

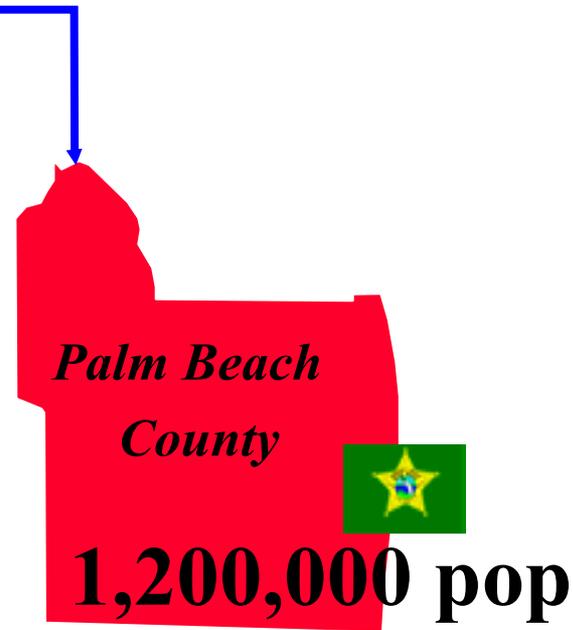
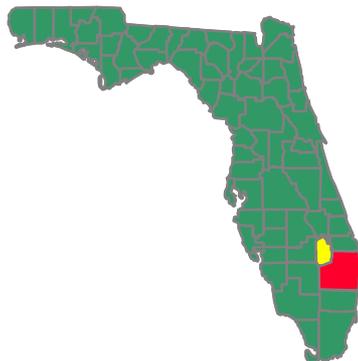
Re-engineering the PBSO Serology/DNA Section Through Process Mapping

September 28, 2005

Karin A. Crenshaw

Palm Beach County Sheriff's Office





- ✓ **Largest county in Florida**
- ✓ **34 local police agencies**
- ✓ **Palm Beach County SO**
- ✓ **Medical Examiners Office**
- ✓ **Local FBI, DEA, ATF, FHP**
- ✓ **Universities and area schools**

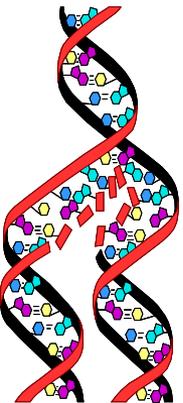
2003: 742 Cases submitted

2004: 1735 Cases submitted

PBSO Serology/DNA Section:

- 1 Supervisor- 35% Casework
- 1 CODIS Administrator/ Sr. Forensic Scientist 80%
- 1 Technical Leader/Sr. Forensic Scientist 40%
- 2 Sr. Forensic Scientist 80%
- 2 Forensic Scientists 80%
- 1 Laboratory Analyst
- 1 Technician

•*Lab designed in 1987 for ABO*
•*2,600sqft*



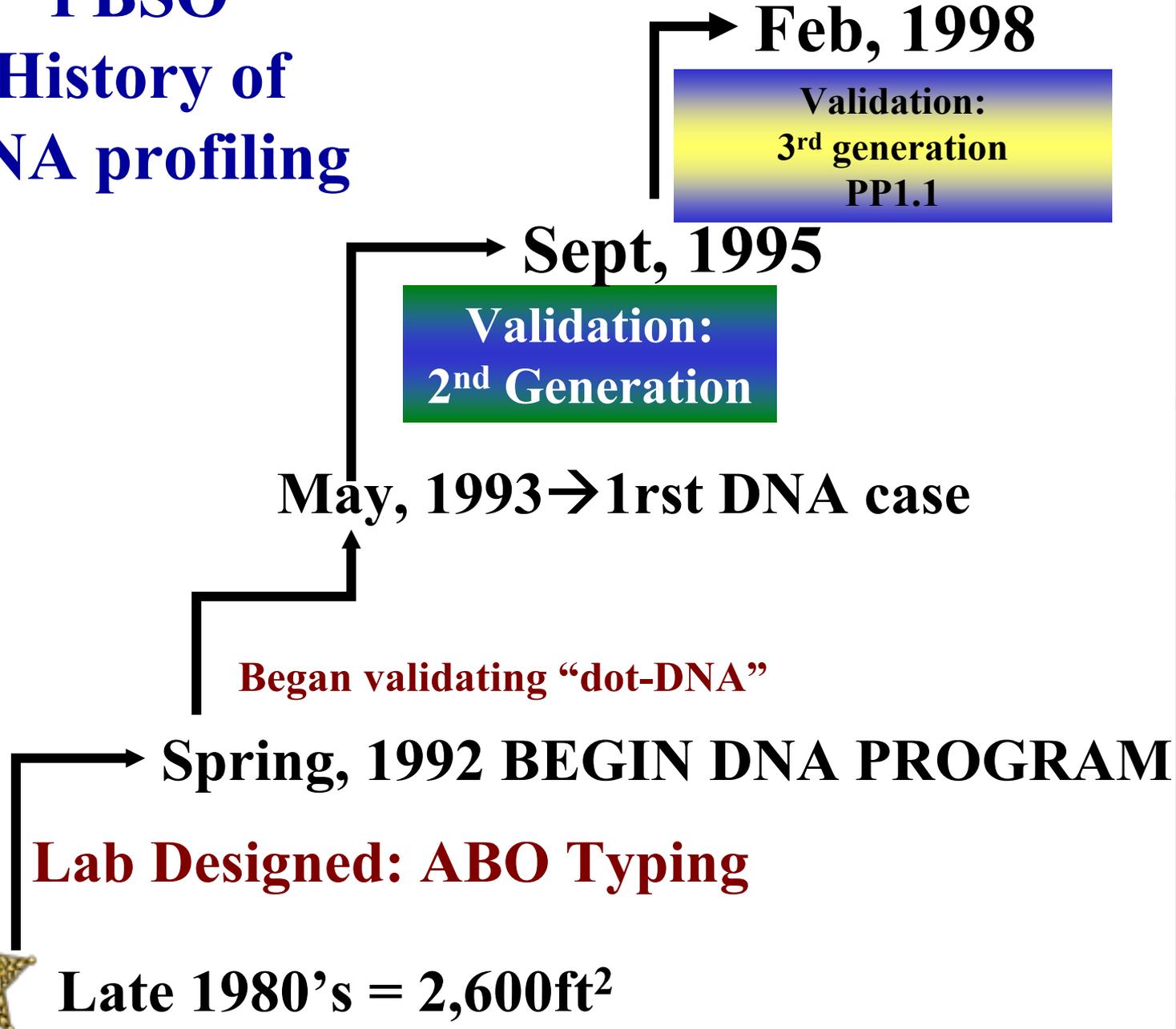
WE NEED SPACE... WE NEED SPACE... WE NEED SPACE..
WE NEED SPACE... WE NEED SPACE... WE NEED SPACE..
WE NEED SPACE... WE NEED SPACE... WE NEED SPACE..
WE NEED SPACE... WE NEED SPACE... WE NEED SPACE..
WE NEED SPACE... WE NEED SPACE... WE NEED SPACE..



