



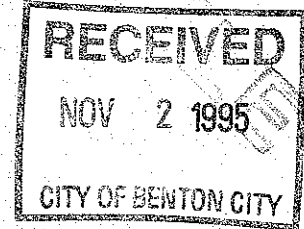
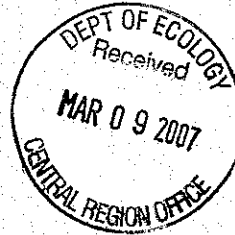
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**J-U-B ENGINEERS, Inc.**  
ENGINEERS • SURVEYORS • PLANNERS  
2810 W. Clearwater Avenue, Suite 201  
Kennewick, WA 99336

509/783-2144  
FAX: 509/736-0790

November 1, 1995

Mr. Mike Peloquin  
Benton Franklin Health District  
800 W Canal Drive  
Kennewick, WA 99336



**RE: CITY OF BENTON CITY PCS TREATMENT  
CITY OF RICHLAND LANDFILL**

Dear Mr. Peloquin:

We have sampled the City of Benton City's petroleum contaminated soil that has been treated at the City of Richland Landfill since January of 1993. Attached are the results of our tests.

One sample of ten randomly selected locations was collected from throughout the pile. Results show diesel and gasoline to be undetected which verifies remediation has been successful. However, heavy oil was detected over the 100 ppm limit.

Aerobic treatment of this soil has been occurring for approximately three years and appears to have been a very successful treatment in the remediation of diesel and gasoline product within the soil. In addition, due to the extreme time span necessary for remediation of heavy oils, the soil can be classified per Table 5 of the 351 guidelines for landfills. For these reasons, we are requesting the utilization/disposal of this soil.

Your prompt attention concerning this matter would be greatly appreciated. We look forward to closing out this project.

Sincerely,

**J-U-B ENGINEERS, Inc.**

William H. Russell, P.E.  
Project Engineer

WHR: ac  
Project No.: 12860-05  
Enclosures: Sample Results

cc: Honorable J.D. Fluckiger, City of Benton City  
Mr. Jim Penor, City of Richland Landfill





Formerly Silver Valley Laboratories Inc

October 19, 1995

William Russell  
JUB Engineers, Inc.  
2810 W Clearwater Ave , Suite 201  
Kennewick, WA 99336

Re: Organics Analytical Results

Dear Mr Russell,

Enclosed are the results of the WTPH-Gasoline/BTEX (8015M/8020M) and WTPH-Diesel/Motor Oil (8015M) analyses for the 1 soil sample (BCM-LF1) submitted on 10/11/95

Invoice sent to: Karen Smith, City of Benton City, 709 9th Street, P O Box 70  
Benton City, WA 99320

Please call if you have any questions, refer to SVL Job # 52335.

Sincerely yours,

A handwritten signature in black ink that reads "James R. Jarvis". The signature is written in a cursive style with a large, stylized "J" and "V".

James R. Jarvis  
Supervisor  
Organics Department

JRJ

— An Inc. 500 Company —

**SVL ANALYTICAL, INC.**

One Government Gulch \* P.O. Box 929 \* Kellogg, Idaho 83837-0929 \* Phone: (208) 784-1258 \* Fax: (208) 783-0891

## REPORT OF ANALYTICAL RESULTS

SVL Job #: 52335

METHOD: TPH-Gasoline

Sample Matrix: Soil

Client: J-U-B Engineers, Inc

Analyst: KDS

Units: mg/kg (ppm)

Client Sample ID	SVL Sample ID	Sample Conc.*	Date Sampled	Date Extracted	Date Analyzed	Percent Solids	Surrogate Recovery	Dilution Factor	Detection Limit	Reporting Limit
BCM-LF1	S99002	ND	10/06/95	10/17/95	10/17/95	96.6%	101.5%	50.0	0.010	0.500

Comments: None

\* Sample concentration is calculated on a dry weight basis

ND = Not detected at stated reporting limit

Surrogate: 4-Bromofluorobenzene (FID)

Reviewed by: James E. Jarvis Date: 10/19/95

**SVL ANALYTICAL, INC.**

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REPORT OF SAMPLE ANALYTICAL RESULTS

SVL Job #: 52335

METHOD: BTEX (8020) M

Sample Matrix: Soil

Client: J-U-B Engineers, Inc.

