84-127	2.83	20
m,p-Xylene	0.238	0.237	0.20	119	119	80-120	0.241	20
o-Xylene	0.119	0.119	0.10	119	119	80-120	0.192	20

#### Surrogate Recovery

2-Fluorotoluene	0.0888	0.0929	0.10	89	93	75-134	4.48	20
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(Cont.)





## Quality Control Report

**Client:** WRECO  
**Date Prepared:** 03/10/2021  
**Date Analyzed:** 03/10/2021 - 03/12/2021  
**Instrument:** GC19, GC3, GC7  
**Matrix:** Soil  
**Project:** P20101; Meekland Avenue

**WorkOrder:** 2103451  
**BatchID:** 217098  
**Extraction Method:** SW5035  
**Analytical Method:** SW8021B/8015Bm  
**Unit:** mg/Kg  
**Sample ID:** MB/LCS/LCSD-217098  
2103451-004AMS/MSD

### QC Summary Report for SW8021B/8015Bm

Analyte	MB Result	MDL	RL	SPK Val	MB SS %REC	MB SS Limits
TPH(g) (C6-C12)	ND	0.610	1.00	-	-	-
MTBE	ND	0.00340	0.0500	-	-	-
Benzene	ND	0.00190	0.00500	-	-	-
Toluene	ND	0.00240	0.00500	-	-	-
Ethylbenzene	ND	0.00170	0.00500	-	-	-
m,p-Xylene	ND	0.00260	0.0100	-	-	-
o-Xylene	ND	0.000910	0.00500	-	-	-
<b>Surrogate Recovery</b>						
2-Fluorotoluene	0.0935			0.1	93	75-134



## Quality Control Report

**Client:** WRECO  
**Date Prepared:** 03/10/2021  
**Date Analyzed:** 03/10/2021 - 03/12/2021  
**Instrument:** GC19, GC3, GC7  
**Matrix:** Soil  
**Project:** P20101; Meekland Avenue

**WorkOrder:** 2103451  
**BatchID:** 217098  
**Extraction Method:** SW5035  
**Analytical Method:** SW8021B/8015Bm  
**Unit:** mg/Kg  
**Sample ID:** MB/LCS/LCSD-217098  
2103451-004AMS/MSD

### QC Summary Report for SW8021B/8015Bm

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
TPH(btex)	0.576	0.576	0.60	96	96	82-118	0.0899	20
MTBE	0.0951	0.0871	0.10	95	87	61-119	8.82	20
Benzene	0.106	0.0994	0.10	106	99	77-128	6.68	20
Toluene	0.110	0.105	0.10	110	105	74-132	4.22	20
Ethylbenzene	0.110	0.108	0.10	110	108	84-127	2.10	20
m,p-Xylene	0.224	0.221	0.20	112	111	80-120	1.24	20
o-Xylene	0.109	0.107	0.10	109	107	80-120	1.57	20

#### Surrogate Recovery

2-Fluorotoluene	0.104	0.0995	0.10	104	99	75-134	4.09	20
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Analyte	MS DF	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
TPH(btex)	1	0.606	0.588	0.60	ND	101	98	58-129	3.00	20
MTBE	1	0.101	0.0978	0.10	ND	84	81	47-118	3.06	20
Benzene	1	0.104	0.0974	0.10	ND	104	97	55-129	6.23	20
Toluene	1	0.109	0.104	0.10	ND	109	104	56-130	4.52	20
Ethylbenzene	1	0.108	0.102	0.10	ND	108	102	63-129	5.61	20
m,p-Xylene	1	0.226	0.219	0.20	ND	111	108	80-120	3.07	20
o-Xylene	1	0.107	0.101	0.10	ND	107	101	80-120	5.67	20

#### Surrogate Recovery

2-Fluorotoluene	1	0.0969	0.0940	0.10		97	94	62-126	2.96	20
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## Quality Control Report

**Client:** WRECO  
**Date Prepared:** 03/10/2021  
**Date Analyzed:** 03/11/2021  
**Instrument:** GC6B  
**Matrix:** Soil  
**Project:** P20101; Meekland Avenue

**WorkOrder:** 2103451  
**BatchID:** 217083  
**Extraction Method:** SW3550B  
**Analytical Method:** SW8015B  
**Unit:** mg/Kg  
**Sample ID:** MB/LCS/LCSD-217083

### QC Report for SW8015B w/out SG Clean-Up

Analyte	MB Result	MDL	RL	SPK Val	MB SS %REC	MB SS Limits
TPH-Diesel (C10-C23)	ND	0.750	1.00	-	-	-
TPH-Motor Oil (C18-C36)	ND	3.90	5.00	-	-	-
<b>Surrogate Recovery</b>						
C9	23.6			25	94	70-130

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
TPH-Diesel (C10-C23)	36.1	37.6	40	90	94	70-130	3.96	20
<b>Surrogate Recovery</b>								
C9	23.3	23.3	25	93	93	70-130	0.264	20

# McC Campbell Analytical, Inc.



1534 Willow Pass Rd  
Pittsburg, CA 94565-1701  
(925) 252-9262

☐ WaterTrax ☐ WriteOn ☐ EDF

# CHAIN-OF-CUSTODY RECORD

Page 1 of 1

WorkOrder: 2103451

ClientCode: WREC

QuoteID: 212466

☐ EQuIS ☐ Dry-Weight ☒ Email ☐ HardCopy ☐ ThirdParty ☐ J-flag  
☐ Detection Summary ☐ Excel

