Draft
Cleanup Action Plan
Rainier Commons Facility
3100 Airport Way S.
Seattle, Washington

April 24, 2009

Prepared For:

Rainier Commons LLC
3100 Airport Way S.
Seattle, Washington 98134

Prepared By:

CDM
11811 NE 1st Street, Suite 201
Bellevue, Washington 98005

CDM Project No. 79179.68845.Paint Plan

A Report Prepared For :

Rainier Commons LLC
3100 Airport Way S.
Seattle, Washington 98134

DRAFT
CLEANUP ACTION PLAN
RAINIER COMMONS FACILITY
3100 AIRORT WAY S.
SEATTLE, WASHINGTON

April 24, 2009

Pamela J. Morrill, LHG
Senior Project Manager

CDM
11811 N.E. 1st Street, Suite 201
Bellevue, Washington 98005
425/453-8383

CDM Project No. 19921-29546-14937302

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RCLLC 0001802

Section 1
Introduction

This cleanup action plan addresses the proper cleanup and disposal of paint chips on the ground surface and in the storm sewer for the Rainier Commons facility located at 3100 Airport Way. The paint that exists on the building exteriors contains polychlorinated biphenyls (PCBs) and lead.

This work plan has been prepared to ensure that best management procedures (BMPs) are employed during cleanup and disposal of PCB and lead containing paint chips following the maintenance of exterior painted surfaces of the Rainier Commons facility.

1.1 Background

The Rainier Commons facility is situated on an approximately 4.6-acre parcel located on the west side of I-5, just north of the Spokane Freeway in Seattle, Washington. The site location is shown on Figure 1. The property was initially developed in the late 1800s as a brewery and functioned in a similar capacity until 1996 (Farallon, 2004). The facility was owned by several entities over the years, but is most widely known as the "former Rainier Brewery." In July 2003, the Site was sold to Rainier Commons who is currently developing the site as a multi-use, artisan-based cooperative facility. Tully's, a coffee roaster, has occupied the site as a tenant since November 1998 (Farallon, 2004) and is the next most widely known occupant of this facility.

The Site currently includes 24 buildings that are generally connected to each other to form a single large structure that occupies the majority of the Site. The attached drawing shows the site layout. Most of the buildings are multi-floored structures with as many as eight levels that are generally constructed of steel-reinforced concrete (Farallon, 2004). The building exteriors generally consist of brick, concrete, and sandstone. Paint does not strongly adhere to these materials, especially brick and sandstone, and Seattle's freeze/thaw conditions tend to exacerbate chipping and peeling.

In October 2005 PCBs were identified in the storm drain catch basin sediments. Eventually, the source of PCBs was traced back to the buildings' exterior paint. A paint chip sample collected by Vernon Environmental, Inc. in 2008 was found to contain 2,300 milligrams per kilogram (mg/kg) of the PCB congener Arochlor (A) 1254. On March 25, 2009, CDM collected a paint chip sample off Building 13. This sample contained 160 mg/kg A1254 and 130 mg/kg A1260. A copy of the analytical report is included in **Appendix A**. The EPA collected a duplicate of CDM's sample and the total A1254 and A1260 congeners were reported at 2,500 mg/kg. CDM did not analyze the exterior paint sample for lead and as of the writing of this plan; the EPA's total lead analysis was not available. However, it can be assumed that the paint is lead-containing. A lead-based paint survey of interior painted surfaces

RCLLC 0001803

conducted by Vernon Environmental in 2006 did identify lead-based paint throughout the interior painted surfaces.

Rainier Commons is taking steps to implement all best management practices necessary to prevent the release of paint chips containing PCBs and lead in the future, including:

1) Placing filter fabrics at all storm water discharge points, including catch basins and roof drains.

2) Implementing a routine facility inspection program to identify the need for replacement of stormwater filters, catch basin cleaning, paint repair, and ground surface cleanup.

3) Implementing required maintenance of items identified during inspections on a timely basis.

4) Implementing appropriate methods of managing PCB-containing wastes.

After these improvements have been completed and the source of PCB-paint chips is controlled, this cleanup plan will be implemented.

1.2 Existing O&M Plan

Rainier Commons has an existing *PCB Based Paint Building Operation & Maintenance Plan* that has been prepared for the site (Vernon, 2007). The plan applies to Rainier Commons' employees where the handling of Lead/PCB containing paint presents a risk of exposure through inhalation, absorption or ingestion. The O&M Plan outlines the applicable regulations, how lead-based paint assessments are conducted, exposure monitoring, training requirements, medial surveillance requirements, personal hygiene practices, respiratory protection, signage, record keeping requirements, general work practices, and waste disposal requirements.

This cleanup plan is not intended to repeat or replace the general *PCB Based Paint Building Operation & Maintenance Plan*. This plan supplements the existing PCB/Lead O&M plan by detailing the appropriate methods to be followed during the paint repair to ensure that PCBs and lead are not being discharged to the environment.

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Section 2
Cleanup Procedures

2.1 Worker Health and Safety

All work will be conducted in accordance with the Occupational Safety and Health (OSHA) 29 CFR 1926.62, Occupational Health and Environmental Controls pertaining to lead, and implement all appropriate training requirements, engineering controls, personnel protective equipment (PPE), and air monitoring to ensure worker safety.

2.2 Work Preparation

Paint removal work will occur in small, well defined areas to ensure that conditions can be appropriately controlled and contained.

Prior to the start of work, the location of all catch basins and/or roof drains will be identified within the potential runoff area of the work and inspected. Any filter fabric socks/barriers that are missing, in poor condition, or otherwise compromised will be repaired prior to the start of work.

The area of work will be cordoned off with cones, barriers, tape and/or other measures to keep the public away from the work area. Ingress and egress through the work area by workers will be controlled through one location to keep from tracking paint chips out of the work area.

The ground surface throughout the work area will be thoroughly covered with plastic visqueen surrounded by straw waddles or similar devices to help capture paint chips at the point of origin. For safety reasons, it may be necessary to use a fabric tarp instead of plastic. The visqueen will encompass a surface area that extends well beyond the actual work area.

