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Compliance Monitoring Letter Report
Kent Central Site

January 9, 2002

Glynis A. Carrosino
Washington State Department of Ecology
3190 160th Avenue SE
Bellevue, WA 98008-5452

INTRODUCTION

This letter report presents the results of compliance monitoring at the Kent Central facility located at 22011 84th Avenue South (Valley Freeway) in Kent, Washington (**Figure 1**). Compliance monitoring is being performed to fulfill requirements of the Consent Decree (CD) (No. 98-2-09822-8KNT) for the Kent Central Site. The CD requires monitoring of groundwater and water discharged from the wetpond to confirm the effectiveness of cleanup actions performed at the site.

COMPLIANCE MONITORING SAMPLING AND ANALYSIS

Compliance Monitoring Locations (Points of Compliance)

Groundwater

Four groundwater monitoring wells have been established at the perimeter of the Kent Central property for compliance monitoring (**Figure 2**). The wells are screened in the upper zone of the alluvial aquifer. Three of the compliance monitoring wells (MW-20A, MW-21A, and MW-22A) were installed following completion of the Supplemental Remedial Investigation/Focused Feasibility Study (SRI/FFS) (FSI 1999). The fourth well used for compliance monitoring (MW-23) is an existing well installed during the SRI of the site (FSI 1999).

Stormwater

The stormwater compliance monitoring location is within the outfall of the new wetpond (**Figure 2**). The wetpond was constructed during redevelopment of the site. A manhole positioned between the wetpond and the outfall at the western ditch has been established as the stormwater compliance monitoring location.

Compliance Monitoring Results

Sample Collection and Analysis

Groundwater and stormwater samples were collected on December 20, 2001. The field records for sample collection are presented in **Attachment A**. The samples were analyzed using methods specified in the Compliance Monitoring Plan. The laboratory analysis report and Chain-of-Custody form are included in **Attachment B**.

The following sections present the results of compliance monitoring analyses and compare the results to cleanup levels.

Groundwater

The results of groundwater analyses are presented in **Table 1**. Neither diesel or motor oil-range petroleum hydrocarbons nor lead were detected at any locations during the December 2001 monitoring round.

Arsenic was detected at two of the four groundwater sampling locations; however, none of the detections exceeded or even approached cleanup levels.

Stormwater

The results of stormwater analyses are presented in **Table 2**. Lead was not detected in the stormwater sample. The pH of the stormwater sample was 6.78, less than the compliance level of 9.0.

SUMMARY

There was no exceedance of cleanup levels for groundwater or stormwater during the December 2001 compliance-monitoring event. Groundwater and stormwater compliance monitoring has been ongoing at this site since June of 1999 (with sampling events in June 1999, December 1999, June 2000, December 2000, and December 2001). During this period no exceedance of cleanup levels for groundwater or stormwater has been detected. A summary of the sampling results for all events is presented in **Table 3**. These results confirm the effectiveness of the cleanup conducted at this site. Therefore, in accordance with CD requirements (**Attachment C**) no further monitoring of groundwater or stormwater is required or will be performed at this site.

REFERENCES

Floyd & Snider Inc. (FSI). 1999. *Kent Central Site Compliance Monitoring Plan.* Prepared for Kent Central L. L. C. for submission to Washington State Department of Ecology. Seattle, Washington.

Washington State Department of Ecology (Ecology). 1998. Consent Decree No. 98-2-09822-8KNT.

Sincerely yours,
Floyd Snider McCarthy, Inc.

Stephen Reimers, P. E.
Project Manager

Kent Central Site

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Tables

Table 1
Groundwater Compliance Monitoring Sample Results
December 2001 Sampling Event

Matrix	Compliance Monitoring Station	Sample Number	Location	Results			
				TPH		Arsenic (mg/L)	Lead (mg/L)
				Diesel (mg/L)	Motor Oil (mg/L)		
Groundwater	MW20A	KC-MW20A-12/01	South Boundary (upgradient)	< 0.250	< 0.750	< 0.00100	< 0.00100
	MW21A	KC-MW21A-12/01	West Boundary (downgradient)	< 0.250	< 0.750	< 0.00100	< 0.00100
		KC-MW21B-12/01[1]	West Boundary (downgradient)	< 0.250	< 0.750	< 0.00100	< 0.00100
	MW22A	KC-MW22A-12/01	Northwest Corner (downgradient)	< 0.250	< 0.750	0.00327	< 0.00100
	MW23	KC-MW23-12/01	North Boundary (downgradient)	< 0.250	< 0.750	0.00664	< 0.00100
			Groundwater Cleanup Levels	1.0	1.0	0.026	0.030

Notes:

1 Field duplicate of KC-MW21A-12/01.

Table 2
Stormwater Compliance Monitoring Analytical Results
December 2001 Sampling Event

Matrix	Compliance Monitoring Station	Sample Number	Location	Results	
				Lead (mg/L)	pH[1] (pH units)
Stormwater	SW-Outfall	KC-SWA-12/01	Outfall of wetpond	< 0.00100	6.78
		KC-SWB-12/01[2]	Outfall of wetpond	< 0.00100	6.78
			Stormwater Cleanup Levels	0.013	9.0

Notes:

1 A field instrument was used to measure the stormwater pH.

2 Field duplicate of KC-SWA-12/01.

Table 3
Compliance Monitoring Sample Results Summary
All Sampling Events

Matrix	Compliance Monitoring Station	Sample Number	Location	Results				
				TPH				
				Diesel (mg/L)	Motor Oil (mg/L)	Arsenic (mg/L)	Lead (mg/L)	pH[1] (pH units)
June 1999 Sampling Event								
Groundwater	MW20A	KC-MW20A-6/99	South Boundary (upgradient)	< 0.24	< 0.72	< 0.0050	< 0.0030	NA
	MW21A	KC-MW21A-6/99	West Boundary (downgradient)	< 0.24	< 0.73	< 0.0050	< 0.0030	NA
	MW22A	KC-MW22A-6/99	Northwest Corner (downgradient)	< 0.24	< 0.72	< 0.0050	< 0.0030	NA
		KC-MW22B-6/99[2]	Northwest Corner (downgradient)	< 0.24	< 0.73	< 0.0050	< 0.0030	NA
	MW23	KC-MW23-6/99	North Boundary (downgradient)	< 0.24	< 0.71	0.0070	< 0.0030	NA
Rinsate	None	Rinsate[3]	None	< 0.24	< 0.71	< 0.0050	< 0.0030	NA
Stormwater	SW-Outfall	KC-SWA-6/99	Outfall of wetpond	NA	NA	NA	< 0.0030	8.02
		KC-SWB-6/99[4]	Outfall of wetpond	NA	NA	NA	< 0.0030	8.02
December 1999 Sampling Event								
Groundwater	MW20A	KC-MW20A-12/99	South Boundary (upgradient)	< 0.24	< 0.71	< 0.0050	< 0.0030	NA
	MW21A	KC-MW21A-12/99	West Boundary (downgradient)	0.29	< 0.71	< 0.0050	< 0.0030	NA
	MW22A	KC-MW22A-12/99	Northwest Corner (downgradient)	0.69	< 0.72	< 0.0050	< 0.0030	NA
	MW23	KC-MW23-12/99	North Boundary (downgradient)	< 0.24	< 0.72	0.0052	< 0.0030	NA
		KC-MW23B-12/99[5]	North Boundary (downgradient)	< 0.24	< 0.72	0.0059	< 0.0030	NA
Rinsate	None	Rinsate[6]	None	< 0.25	< 0.75	< 0.0050	< 0.0030	NA
Stormwater	SW-Outfall	KC-SWA-12/99	Outfall of wetpond	NA	NA	NA	< 0.0030	7.56
		KC-SWB-12/99[7]	Outfall of wetpond	NA	NA	NA	< 0.0030	7.56

Table 3
Compliance Monitoring Sample Results Summary
All Sampling Events

Matrix	Compliance Monitoring Station	Sample Number	Location	Results				
				TPH				
				Diesel (mg/L)	Motor Oil (mg/L)	Arsenic (mg/L)	Lead (mg/L)	pH[1] (pH units)
June 2000 Sampling Event								
Groundwater	MW20A	KC-MW20A-6/00	South Boundary (upgradient)	< 0.25	< 0.75	0.00274	0.00195	NA
	MW21A	KC-MW21A-6/00	West Boundary (downgradient)	< 0.25	< 0.75	0.00109	0.00149	NA
	MW22A	KC-MW22A-6/00	Northwest Corner (downgradient)	<0.249	< 0.749	0.00427	0.00121	NA
		KC-MW22B-6/00[8]	Northwest Corner (downgradient)	< 0.25	< 0.75	0.00404	0.00239	NA
	MW23	KC-MW23-6/00	North Boundary (downgradient)	< 0.25	< 0.75	0.00881	0.00583	NA
Stormwater	SW-Outfall	KC-SWA-6/00	Outfall of wetpond	NA	NA	NA	< 0.0010	7.97
December 2000 Sampling Event								
Groundwater	MW20A	KC-MW20A-12/00	South Boundary (upgradient)	< 0.250	< 0.750	0.00136	< 0.00100	NA
	MW21A	KC-MW21A-12/00	West Boundary (downgradient)	< 0.250	< 0.750	< 0.00100	< 0.00100	NA
	MW22A	KC-MW22A-12/00	Northwest Corner (downgradient)	< 0.250	< 0.750	0.00363	< 0.00100	NA
		KC-MW22B-12/00[9]	Northwest Corner (downgradient)	< 0.250	< 0.750	0.00341	0.00101	NA
	MW23	KC-MW23-12/00	North Boundary (downgradient)	< 0.250	< 0.750	0.00693	< 0.00100	NA
Stormwater	SW Outfall	KC-SWA-12/00	Outfall of wetpond	NA	NA	NA	0.00313	7.4
December 2001 Sampling Event								
Groundwater	MW20A	KC-MW20A-12/01	South Boundary (upgradient)	< 0.250	< 0.750	< 0.00100	< 0.00100	NA
	MW21A	KC-MW21A-12/01	West Boundary (downgradient)	< 0.250	< 0.750	< 0.00100	< 0.00100	NA
		KC-MW21B-12/01[10]	West Boundary (downgradient)	< 0.250	< 0.750	< 0.00100	< 0.00100	NA
	MW22A	KC-MW22A-12/01	Northwest Corner (downgradient)	< 0.250	< 0.750	0.00327	< 0.00100	NA

Table 3
Compliance Monitoring Sample Results Summary
All Sampling Events

Matrix	Compliance Monitoring Station	Sample Number	Location	Results				
				TPH				
				Diesel (mg/L)	Motor Oil (mg/L)	Arsenic (mg/L)	Lead (mg/L)	pH[1] (pH units)
December 2001 Sampling Event (cont'd)								
Groundwater	MW23	KC-MW23-12/01	North Boundary (downgradient)	< 0.250	< 0.750	0.00664	< 0.00100	NA
Stormwater	SW Outfall	KC-SWA-12/01	Outfall of wetpond	NA	NA	NA	< 0.00100	6.78
		KC-SWB-12/01[11]	Outfall of wetpond	NA	NA	NA	< 0.00100	6.78
			Groundwater Cleanup Levels	1.0	1.0	0.026	0.030	NA
			Stormwater Cleanup Levels	NA	NA	NA	0.013	9.0

Notes:

NA Not analyzed.
1 A field instrument was used to measure the stormwater pH.
2 Field duplicate of KC-MW22A-6/99.
3 Rinsate sample of submersible pump used to sample groundwater from monitoring wells. Sample collected after pump wasdecontaminated after being used to collect sample from MW22A and prior to collecting a sample from MW20A.
4 Field duplicate of KC-SWA-6/99.
5 Field duplicate of KC-MW23-12/99.
6 Rinsate sample of submersible pump used to sample groundwater from monitoring wells. Sample collected after pump was decontaminated after being used to collect sample from MW22A and prior to collecting a sample from MW20A.
7 Field duplicate of KC-SWA-12/99.
8 Field duplicate of KC-MW22A-6/00.
9 Field duplicate of KC-MW22B-12/00.
10 Field duplicate of KC-MW21B-12/01.
11 Field duplicate of KC-SWA-12/01.