## Report to:

Melissa McAssey  
WRECO  
1243 Alpine Road, Suite 108  
Walnut Creek, CA 94596  
(925) 941-0017 FAX: (925) 941-0018

Email: melissa\_mcassey@wreco.com  
cc/3rd Party: nikki\_asi@wreco.com; andrew\_smith@wre  
PO:  
Project: P20101; Meekland Avenue

## Bill to:

Accounts Payable  
WRECO  
1243 Alpine Road, Suite 108  
Walnut Creek, CA 94596  
AP@wreco.com

Requested TAT: 5 days;

*Date Received:* 03/08/2021

*Date Logged:* 03/10/2021

Lab ID	Client ID	Matrix	Collection Date	Hold	Requested Tests (See legend below)											
					1	2	3	4	5	6	7	8	9	10	11	12
2103451-001	B-2	Soil	3/2/2021 10:20	<input type="checkbox"/>			A	A		A	A		A	A	A	
2103451-002	B-3	Soil	3/3/2021 14:30	<input type="checkbox"/>	A	A			A			A	A			A
2103451-003	B-4	Soil	3/4/2021 13:20	<input type="checkbox"/>	A	A	A			A			A	A	A	
2103451-004	B-8	Soil	3/5/2021 14:10	<input type="checkbox"/>					A			A	A			A

## Test Legend:

1	8081PCB_S	2	8141_S	3	8260B_S	4	8270_PNA_S
5	8270_SCSM_S	6	CAM17MS_TTLC_S	7	CARB435_400	8	G-MBTX_S
9	PRDisposal Fee	10	STLC_MSEXTRACTONLY	11	TCLP_MSEXTRACTONLY	12	TPH(DMO)_S

Project Manager: Rosa Venegas

Prepared by: Valerie Alfaro

The following SampleIDs: 002A, 004A contain testgroup Multi Range\_S.

Comments: Samples taken off hold 3/10/2021.

NOTE: Soil samples are discarded 60 days after results are reported unless other arrangements are made (Water samples are 30 days).  
Hazardous samples will be returned to client or disposed of at client expense.



## WORK ORDER SUMMARY

**Client Name:** WRECO

**Project:** P20101; Meekland Avenue

**Work Order:** 2103451

**Client Contact:** Melissa McAssey

**QC Level:** LEVEL 2

**Contact's Email:** melissa\_mcassey@wreco.com

**Comments:** Samples taken off hold 3/10/2021.

**Date Logged:** 3/10/2021

☐ WaterTrax ☐ WriteOn ☐ EDF ☐ Excel ☐ EQUIS ☒ Email ☐ HardCopy ☐ ThirdParty ☐ J-flag

LabID	ClientSampID	Matrix	Test Name	Containers /Composites	Bottle & Preservative	Head Space	Dry-Weight	Collection Date & Time	TAT	Test Due Date	Sediment Content	Hold	SubOut
001A	B-2	Soil	TCLP Extract and Hold	2	8OZ GJ, Unpres	<input type="checkbox"/>	<input type="checkbox"/>	3/2/2021 10:20	5 days*	3/17/2021		<input type="checkbox"/>	
			STLC Extract and Hold			<input type="checkbox"/>	<input type="checkbox"/>		5 days*	3/17/2021		<input type="checkbox"/>	
			Asbestos, CARB 435, 400 Point			<input type="checkbox"/>	<input type="checkbox"/>		5 days	3/17/2021		<input type="checkbox"/>	
			SW6020 (CAM 17)			<input type="checkbox"/>	<input type="checkbox"/>		5 days	3/15/2021		<input type="checkbox"/>	
			SW8270C (PAHs/PNAs)			<input type="checkbox"/>	<input type="checkbox"/>		5 days	3/17/2021		<input type="checkbox"/>	
			SW8260B (VOCs)			<input type="checkbox"/>	<input type="checkbox"/>		5 days	3/17/2021		<input type="checkbox"/>	
002A	B-3	Soil	Multi-Range TPH	2	8OZ GJ, Unpres	<input type="checkbox"/>	<input type="checkbox"/>	3/3/2021 14:30	5 days	3/17/2021		<input type="checkbox"/>	
			SW8270C (SVOCs)			<input type="checkbox"/>	<input type="checkbox"/>		5 days	3/17/2021		<input type="checkbox"/>	
			SW8270C (ON/P Pesticides - EPA 8141 target list)			<input type="checkbox"/>	<input type="checkbox"/>		5 days	3/17/2021		<input type="checkbox"/>	
			SW8081A/8082 (OC Pesticides+PCBs)			<input type="checkbox"/>	<input type="checkbox"/>		5 days	3/17/2021		<input type="checkbox"/>	
003A	B-4	Soil	TCLP Extract and Hold	2	8OZ GJ, Unpres	<input type="checkbox"/>	<input type="checkbox"/>	3/4/2021 13:20	5 days*	3/17/2021		<input type="checkbox"/>	
			STLC Extract and Hold			<input type="checkbox"/>	<input type="checkbox"/>		5 days*	3/17/2021		<input type="checkbox"/>	
			SW6020 (CAM 17)			<input type="checkbox"/>	<input type="checkbox"/>		5 days	3/17/2021		<input type="checkbox"/>	
			SW8260B (VOCs)			<input type="checkbox"/>	<input type="checkbox"/>		5 days	3/17/2021		<input type="checkbox"/>	
			SW8270C (ON/P Pesticides - EPA 8141 target list)			<input type="checkbox"/>	<input type="checkbox"/>		5 days	3/17/2021		<input type="checkbox"/>	
			SW8081A/8082 (OC Pesticides+PCBs)			<input type="checkbox"/>	<input type="checkbox"/>		5 days	3/17/2021		<input type="checkbox"/>	

**NOTES:** \* STLC and TCLP extractions require 2 days to complete; therefore, all TATs begin after the extraction is completed (i.e., One-day TAT yields results in 3 days from sample submission).