Ladders and/or manlifts will be used to accomplish paint repair in areas inaccessible by foot.

2.3 Paint Removal

Paint removal will occur by manual methods. Paint removal from any given wall will occur from the top down. Removal will occur using manual scraping, vacuuming, and washing. Loose paint will be removed using traditional paint scrapers. To the extent practicable, the paint will be collected as it is removed (i.e., in buckets, vacuuming). An alternative for paint on flat concrete surfaces is the use of electric strippers that are connected to a vacuum hose (e.g., PaintShaver®). As the paint is removed, the surface will be vacuumed and then washed down. Since the removal will occur from top to bottom, any residual paint debris that adheres to the walls will be gradually flushed to the ground.

RCLLC 0001805

2.4 Cleanup

The straw waddles will be picked up, knocking off any visible paint chips back onto the visqueen and placed into plastic bags for transport to the next location. The visqueen will be rolled inward upon itself to spreading the accumulation of paint chips onto the ground. Paint chip accumulations on the visqueen shall be discarded into drums and the visqueen itself bagged. To the extent practicable, the work area will be swept and accumulated debris discarded into waste drums. Residual debris on the ground surface will be pressure washed to the nearest catch basin/roof drain. Finally, all PPE must be bagged for appropriate disposal.

2.5 Storm Drain System Cleaning

After completing the cleanup activities identified in Section 2.4, the storm drain system will be cleaned. The filter socks/fabric in catch basins and roof drains in areas impacted by paint repair activities will be removed. The discarded filters will be stored in 55-gallon labeled drums pending disposal. Catch basins and storm drain lines will then be cleaned of sediment that may contain paint chips. The work will occur during a dry period. Beginning at the most upstream manhole(s), the will proceed by first plugging the downstream manhole, vactoring sediment from the catch basin, jetting the storm line and vactoring the sludge and rinsewater from the upstream catch basin. The work will progress sequentially until reaching the most downstream catch basin(s).

2.6 Waste Profiling and Disposal

Waste generated during the cleanup will include: paint debris; plastic sheeting/drop cloths and tape; disposable PPE, disposable tools; filter socks and fabric; and vactored sediment and rinsewater. Bagged visqueen and PPE will be disposed of at a Subtitle D landfill. Paint chips, sweepings, catch basin/roof drain filters, and sediments will be stored in properly labeled 55-gallon DOT approved drums. Rinse water will be stored in 250 gallon totes. Drums and totes will be placed in a secure area until profiling has been completed. Wastes in drums and totes will be profiled for PCBs and leachable lead and disposed of in accordance with 40 CFR 761.50, 40 CFR 761.62, and WAC 173-303.

RCLLC 0001806

Section 3
Schedule

The proposed schedule for this work is as follows:

Task	Time Line
Identify Areas of Paint Requiring Repair	May 2009
Paint Repair	June 2009
Storm Drain System Cleaning	July 2009

RCLLC 0001807

Section 4
References

Farallon Consulting. 2004. *Phase I Environmental Site Assessment, Former Rainier Brewery, 3100 Airport Way South, Seattle, Washington.* April 14.

Vernon Environmental, Inc. 2006. *Lead Based Paint Building Survey Report. Former Rainier Brewery 3100 Airport Way, Seattle, Washington, King County.* November 20.

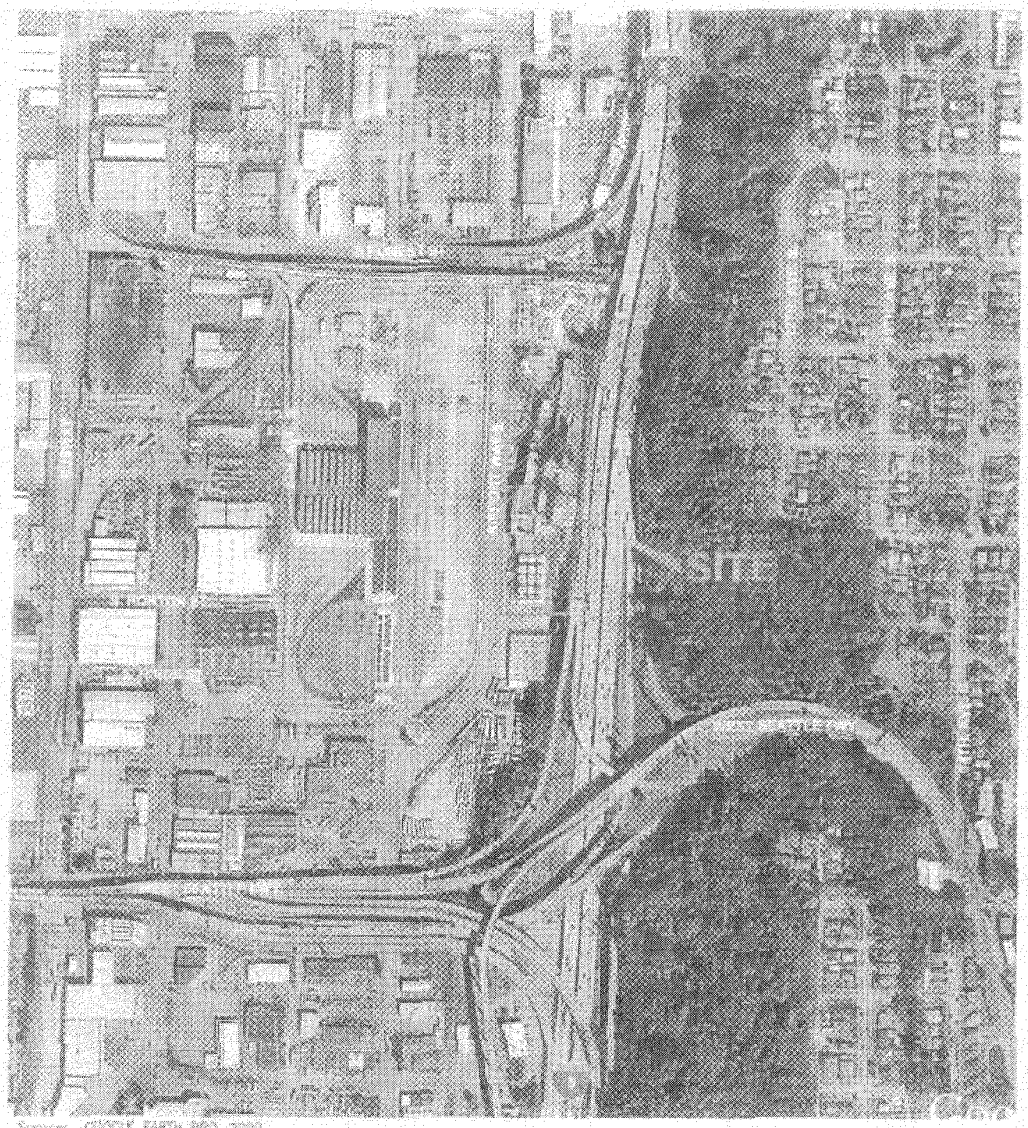
Vernon Environmental, Inc. 2007. *PCB Based Paint building Operation & Maintenance Plan, Former Rainier Brewery, 3100 Airport Way, Seattle, Washington 98134.* January.