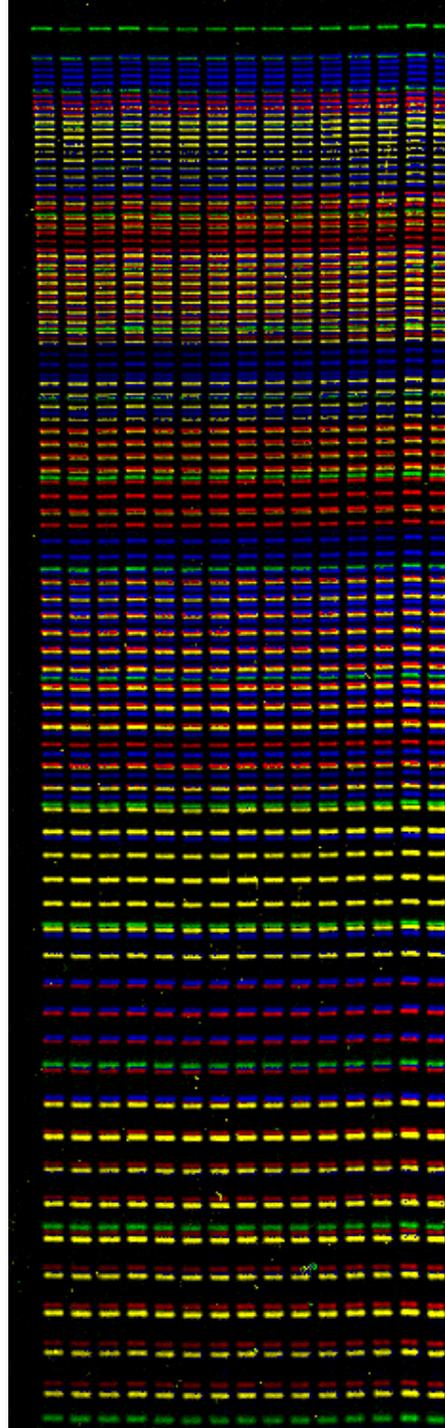
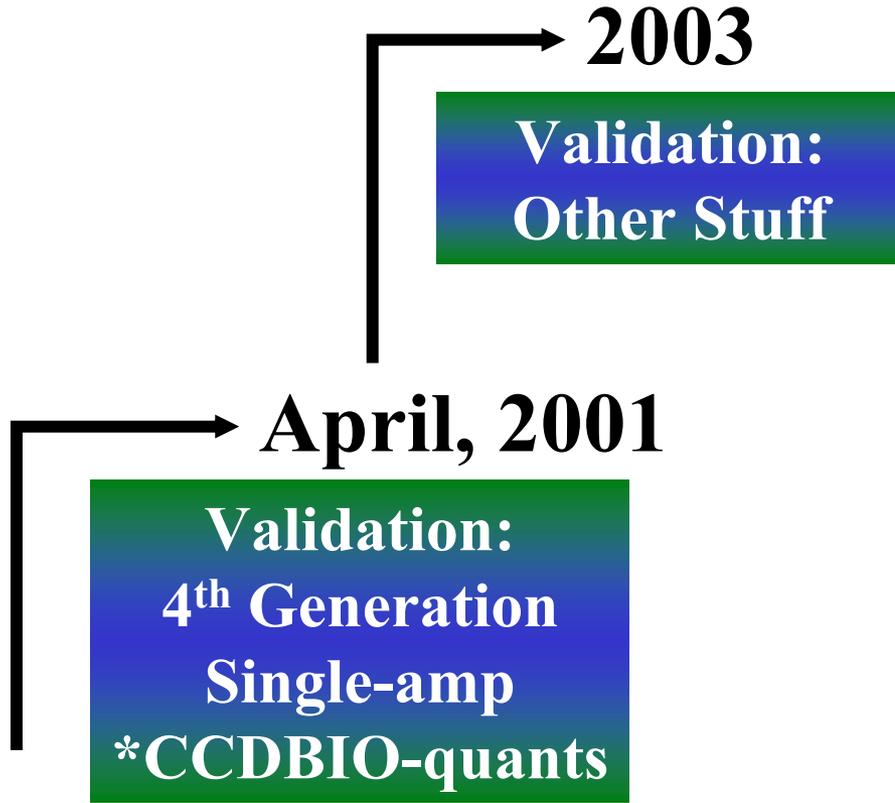
Why pay for someone to come into the laboratory,
Spend over a week asking you minutia about your job,
And summarizing what you think you already know???