- MAI assumes that all material present in the provided sampling container is considered part of the sample - MAI does not exclude any material from the sample prior to sample preparation unless requested in writing by the client.



McC Campbell Analytical, Inc.

"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701  
Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269  
http://www.mccampbell.com / E-mail: main@mccampbell.com

## WORK ORDER SUMMARY

**Client Name:** WRECO

**Project:** P20101; Meekland Avenue

**Work Order:** 2103451

**Client Contact:** Melissa McAssey

**QC Level:** LEVEL 2

**Contact's Email:** melissa\_mcassey@wreco.com

**Comments:** Samples taken off hold 3/10/2021.

**Date Logged:** 3/10/2021

☐ WaterTrax ☐ WriteOn ☐ EDF ☐ Excel ☐ EQUIS ☒ Email ☐ HardCopy ☐ ThirdParty ☐ J-flag

LabID	ClientSampID	Matrix	Test Name	Containers /Composites	Bottle & Preservative	Head Space	Dry- Weight	Collection Date & Time	TAT	Test Due Date	Sediment Content	Hold	SubOut
004A	B-8	Soil	Multi-Range TPH	2	8OZ GJ, Unpres	<input type="checkbox"/>	<input type="checkbox"/>	3/5/2021 14:10	5 days	3/17/2021		<input type="checkbox"/>	
			SW8270C (SVOCs)			<input type="checkbox"/>	<input type="checkbox"/>		5 days	3/17/2021		<input type="checkbox"/>	

**NOTES:** \* STLC and TCLP extractions require 2 days to complete; therefore, all TATs begin after the extraction is completed (i.e., One-day TAT yields results in 3 days from sample submission).

- MAI assumes that all material present in the provided sampling container is considered part of the sample - MAI does not exclude any material from the sample prior to sample preparation unless requested in writing by the client.



Matrix Code: DW=Drinking Water, GW=Ground Water, WW=Waste Water, SW=Seawater, S=Soil, SL=Sludge, A=Air, WP=Wipe, O=Other  
Preservative Code: 1=4°C 2=HCl 3=H<sub>2</sub>SO<sub>4</sub> 4=HNO<sub>3</sub> 5=NaOH 6=ZnOAc/NaOH 7=None

Temp 6.1 °C Initials tp

Page \_\_\_ of \_\_\_



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1534 Willow Pass Rd. Pittsburg, Ca. 94565-1701

Telephone: (877) 252-9262 / Fax: (925) 252-9269

[www.mccampbell.com](http://www.mccampbell.com)

[main@mccampbell.com](mailto:main@mccampbell.com)

## CHAIN OF CUSTODY RECORD

Turn Around Time: 1 Day Rush		2 Day Rush		3 Day Rush		STD		Quote #			
J-Flag / MDL		ESL		Cleanup Approved		Dry Weight		Bottle Order #			
Delivery Format:		PDF		GeoTracker EDF		EDD		Write On (DW)		Detect Summary	

Report To: Melissa McAssey

Bill To: WRECO

Company: WRECO

Email: [Melissa\\_McAssey@WRECO.COM](mailto:Melissa_McAssey@WRECO.COM)

Alt Email: nikki\_asi@wreco.com and andrew\_smith@wreco.com Tele: 925.941.0017 x251

Project Name: Meekland Avenue	Project #:	P20101
-------------------------------	------------	--------

Project Location: Hayward, CA	PO #
-------------------------------	------

Sampler Signature:

### Analysis Requested

[illegible]

MAI clients MUST disclose any dangerous chemicals known to be present in their submitted samples in concentrations that may cause immediate harm or serious future health endangerment as a result of brief, gloved, open air, sample handling by MAI staff. Non-disclosure incurs an immediate \$250 surcharge and the client is subject to full legal liability for harm suffered. Thank you for your understanding and for allowing us to work safely.

\* If metals are requested for water samples and the water type (Matrix) is not specified on the chain of custody, MAI will default to metals by E200.8.

Please provide an adequate volume of sample. If the volume is not sufficient for a MS/MSD a LCS/LCSD will be prepared in its place and noted in the report.

Comments / Instructions

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
Jason Olsson / WRECO	3/8/2021	10:11am	Nikki ASI / WRECO	3/8/2021	10:11
Nikki ASI / WRECO	3/8/2021	10:44		3/8/21	10:44

Matrix Code: DW=Drinking Water, GW=Ground Water, WW=Waste Water, SW=Seawater, S=Soil, SL=Sludge, A=Air, WP=Wipe, O=Other

Handwritten notes: \*Sample B-2, B-3, B-4, & B-8 - put on HOLD until further notice

Matrix Code: DW=Drinking Water, GW=Ground Water, WW=Waste Water, SW=Seawater, S=Soil, SL=Sludge, A=Air, WP=Wipe, O=Other

Preservative Code: 1=4°C 2=HCl 3=H<sub>2</sub>SO<sub>4</sub> 4=HNO<sub>3</sub> 5=NaOH 6=ZnOAc/NaOH 7=None