Vernon Environmental, Inc. 2008. *Catch Basin Sediment Field Sampling Results Report (Split Sampling Between Rainier Commons, Seattle Public Utility and King County), Former Rainier Brewery Property, 3100 Airport Way, Seattle, Washington, King County.* July 14.

RCLLC 0001808

Figure and Drawing

CDM



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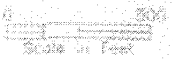

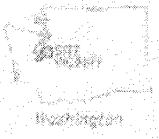

RAINER COMMONS/FORMER RAINER BREWERY
SEATTLE, WASHINGTON

Figure No. 1
Site Location Map

CDM

Appendix A
Analytical Report

CDM

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Received
APR 09 2009

April 6, 2009

Ms. Pam Morrill
CDM
11811 NE 1st, Suite 201
Bellevue, WA 98009

RE: Project ID: Rainier Commons, 79179-68845-QM.QMR
ARI Job No: OS18

Dear Pam:

Please find enclosed the original Chain-of-Custody (COC) record, sample receipt documentation, and the final results for the samples from the project referenced above. Analytical Resources Inc. (ARI) accepted one paint chip sample, one wipe sample, and one sediment sample in good condition on March 25, 2009. For further details regarding sample receipt, please refer to the enclosed Cooler Receipt Form.

The samples were analyzed for PCBs, as requested on the COC.

The sediment sample was initially screened to determine if there was a response that would require modification of the extraction process. Based on the screen, sample **SD#1-SED** was extracted with an initial weight of five grams and a final effective volume of 40mL.

There were no anomalies associated with the analyses of these samples.

An electronic copy of this report as well as all supporting data will remain on file with ARI. If you have any questions or require additional information, please contact me at your convenience.

Sincerely,

ANALYTICAL RESOURCES, INC.

Cheronne Oreiro
Project Manager
(206) 695-6214
cheronneo@arilabs.com
www.arilabs.com

cc: Efile OS18

Enclosures

CDM

CHAIN-OF-CUSTODY

Date 3/25/09 Page 1 of 1

PROJECT INFORMATION

Project Manager: Pam Morrill

Project Name: Rainier Commons

Project Number: 79179-68845-QM.QMR

Site Location: Seattle Sampled By: PJM

DISPOSAL INFORMATION

☑ Lab Disposal (return if not indicated)

Disposal Method:

Disposed by: Disposal Date:

QC INFORMATION (check one)

☐ SW-846 ☐ CLP ☐ Screening ☐ CDM Std. ☐ Special

Laboratory Number:

ANALYSIS REQUEST

SAMPLE ID	DATE	TIME	MATRIX	LAB ID	PETROLEUM HYDROCARBONS: TPH-HCID State:	TPH-G State:	TPH-D State:	TPH-418.1 State:	8015M Fuel Hydrocarbon	TPH Special Instructions	ORGANIC COMPOUNDS: 8010 Halogenated VOCs	8020 Aromatic VOCs	8020M - BETX only	8240 GC/MS Volatiles	8270 GC/MS Semivolatiles	8310 PAHs	8040 Phenols	DWS - Volatiles and Semivolatiles	PESTS/PCBs: 8080 OC Pest/PCBs	8080M PCBs only	8140 OP Pesticides	8150 OC Herbicides	DWS Herb/Pest	METALS: Selected Metals (ss)	Organic Lead (Ca)	TCL Metals (23)	Priority Poll. Metals (13)	DWS - Metals	MTSP - Metals (Wa)	LEACHING TESTS: TCLP - Volatiles (ZHF)	TCLP - Semivolatiles	TCLP - Pesticides	TCLP - Metals	OTHER: 8082 - PCBs				NUMBER OF CONTAINERS
Bldg #13 - paint	3/24/09	1430	paint chip																															X				1
Bldg #5 - elevator	3/24/09	1334	oil																															X				1
SD #1 - SED	3/24/09	1440	sediment																															X				1

LAB INFORMATION	SAMPLE RECEIPT	
Lab Name: ARI	Total Number of Containers:	
Lab Address:	Chain-of-Custody Seals: Y/N/NA	
	Intact? Y/N/NA	
Via:	Received in Good Condition/Cold:	

Turn Around Time: ☒ Standard ☐ 24 hr. ☐ 48 hr. ☐ 72 hr. ☐ 1 wk.