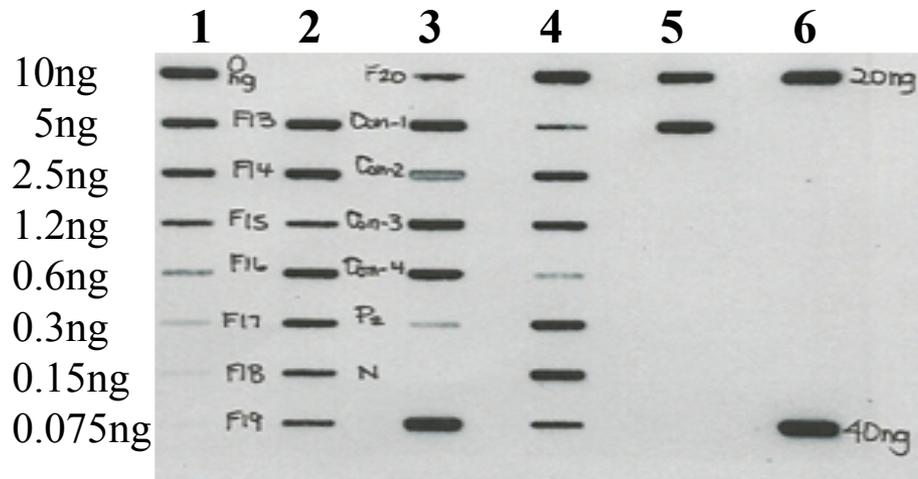
Because data speaks louder than words...

PBSO History of DNA profiling

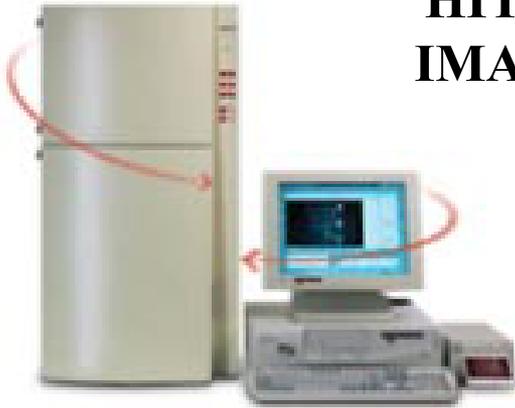


PBSO History of DNA profiling





**HITACHI CCDBIO
IMAGING SYSTEM
April, 2001**



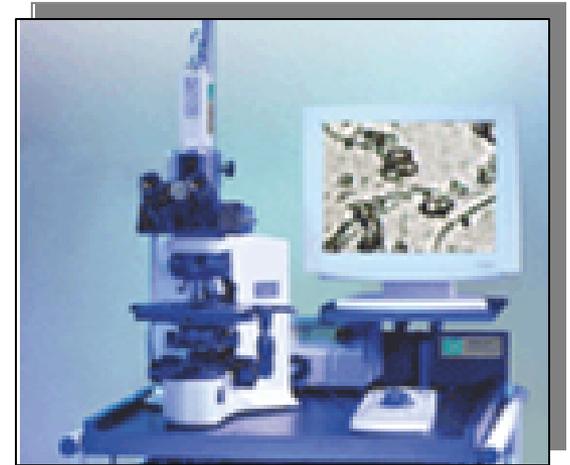
**ABI PRISM® 7000 Sequence
Detection System
February 14, 2005**



February, 2003
Beginning a paperless system

**Sperm Cell Documentation
Imaging System**

From Mideo Systems

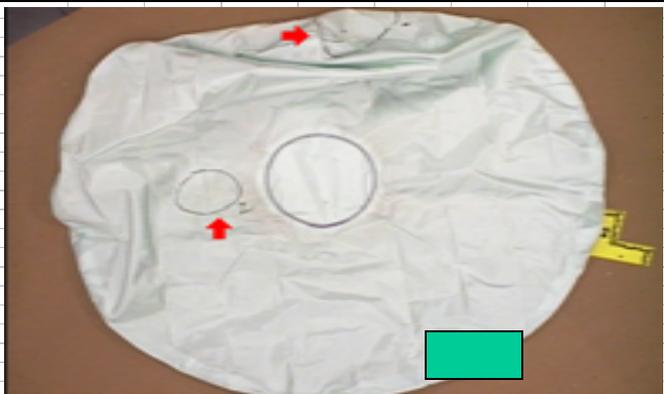




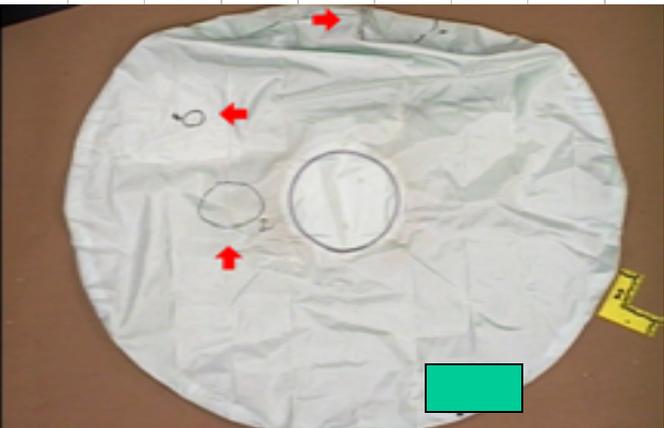
2003 MIDEO CAPTURE SYSTEM

Medusa

Ursula



Submission #3 LF Airbag Image B- See LIMS for Archived Electronic Picture



Submission #3 LF Airbag Image C- See LIMS for Archived Electronic Picture

OneStep ABACard Hema Trace (Hb) Test

SAVE-AS FILE NAME: 11-11-04HB-A-CAC	Case#:	04-13010 04-13007 04-12900 04-12864	Analyst: CAC
Time:	START: 11:35	04-12853 04-12850 04-12848 04-12847	Kit Lot #: 33231230
	END: 11:45		Exp Date: July 2005