Analyst: KDS

Units: ug/kg (ppb)

SAMPLE ID	ANALYTE CONCENTRATION *					Sampled Date	Extracted Date	Analyzed Date	Percent Solids	Surr % Rec.	Dilution Factor
	Client	SVL ID	Benzene	Toluene	E-benzene						
BCM-LF1	S99002	< 50.0	< 50.0	< 50.0	< 50.0	10/06/95	10/17/95	10/17/95	96.6%	100.6%	50.0

Detection Limit ==>

1.00	1.00	1.00	1.00
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Comments: None

Surrogate = 4-Bromofluorobenzene (PID)

\* Analyte concentration calculated on a dry weight basis.

Reviewed by: James R. Jannis Date: 10/19/95

SVL ANALYTICAL, INC.

One Government Gulch \* P.O. Box 929 \* Kellogg, Idaho 83837-0929 \* Phone:(208) 784-1258 \* Fax:(208) 783-0891

REPORT OF ANALYTICAL RESULTS

SVL Job #: 52335

METHOD: TPH-Diesel

Sample Matrix: Soil

Client: J-U-B Engineers, Inc.

Analyst: FRL

Units: mg/kg (ppm)

Client Sample ID	SVL Sample ID	Sample Conc.*	Date Sampled	Date Extracted	Date Analyzed	% Dry Solids	Surrogate Recovery	Dil /Conc Factor	Detection Limit	Report Limit
BCM-LF1	S99002	ND	10/06/95	10/12/95	10/16/95	96.1%	96.3%	0.500	20.0	10.0

Comments: None

N/A = Not applicable

Surrogate: Tricosane

ND = Not detected at stated reporting limit

\* Sample concentration is calculated on a dry weight basis.

Reviewed by: James R. Garris Date: 10/19/95

SVL ANALYTICAL, INC.

One Government Gulch \* P.O. Box 929 \* Kellogg, Idaho 83837-0929 \* Phone:(208) 784-1258 \* Fax:(208) 783-0891

REPORT OF ANALYTICAL RESULTS

SVL Job #: 52335

METHOD: TPH-Motor Oil

Sample Matrix: Soil

Client: J-U-B Engineers, Inc

Analyst: FRL

Units: mg/kg (ppm)

Client Sample ID	SVL Sample ID	Sample Conc.*	Date Sampled	Date Extracted	Date Analyzed	% Dry Solids	Surrogate Recovery	Dil /Conc. Factor	Detection Limit	Report Limit
BCM-LF1	S99002	428	10/06/95	10/12/95	10/16/95	96.1%	96.3%	0.500	100	50.0

Comments: None

N/A = Not applicable

ND = Not detected at stated reporting limit

Surrogate: Tricosane

\* Sample concentration is calculated on a dry weight basis

Reviewed by: James R. Jarvis Date: 10/19/95

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One Government Gulch \* P.O. Box 929 \* Kellogg, Idaho 83837-0929 \* Phone: (208) 784-1258 \* Fax: (208) 783-0891

REPORT OF ANALYTICAL RESULTS OF PREP BLANK AND LCS

SVL Job #: 52335

METHOD: TPH-Gasoline

Sample Matrix: Soil

Client: J-U-B Engineers, Inc.

Analyst: KDS

Units: mg/kg (ppm)

**PREP BLANK RESULTS:**

SVL SAMPLE ID	SAMPLE CONCENTRATION	Extracted Date	Analyzed Date	Surr % Rec.	Dilution Factor	Detection Limit	Reporting Limit
S99000P	ND	10/17/95	10/17/95	104.7%	50.0	0.010	0.500

**LABORATORY CONTROL SAMPLE RESULTS:**

SVL SAMPLE ID	SAMPLE CONCENTRATION	Extracted Date	Analyzed Date	Surr. % Rec.	Dilution Factor
S99001C	75.6	10/17/95	10/17/95	97.1%	50.0
Conc. Added =>	76.5				
LCS % Recovery =>	98.8%				

COMMENTS: None

ND = Not detected at stated reporting limit  
Surrogate: 4-Bromofluorobenzene (FID)

Reviewed by: James E. Garrison Date: 10/19/95

**SVL ANALYTICAL, INC.**

One Government Gulch \* P.O. Box 929 \* Kellogg, Idaho 83837-0929 \* Phone: (208) 784-1258 \* Fax: (208) 783-0891