PRIOR AUTHORIZATION IS REQUIRED FOR RUSH DATA

Special Instructions:

RELINQUISHED BY: 1.	RELINQUISHED BY: 2.	RELINQUISHED BY: 3.
Signature: [signature] Time: 1020	Signature: Time:	Signature: Time:
Printed Name: Palmela J Morrill Date: 3/25/09	Printed Name: Date:	Printed Name: Date:
Company: CDM	Company:	Company:

RECEIVED BY: 1.	RECEIVED BY: 2.	RECEIVED BY: 3.
Signature: [signature] Time: 1440	Signature: Time:	Signature: Time:
Printed Name: Kelly Halsen Date: 3/25/09	Printed Name: Date:	Printed Name: Date:
Company: ARI	Company:	Company:

CDM OFFICES Bellevue: (206) 453-8383 Portland: (503) 232-1800

rev. 2/02

DISTRIBUTION: White, Canary to Analytical Laboratory; Pink to CDM Project Files; Gold to CDM Disposal Files

formsheet/chain of custody.p55

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Cooler Receipt Form

ARI Client: CDM

COC No(s): NA

Assigned ARI Job No: OS18

Project Name: Rainier Commons

Delivered by: Fed-Ex UPS Courier Hand Delivered Other:

Tracking No: NA

Preliminary Examination Phase:

Were intact, properly signed and dated custody seals attached to the outside of to cooler?	YES	NO
Were custody papers included with the cooler?	YES	NO
Were custody papers properly filled out (ink, signed, etc.)	YES	NO
Temperature of Cooler(s) (°C) (recommended 2.0-6.0 °C for chemistry)	11.8	

If cooler temperature is out of compliance fill out form 00070F Temp Gun ID#: 101886

Cooler Accepted by: [signature] Date: 3/25/09 Time: 1440

Complete custody forms and attach all shipping documents

Log-In Phase:

Was a temperature blank included in the cooler?		YES	NO
What kind of packing material was used? Bubble Wrap Wet Ice Gel Packs Baggies Foam Block Paper Other:			
Was sufficient ice used (if appropriate)?	NA	YES	NO
Were all bottles sealed in individual plastic bags?		YES	NO
Did all bottles arrive in good condition (unbroken)?		YES	NO
Were all bottle labels complete and legible?		YES	NO
Did the number of containers listed on COC match with the number of containers received?		YES	NO
Did all bottle labels and tags agree with custody papers?		YES	NO
Were all bottles used correct for the requested analyses?		YES	NO
Do any of the analyses (bottles) require preservation? (attach preservation sheet, excluding VOCs)	NA	YES	NO
Were all VOC vials free of air bubbles?	NA	YES	NO
Was sufficient amount of sample sent in each bottle?		YES	NO

Samples Logged by: JH Date: 3/25/09 Time: 1620

*** Notify Project Manager of discrepancies or concerns ***

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Additional Notes, Discrepancies, & Resolutions:

By: Date:

Small Air Bubbles	Peabubbles	LARGE Air Bubbles
< 2mm	2-4 mm	> 4 mm

Small → "sm"
Peabubbles → "pb"
Large → "lg"
Headspace → "hs"

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Cooler Temperature Compliance Form

Cooler#: 1 Temperature(°C): 11.8

Sample ID	Bottle Count	Bottle Type
Bldg #13 - paint	1	4oz wm glass
Bldg #5 - elevator	1	" " "
SD #1 - SED	1	" " "

Cooler#: Temperature(°C):

Sample ID	Bottle Count	Bottle Type

Cooler#: Temperature(°C):

Sample ID	Bottle Count	Bottle Type

Cooler#: Temperature(°C):

Sample ID	Bottle Count	Bottle Type

Completed by: Date: Time:

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082

Sample ID: BLDG#13-PAINT
SAMPLE

Lab Sample ID: OS18A
LIMS ID: 09 7288
Matrix: PAINT CHIP
Data Release Authorized:
Reported: 04/06/09

QC Report No. OS18-CDM, Inc.
Project. RAINIER COMMONS
79179-68845-QM.QMR
Date Sampled: 03/24/09
Date Received: 03/25/09

Date Extracted: 03/30/09
Date Analyzed: 04/04/09 02:26
Instrument/Analyst: ECD5/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes
Florisil Cleanup: No

Sample Amount: 5.06 g-as-rec
Final Extract Volume: 10 mL
Dilution Factor: 30.0
Silica Gel: Yes

Percent Moisture: NA

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	24,000	< 24,000 U
53469-21-9	Aroclor 1242	24,000	< 24,000 U
12672-29-6	Aroclor 1248	47,000	< 47,000 Y
11097-69-1	**Aroclor 1254**	**24,000**	**160,000**
11096-82-5	**Aroclor 1260**	**24,000**	**130,000**
11104-28-2	Aroclor 1221	24,000	< 24,000 U
11141-16-5	Aroclor 1232	24,000	< 24,000 U
37324-23-5	Aroclor 1262	24,000	< 24,000 U
11100-14-4	Aroclor 1268	24,000	< 24,000 U

Reported in µg/kg (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	D
Tetrachlorometaxylene	D

FORM I

ANALYTICAL RESOURCES INCORPORATED

SW8082/PCB SOIL/SEDIMENT SURROGATE RECOVERY SUMMARY

Matrix: PAINT CHIP

QC Report No: OS18-CDM, Inc.
Project: RAINIER COMMONS
79179-68845-OM.OMR

Client ID	DCBP % REC	DCBP LCL-UCL	TCMX % REC	TCMX LCL-UCL	TOT OUT
MB 033009	93.5%	66-137	80.2%	70-126	0
LCS-033009	94.8%	66 137	80.5%	70-126	0
LCSD-033009	86.5%	66 137	76.5%	70 126	0
BLDG#13-PAINT	D	46 153	D	46-135	0

Medium Level Control Limits
Prep Method: SW3580A
Log Number Range: 09-7288 to 09-7288

FORM-II SW8082

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082

Sample ID: LCS-033009
LCS/LCSD

Lab Sample ID: LCS-033009
LIMS ID: 09-7286
Matrix: PAINT CHIP
Data Release Authorized:
Reported: 04/06/09