Temp 20.1 °C Initials tn

\* taken off hold Temp 8.1 °C  
per email. VA 3/10/24 net





## Sample Receipt Checklist

Client Name: **WRECO**  
Project: **P20101; Meekland Avenue**

Date and Time Received: **3/8/2021 10:44**

Date Logged: **3/10/2021**

Received by: **Tina Perez**

Logged by: **Valerie Alfaro**

WorkOrder No: **2103451** Matrix: Soil  
Carrier: Client Drop-In

### Chain of Custody (COC) Information

Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample IDs noted by Client on COC?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Date and Time of collection noted by Client on COC?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sampler's name noted on COC?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	
COC agrees with Quote?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	NA <input checked="" type="checkbox"/>

### Sample Receipt Information

Custody seals intact on shipping container/cooler?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	NA <input checked="" type="checkbox"/>
Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper containers/bottles?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	

### Sample Preservation and Hold Time (HT) Information

All samples received within holding time?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	NA <input type="checkbox"/>
Samples Received on Ice?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	

(Ice Type: WET ICE )

Sample/Temp Blank temperature	Temp: 8.1°C		NA <input type="checkbox"/>
ZHS conditional analyses: VOA meets zero headspace requirement (VOCs, TPHg/BTEX, RSK)?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	NA <input checked="" type="checkbox"/>
Sample labels checked for correct preservation?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
pH acceptable upon receipt (Metal: <2; Nitrate 353.2/4500NO <sub>3</sub> : <2; 522: <4; 218.7: >8)?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	NA <input checked="" type="checkbox"/>

### UCMR Samples:

pH tested and acceptable upon receipt (200.8: ≤2; 525.3: ≤4; 530: ≤7; 541: <3; 544: <6.5 & 7.5)?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	NA <input checked="" type="checkbox"/>
Free Chlorine tested and acceptable upon receipt (<0.1mg/L)?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	NA <input checked="" type="checkbox"/>

Comments:



---

1243 Alpine Road, Suite 108  
Walnut Creek, CA 94596  
Phone: 925.395.9500  
[www.wreco.com](http://www.wreco.com)

**Attachment C**  
**Structural Elements Laboratory Reports – EMSL Analytical, Inc.**



---

| Civil Engineering | Environmental Compliance | Geotechnical Engineering | Water Resources |

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**EMSL Analytical, Inc**

464 McCormick Street, San Leandro, CA 94577

Phone/Fax: (510) 895-3675 / (510) 895-3680

<http://www.EMSL.com>[sanleandrolab@emsl.com](mailto:sanleandrolab@emsl.com)

EMSL Order: 092108340

CustomerID: WREC75

CustomerPO:

ProjectID:

Attn: **Andrew Smith**  
**WRECO**  
**1243 Alpine Road, Suite 108**  
**Walnut Creek, CA 94596**

Phone: (925) 941-0017  
Fax: (925) 941-0018  
Received: 6/8/2021 03:00 PM  
Collected: 6/8/2021

Project: **P20101 MEEKLAND AVENUE****Test Report: Lead in Paint Chips by Flame AAS (SW 846 3050B/7000B)\***

<i>Client Sample Description</i>	<i>Lab ID</i>	<i>Collected</i>	<i>Analyzed</i>	<i>Weight</i>	<i>Lead Concentration</i>
MKA-LP-01	092108340-0001	6/8/2021	6/9/2021	0.2768 g	<80 ppm
Site: SOUTH END CENTER LINE					
MKA-LP-02	092108340-0002	6/8/2021	6/9/2021	0.2531 g	94000 ppm
Site: NE END OF ABUTMENT					

Julian Neagu, Lead Laboratory Manager  
or other approved signatory

EMSL maintains liability limited to cost of analysis. Interpretation and use of test results are the responsibility of the client. This report relates only to the samples reported above, and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. The report reflects the samples as received. Results are generated from the field sampling data (sampling volumes and areas, locations, etc.) provided by the client on the Chain of Custody. Samples are within quality control criteria and met method specifications unless otherwise noted.

Analysis following Lead in Paint by EMSL SOP/Determination of Environmental Lead by FLAA. Reporting limit is 0.008% wt based on the minimum sample weight per our SOP. "<" (less than) result signifies the analyte was not detected at or above the reporting limit. Measurement of uncertainty is available upon request. Definitions of modifications are available upon request.

Samples analyzed by EMSL Analytical, Inc San Leandro, CA AIHA-LAP, LLC-ELLAP Accredited #101748