Plate #	Case # Exhibit #	Results	
+	Positive Control	+	
Neg	Negative Control	Neg	
1	04-13010 1A	+	
2		1B	+
3		1C	+
4		1D	+
5	04-13007 1A	+	
6		1B	+
7	04-12900 1A	+	
8		1B	+
9		1C	+
10		1D	+
11	04-12864 1	+	
12		2	+
13		3	+
14	04-12853 1B	+	
15	04-12850 1A	+	
16		1B	+
17		1C	+
18	04-12848 1A	+	
19		1B	+
20		1C	+
21		1D	+
22		1E	+
23	04-12847 1A	+	
24		1B	+
25		1C	+
26			
27			
28			
29			
30			



JUNE, 2003: BIOMEK2000 VALIDATION COMPLETED



"Edward Pipette Hands"

Nearly 3000 casework samples have been extracted



October, 2003

**“THE
LETTER”**

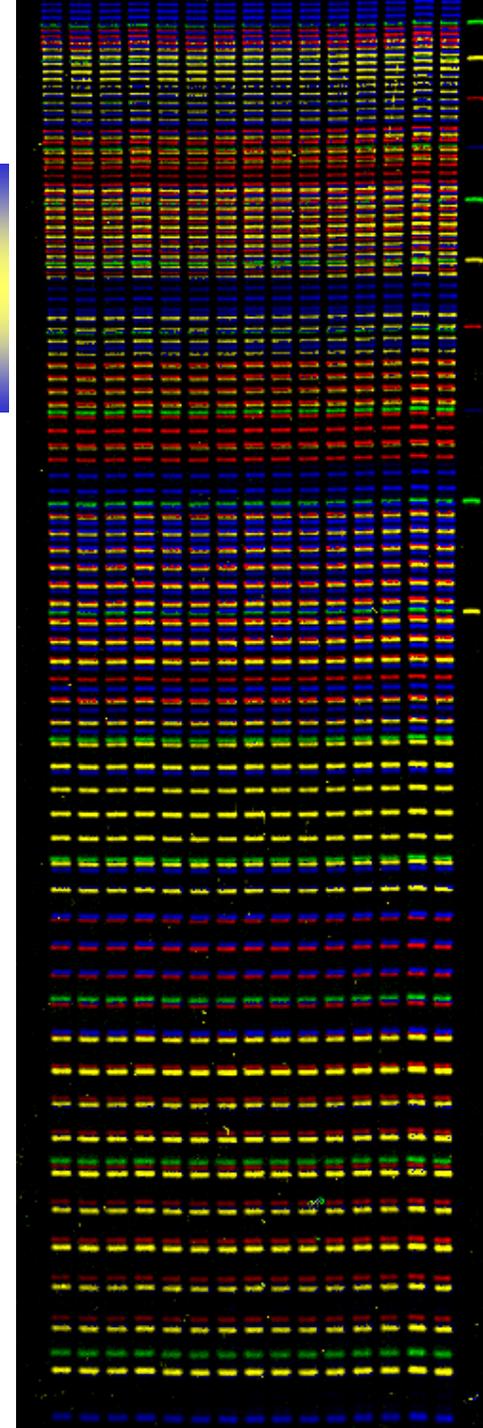
ALL IN 2,600SQFT...NEED MORE SPACE!!!!

2003

**Validation:
Other Stuff**

April, 2001

**Validation:
4th Generation
Single-amp
*CCDBIO-quants**



October 15, 2003

MiraiBio-Hitachi

Service Agreement Letters Sent: FMBIO II / II e: 3 years from October 1, 2003

RE: Service Agreement for FMBIO II/IIe and FMBIO III/III Plus

Dear «Title» «LastName»:

This letter is to confirm the information provided to FMBIO Laser Fluorescence Scanner users at the Fourteenth International Symposium on Human Identification (Promega Meeting) in Phoenix, Arizona on September 29, 2003.

MiraiBio, Inc. and it's parent company Hitachi Software Engineering Co., Ltd. guarantee that service agreements and technical support will be available to all FMBIO II/IIe and III/III plus users. Service agreements will be provide for up to five years from October 1, 2003 depending on the FMBIO model.

Customers with FMBIO II/IIe shall have the opportunity to sign service agreements for up to three years. The service agreements may be on a year to year basis.

Customers with FMBIO III/III plus shall have the opportunity to sign service agreements for up to five years. The service agreements may be on a year to year basis.

For additional information about the service agreements please contact our Assistant Director of Marketing, Don Fourby at 510.337.2038.

MiraiBio would also like to take this opportunity to thank you for your loyalty and business.

Sincerely,

MiraiBio, Inc.

Masakazu Kuji
COO



What does this mean for PBSO???

October, 2006...Accreditation FBI Standard 10.2

"Does the laboratory have a documented program for the calibration of equipment and instrumentation?"

10.2.2: For each instrument requiring calibration, has the frequency of calibration been documented..?"

No longer will be able to comply...

Must consider an alternative platform..
regardless...