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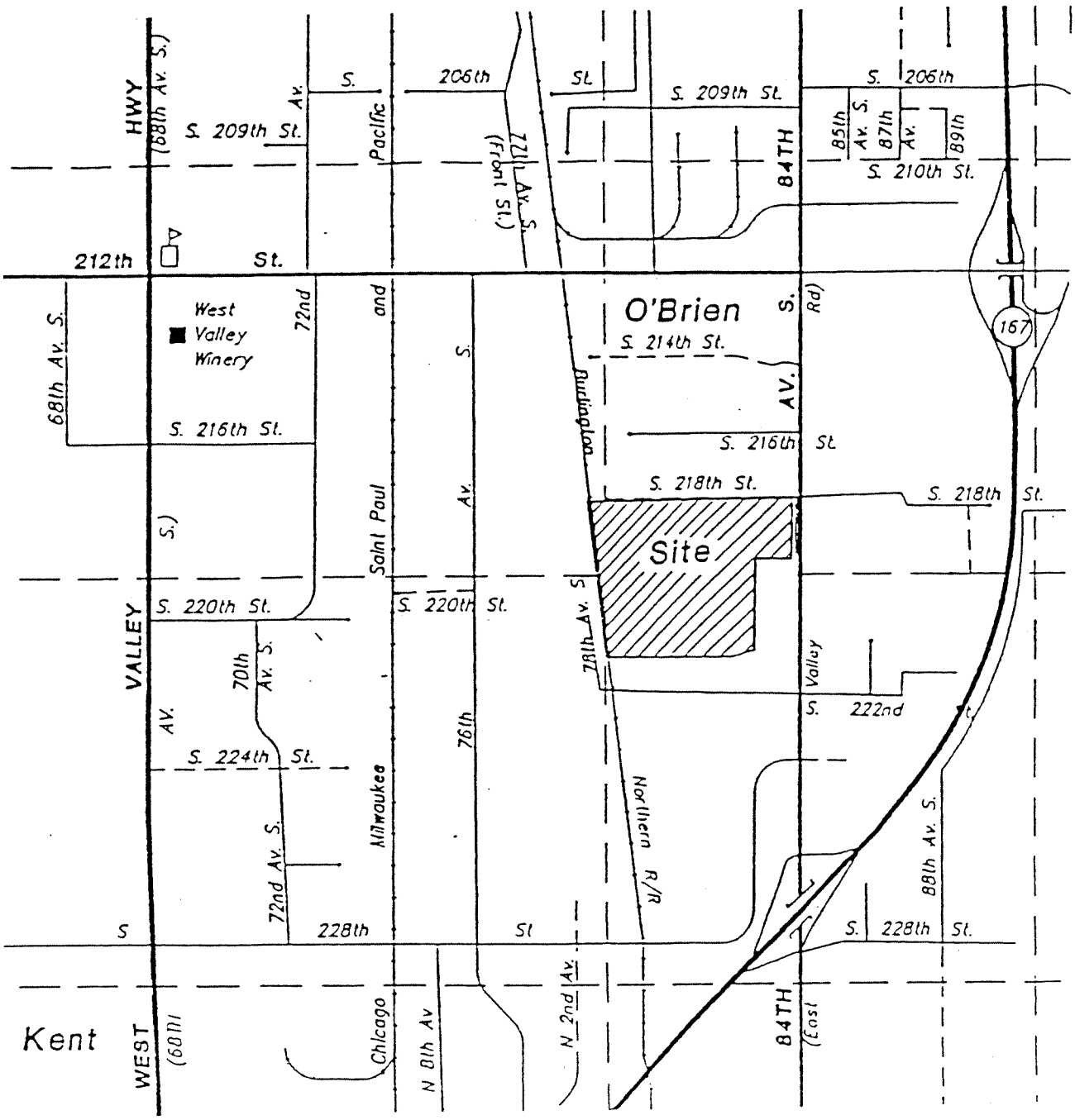
Figures



Not to Scale

Reference: Hart Crowser, Summary of Environmental Conditions and Estimated Cleanup Costs, November 1994