QC Report No: OS18-CDM, Inc.
Project: RAINIER COMMONS
79179-68845-QM.QMR
Date Sampled: NA
Date Received: NA

Date Extracted LCS/LCSD: 03/30/09

Date Analyzed LCS: 04/04/09 01:52
LCSD: 04/04/09 02:09
Instrument/Analyst LCS: ECD5/JGR
LCSD: ECD5/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes
Florisil Cleanup: No

Sample Amount LCS: 5.00 g-as-rec
LCSD: 5.00 g-as-rec
Final Extract Volume LCS: 40 mL
LCSD: 40 mL
Dilution Factor LCS: 1.00
LCSD: 1.00
Silica Gel: Yes

Percent Moisture: NA

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
Aroclor 1016	3740	4000	93.5%	3620	4000	90.5%	3.3%
Aroclor 1260	4240	4000	106%	4080	4000	102%	3.8%

PCB Surrogate Recovery

	LCS	LCSD
Decachlorobiphenyl	94.8%	86.5%
Tetrachlorometaxylene	80.3%	76.5%

Results reported in µg/kg (ppb)
RPD calculated using sample concentrations per SW846.

FORM III

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082

Sample ID: MB-033009
METHOD BLANK

Lab Sample ID: MB-033009
LIMS ID: 09-7289
Matrix: PAINT CHIP
Data Release Authorized:
Reported: 04/06/09

QC Report No: OS18-CDM, Inc.
Project: RAINIER COMMONS
70179-68845-QM.QMR
Date Sampled: NA
Date Received: NA

Date Extracted: 03/30/09
Date Analyzed: 04/04/09 01:35
Instrument/Analyst: ECD5/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes
Florisil Cleanup: No

Sample Amount: 5.00 g
Final Extract Volume: 40 mL
Dilution Factor: 1.00
Silica Gel: Yes

Percent Moisture: NA

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	800	< 800 U
53469-21-9	Aroclor 1242	800	< 800 U
12672-29-6	Aroclor 1248	800	< 800 U
11097-69-1	Aroclor 1254	800	< 800 U
11096-82-5	Aroclor 1260	800	< 800 U
11104-28-2	Aroclor 1221	800	< 800 U
11141-16-5	Aroclor 1232	800	< 800 U
37324-23-5	Aroclor 1262	800	< 800 U
11100-14-4	Aroclor 1268	800	< 800 U

Reported in µg/kg (ppb)

PCB Surrogate Recovery	
Decachlorobiphenyl	93.5%
Tetrachlorometaxylene	80.3%

FORM I

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082
Page 1 of 1

Sample ID: BLDG#5-ELEVATOR
SAMPLE

Lab Sample ID: OS18B
LIMS ID: 09-7289
Matrix: Wipe
Data Release Authorized:
Reported: 04/02/09

QC Report No: OS18-CDM, Inc.
Project: RATNER COMMONS
79179-68845-QM.QMP
Date Sampled: 03/24/09
Date Received: 03/25/09

Date Extracted: 03/27/09
Date Analyzed: 03/30/09 12:25
Instrument/Analyst: ECD5/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes

Sample Amount: 1.00 Wipe
Final Extract Volume: 10 mL
Dilution Factor: 5.00
Silica Gel: Yes

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	1.0	< 1.0 U
53469-21-9	Aroclor 1242	1.0	< 1.0 U
12672-29-6	Aroclor 1248	2.5	< 2.5 Y
11097-69-1	**Aroclor 1254**	**1.0**	**4.3**
11096-82-5	Aroclor 1260	1.0	< 1.0 U
11104-28-2	Aroclor 1221	1.0	< 1.0 U
11141-16-5	Aroclor 1232	1.0	< 1.0 U
37324-23-5	Aroclor 1262	1.0	< 1.0 U
11100-14-4	Aroclor 1268	1.0	< 1.0 U

Reported in Total µg

PCB Surrogate Recovery

Decachlorobiphenyl	76.2%
Tetrachlorometaxylene	66.0%

FORM I

ANALYTICAL RESOURCES INCORPORATED

SW8082/PCB WIPES SURROGATE RECOVERY SUMMARY

Matrix: Wipe

QC Report No: 0818-CDM, Inc.
Project: RAINIER COMMONS
79179-08845 QM.QMR

Client ID	DCBP	TCMX	TOT OUT
MB-032709	96.0%	71.2%	0
LCS-032709	97.8%	76.8%	0
LCSD-032709	97.2%	74.2%	0
BLDG#5-ELEVATOR	76.2%	66.0%	0

	LCS/MB LIMITS	QC LIMITS
(DCBP) = Decachlorobiphenyl	(30-160)	(30-160)
(TCMX) = Tetrachlorometaxylene	(30-160)	(30-160)

Prep Method: SW3580A
Log Number Range: 09-7289 to 09-7289

FORM-II SW8082

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082
Page 1 of 1

Sample ID: LCS-032709
LCS/LCSD

Lab Sample ID: LCS-032709
LIMS ID: 09-7289
Matrix: Wipe
Data Release Authorized:
Reported: 04/02/09

QC Report No: OS18-CDM, Inc.
Project: RAINIER COMMONS
79179-68845-QM.QMR
Date Sampled: 03/24/09
Date Received: 03/25/09

Date Extracted LCS/LCSD: 03/27/09

Date Analyzed LCS: 03/30/09 11:50
LCSD: 03/30/09 12:07
Instrument/Analyst LCS: ECD5/JGR
LCSD: ECD5/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes

Sample Amount LCS: 1.00 Wipe
LCSD: 1.00 Wipe
Final Extract Volume LCS: 10 mL
LCSD: 10 mL
Dilution Factor LCS: 1.00
LCSD: 1.00
Silica Gel: Yes
Acid Cleanup: Yes

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
Aroclor 1016	3.9	5.0	78.0%	3.9	5.0	78.0%	0.0%
Aroclor 1260	5.0	5.0	100%	5.1	5.0	102%	2.0%

PCB Surrogate Recovery

	LCS	LCSD
Decachlorobiphenyl	97.6%	97.2%
Tetrachlorometaxylene	76.8%	74.2%

Reported in Total µg
RPD calculated using sample concentrations per SW846.