We are out of space





SERO/DNA applied for and received NIJ Funding

1996- \$96,000 2nd generation DNA Profiling

1998-\$150,000 3rd generation

2000-\$150,000 4rd generation

2002 -\$580,000 – casework*

2003- \$368,000 – casework*

\$1,344,000

FOR 8 YEARS, THE SEROLOGY/DNA BUDGET INCLUDED ADDING PERSONNEL AND SPACE...Have increased Personnel by 5...No space...



It was no longer about money...

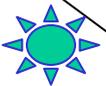
it was about space..

**If more space is not acquired soon,
there will be no PBSO DNA program
beginning October 1, 2006**

“THE LETTER” was the key to progress



July, 2003 Verbal Notification Platform will become Obsolete



Oct, 2003 "The Letter"



Feb, 2004 Request NIH Grant Process Mapping \$\$\$'s



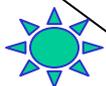
April, 2004, Request NIH Grant Renovation \$\$\$\$'s



April, 2004 Request for space at PBSO



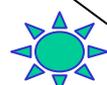
May, 2004 Meeting w/County Representatives



July, 2004 NIH Approval \$ Process mapping



August, 2004 NIH \$ Approval
Renovation \$674,414



August, 2004 Process Mapping

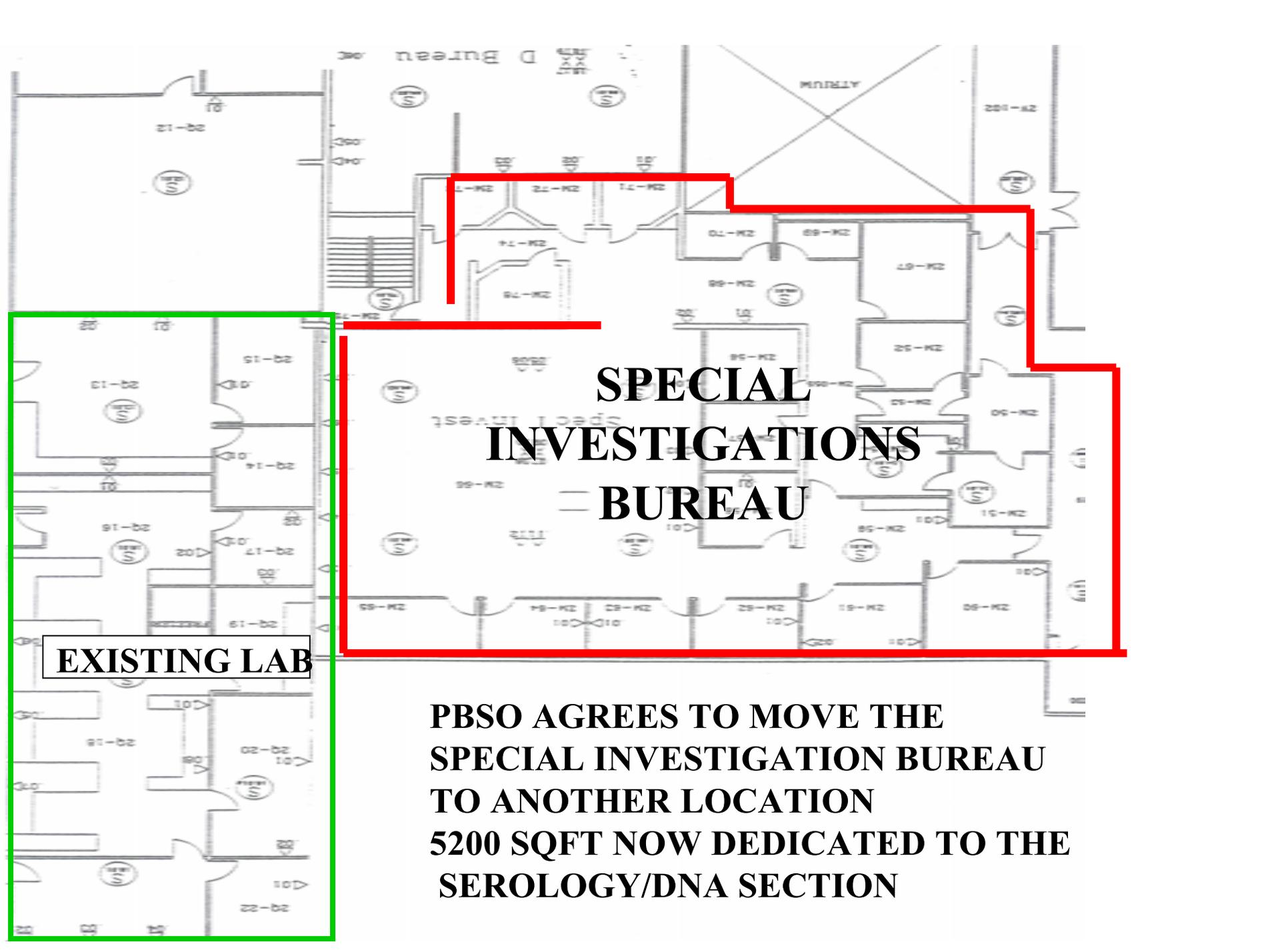


Sept 28, 2004 DRB=
DNA Review Board



GOAL = RENOVATED LAB OCT, 2005





The image shows a detailed floor plan of a building. A large, irregular area in the center and right is outlined in red. This area contains several rooms, some labeled with numbers like 2M-50, 2M-51, 2M-52, 2M-53, 2M-54, 2M-55, 2M-56, 2M-57, 2M-58, 2M-59, 2M-60, 2M-61, 2M-62, 2M-63, 2M-64, 2M-65, 2M-66, 2M-67, 2M-68, 2M-69, 2M-70, 2M-71, 2M-72, 2M-73, 2M-74, 2M-75, 2M-76, 2M-77, 2M-78, 2M-79, 2M-80, 2M-81, 2M-82, 2M-83, 2M-84, 2M-85, 2M-86, 2M-87, 2M-88, 2M-89, 2M-90, 2M-91, 2M-92, 2M-93, 2M-94, 2M-95, 2M-96, 2M-97, 2M-98, 2M-99, 2M-100. A smaller area on the left is outlined in green. The text 'SPECIAL INVESTIGATIONS BUREAU' is overlaid in the center of the red-outlined area. The text 'EXISTING LAB' is overlaid in the green-outlined area. The text 'PBSO AGREES TO MOVE THE SPECIAL INVESTIGATION BUREAU TO ANOTHER LOCATION 5200 SQFT NOW DEDICATED TO THE SEROLOGY/DNA SECTION' is overlaid at the bottom right.