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AGI TECHNOLOGIES

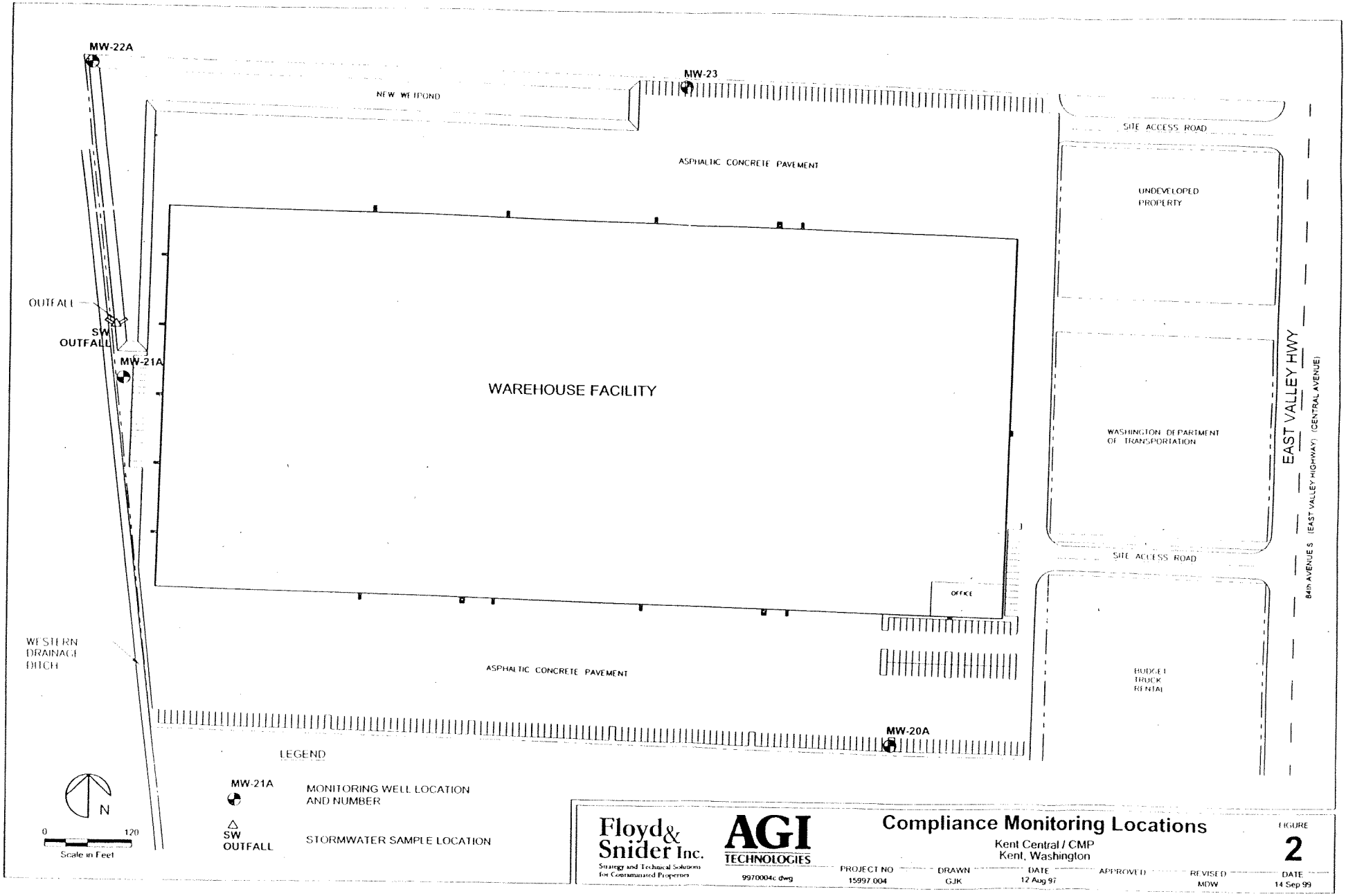
997009n.dwg

Site Location Map

Kent Central Site / CMLR
Kent, Washington

FIGURE 1

PROJECT NO	DRAWN	DATE
15.997.009	CEC	12 May 97



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Compliance Monitoring Locations

Kent Central / CMP
Kent, Washington

FIGURE 2

PROJECT NO	DRAWN	DATE	APPROVED	REVISED	DATE
15997.004	GJK	12 Aug 97		MDW	14 Sep 99

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Attachment A
Sample Collection Field Records

CDM Camp Dresser & McKee Inc.

FIELD INVESTIGATION DAILY REPORT

Sheet 1 of 1

Project FS1/Kent Central/GW Monitoring — Project No. 15997.004
Location Kent, WA — Date 12/20/01
Equipment Rental — Company — To ADC/File
Equipment Hours — F.E. Time from: — to: — By ASC

Purpose of visit: sample 4 groundwater wells and collect 2 surface water samples.

Weather: cloudy, ~45°F, slight wind out of NE

7:35 ASC onsite
7:45 Begin setting up at MW-20A
9:30 Finish sampling MW-20A and deconing equipment
10:00 Sampling surface water from manhole near pond.
10:15 completed surface water sampling
10:25 ADC offsite; ASC setting up at MW21A
11:40 Deconing equipment from MW21A - Took duplicat sample at MW21A
12:20 Setting up @ MW22A.
13:15 Deconing equipment @ MW22A.
14:00 Ron Hallissey (card is attached) and asked where the monitoring wells were
14:10 Ron Hallissey offsite
14:10 ASC setting up @ MW23
14:20 Having problems w/ Grundfos. Letting the pump cool down some because it is fairly warm.
14:30 Grundfos working again
16:05 ASC offsite

Summary: Sampled 4 monitoring wells (MW20A, MW21A, MW22A, MW23) with duplicates collected at MW21A. Took surface water samples from manhole. Steve Reimers onsite at ~10:30 for a couple of minutes. Ron Hallissey (Realtor) onsite @ ~1400 and I pointed out the 4 wells to him. ~~MW23~~ Had problems with grundfos pump @ MW23; was very erratic and I couldn't get a steady flow

Visitors: End of Notes ASC 12/20/01
Attachments ☐ Continued
Distribution Initial

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CDM Camp Dresser & McKee Inc.

GROUNDWATER SAMPLING RECORD

Sample ID KC-MW20A-12/01

Well No. MW-20A

Project FSN/Kent Central / G.W. Monitoring

Date 12/20/01

Project No. 15, 997.004

Sampled By ASC

Weather Cloudy, ~45°F, slight wind out of NE

Reviewed By ADL

PURGING

Depth to Water (TOC) 6.55	Time 815	Comments –	
Water Volume in Casing –	Total Well Depth (TOC) 35.40		
Volume Purged Before Sampling –	Screened Interval (TOC) –		
Purging Method Grundfos Pump	Purge Volume Measurement Method 5-gal bucket		

Time	Flow Rate	Cumulative Volume	Temp (°C)	Specific Conductance mS/cm (microsiemens/cm)	pH	NTU Turbidity	Dissolved Oxygen	Comments
8:32	–		15.3	0.9	6.21	–	–	
8:37		3.0	15.1	15.8 µS	6.36	55	–	
8:42	0.9L/min	40gal	14.7	~~1.8~~ 15.5µS	6.49	55	–	
8:54	0.9L/min	5.0gal	15.3	15.8 µS	6.46	17	–	
9:02	0.9L/min	6.0gal	14.5	~~14~~ 14.6 µS	6.48	11		

SAMPLING

Sampling Method Pump

Analytical Matrix ☐ Yes ☒ No ☐ Attached Time Sampled 905

Sample Container	Preserved By	At What pH	Filter Type	Cooled By
1 L Amber	HCl	2	–	Blue Ice
250 mL Poly	Nitric acid	2	–	Blue Ice

SAMPLE DATA

Appearance/Odor clear/none	
pH (last stabilized) 6.48	Temperature (°C) 14.5
Eh (millivolts) —	Specific Conductance (microsiemens/cm) 14.6 µS
OVM-PID Headspace (ppm) —	Comments –

DISPOSITION

Chain-of-Custody ☒ Yes ☐ No		Chain of Custody ID –
Duplicate Sample ID –		Replicate Sample Nos. –
ANALYTICAL LAB	Lab Name North Creek	Date Sent to Lab 12/21/01
	Shipment Method courier	
SPLIT WITH	Name (s) –	
	Organization (s) –	
Other		

CDM Camp Dresser & McKee Inc.

