



# *Virtual Chemist*

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# What Created the Need?

- Regional Business Plan
- Nature Of The Projects
- My Situation



# Geographic Challenges

- Remote Customers
- Remote Technical Staff
- Remote Projects

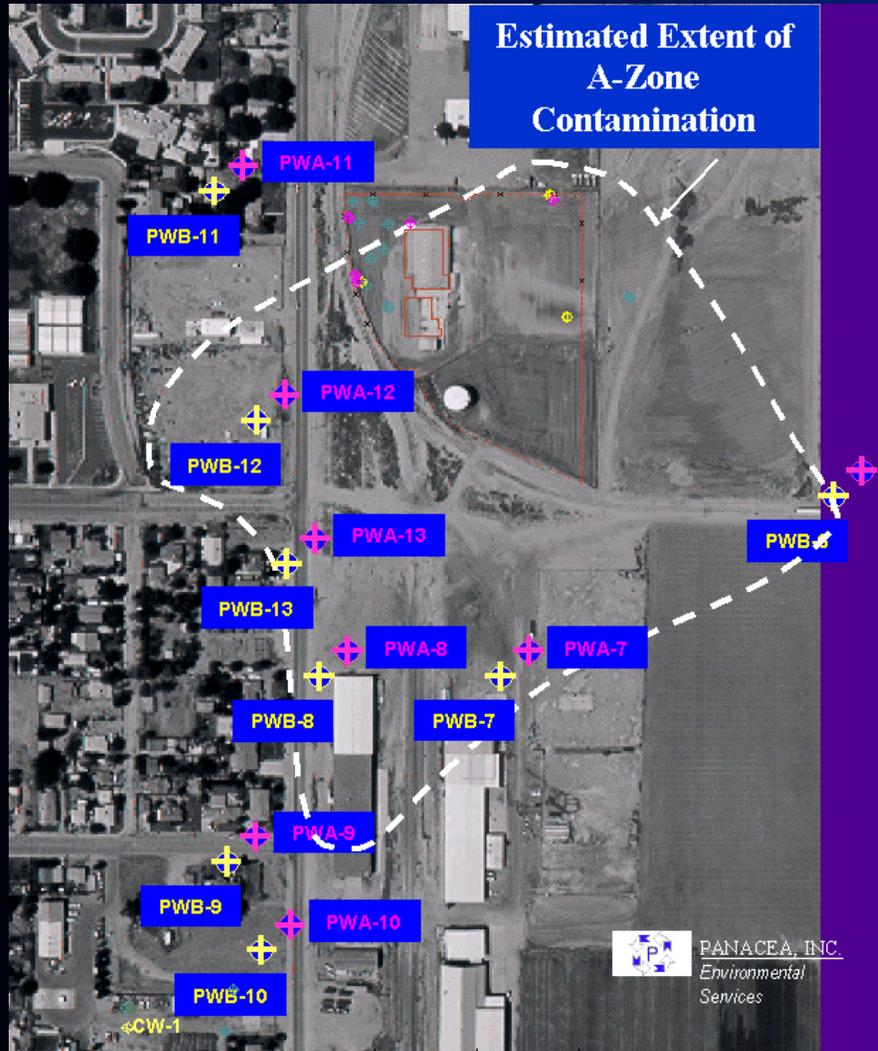


# Technology Issues

- Project Management Tools
- Project Planning
- Data Review
- Data Storage



# Case Study



- Brown & Bryant SF Site, Arvin CA
- RI/FS, Quarterly Monitoring
- Former Agricultural Chemical Reformulator

# Project Management Tools

## LDC Project Management System

The screenshot shows a web browser window displaying the LDC Project Management System (LPMS) interface. The browser's address bar shows the URL <http://lab-data.com/lpms/>. The page header includes the LPMS logo and version information (v 1.05). The user is logged in as 'abqadmin' and can click 'Logout'. The main content area is divided into several sections:

- US Army Corps of Engineers®** logo and 'Albuquerque District' text.
- Navigation Menu:** project documents, Support & Planning, QAPPs.
- Projects Online:** A tree view showing project folders such as Benzene Factory Accident ABQ, Project Overviews, Project Documents, Support and Planning (with sub-folders like Field Sampling Plans, Health & Safety Plans, QAPPs, Reports, and Other Documents), Project Schedules, Project Contacts, Project Images, Project Meetings, Project References, Alberts Used Battery Dumpsite, and Mercuria Mine.
- Administrator tasks:** A list of tasks including [Add a QAPP](#) and [Delete a QAPP](#).
- Existing QAPPs:** A table listing files in the QAPPs folder.