FORM III

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082

Sample ID: MB-032709
METHOD BLANK

Lab Sample ID: MB 032709
LIMS ID: 09 7289
Matrix: Wipe
Data Release Authorized:
Reported: 04/02/09

QC Report No: OS18-CDM, Inc.
Project: RAINIER COMMONS
79179 68845 QM.QMR
Date Sampled: NA
Date Received: NA

Date Extracted: 03/27/09
Date Analyzed: 03/30/09 11:33
Instrument/Analyst: ECD5/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes

Sample Amount: 1.00 Wipe
Final Extract Volume: 10 mL
Dilution Factor: 1.00
Silica Gel: Yes

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	1.0	< 1.0 U
53469-21-9	Aroclor 1242	1.0	< 1.0 U
12672-29-6	Aroclor 1248	1.0	< 1.0 U
11097-69-1	Aroclor 1254	1.0	< 1.0 U
11096-82-5	Aroclor 1260	1.0	< 1.0 U
11104-28-2	Aroclor 1221	1.0	< 1.0 U
11141-16-5	Aroclor 1232	1.0	< 1.0 U
37324-23-5	Aroclor 1262	1.0	< 1.0 U
11100-14-4	Aroclor 1268	1.0	< 1.0 U

Reported in Total µg

PCB Surrogate Recovery

Decachlorobiphenyl	96.0%
Tetrachlorometaxylene	71.2%

FORM I

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082
Page 1 of 1

Sample ID: BD#1_SED
SAMPLE

Lab Sample ID: BS18C
LIMS ID: 09-7290
Matrix: Sediment
Data Release Authorized:
Reported: 04/03/09

QC Report No: 0818-CDM, Inc.
Project: RAINIER COMMONS
79179-68845-QM.QMR
Date Sampled: 03/24/09
Date Received: 03/25/09

Date Extracted: 03/30/09
Date Analyzed: 04/01/09 07:10
Instrument/Analyst: ECD5/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes
Florisil Cleanup: No

Sample Amount: 2.62 g dry wt
Final Extract Volume: 40 mL
Dilution Factor: 10.0
Silica Gel: Yes

Percent Moisture: 48.4%

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	15,000	< 15,000 U
53469-21-9	Aroclor 1242	15,000	< 15,000 U
12672-29-6	Aroclor 1248	15,000	< 15,000 U
11097-69-1	**Aroclor 1254**	**15,000**	**60,000**
11096-82-5	**Aroclor 1260**	**15,000**	**63,000**
11104-28-2	Aroclor 1221	15,000	< 15,000 U
11141-16-5	Aroclor 1232	15,000	< 15,000 U
37324-23-5	Aroclor 1262	15,000	< 15,000 U
11100-14-4	Aroclor 1268	15,000	< 15,000 U

Reported in µg/kg (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	116%
Tetrachlorometuxylene	88.2%

FORM I

ANALYTICAL RESOURCES INCORPORATED

SW8082/PCB SOIL/SEDIMENT SURROGATE RECOVERY SUMMARY

Matrix: Sediment

QC Report No: 0518 CDM, Inc.
Project: RAINIER COMMONS
79179-68845-QM.QMR

Client ID	DCBP % REC	DCBP LCL-UCL	TCMX % REC	TCMX LCL-UCL	TOT OUT
MB 033009	91.0%	66-137	75.0%	70-126	0
LCS-033009	91.0%	66 137	75.0%	70 126	0
LCSD-033009	92.0%	66 137	73.2%	70 126	0
SD#1-SED	116%	46 153	88.2%	46 135	0

Medium Level Control Limits
Prep Method: SW3580A
Log Number Range: 09-7290 to 09-7290

FORM-II SW8082

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082
Page 1 of 1

Sample ID: LCS-033009
LCS/LCSD

Lab Sample ID: LCS-033009
LIMS ID: 09-7280
Matrix: Sediment
Data Release Authorized:
Reported: 04/03/09

QC Report No: OS18-CDM, Inc.
Project: RAINIER COMMONS
79179 68845 OM.OMR
Date Sampled: NA
Date Received: NA

Date Extracted LCS/LCSD: 03/30/09

Date Analyzed LCS: 04/01/09 06:36
LCSD: 04/01/09 06:53
Instrument/Analyst LCS: ECD5/JCR
LCSD: ECD5/JCR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes
Florisil Cleanup: No

Sample Amount LCS: 5.00 g-dry-wt
LCSD: 5.00 g-dry-wt
Final Extract Volume LCS: 40 mL
LCSD: 40 mL
Dilution Factor LCS: 1.00
LCSD: 1.00
Silica Gel: Yes

Percent Moisture: NA

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
Aroclor 1016	3350	4000	83.8%	3470	4000	86.8%	3.5%
Aroclor 1260	4170	4000	104%	4390	4000	110%	5.1%

PCB Surrogate Recovery

	LCS	LCSD
Decachlorobiphenyl	91.0%	92.0%
Tetrachlorometaxylene	75.0%	73.2%

Results reported in µg/kg (ppb)
RPD calculated using sample concentrations per SW846.