GROUNDWATER SAMPLING RECORD

Sample ID KC-MW21A-12/01 | Well No. MW21A

Project Fsm/Kent Central/GW monitoring | Date 12/20/01
Project No. 15,997.004 | Sampled By ASC
Weather cloudy, ~45°F, wind (NE), occasional rain | Reviewed By ADC

PURGING

Depth to Water (TOC) 8.67	Time 10.40	Comments -
Water Volume in Casing —	Total Well Depth (TOC) 33.33	
Volume Purged Before Sampling ~8.0 gal	Screened Interval (TOC) —	
Purging Method Grundfos pump	Purge Volume Measurement Method 5-gal bucket	

Time	Flow Rate	Cumulative Volume	Temp (°C)	Specific Conductance (microsiemens/cm)	pH	Turbidity	Dissolved Oxygen	Comments
1053	0.6 L/min	0.5 gal	7.9	65.0 uS/cm	6.92	850	-	-
1103	0.6 L/min	3.0 gal	13.3	0.263 ms	6.45	300	-	
1108	0.4 L/min	4.0 gal	13.8	0.268 ms	6.57	140	-	-
1113	0.5 L/min	5.0 gal	13.6	0.246 ms	6.61	100	-	-
1118	0.5 L/min	6.0 gal	13.9	0.256	6.61	50	-	-
1125	0.5 L/min	7.0 gal	14.2	0.258	6.60	22	-	-
1130	0.5 L/min	8.0 gal	14.1	0.261	6.56	7.7	-	-

SAMPLING

Sampling Method grundfos pump

Analytical Matrix ☐ Yes ☒ No ☐ Attached | Time Sampled 1135

Sample Container	Preserved By	At What pH	Filter Type	Cooled By
2-1 Liter Amber	HCl	2	—	Blue Ice
1-250 mL Poly	nitric acid	2	—	Blue Ice

SAMPLE DATA

Appearance/Odor clear/none

pH (last stabilized) 6.56	Temperature (°C) 14.1
Eh (millivolts) —	Specific Conductance (~~microsiemens/cm~~) 0.261 ms/cm
OVM-PID Headspace (ppm) —	Comments —

DISPOSITION

Chain-of-Custody ☒ Yes ☐ No | Chain of Custody ID

Duplicate Sample ID KC-MW21B-12/01 @945 | Replicate Sample Nos. —

ANALYTICAL LAB	Lab Name north creek	Date Sent to Lab 12/21/01
	Shipment Method courier	
SPLIT WITH	Name (s) —	
	Organization (s) —	
Other		

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CDM Camp Dresser & McKee Inc.

GROUNDWATER SAMPLING RECORD

Sample ID KC-MW22A-12/01 | Well No. MW 22A

Project FSM/Kent Central/GW Monitoring | Date 12/20/01
Project No. 15.997 004 | Sampled By ASC
Weather Cloudy, ~45°F, wind (NE), occasional rain | Reviewed By ADC

PURGING

Depth to Water (TOC) 10.12'	Time 1225	Comments	
Water Volume in Casing —	Total Well Depth (TOC) 33.92		
Volume Purged Before Sampling ~8 gallons	Screened Interval (TOC) —		
Purging Method Grundfos Pump	Purge Volume Measurement Method 5-gal bucket		

Time	Flow Rate	Cumulative Volume	Temp (°C)	Specific Conductance (microsiemens/cm)	pH	Turbidity	Dissolved Oxygen	Comments
1236	0.9L/min	2.5 gal	12.9	0.204 ms/cm	6.51	—	—	
12:41	0.9L/min	3.5 gal	14.5	0.211 ms/cm	6.54	600	—	
12:46	0.9L/min	4.5 gal	15.2	0.214 ms/cm	6.55	100	—	
12:51	0.9L/min	5.5 gal	15.4	0.214 ms/cm	6.56	30	—	
12:56	0.9L/min	6.5 gal	15.4	0.214 ms/cm	6.56	14	—	
13:01	0.9L/min	7.5 gal	15.6	0.214 ms/cm	6.56	9.9	—	

SAMPLING

Sampling Method Grundfos Pump
Analytical Matrix ☐ Yes ☒ No ☐ Attached Time Sampled 1305

Sample Container	Preserved By	At What pH	Filter Type	Cooled By
2-1 Liter Amber	HCl	2	—	Blue Ice
1-250 mL Poly	nitric acid	2	—	Blue Ice

SAMPLE DATA

Appearance/Odor clear/none

pH (last stabilized) 6.56	Temperature (°C) 15.6
Eh (millivolts) —	Specific Conductance (~~microsiemens~~/cm) 0.214 ms/cm
OVM-PID Headspace (ppm) —	Comments —

DISPOSITION

Chain-of-Custody ☒ Yes ☐ No Chain of Custody ID
Duplicate Sample ID — Replicate Sample Nos. —

ANALYTICAL LAB	Lab Name Northcreek	Date Sent to Lab 12/21/01
	Shipment Method Courier	
SPLIT WITH	Name (s) —	
	Organization (s) —	

Other

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CDM Camp Dresser & McKee Inc.

GROUNDWATER SAMPLING RECORD

Sample ID KC-MW23-12/01 | Well No. MW-23

Project FSM/Kent Central/GW Monitoring | Date 12/20/01
Project No. 15.997.004 | Sampled By ASC
Weather cloudy, ~45°F, calm, occasional rain | Reviewed By ADC

PURGING

Depth to Water (TOC) 6.59'	Time 1410	Comments –	
Water Volume in Casing –	Total Well Depth (TOC)		
Volume Purged Before Sampling ~10.5 gal	Screened Interval (TOC) –		
Purging Method Grundfos Pump	Purge Volume Measurement Method 5-gal bucket		

Time	Flow Rate	Cumulative Volume	Temp (°C)	Specific Conductance (microsiemens/cm)	pH	Turbidity	Dissolved Oxygen	Comments
1435	0.9L/min	3.0 gal	15.6	0.299 ms/cm	6.33	—	—	
~~1440~~ 1450	0.5L/min	4.0 gal	15.2	0.291 ms/cm	6.48	—	—	erratic pumping
~~1445~~ 1456	0.6L/min	4.5 gal	15.3	0.290 ms/cm	6.47	—	—	erratic pumping
1510	1L/min	6.5 gal	16.7	0.301 ms/cm	6.46	—	—	erratic pumping
1523	0.8L/min	8.0 gal	17.0	0.305 ms/cm	6.42	950	—	"
1530	1.3L/min	9.0 gal	16.8	0.294 ms/cm	6.47	280	—	—
1535	1.3L/min	10.5 gal	15.9	0.287 ms/cm	6.40	10	—	—

SAMPLING

Sampling Method Grundfos Pump
Analytical Matrix ☐ Yes ☒ No ☐ Attached | Time Sampled 1540

Sample Container	Preserved By	At What pH	Filter Type	Cooled By
2-1L Amber	HCl	2	–	Blue Ice
1-250mL Poly	Nitric Acid	2	–	Blue-Ice

SAMPLE DATA

Appearance/Odor clear/none	
pH (last stabilized) 6.40	Temperature (°C) 15.9
Eh (millivolts) –	Specific Conductance ~~(microsiemens/cm)~~ 0.287 ms/cm
OVM-PID Headspace (ppm) –	Comments –

DISPOSITION

Chain-of-Custody ☒ Yes ☐ No | Chain of Custody ID
Duplicate Sample ID – | Replicate Sample Nos. –

ANALYTICAL LAB	Lab Name North Creek	Date Sent to Lab 12/21/01
	Shipment Method Courier	
SPLIT WITH	Name (s) –	
	Organization (s) –	

Other

CDM Camp Dresser & McKee Inc.