Initial report from 06/09/2021 17:21:45



## Lead Chain of Custody

EMSL Order Number / Lab Use Only

 EMSL Analytical, Inc.  
 200 Route 130 North  
 Cinnaminson, NJ 08077

 EMSL ANALYTICAL, INC.  
 TESTING LABS • PRODUCTS • TRAINING

092108340

PHONE: (800) 220-3675

EMAIL: CinnaminsonLeadLab@emsl.com

<b>Customer Information</b> Customer ID: _____ Company Name: <b>WRECO</b> Contact Name: <b>Andrew Smith</b> Street Address: <b>1243 Alpine Road Suite 108</b> City, State, Zip: <b>Walnut Creek CA</b> Country: <b>USA</b> Phone: <b>925-639-0013</b> Email(s) for Report: <b>Andrew_Smith@WRECO.COM</b>		<b>Billing Information</b> Billing ID: _____ Company Name: <b>WRECO</b> Billing Contact: <b>Sue Wang</b> Street Address: <b>1243 Alpine Road Suite 108</b> City, State, Zip: <b>Walnut Creek CA</b> Country: <b>USA</b> Phone: <b>925-639-0013</b> Email(s) for Invoice: <b>AP@wreco.com</b>	
<b>Project Information</b>			
Project Name/No. <b>P20101 Meekland Avenue</b>		Purchase Order: _____	
EMSL LIMS Project ID: _____ <small>(If applicable, EMSL will provide)</small>		US State where samples collected: _____	
Sampled By Name: <b>Andrew Smith</b>		State of <b>Connecticut (CT)</b> must select project location: <input type="checkbox"/> Commercial (Taxable) <input type="checkbox"/> Residential (Non-Taxable)	
Sampled By Signature:		No. of Samples in Shipment: _____	
Turn-Around-Time (TAT)			
<input type="checkbox"/> 3 Hour <input type="checkbox"/> 6 Hour <input type="checkbox"/> 24 Hour <input type="checkbox"/> 32 Hour <input type="checkbox"/> 48 Hour <input type="checkbox"/> 72 Hour <input type="checkbox"/> 96 Hour <input checked="" type="checkbox"/> 1 Week <input type="checkbox"/> 2 Week			
<small>Please call ahead for large projects and/or turnaround times 6 Hours or Less. *32 Hour TAT available for select tests only, samples must be submitted by 11:30a.</small>			
<b>CHIPS</b> <input checked="" type="checkbox"/> <b>MATRIX</b> <input checked="" type="checkbox"/> <input type="checkbox"/> ppm (mg/kg) <input type="checkbox"/> mg/kg *Reporting Limit based on a minimum 0.25g sample weight	<b>METHOD</b>	<b>INSTRUMENT</b>	<b>REPORTING LIMIT</b>
	SW 846-7000B	Flame Atomic Absorption	0.008% (80ppm)
	SW 846-6010D*	ICP-OES	0.0004% (4ppm)
	NIOSH 7082	Flame Atomic Absorption	4µg/filter
<b>AIR</b>	NIOSH 7300M / NIOSH 7303M	ICP-OES	0.5µg/filter
	NIOSH 7300M / NIOSH 7303M	ICP-MS	0.05µg/filter
<b>WIPE</b> <input type="checkbox"/> ASTM <input type="checkbox"/> NON-ASTM	SW 846-7000B	Flame Atomic Absorption	10µg/wipe
*If no box is checked, non-ASTM Wipe is assumed	SW 846-6010D*	ICP-OES	1.0µg/wipe
<b>TCLP</b>	SW 846-1311 / 7000B / SM 3111B	Flame Atomic Absorption	0.4 mg/L (ppm)
	SW 846-1311 / SW 846-6010D*	ICP-OES	0.1 mg/L (ppm)
<b>SPLP</b>	SW 846-1312 / 7000B / SM 3111B	Flame Atomic Absorption	0.4 mg/L (ppm)
	SW 846-1312 / SW 846-6010D*	ICP-OES	0.1 mg/L (ppm)
<b>TTLIC</b>	22 CCR App. II, 7000B	Flame Atomic Absorption	40mg/kg (ppm)
	22 CCR App. II, SW 846-6010D*	ICP-OES	2mg/kg (ppm)
<b>STLC</b>	22 CCR App. II, 7000B	Flame Atomic Absorption	0.4 mg/L (ppm)
	22 CCR App. II, SW 846-6010D*	ICP-OES	0.1 mg/L (ppm)
<b>Soil</b>	SW 846-7000B	Flame Atomic Absorption	40mg/kg (ppm)
	SW 846-6010D*	ICP-OES	2mg/kg (ppm)
<b>Wastewater</b>	SM 3111B / SW 846-7000B	Flame Atomic Absorption	0.4 mg/L (ppm)
Unpreserved <input type="checkbox"/>	EPA 200.7	ICP-OES	0.020 mg/L (ppm)
Preserved with HNO3 <input type="checkbox"/> PH<2	EPA 200.5	ICP-OES	0.003 mg/L (ppm)
<b>Drinking Water</b>	EPA 200.8	ICP-MS	0.001 mg/L (ppm)
Unpreserved <input type="checkbox"/>			
Preserved with HNO3 <input type="checkbox"/> PH<2			
<b>TSP/SPM Filter</b>	40 CFR Part 50	ICP-OES	12 µg/filter
<b>Other:</b>			

Sample Number	Sample Location	Volume / Area	Date / Time Sampled
MKA-LP-01	South End center line		6/8/21 / 1300
MKA-LP-02	NE End Abutment		" / 1330

Method of Shipment: <b>Drop off</b>		Sample Condition Upon Receipt: _____	
Relinquished By: <b>Andrew Smith</b>	Date/Time: <b>6/8/21 1500</b>	Received by: <b>#1 DB</b>	Date/Time: <b>6/8/21 3pm</b>
Relinquished by: _____	Date/Time: _____	Received by: _____	Date/Time: _____

Controlled Document - CDC-26 Lead R16 4/18/2021

\*6010C Available Upon Request

☐ AGREE TO ELECTRONIC SIGNATURE (By checking, I consent to signing this Chain of Custody document by electronic signature)

EMSL Analytical, Inc.'s Laboratory Terms and Conditions are incorporated into this Chain of Custody by reference in their entirety. Submission of samples to EMSL Analytical, Inc. constitutes acceptance and acknowledgment of all terms and conditions by Customer.