1 file found		Size
<a href="#">epa_qapp_guidance_g5.pdf</a>		411 Kb

The list above shows all the files in your QAPPs folder. You can view or download a file by clicking on the file name.

# Project Planning

- Automated Data Review Version 4.0
- Project Specific Library File

**Search**

Library Name:  Matrix:  Method:

A blank selection functions as a wild card during search

Currently displayed library method/matrix record

Lab QC data review criteria excluding surrogates

Library: BB04  
Method: 8260B and Matrix: AQ

Analyte	CAS No.	Reporting Limits			Laboratory Control Sample and Laboratory Control Sample Dupli				
		Type	Value	Units	Rejection Point Criteria	Rejection Point	% Recovery Lower Limit	% Recovery Upper Limit	%RP
Tetrachloroethene	127-18-4	PQL	1	ug/l	LT	10.00			
sec-Butylbenzene	135-98-8	PQL	1	ug/l	LT	10.00			
m,p-Xylene	136777-61-2	PQL	1	ug/l	LT	10.00			
1,3-Dichloropropane	142-28-9	RDL	1	ug/l	LT	10.00	65.00	135.00	
cis-1,2-Dichloroethene	156-59-2	PQL	1	ug/l	LT	10.00			
trans-1,2-Dichloroethene	156-60-5	PQL	1	ug/l	LT	10.00			
Methyl tert-butyl ether	1634-04-4	PQL	1	ug/l	LT	10.00			
1,3-Dichlorobenzene	541-73-1	PQL	1	ug/l	LT	10.00			
Carbon tetrachloride	56-23-5	PQL	1	ug/l	LT	10.00			
1,1-Dichloropropene	563-58-6	PQL	1	ug/l	LT	10.00			
2-Hexanone	591-78-6	PQL	10	ug/l	LT	10.00			
2,2-Dichloropropane	594-20-7	PQL	1	ug/l	LT	10.00			
1,1,1,2-Tetrachloroethane	630-20-6	PQL	1	ug/l	LT	10.00			
Acetone	67-64-1	PQL	10	ug/l	LT	10.00			
Chloroform	67-66-3	RDL	1	ug/l	LT	10.00	65.00	135.00	
Benzene	71-43-2	PQL	1	ug/l	LT	10.00			
1,1,1-Trichloroethane	71-55-6	PQL	1	ug/l	LT	10.00			
Bromomethane	74-83-9	PQL	1	ug/l	LT	10.00			
Chloromethane	74-87-3	PQL	1	ug/l	LT	10.00			
Dibromomethane	74-95-3	PQL	1	ug/l	LT	10.00			

**Available library records based on search parameters**

Library Name: **B&B04** Matrix: **AQ**

Method: **8260B**

Volatile Organic Compounds by GC/MS

**Navigate through available library records using record buttons below**

Calibration Criteria	Surrogate Criteria	Lab QC Criteria	Holding Time Criteria
Update MS records with LCS values	Add Method to a Library	Add New Analyte to Standard Values	Print Library
Update LCS records with MS values	Delete Method from a Library		Main Menu

# Data Review

- Automated Data Review Version 4.0
- Documented Usability Assessment

Change automated data review qualifiers

Enter changes to data review qualifiers. Changes must be documented before updating to EDD