**SPECIAL
INVESTIGATIONS
BUREAU**

EXISTING LAB

**PBSO AGREES TO MOVE THE
SPECIAL INVESTIGATION BUREAU
TO ANOTHER LOCATION
5200 SQFT NOW DEDICATED TO THE
SEROLOGY/DNA SECTION**



HOW ARE WE GOING TO DESIGN A LAB AND GET READY FOR OUR FUTURE IN LESS THAN 6 MONTHS???

2004 AAFS mtg: Several presentations on Process Mapping

Process Mapping –

Illustrated description of how things get done, which enables participants to visualize an entire process and identify areas of strength and weaknesses.

It helps reduce cycle time and defects while recognizing the value of individual contributions.



Quality Forensics and the Baintree Group... joint renewal process product called the Forensic Laboratory Renewal Program (FLRP)

Quality Forensics is a member of the Fitz Group and is headquartered in Minnesota. The company provides process renewal and proficiency testing services to support quality assurance programs of the forensic community.

The Baintree Group is a British Columbia based company focused on the improvement of project management practices of forensic laboratories throughout the world. The company provides project management series, process renewal services and executive coaching services.



FUNCTION:

These companies developed a forensic specific process renewal program to assist laboratories in meeting the challenges ahead.

FLRP is a four phase process program including,

- 1) a current status process review workshop,
- 2) future state process design,
- 3) implementation planning, and
- 4) implementation management.

RESULT: The improvements optimize laboratory resource management and effectively reduce laboratory costs.



What did PBSO want to accomplish?

1. Design our future:

- * Prepare for more analysts (9->12 over the next 5 yrs)*
- * Identify a DNA program based on future technology*

2. Design a rough floor plan for the newly acquired space.

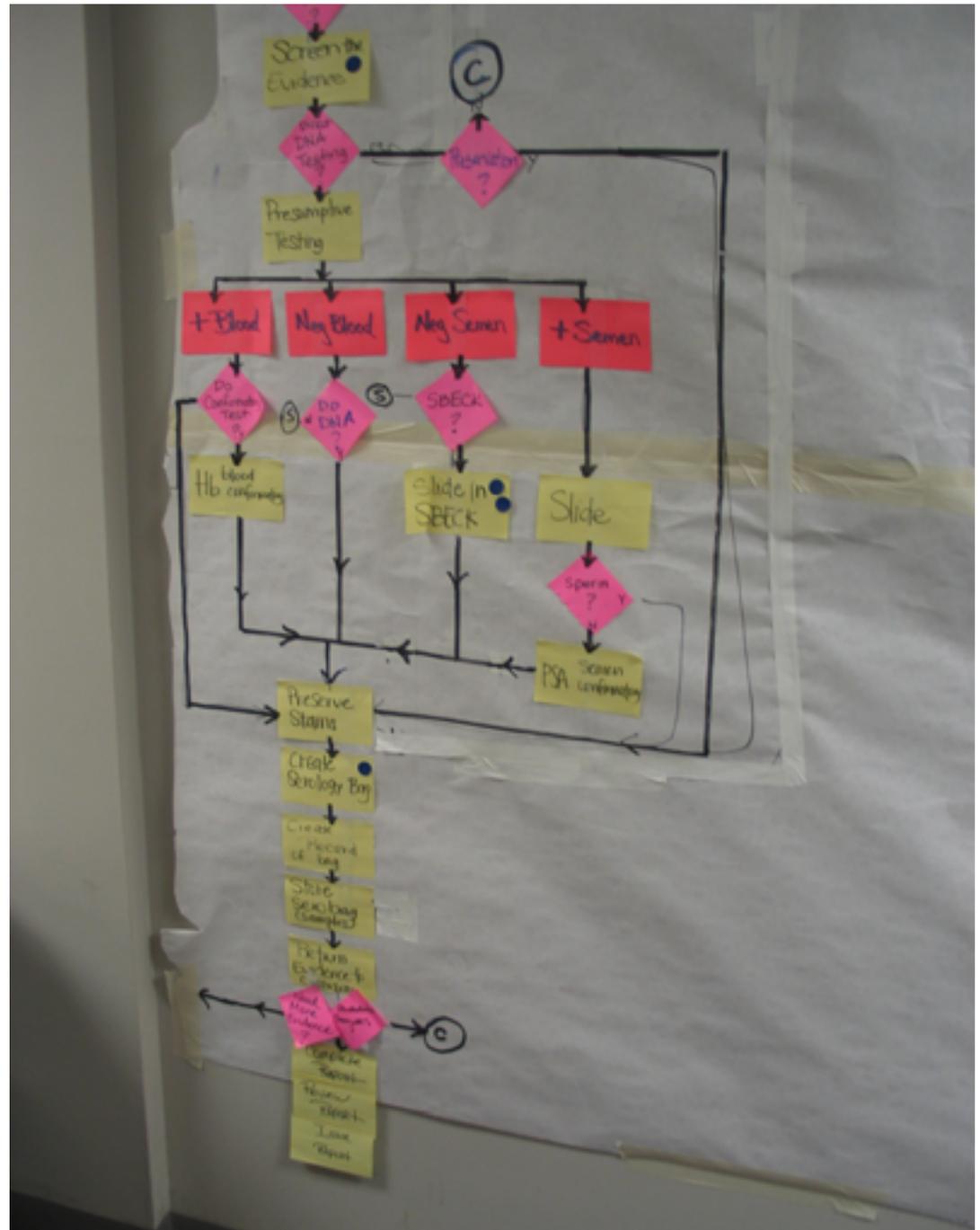
3. Become more efficient by identifying areas of wasted time