REPORT OF PREP BLANK AND LABORATORY CONTROL SAMPLE RESULTS

SVL Job #: 52335

METHOD: BTEX (8020) M

Sample Matrix: Soil

Client: J-U-B Engineers, Inc

Analyst: KDS

Units: ug/kg (ppb)

**PREP BLANK RESULTS:**

SVL SAMPLE ID	ANALYTE CONCENTRATION				Extracted Date	Analyzed Date	Surr % Rec.	Dilution Factor
	Benzene	Toluene	E-benzene	Xylenes				
S99000P	< 50.0	< 50.0	< 50.0	< 50.0	10/17/95	10/17/95	94.3%	50.0

**LABORATORY CONTROL SAMPLE RESULTS:**

SVL SAMPLE ID	ANALYTE CONCENTRATION				Extracted Date	Analyzed Date	Surr % Rec.	Dilution Factor
	Benzene	Toluene	E-benzene	Xylenes				
S99001C	1445	5760	1185	6525	10/17/95	10/17/95	96.6%	50.0
Conc. Added =>	1750	5750	1250	6500				
LCS % Recovery =>	83%	100%	95%	100%				

COMMENTS: None

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Surrogate: 4-Bromofluorobenzene (PID)

Reviewed by: James R. James Date: 10/19/95



SVL ANALYTICAL, INC.

One Government Gulch \* P.O. Box 929 \* Kellogg, Idaho 83837-0929 \* Phone:(208) 784-1258 \* Fax:(208) 783-0891

REPORT OF ANALYTICAL RESULTS OF PREP BLANK AND LCS

SVL Job #: 52335

METHOD: TPH-Diesel

Sample Matrix: Soil

Client: J-U-B Engineers, Inc.

Analyst: FRL

Units: mg/kg (ppm)

Preparatory Blank:	SVL Sample ID	Sample Conc.	Date Extracted	Date Analyzed	Surrogate Recovery	Dil /Conc Factor	Detection Limit	Report Limit
	S99000P	ND	10/12/95	10/16/95	105%	0.500	20.0	10.0

LCS:	SVL Sample ID	Sample Conc.	Conc. Added	Date Extracted	Date Analyzed	Surrogate Recovery	Dil /Conc Factor	Detection Limit	Report Limit
	S99001C	87.3	100	10/12/95	10/16/95	102%	0.500	20.0	10.0
LCS % Recovery =			87.3%						

LCS DUP:	SVL Sample ID	Sample Conc.	Conc. Added	Date Extracted	Date Analyzed	Surrogate Recovery	Dil /Conc Factor	Detection Limit	Report Limit
	S99001CD	102	100	10/12/95	10/16/95	111%	0.500	20.0	10.0
LCS % Recovery =			102%						

Comments: None

ND = Not detected at stated reporting limit

Surrogate: Tricosane

LCS = Laboratory Control Sample

Reviewed by: James R. James Date: 10/14/95

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**REPORT OF ANALYTICAL RESULTS OF PREP BLANK AND LCS**

SVL Job #: 52335

**METHOD: TPH - Motor Oil**

Sample Matrix: Soil

Client: J-U-B Engineers, Inc.

Analyst: FRL

Units: mg/kg (ppm)

Preparatory Blank:	SVL Sample ID	Sample Conc.	Date Extracted	Date Analyzed	Surrogate Recovery	Dil /Conc Factor	Detection Limit	Report Limit
	S99000P	ND	10/12/95	10/16/95	105%	0.500	100	50.0

LCS:	SVL Sample ID	Sample Conc.	Conc. Added	Date Extracted	Date Analyzed	Surrogate Recovery	Dil /Conc Factor	Detection Limit	Report Limit
	S99001C	596	500	10/12/95	10/16/95	102%	0.500	100	50.0
<b>LCS % Recovery =</b>			<b>119%</b>						

LCS DUP:	SVL Sample ID	Sample Conc.	Conc. Added	Date Extracted	Date Analyzed	Surrogate Recovery	Dil /Conc Factor	Detection Limit	Report Limit
	S99001CD	653	500	10/12/95	10/16/95	111%	0.500	100	50.0
<b>LCS % Recovery =</b>			<b>131%</b>						

Comments: None

ND = Not detected at stated reporting limit

Surrogate: Itricosane

LCS = Laboratory Control Sample

Reviewed by: James R. Garris Date: 10/19/95