Current	Change To	Current	Change To	Current	Change To
<b>Temperature</b>		<b>Field QC</b>		<b>Initial Calibration</b>	
<input type="text"/>	<input type="text"/>	Trip Blank	<input type="text"/>	RRF	<input type="text"/>
<b>Holding Time</b>		Field Blank	<input type="text"/>	RSD	<input type="text"/>
Sampling to Analysis	<input type="text"/>	Equipment Blank	<input type="text"/>	Correlation Coefficient	<input type="text"/>
Sampling to Extraction	<input type="text"/>	Field QC Overall	<input type="text"/>	ICAL Overall	<input type="text"/>
Extraction to Analysis	<input type="text"/>				
Holding Time Overall	<input type="text"/>				
<b>Method Blank</b>		<b>Sample selected for editing data review qualifiers</b>		<b>Initial Calibration Verification</b>	
<input type="text"/>	<input type="text"/>	Field Sample ID: 05-14-02-AMW-1P		RRF	<input type="text"/>
<b>Surrogate</b>		Lab Sample ID: P205286-30		% Difference	<input type="text"/>
J+	<input type="text"/>	Matrix:		ICV Overall	<input type="text"/>
<b>Laboratory Control Sample</b>		Method: 504.1			
Recovery	<input type="text"/>	Analysis Type: RES		<b>Continuing Calibration</b>	
RPD	<input type="text"/>	Analyte: 1,2-Dibromo-3-chloropropane		RRF	<input type="text"/>
LCS Overall	<input type="text"/>	Result: 62 ug/l		%Difference	<input type="text"/>
<b>Matrix Spike/Spike Duplicate</b>		Lab Qualifier:		Continuing Cal Overall	<input type="text"/>
Recovery	<input type="text"/>				
RPD	<input type="text"/>			<b>GC/MS Tune</b>	
MS/MSD Overall	<input type="text"/>			ICAL Tune	<input type="text"/>
<b>Lab Duplicate</b>				CCAL Tune	<input type="text"/>
<input type="text"/>	<input type="text"/>			Tune Overall	<input type="text"/>
<b>Reporting Limit</b>					
<input type="text"/>	<input type="text"/>				

96-12-8

**Overall Qualifier**  J+  J+

Overall qualifier is automatically adjusted when you make changes to QC or calibration qualifiers

Document changes before updating to EDD ▶ Document changes... Cancel

# Data Storage

- Environmental Data Management System
- Reviewed Environmental Data

Client Sample ID	Sample Date	Lab Method ID	Client Analyte	Analyte Name	Result	Report Limit	Result Units	Lab Qualifiers	DV-Overall	DVQualCoc