~~GROUND~~ Surface WATER SAMPLING RECORD

Sample ID KC-SWA-12/01 | Well No. N/A

Project FSM / Kent Central / GW. Monitoring
Project No. 15 997.004
Weather cloudy, 45°F, wind (NE), occasional rain

Date 12/20/01
Sampled By ASC
Reviewed By ADL

PURGING

~~Depth to Water (TOC)~~	~~Time~~	~~Comments~~
~~Water Volume in Casing~~	~~Total Well Depth (TOC)~~	
~~Volume Purged Before Sampling~~	~~Screened Interval (TOC)~~	
~~Purging Method~~	~~Purge Volume Measurement Method~~	

Time	Flow Rate	Cumulative Volume	Temp (°C)	Specific Conductance (microsiemens/cm)	pH	Turbidity	Dissolved Oxygen	Comments
10:07	—	—	7.7	—	6.78	—	—	—

SAMPLING

Sampling Method Bailer dipped into manhole between pond + ditch
Analytical Matrix ☐ Yes ☒ No ☐ Attached Time Sampled 1015

Sample Container	Preserved By	At What pH	Filter Type	Cooled By
250 mL Poly	~~HCl~~ Nitric Acid	2	—	Blue Ice

SAMPLE DATA

Appearance/Odor clear/none
pH (last stabilized) ~~7.7~~ 6.78 | Temperature (°C) 7.7
Eh (millivolts) — | Specific Conductance (microsiemens/cm) —
OVM-PID Headspace (ppm) — | Comments —

DISPOSITION

Chain-of-Custody ☒ Yes ☐ No Chain of Custody ID
Duplicate Sample ID KC-SWB-12/01 @ 1025 Replicate Sample Nos. —

ANALYTICAL LAB: Lab Name North Creek | Date Sent to Lab 12/21/01
Shipment Method ~~Drop~~ - Courier

SPLIT WITH: Name (s) — | Organization (s) —

Other

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Kent Central Site

Compliance Monitoring Letter Report

Attachment B
Laboratory Reports

www.ncalabs.com

Seattle 11720 North Creek Pkwy N, Suite 400, Bothell, WA 98011-8244
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503.906.9200 fax 503.906.9210
Bend 20332 Empire Avenue, Suite F-1, Bend, OR 97701-5711
541.383.9310 fax 541.382.7588

Floyd Snider McCarthy, Inc. 83 South King Street, Suite 614 Seattle WA, 98104	Project: FSI/Kent control/G.W. monitoring Project Number: 15,997,004 Project Manager: Steve Reimers	**Reported:** 01/04/02 16:57

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
KC-SWA-12/01	B1L0547-01	Water	12/20/01 10:15	12/21/01 13:00
KC-SWB-12/01	B1L0547-02	Water	12/20/01 10:25	12/21/01 13:00
KC-MW20A-12/01	B1L0547-03	Water	12/20/01 09:05	12/21/01 13:00
KC-MW21A-12/01	B1L0547-04	Water	12/20/01 11:35	12/21/01 13:00
KC-MW21B-12/01	B1L0547-05	Water	12/20/01 09:45	12/21/01 13:00
KC-MW22A-12/01	B1L0547-06	Water	12/20/01 13:05	12/21/01 13:00
KC-MW23-12/01	B1L0547-07	Water	12/20/01 15:40	12/21/01 13:00

North Creek Analytical - Bothell

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Jeff Gerdes

Jeff Gerdes For Scott A. Woerman, Project Manager

North Creek Analytical, Inc.
Environmental Laboratory Network

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Floyd Snider McCarthy, Inc. 83 South King Street, Suite 614 Seattle WA, 98104	Project: FSI/Kent control/G.W. monitoring Project Number: 15,997,004 Project Manager: Steve Reimers	**Reported:** 01/04/02 16:57

Diesel Hydrocarbons (C12-C24) and Heavy Oil (C24-C36 by WTPH-D (extended) with Silica Gel Clean-up

North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
KC-MW20A-12/01 (B1L0547-03) Water Sampled: 12/20/01 09:05 Received: 12/21/01 13:00									
Diesel Range Hydrocarbons	ND	0.250	mg/l	1	1L27020	12/27/01	12/31/01	WTPH-D	
Heavy Oil Range Hydrocarbons	ND	0.750	"	"	"	"	"	"	
Surrogate: 2-FBP	*80.3 %*	*50-150*			"	"	"	"	
Surrogate: Octacosane	*89.5 %*	*50-150*			"	"	"	"	
KC-MW21A-12/01 (B1L0547-04) Water Sampled: 12/20/01 11:35 Received: 12/21/01 13:00									
Diesel Range Hydrocarbons	ND	0.250	mg/l	1	1L27020	12/27/01	12/31/01	WTPH-D	
Heavy Oil Range Hydrocarbons	ND	0.750	"	"	"	"	"	"	
Surrogate: 2-FBP	*77.0 %*	*50-150*			"	"	"	"	
Surrogate: Octacosane	*88.2 %*	*50-150*			"	"	"	"	
KC-MW21B-12/01 (B1L0547-05) Water Sampled: 12/20/01 09:45 Received: 12/21/01 13:00									
Diesel Range Hydrocarbons	ND	0.250	mg/l	1	1L27020	12/27/01	12/31/01	WTPH-D	
Heavy Oil Range Hydrocarbons	ND	0.750	"	"	"	"	"	"	
Surrogate: 2-FBP	*75.4 %*	*50-150*			"	"	"	"	
Surrogate: Octacosane	*79.0 %*	*50-150*			"	"	"	"	
KC-MW22A-12/01 (B1L0547-06) Water Sampled: 12/20/01 13:05 Received: 12/21/01 13:00									
Diesel Range Hydrocarbons	ND	0.250	mg/l	1	1L27020	12/27/01	12/31/01	WTPH-D	
Heavy Oil Range Hydrocarbons	ND	0.750	"	"	"	"	"	"	
Surrogate: 2-FBP	*76.4 %*	*50-150*			"	"	"	"	
Surrogate: Octacosane	*86.6 %*	*50-150*			"	"	"	"	
KC-MW23-12/01 (B1L0547-07) Water Sampled: 12/20/01 15:40 Received: 12/21/01 13:00									
Diesel Range Hydrocarbons	ND	0.250	mg/l	1	1L27020	12/27/01	12/31/01	WTPH-D	
Heavy Oil Range Hydrocarbons	ND	0.750	"	"	"	"	"	"	
Surrogate: 2-FBP	*77.4 %*	*50-150*			"	"	"	"	
Surrogate: Octacosane	*79.0 %*	*50-150*			"	"	"	"	