# EMSL Analytical, Inc.

464 McCormick Street San Leandro, CA 94577

Tel/Fax: (510) 895-3675 / (510) 895-3680

<http://www.EMSL.com / sanleandrolab@emsl.com>

EMSL Order: 092108354

Customer ID: WREC75

Customer PO: P20101

Project ID:

Attention: Andrew Smith

WRECO

1243 Alpine Road, Suite 108

Walnut Creek, CA 94596

Phone: (925) 941-0017

Fax: (925) 941-0018

Received Date: 06/08/2021 3:00 PM

Analysis Date: 06/15/2021

Collected Date:

Project: P20101 MEEKLAND AVENUE

## Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
MKA-01-Concrete <small>092108354-0001</small>	SE SIDE OF BRIDGE SIDEWALK - CONCRETE	Gray Non-Fibrous Heterogeneous		25% Quartz 40% Ca Carbonate 35% Non-fibrous (Other)	None Detected
MKA-01-Felt <small>092108354-0001A</small>	SE SIDE OF BRIDGE SIDEWALK - CONCRETE	Gray Fibrous Homogeneous	70% Cellulose	30% Non-fibrous (Other)	None Detected
MKA-02 <small>092108354-0002</small>	NW SIDE OF BRIDGE SIDEWALK - CONCRETE	Gray Non-Fibrous Heterogeneous		25% Quartz 40% Ca Carbonate 35% Non-fibrous (Other)	None Detected
MKA-03 <small>092108354-0003</small>	SE SIDE OF BRIDGE SIDEWALK - CONCRETE	Gray Non-Fibrous Heterogeneous		25% Quartz 40% Ca Carbonate 35% Non-fibrous (Other)	None Detected
MKA-04 <small>092108354-0004</small>	SE - SIDE OF BRIDGE SIDEWALK - CONCRETE	Gray Non-Fibrous Heterogeneous		25% Quartz 40% Ca Carbonate 35% Non-fibrous (Other)	None Detected
MKA-05 <small>092108354-0005</small>	EAST - SIDE OF BRIDGE SIDE WALK - CONCRETE	Gray Non-Fibrous Heterogeneous		25% Quartz 40% Ca Carbonate 35% Non-fibrous (Other)	None Detected
MKA-06 <small>092108354-0006</small>	WEST - SIDE OF BRIDGE SIDEWALK - CONCRETE	Gray Non-Fibrous Heterogeneous		25% Quartz 40% Ca Carbonate 35% Non-fibrous (Other)	None Detected
MKA-07 <small>092108354-0007</small>	WEST - SIDE OF BRIDGE SIDEWALK - CONCRETE	Gray Non-Fibrous Heterogeneous		25% Quartz 40% Ca Carbonate 35% Non-fibrous (Other)	None Detected
MKA-08 <small>092108354-0008</small>	WEST - SIDE OF BRIDGE SIDEWALK - CONCRETE	Gray Non-Fibrous Heterogeneous		25% Quartz 40% Ca Carbonate 35% Non-fibrous (Other)	None Detected
MKA-09 <small>092108354-0009</small>	WEST SIDE OF BRIDGE JOINT AT JOINT COMPOUND ABUTMENT	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected

Analyst(s)

Jon Abdon (10)

Cecilia Yu, Laboratory Manager  
or Other Approved Signatory

EMSL maintains liability limited to cost of analysis. Interpretation and use of test results are the responsibility of the client. This report relates only to the samples reported above, and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. The report reflects the samples as received. Results are generated from the field sampling data (sampling volumes and areas, locations, etc.) provided by the client on the Chain of Custody. Samples are within quality control criteria and met method specifications unless otherwise noted. The above analyses were performed in general compliance with Appendix E to Subpart E of 40 CFR (previously EPA 600/M4-82-020 "Interim Method") but augmented with procedures outlined in the 1993 ("final") version of the method. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST or any agency of the federal government. Non-friable organically bound materials present a problem matrix and therefore EMSL recommends gravimetric reduction prior to analysis. Unless requested by the client, building materials manufactured with multiple layers (i.e. linoleum, wallboard, etc.) are reported as a single sample. Estimation of uncertainty is available on request.

Samples analyzed by EMSL Analytical, Inc San Leandro, CA NVLAP Lab Code 101048-3, WA C884