FORM III

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082

Sample ID: MB-033009
METHOD BLANK

Lab Sample ID: MB-033009
LIMS ID: 09-7250
Matrix: Sediment
Data Release Authorized:
Reported: 04/03/09

QC Report No: CS18-CDM, Inc.
Project: RAINIER COMMONS
79179-68845-QM.QMR
Date Sampled: NA
Date Received: NA

Date Extracted: 03/30/09
Date Analyzed: 04/01/09 06:19
Instrument/Analyst: ECD5/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes
Florisil Cleanup: No

Sample Amount: 5.00 g
Final Extract Volume: 40 mL
Dilution Factor: 1.00
Silica Gel: Yes

Percent Moisture: NA

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	800	< 800 U
53469-21-9	Aroclor 1242	800	< 800 U
12672-29-6	Aroclor 1248	800	< 800 U
11097-69-1	Aroclor 1254	800	< 800 U
11096-82-5	Aroclor 1260	800	< 800 U
11104-28-2	Aroclor 1221	800	< 800 U
11141-16-5	Aroclor 1232	800	< 800 U
37324-23-5	Aroclor 1262	800	< 800 U
11100-14-4	Aroclor 1268	800	< 800 U

Reported in µg/kg (ppb)

PCB Surrogate Recovery	
Decachlorobiphenyl	91.0%
Tetrachloro-m-xylene	75.0%

FORM I

CDM

CHAIN-OF-CUSTODY

Date [illegible] Page 1 of 1

PROJECT INFORMATION

Project Manager: [illegible]

Project Name: [illegible]

Project Number: [illegible]

Site Location: [illegible] Sampled By: [illegible]

DISPOSAL INFORMATION

☑ Lab Disposal (return if not indicated)

Disposal Method:

Disposed by: Disposal Date:

QC INFORMATION (check one)

☐ SW-846 ☐ CLP ☐ Screening ☐ CDM Std ☐ Special

Laboratory Number:

ANALYSIS REQUEST

SAMPLE ID	DATE	TIME	MATRIX	LAB ID	PETROLEUM HYDROCARBONS: TPH-HCID State	TPH-G State	TPH-D State	TPH-418.1 State	8015M Fuel Hydrocarbon	TPH Special instructions	ORGANIC COMPOUNDS: 8010 Halogenated VOCs	8020 Aromatic VOCs	8020M - BETX only	8240 GC/MS Volatiles	8270 GC/MS Semivolatiles	8310 PAHs	8010 Phenols	DWS - Volatiles and Semivolatiles	PESTS/PCBs: 8080 OC Pest/PCBs	8080M PCBs only	8140 OP Pesticides	8150 OC Herbicides	DWS - Herb/Pest	METALS: Selected Metals Fe	Organic Lead (Cu)	TCL Metals (20)	Priority Poll. Metals (15)	DWS - Metals	MESP - Metals (Wa)	LEACHING TESTS: TCLP - Volatiles (ZHE)	TCLP - Semivolatiles	TCLP - Pesticides	TCLP - Metals	OTHER				NUMBER OF CONTAINERS
[illegible]	[illegible]	[illegible]	[illegible]																														X				1
[illegible]	[illegible]	[illegible]	[illegible]																														X				1
[illegible]	[illegible]	[illegible]	[illegible]																														X				1

LAB INFORMATION	SAMPLE RECEIPT	
Lab Name:	Total Number of Containers:	
Lab Address:	Chain-of-Custody Seals: Y/N/NA	
	Intact?: Y/N/NA	
Via:	Received in Good Condition/Cold	

Turn Around Time: ☐ Standard ☐ 24 hr. ☐ 48 hr. ☐ 72 hr. ☐ 1 wk.

PRIOR AUTHORIZATION IS REQUIRED FOR RUSH DATA

Special Instructions:

RELINQUISHED BY: 1.	RELINQUISHED BY: 2.	RELINQUISHED BY: 3.
Signature: Time:	Signature: Time:	Signature: Time:
Printed Name: Date:	Printed Name: Date:	Printed Name: Date:
Company:	Company:	Company:

RECEIVED BY: 1.	RECEIVED BY: 2.	RECEIVED BY: 3.
Signature: Time:	Signature: Time:	Signature: Time:
Printed Name: Date:	Printed Name: Date:	Printed Name: Date:
Company:	Company:	Company:

CDM OFFICES: Bellevue: (206) 453-8383
Portland: (503) 282-1800

DISTRIBUTION: White: Canary to Analytical Laboratory; Pink to CDM Project Files; Gold to CDM Disposal Files

rev. 2/02

CDM

CHAIN-OF-CUSTODY

Date [illegible] Page 1 of 1

PROJECT INFORMATION

Project Manager: [illegible]

Project Name: [illegible]

Project Number: [illegible]

Site Location: [illegible] Sampled By: [illegible]

DISPOSAL INFORMATION

☑ Lab Disposal (return if not indicated)

Disposal Method:

Disposed by: Disposal Date:

QC INFORMATION (check one)

☐ SW-846 ☐ CLP ☐ Screening ☐ CDM Std. ☐ Special

Laboratory Number:

ANALYSIS REQUEST

SAMPLE ID	DATE	TIME	MATRIX	LAB ID	PETROLEUM HYDROCARBONS: TPH HCID Stats.	TPH-G State:	TPH-D State:	TPH-418.1 State	8015M Fuel Hydrocarbon	TPH Special Instructions	ORGANIC COMPOUNDS: 8010 Halogenated VOCs	8020 Aromatic VOCs	8020M BETX only	8240 GC/MS Volatiles	8270 GC/MS Semivolatiles	8310 PAHs	8040 Phenols	DWS - Volatiles and Semivolatiles	PESTS/PCBs: 8080 OC Pest/PCBs	8080M PCBs only	8140 OP Pesticides	8150 OC Herbicides	DWS - Herb/Pest	METALS: Selected Metals, ie	Organic Lead (Ca)	TCL Metals (23)	Priority Poll. Metals (13)	DWS - Metals	MFSP - Metals (Wu)	LEACHING TESTS: TCLP - Volatiles (ZHE)	TCLP - Semivolatiles	TCLP - Pesticides	TCLP - Metals	OTHER					NUMBER OF CONTAINERS
[illegible]	[illegible]	[illegible]	[illegible]																															X					1
[illegible]	[illegible]	[illegible]	[illegible]																															X					1
[illegible]	[illegible]	[illegible]	[illegible]																															X					1

LAB INFORMATION	SAMPLE RECEIPT	
Lab Name:	Total Number of Containers:	
Lab Address:	Chain-of-Custody Seals: Y/N/NA	
	Intact?: Y/N/NA	
Via:	Received in Good Condition/Cold:	

Turn Around Time: ☑ Standard ☐ 24 hr. ☐ 48 hr. ☐ 72 hr. ☐ 1 wk.