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Floyd Snider McCarthy, Inc. 83 South King Street, Suite 614 Seattle WA, 98104	Project: FSI/Kent control/G.W. monitoring Project Number: 15,997,004 Project Manager: Steve Reimers	**Reported:** 01/04/02 16:57

Total Metals by EPA 6000/7000 Series Methods
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
KC-SWA-12/01 (B1L0547-01) Water Sampled: 12/20/01 10:15 Received: 12/21/01 13:00									
Lead	ND	0.00100	mg/l	1	2A02016	01/02/02	01/03/02	EPA 6020	
KC-SWB-12/01 (B1L0547-02) Water Sampled: 12/20/01 10:25 Received: 12/21/01 13:00									
Lead	ND	0.00100	mg/l	1	2A02016	01/02/02	01/03/02	EPA 6020	
KC-MW20A-12/01 (B1L0547-03) Water Sampled: 12/20/01 09:05 Received: 12/21/01 13:00									
Arsenic	ND	0.00100	mg/l	1	2A02016	01/02/02	01/03/02	EPA 6020	
Lead	ND	0.00100	"	"	"	"	"	"	
KC-MW21A-12/01 (B1L0547-04) Water Sampled: 12/20/01 11:35 Received: 12/21/01 13:00									
Arsenic	ND	0.00100	mg/l	1	2A02016	01/02/02	01/03/02	EPA 6020	
Lead	ND	0.00100	"	"	"	"	"	"	
KC-MW21B-12/01 (B1L0547-05) Water Sampled: 12/20/01 09:45 Received: 12/21/01 13:00									
Arsenic	ND	0.00100	mg/l	1	2A02016	01/02/02	01/03/02	EPA 6020	
Lead	ND	0.00100	"	"	"	"	"	"	
KC-MW22A-12/01 (B1L0547-06) Water Sampled: 12/20/01 13:05 Received: 12/21/01 13:00									
Arsenic	**0.00327**	0.00100	mg/l	1	2A02016	01/02/02	01/03/02	EPA 6020	
Lead	ND	0.00100	"	"	"	"	"	"	
KC-MW23-12/01 (B1L0547-07) Water Sampled: 12/20/01 15:40 Received: 12/21/01 13:00									
Arsenic	**0.00664**	0.00100	mg/l	1	2A02016	01/02/02	01/03/02	EPA 6020	
Lead	ND	0.00100	"	"	"	"	"	"	

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Floyd Snider McCarthy, Inc.	Project: FSI/Kent control/G.W. monitoring	
83 South King Street, Suite 614	Project Number: 15,997,004	**Reported:**
Seattle WA, 98104	Project Manager: Steve Reimers	01/04/02 16:57

Diesel Hydrocarbons (C12-C24) and Heavy Oil (C24-C36 by WTPH-D (extended) with Silica Gel Clean-up - Quality Control

North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1L27020: Prepared 12/27/01 Using EPA 3520C										
Blank (1L27020-BLK1)										
Diesel Range Hydrocarbons	ND	0.250	mg/l							
Heavy Oil Range Hydrocarbons	ND	0.750	"							
Surrogate: 2-FBP	*0.239*		"	*0.320*		*74.7*	*50-150*			
Surrogate: Octacosane	*0.277*		"	*0.320*		*86.6*	*50-150*			
LCS (1L27020-BS1)										
Diesel Range Hydrocarbons	1.32	0.250	mg/l	2.00		66.0	50-150			
Surrogate: 2-FBP	*0.261*		"	*0.320*		*81.6*	*50-150*			
LCS Dup (1L27020-BSD1)										
Diesel Range Hydrocarbons	1.43	0.250	mg/l	2.00		71.5	50-150	8.00	50	
Surrogate: 2-FBP	*0.277*		"	*0.320*		*86.6*	*50-150*			

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Floyd Snider McCarthy, Inc. 83 South King Street, Suite 614 Seattle WA, 98104	Project: FSI/Kent control/G.W. monitoring Project Number: 15,997,004 Project Manager: Steve Reimers	**Reported:** 01/04/02 16:57

Total Metals by EPA 6000/7000 Series Methods - Quality Control
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 2A02016: Prepared 01/02/02 Using EPA 3020A										
Blank (2A02016-BLK1)										
Arsenic	ND	0.00100	mg/l							
Lead	ND	0.00100	"							
LCS (2A02016-BS1)										
Arsenic	0.191	0.00100	mg/l	0.200		95.5	80-120			
Lead	0.196	0.00100	"	0.200		98.0	80-120			
LCS Dup (2A02016-BSD1)										
Arsenic	0.188	0.00100	mg/l	0.200		94.0	80-120	1.58	20	
Lead	0.192	0.00100	"	0.200		96.0	80-120	2.06	20	
Matrix Spike (2A02016-MS1)					**Source: B1L0600-01**					
Arsenic	0.198	0.00100	mg/l	0.200	0.00190	98.0	75-125			
Lead	0.194	0.00100	"	0.200	0.00128	96.4	75-125			
Matrix Spike Dup (2A02016-MSD1)					**Source: B1L0600-01**					
Arsenic	0.200	0.00100	mg/l	0.200	0.00190	99.0	75-125	1.01	20	
Lead	0.196	0.00100	"	0.200	0.00128	97.4	75-125	1.03	20	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Jeff Gerdes

Jeff Gerdes For Scott A. Woerman, Project Manager

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Floyd Snider McCarthy, Inc.	Project: FSI/Kent control/G.W. monitoring	
83 South King Street, Suite 614	Project Number: 15,997,004	**Reported:**
Seattle WA, 98104	Project Manager: Steve Reimers	01/04/02 16:57

Notes and Definitions

DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

CDM Camp Dresser & McKee Inc.