THE PROCESS



Documenting Procedures



Risk Assessment

Instrumentation



	Hitachi	ABI	GE –CE	Microchip
Does it permit Interoperability/Integration with current information technologies?	No	Yes	Yes?	Yes
Will it permit an increase in sample throughput?	20%	No	Unknown	1000%
Will there be a decrease in the cost of supplies?	No	Increase	Unknown	Yes
Will there be a decrease in the time it takes to prepare a sample?	No	Yes	Yes	Unknown
Will the court system accept the scientific findings?	Yes	Yes	Yes	Unknown
Is it acceptable to the general scientific community.	Yes	Yes	Yes	Yes
Will it work in PBSO Serology/DNA?	Yes	Yes	Yes	Unknown
Is the company suitability to a forensic environment and will it support the technology?	Yes	No	Unknown	Unknown
Does the equipment provide for standard data outputs?	No	Yes	Yes	Unknown
Is the company able to provide assurances of business continuity?	No	No	No	No
Does it meet the forensic community standards for operation and QA?	Yes	Yes	Yes	Yes
Is the equipment reasonably easy to trouble shoot?	Yes	Somewhat	Unknown	Unknown
 Does the equipment have a reputation for low maintenance requirements?	Yes	No	No	Unknown

Project Risk Assessment

	Risk	Probability	Impact	<i>Mitigation Strategy</i>
Technical/ Scientific	Evidence Reception Stays with Science (1 year additional labor)	50%	Can't increase case load objective of 25% per year and the project will be delayed by ¾ of a year	<i>Management communications</i>
Financial	Funding (grant)	15%	Less capacity increase in turnaround time	<i>Alternate funding</i>
People				
Market	Project Priority	30%	Time Delay	<i>Management communication</i>
	Lack of Staff Capacity	10%	Loose staff, capacity. quality	<i>motivate</i>

CRITICAL SUCCESS FACTORS

- ER responsibility shifts out of science

- ☀️ Construction funding received by August 31st
- ☀️ SIU Relocated by November 1st
- ☀️ Blueprint completed by December 1st
- ☀️ Political leverage to receive funding PBS Internal and county
- ☀️ Detailed planning and execution of the advisory board and project plan
- ☀️ Delegate appropriately
- ☀️ Form key partnerships with experienced internal stakeholders
- ☀️ Dedication of serology department

CRITICAL FAILURE FACTORS

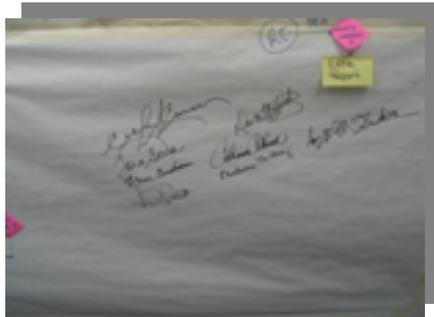
- No change in evidence reception process

- ☀️ No construction before new sheriff
- ☀️ No additional non grant or grant funding
- ☀️ No partnerships
- ☀️ SIU does not relocate
- ☀️ Non effective DNA Renewal Board or no committee created
- ☀️ Lack of action on the project plan
- ☀️ Inappropriate delegation of responsibility
- ☀️ Lack of county commissioner buy-in



R
E
S
U
L
T

#1



**Group Report
Forensic Laboratory Renewal Process
of the PBSO Serology/DNA Section**

Prepared for;