02-05-02/AMW-4R	02/05/2002 11:10	8151A	88-85-7	Dinoseb	0.50	0.50	ug/l	U	UJ	K
02-05-02/EPAS-4	02/05/2002 11:16	8151A	88-85-7	Dinoseb	0.50	0.50	ug/l	U	UJ	K
02-05-02/WA-5	02/05/2002 11:52	8151A	88-85-7	Dinoseb	0.50	0.50	ug/l	U	UJ	K
02-05-02/WA-4	02/05/2002 12:20	8151A	88-85-7	Dinoseb	0.50	0.50	ug/l	U	UJ	K
02-05-02/WA-3	02/05/2002 13:15	8151A	88-85-7	Dinoseb	19	5.0	ug/l		J	G-,K
02-05-02/WB2-1	02/05/2002 13:37	8151A	88-85-7	Dinoseb	32	5.0	ug/l		J	K
02-05-02/AMW-2P	02/05/2002 13:40	8151A	88-85-7	Dinoseb	520	250	ug/l		J	K
02-05-02/AMW-1P	02/05/2002 14:15	8151A	88-85-7	Dinoseb	4300	500	ug/l		J	K
02-05-02/WB2-4	02/05/2002 14:58	8151A	88-85-7	Dinoseb	0.50	0.50	ug/l	U	UJ	K
02-05-02/WA-6	02/05/2002 15:00	8151A	88-85-7	Dinoseb	77	25	ug/l		J	K
02-05-02/CW-1	02/05/2002 15:50	8151A	88-85-7	Dinoseb	0.50	0.50	ug/l	U	UJ	K
02-06-02-AP-4	02/06/2002 8:07	8151A	88-85-7	Dinoseb	35	25	ug/l		U	O
02-06-02-AMW-3R	02/06/2002 8:25	8151A	88-85-7	Dinoseb	0.50	0.50	ug/l	U		
02-06-02-WA-8	02/06/2002 8:30	8151A	88-85-7	Dinoseb	11	2.0	ug/l		U	O
02-06-02-AP-1	02/06/2002 9:00	8151A	88-85-7	Dinoseb	4.5	0.50	ug/l		UJ	O,D-
02-06-02-PWB-1	02/06/2002 9:15	8151A	88-85-7	Dinoseb	0.50	0.50	ug/l	U	UJ	K
02-06-02-PWA-3	02/06/2002 10:05	8151A	88-85-7	Dinoseb	13	2.5	ug/l		UJ	O,K
02-06-02-WA-2	02/06/2002 10:50	8151A	88-85-7	Dinoseb	0.50	0.50	ug/l	U	UJ	K
02-06-02-EPAS-3	02/06/2002 11:35	8151A	88-85-7	Dinoseb	1800	500	ug/l			
02-06-02-EPAS-3C	02/06/2002 11:35	8151A	88-85-7	Dinoseb	1500	500	ug/l			
02-06-02-PWB-3	02/06/2002 11:45	8151A	88-85-7	Dinoseb	0.50	0.50	ug/l	U	UJ	K
02-06-02-EPAS-2	02/06/2002 12:10	8151A	88-85-7	Dinoseb	240	100	ug/l			
02-06-02-EPAS-2C	02/06/2002 12:10	8151A	88-85-7	Dinoseb	220	100	ug/l			
02-06-02-PWA-2	02/06/2002 13:00	8151A	88-85-7	Dinoseb	1200	250	ug/l		J	K
02-06-02-PWA-2D	02/06/2002 13:00	8151A	88-85-7	Dinoseb	1800	500	ug/l			
02-06-02-PWA-4	02/06/2002 14:25	8151A	88-85-7	Dinoseb	73	25	ug/l		UJ	O,K
02-06-02-PWB-4	02/06/2002 15:15	8151A	88-85-7	Dinoseb	15	2.5	ug/l		UJ	O,K
02-06-02-TB	02/06/2002 16:00	8151A	88-85-7	Dinoseb	29	5.0	ug/l			
02-06-02-WA-9	02/06/2002 16:10	8151A	88-85-7	Dinoseb	0.50	0.50	ug/l	U		