Initial report from: 06/15/2021 13:34:59



EMSL Order Number / Lab Use Only

#092108354

EMSL ANALYTICAL, INC.  
TESTING LABS • PRODUCTS • TRAINING

PHONE: (800) 220-3675

EMAIL: CinnAsblab@EMSL.com

<b>Customer Information</b>	Customer ID:		Billing ID:																																									
	Company Name: WRECO		Company Name: WRECO																																									
	Contact Name: Andrew Smith		Billing Contact: Sue Wang																																									
	Street Address: 1243 Alpine Road Suite 108		Street Address: 1243 Alpine Road Suite 108																																									
	City, State, Zip: Walnut Creek CA	Country: USA	City, State, Zip: Walnut Creek CA	Country: USA																																								
Phone: 925-639-0013		Phone: 925-941-0017																																										
Email(s) for Report: Andrew_Smith@WRECO.com		Email(s) for Invoice: AR@WRECO.com																																										
<b>Project Information</b>																																												
Project Name/No: P20101 Meekland Avenue			Purchase Order:																																									
EMSL LIMS Project ID: (If applicable, EMSL will provide)			US State where samples collected: CA	State of Connecticut (CT) must select project location: <input type="checkbox"/> Commercial (Taxable) <input type="checkbox"/> Residential (Non-Taxable)																																								
Sampled By Name: Andrew Smith		Sampled By Signature:		No. of Samples in Shipment:																																								
Turn-Around-Time (TAT) <input type="checkbox"/> 3 Hour <input type="checkbox"/> 6 Hour <input type="checkbox"/> 24 Hour <input type="checkbox"/> 32 Hour <input type="checkbox"/> 48 Hour <input type="checkbox"/> 72 Hour <input type="checkbox"/> 96 Hour <input checked="" type="checkbox"/> 1 Week <input type="checkbox"/> 2 Week <small>Please call ahead for large projects and/or turnaround times 6 Hours or Less *32 Hour TAT available for select tests only; samples must be submitted by 11:30am.</small>																																												
<b>PLM - Bulk (reporting limit)</b> <input checked="" type="checkbox"/> PLM EPA 600/R-93/116 (<1%) <input type="checkbox"/> PLM EPA NOB (<1%) <input type="checkbox"/> POINT COUNT <input type="checkbox"/> 400 (<0.25%) <input type="checkbox"/> 1,000 (<0.1%) POINT COUNT w/ GRAVIMETRIC <input type="checkbox"/> 400 (<0.25%) <input type="checkbox"/> 1,000 (<0.1%) <input type="checkbox"/> NIOSH 9002 (<1%) <input type="checkbox"/> NYS 198.1 (Friable - NY) <input type="checkbox"/> NYS 198.6 NOB (Non-Friable - NY) <input type="checkbox"/> NYS 198.8 (Vermiculite SM-V)																																												
<b>Test Selection</b> <input type="checkbox"/> TEM - Bulk <input type="checkbox"/> TEM EPA NOB <input type="checkbox"/> NYS NOB 198.4 (Non-Friable-NY) <input type="checkbox"/> TEM EPA 600/R-93/116 w Milling Prep (0.1%) <b>Other Tests (please specify)</b> <input type="checkbox"/> Positive Stop - Clearly Identified Homogeneous Areas (HA)																																												
<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:15%;">Sample Number</th> <th style="width:15%;">HA Number</th> <th style="width:40%;">Sample Location</th> <th style="width:30%;">Material Description</th> </tr> </thead> <tbody> <tr> <td>MKA-01</td> <td>NA NA</td> <td>SE side of Bridge <sup>side walk</sup></td> <td>concrete</td> </tr> <tr> <td>MKA-02</td> <td></td> <td>NW side " " "</td> <td>"</td> </tr> <tr> <td>MKA-03</td> <td></td> <td>SE side " " "</td> <td>"</td> </tr> <tr> <td>MKA-04</td> <td></td> <td>SE-side " " "</td> <td>"</td> </tr> <tr> <td>MKA-05</td> <td></td> <td>East-side of Bridge side walk</td> <td></td> </tr> <tr> <td>MKA-06</td> <td></td> <td>West-side of " " "</td> <td></td> </tr> <tr> <td>MKA-07</td> <td></td> <td>" " " " "</td> <td></td> </tr> <tr> <td>MKA-08</td> <td></td> <td>" " " " "</td> <td></td> </tr> <tr> <td>MKA-09</td> <td></td> <td>West Side of Bridge Joint at Abutment</td> <td>* Joint comp. Joint compound</td> </tr> </tbody> </table>					Sample Number	HA Number	Sample Location	Material Description	MKA-01	NA NA	SE side of Bridge <sup>side walk</sup>	concrete	MKA-02		NW side " " "	"	MKA-03		SE side " " "	"	MKA-04		SE-side " " "	"	MKA-05		East-side of Bridge side walk		MKA-06		West-side of " " "		MKA-07		" " " " "		MKA-08		" " " " "		MKA-09		West Side of Bridge Joint at Abutment	* Joint comp. Joint compound
Sample Number	HA Number	Sample Location	Material Description																																									
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Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)																																												
Method of Shipment:		Sample Condition Upon Receipt:																																										
Relinquished by:	Date/Time: 6/18/21 1:50	Received by:	Date/Time: 6/18/21 3pm																																									
Relinquished by:	Date/Time:	Received by:	Date/Time:																																									

Controlled Document - Asbestos Bulk R5 03/18/2021

☐ AGREE TO ELECTRONIC SIGNATURE (By checking, I consent to signing this Chain of Custody document by electronic signature.)

EMSL Analytical, Inc.'s Laboratory Terms and Conditions are incorporated into this Chain of Custody by reference in their entirety. Submission of samples to EMSL Analytical, Inc. constitutes acceptance and acknowledgment of all terms and conditions by Customer.