PRIOR AUTHORIZATION IS REQUIRED FOR RUSH DATA

Special Instructions:

RELINQUISHED BY: 1.	RELINQUISHED BY: 2.	RELINQUISHED BY: 3.
Signature: Time:	Signature: Time:	Signature: Time:
Printed Name: Date:	Printed Name: Date:	Printed Name: Date:
Company:	Company:	Company:

RECEIVED BY: 1.	RECEIVED BY: 2.	RECEIVED BY: 3.
Signature: Time:	Signature: Time:	Signature: Time:
Printed Name: Date:	Printed Name: Date:	Printed Name: Date:
Company:	Company:	Company:

CDM OFFICES: Bellevue: (206) 453-8383
Portland: (503) 232-1800

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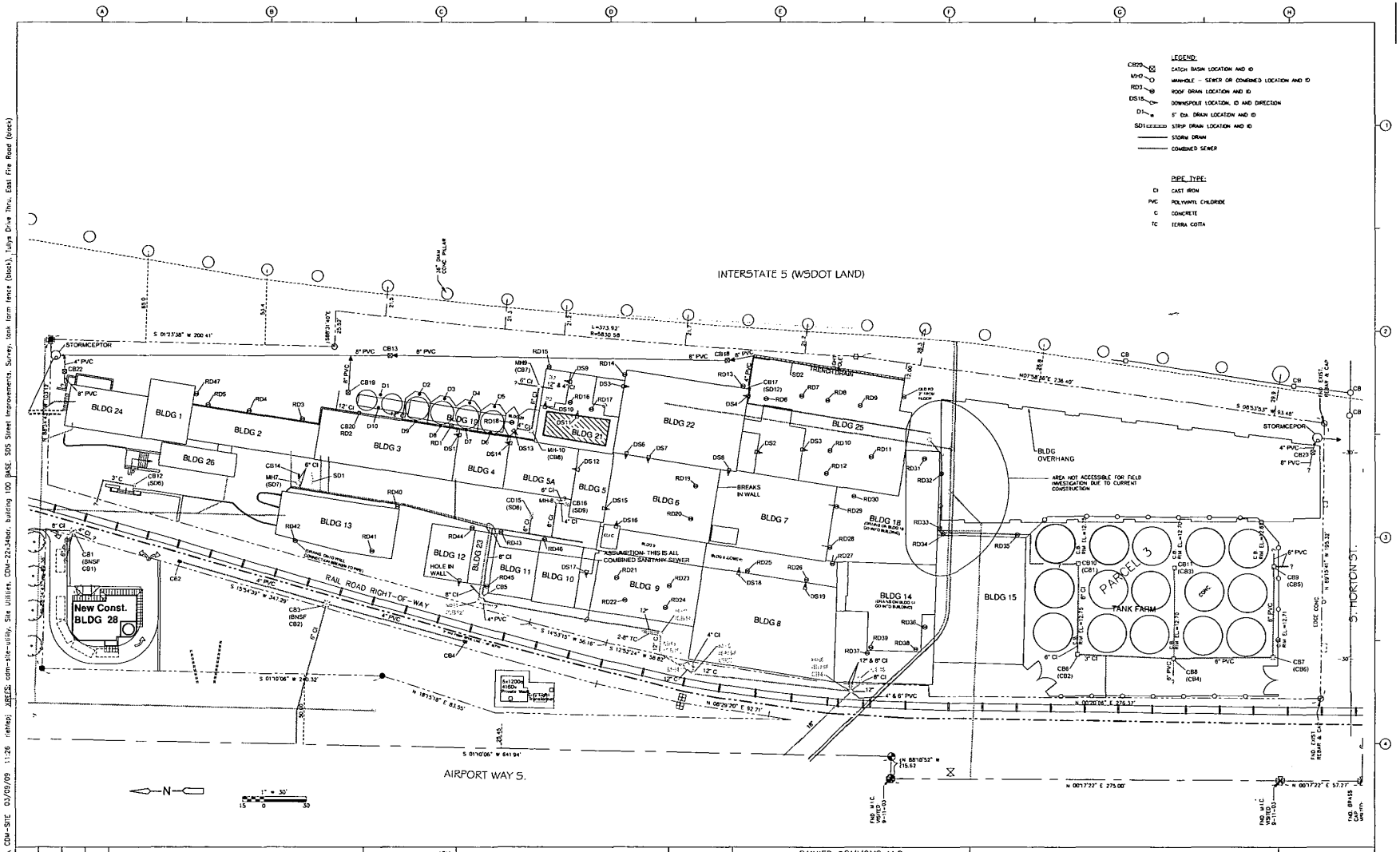

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY AEM
DRAWN BY PJR
SHEET CHK'D BY PJM
CROSS CHK'D BY
APPROVED BY
DATE JANUARY 2009

CDM
Camp Dresser & McKee Inc.
1181 N.E. 1st Street, Suite 201 P.O. Box 3825
Bellevue, Washington 98005
Tel: (425) 453-8383
consulting · engineering · construction · operations

VERIFY SCALE
THIS BAR IS ONE INCH LONG AT FULL SCALE

RAINIER COMMONS LLC
3100 AIRPORT WAY S
SEATTLE, WASHINGTON

CATCH BASIN STUDY

DRAFT
CATCH BASIN LOCATIONS
PLAN

PROJECT NO. 78898-68556
FILE NAME:
SHEET NO.
1

P:\79179\68845\ CDM-SITE 03/09/09 11:26 riehlepj XREFS: cdm-site-utility, Site Utilities, CDM-22x34bdr, building 100 BASE, SDS Street Improvements, Survey, tank farm fence (block), Tullys Drive Thru, East Fire Road (block)

RCLLC 0001830