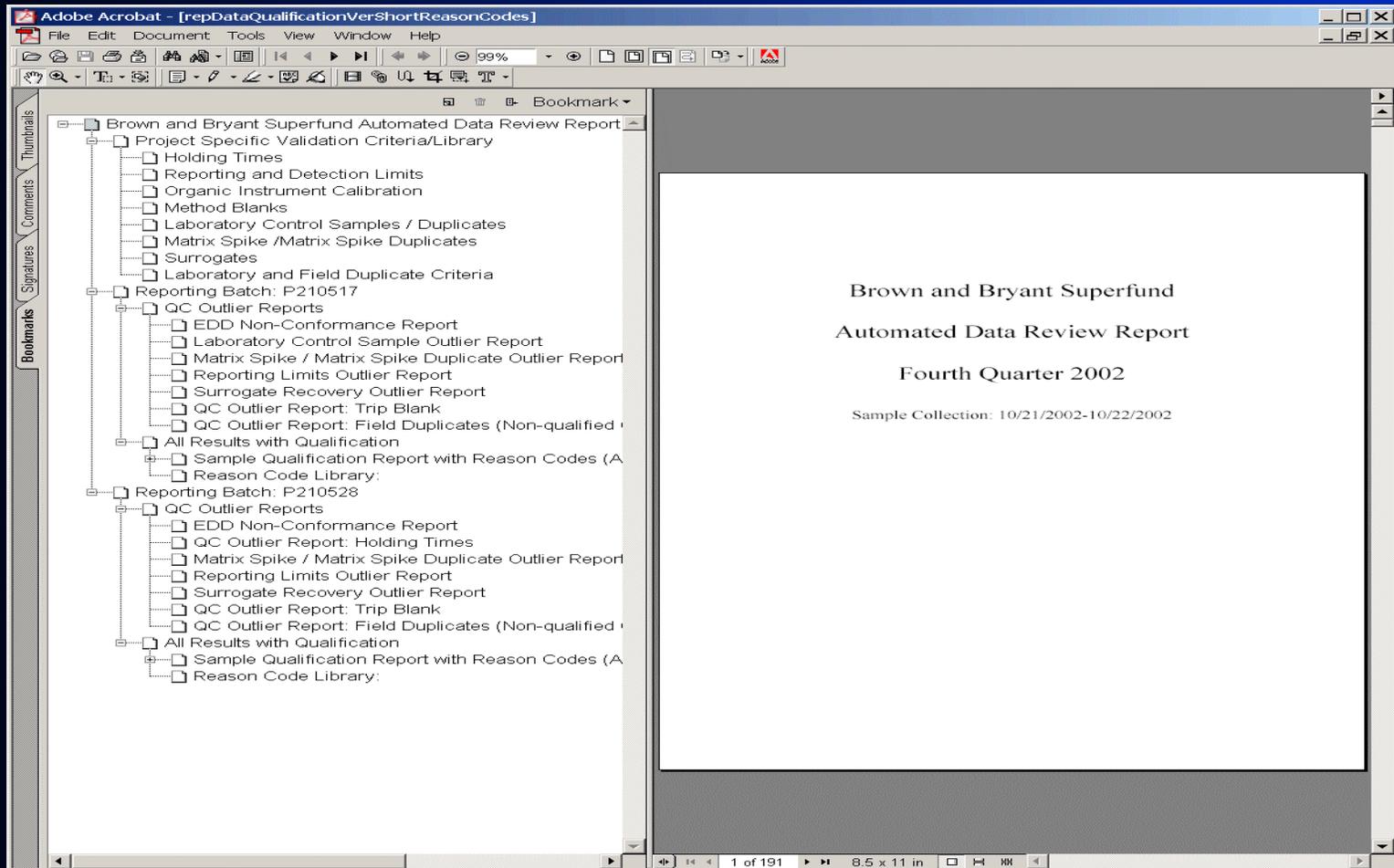
# Data Storage

- Environmental Data Management System
- Limits Comparisons

Client Sample ID	Sample Date	Lab ID	Sample Matrix	Lab Method ID	Analyte Name	Result	Lab Qualifiers	Result Units	MCL Primary	Tap Water
10-21-02-AMW-1P	10/21/2002 16:10	SAL-PET	AQ	8151A	Dinoseb	1400		ug/l	7	36.5
10-21-02-AMW-2P	10/21/2002 14:10	SAL-PET	AQ	8151A	Dinoseb	200		ug/l	7	36.5
10-21-02-AP-4	10/21/2002 14:25	SAL-PET	AQ	8151A	Dinoseb	15		ug/l	7	
10-21-02-EPAS-2	10/21/2002 13:10	SAL-PET	AQ	8151A	Dinoseb	170		ug/l	7	36.5
10-21-02-EPAS-2K	10/21/2002 13:10	SAL-PET	AQ	8151A	Dinoseb	200		ug/l	7	36.5
10-21-02-EPAS-3	10/21/2002 15:15	SAL-PET	AQ	8151A	Dinoseb	1400		ug/l	7	36.5
10-21-02-EPAS-3K	10/21/2002 15:15	SAL-PET	AQ	8151A	Dinoseb	3000		ug/l	7	36.5
10-21-02-PWA-2	10/21/2002 15:10	SAL-PET	AQ	8151A	Dinoseb	14		ug/l	7	
10-21-02-WA-6	10/21/2002 12:10	SAL-PET	AQ	8151A	Dinoseb	15	P	ug/l	7	
10-22-02-CW-1	10/22/2002 7:45	SAL-PET	AQ	8151A	Dinoseb	2100		ug/l	7	36.5
10-22-02-PWB-4	10/22/2002 13:30	SAL-PET	AQ	8151A	Dinoseb	7.6		ug/l	7	
10-22-02-WB2-1	10/22/2002 14:50	SAL-PET	AQ	8151A	Dinoseb	25		ug/l	7	
10-22-02-WB2-1K	10/22/2002 14:50	SAL-PET	AQ	8151A	Dinoseb	16		ug/l	7	

# Data Archive

- PDF/DjVu Document Archiving Platforms
- Time or Batch Specific



# Relevant Issues

- Computer Literacy
- Security/Flexibility
- IT Expertise
- Supervision



# Future Projections

- Web Based Storage
- New Communication Tools



# Contact Information

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