---

1243 Alpine Road, Suite 108  
Walnut Creek, CA 94596  
Phone: 925.395.9500  
[www.wreco.com](http://www.wreco.com)

## **Attachment D**

### **Photolog – June 8, 2021**



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Meekland Avenue Corridor Improvements Project – San Lorenzo Creek Bridge Structural Elements  
Sampling  
Existing Bridge No. 33C0206,  
Alameda County, California  
~ June 8, 2021

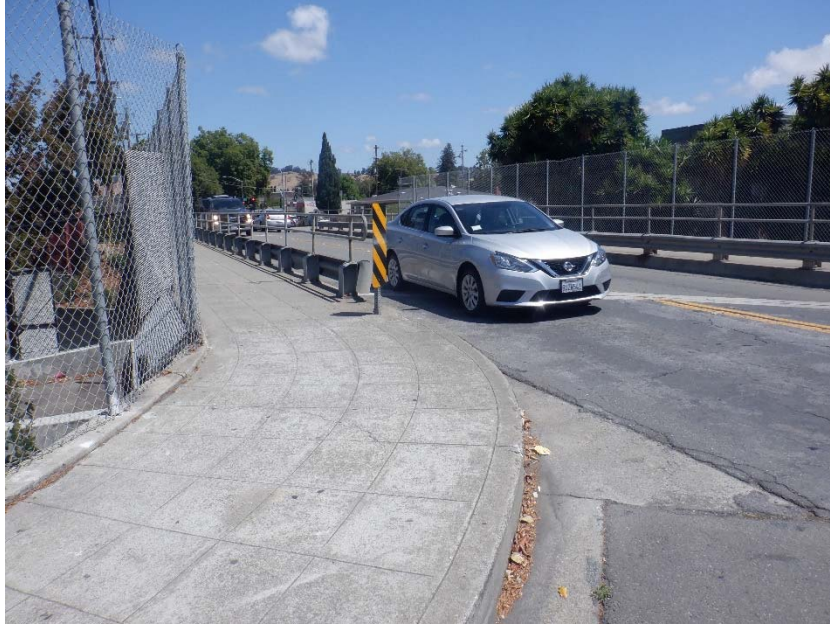


Photo 1. Looking north at the San Lorenzo Creek Bridge where structural elements sampling for asbestos containing material (ACM) and lead base paint (LBP) was conducted.



Photo 2. Looking southeast along San Lorenzo Creek Bridge.

Meekland Avenue Corridor Improvements Project – San Lorenzo Creek Bridge Structural Elements  
Sampling  
Existing Bridge No. 33C0206,  
Alameda County, California  
~ June 8, 2021



Photo 3. Collecting concrete sample MKA-01 on the southeast side of the bridge sidewalk to be analyzed for ACM.



Photo 4. Concrete sample MKA-03 collected on the east side of the bridge to be analyzed for ACM.



Meekland Avenue Corridor Improvements Project – San Lorenzo Creek Bridge Structural Elements  
Sampling  
Existing Bridge No. 33C0206,  
Alameda County, California  
~ June 8, 2021



Photo 5. Concrete sample MKA-04 collected on the east side of the bridge and the street side of the sidewalk.

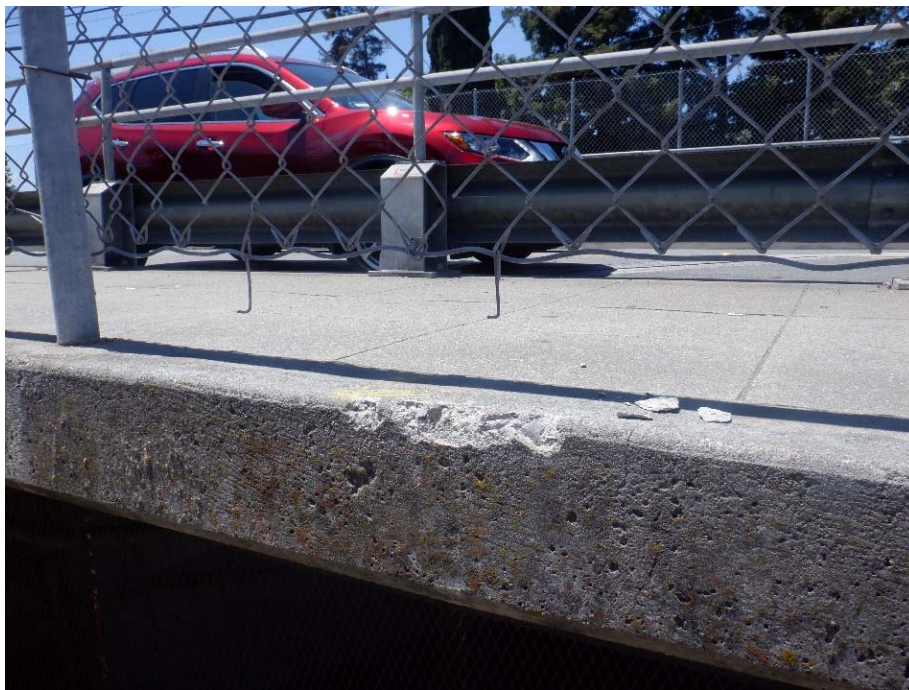


Photo 6. Location where concrete sample MKA-05 was collected at the northeast end of the bridge on the creek side of the sidewalk.



Meekland Avenue Corridor Improvements Project – San Lorenzo Creek Bridge Structural Elements  
Sampling  
Existing Bridge No. 33C0206,  
Alameda County, California  
~ June 8, 2021



Photo 7. Concrete sample MKA-02 collected on the northwest side of the bridge at the joint between asphalt concrete and concrete sidewalk.



Photo 8. ACM sample MKA-09 from the joint material in the expansion joint along the sidewalk on the west side of the bridge.

Meekland Avenue Corridor Improvements Project – San Lorenzo Creek Bridge Structural Elements  
Sampling  
Existing Bridge No. 33C0206,  
Alameda County, California  
~ June 8, 2021



Photo 9. Location of yellow paint chip sample MKA-LP-01 collected on the center line striping on the San Lorenzo Creek Bridge.



Photo 10. Light gray paint chip sample MKA-LP-02 collected on the northeast end of the bridge at the support structure near the abutment.

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