B110547

CHAIN-OF-CUSTODY

Date 12/20/01 Page 1 of 1

PROJECT INFORMATION

Project Manager: Alan Carey

Project Name: FSM/Kent Control/GW Monitoring

Project Number: 15.997 004

Site Location: Kent, WA Sampled By: ASC

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: list	Organic Lead (Ca)	TCL Metals (23)	Priority Poll. Metals (13)	DWS - Metals	MFSP - Metals (Wa)	LEACHING TESTS: TCLP - Volatiles (ZHE)	TCLP - Semivolatiles	TCLP - Pesticides	TCLP - Metals	OTHER: Lead EPA 7421	Arsenic EPA 7060				NUMBER OF CONTAINERS
KC-SWA-12/01	12/20/01	1015	H_2O	01																														X				1
KC-SWB-12/01	↓	1025	↓	02																														X				1
KC-MW20A-12/01	↓	905	↓	03			X																											X	X			3
KC-MW21A-12/01	↓	1135	↓	04			X																											X	X			3
KC-MW21B-12/01	↓	945	↓	05			X																											X	X			3
KC-MW22A-12/01	↓	1305	↓	06			X																											X	X			3
KC-MW23-12/01	↓	1540	↓	07			X																											X	X			3
	↓		↓																																			

LAB INFORMATION	SAMPLE RECEIPT	
Lab Name: North Creek	Total Number of Containers:	
Lab Address:	Chain-of-Custody Seals: Y/N/NA	
	Intact?: Y/N/NA	
Via: Courier	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: CDM collected GW samples on behalf of Floyd Snider - Send results & Invoice to Floyd Snider

RELINQUISHED BY: 1.	RELINQUISHED BY: 2.	RELINQUISHED BY: 3.
Signature: Andrew Carson Time: 5:00	Signature: Time:	Signature: Time:
Printed Name: Andrew Carson Date: 12/20/01	Printed Name: Date:	Printed Name: Date:
Company: CDM	Company:	Company:
RECEIVED BY: 1.	**RECEIVED BY: 2.**	**RECEIVED BY: 3.**
Signature: Cathy Nichols Time: 13:00	Signature: Time:	Signature: Time:
Printed Name: C Nichols Date: 12/21/01	Printed Name: Date:	Printed Name: Date:
Company: NCA-B	Company:	Company:

CDM OFFICES: Bellevue: (206) 453-8383 Gig Harbor: (206) 851-5562 Portland: (503) 232-1800

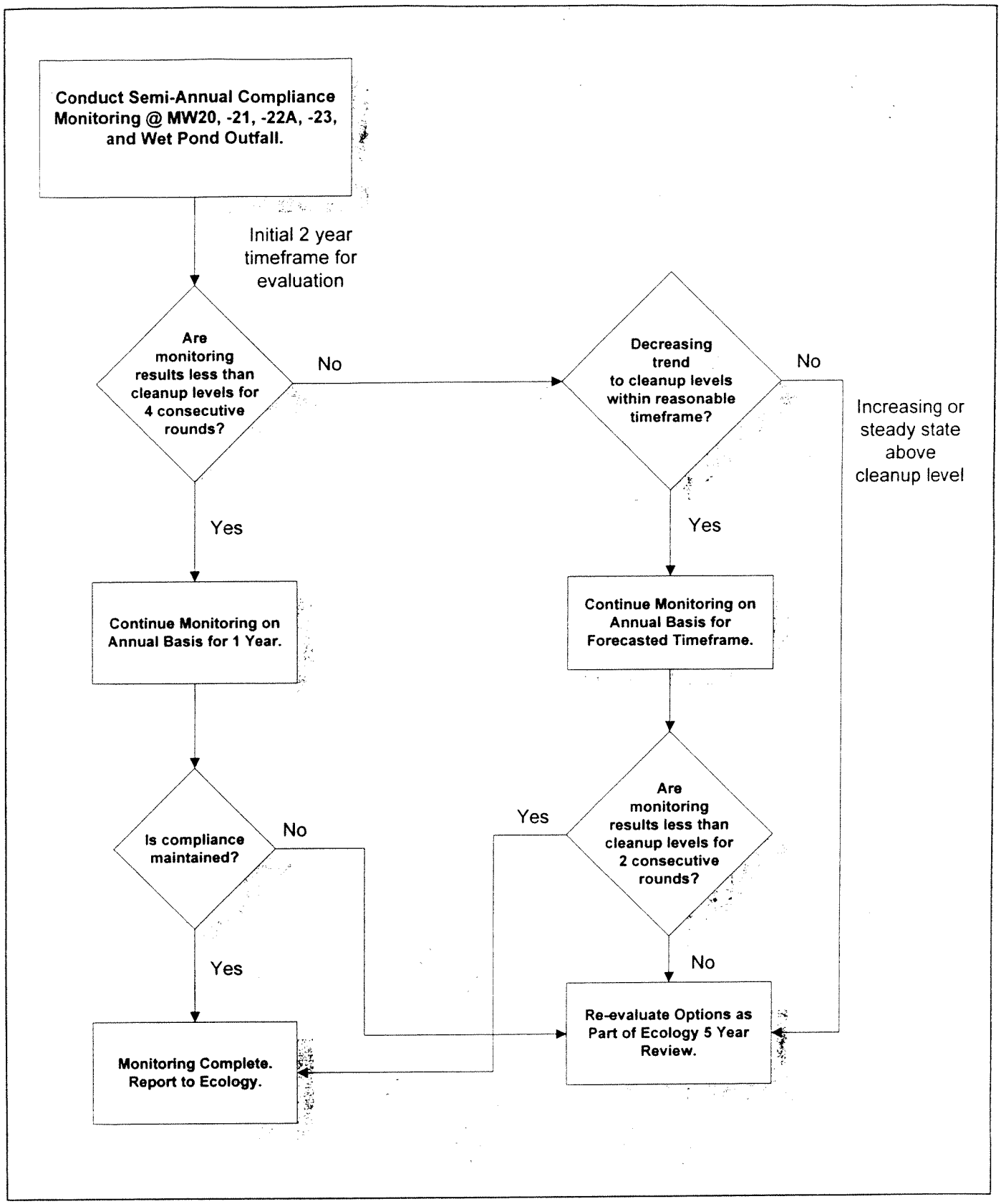
rev. 9/00

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

Kent Central Site

Compliance Monitoring Letter Report

Attachment C
Compliance Monitoring Flow Chart from Kent Central Cleanup Action Plan



Compliance Monitoring Flow Chart
Kent Central/CAP
Kent, Washington

Floyd & Snider, Inc.

January 1998