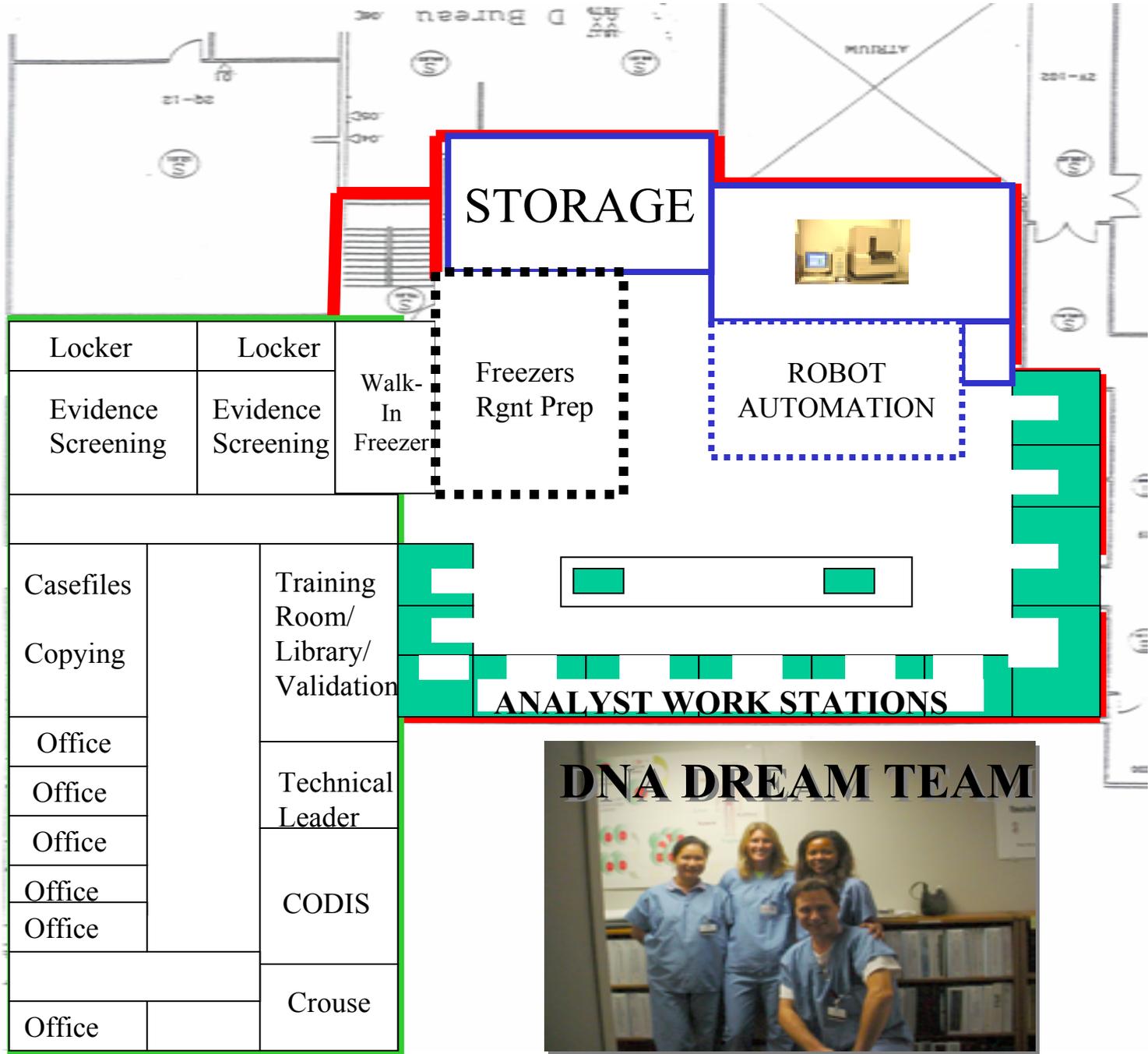
Cecelia Crouse, PhD
Supervisor
Serology/DNA Section
Technical Services Bureau
Palm Beach Sheriff's Department

Submitted August 20th 2004



RESULTS

#2



Looking towards the future

**R
E
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- 60 Months – Select, Install, Deploy,
Integrate and process 15000 samples

- 2003 – 3000 samples processed
2004 - 5000 samples will need processing
30% increase in sample loads

Biggest Inefficiency: approving evidence for submission...
Effort is being duplicated

- Time wasters
- Look for files
- Clerical/admin work

#3

Scientist clerical effort equating 100 cases per year OR 16
days/mo spent documenting evidence acceptance...

NEW EVIDENCE COORDINATOR



DNA RENEWAL BOARD

**R
E
S
U
L
T**

Crime Laboratory	Cecelia A. Crouse
	Ben Perillo
	Barbara Caraballo, Budget
Administration	Jerry Nolan
Information Systems	Morris Bell (or designee)
Telecommunications	Bill Stewart
Facilities Management	Bill Steinebach (or designee)
Law Enforcement	Cpt. James Stormes (or designee)

#4

Coordinate our efforts to meet this deadline



Summary:

1. One of the best investments of time and money ever made!
2. Within 6 months we:
 1. Re-engineered our entire laboratory
 2. Prepared for expansion in the near future
 3. Opened communication with management ("The Letter" helped)



In April, 2005, we were notified that MiraiBio - Hitachi will honor maintenance agreements indefinitely...

March 29, 2005

Dr. Cecelia Crouse
PBSO
3228 Gun Club Road
West Palm Beach, FL 33406

Dear Dr. Crouse:

On April 1 of this year, MiraiBio, Inc. will merge with Hitachi Software America Ltd. (HISAL), our sister subsidiary in the Hitachi Software Engineering Co., Ltd. family and neighbor in South San Francisco, CA. The purpose of this letter is to inform you of this corporate realignment.

There will be no change in the MiraiBio corporate identity or management. We will remain in our current location and continue to provide the same quality products and services to researchers in the life science industry. There will, however, be administrative changes including revised information on invoices, payment checks, and other documents that will in no way affect our corporate partnerships, policies, or manner of conducting business.

During this transition, we will work hard to ensure that all changes are clearly communicated and handled with care. Your satisfaction and peace of mind will always be our primary concern.

I would like to take this opportunity to thank you for being one of our valued customers, and hope that you will let us continue to serve your business. If you have any questions or concerns, please do not hesitate to call or email me at 510.337.2002 or mkuji@miraibio.com.

Sincerely,

MiraiBio, Inc.


Masakazu Kuji
President and CEO



Mel
Julie
Karin
Cec
Tara
Cathy
Misti
Dawn
Amy



Have a 1 in 357 Septillion Holiday

The Serology/DNA Section



Acknowledgements:

- The Baintree Group
- Quality Forensics
- NIJ DNA No Suspect Backlog Reduction Grant (2003-DN-BX-K109)
- Dave Coffman

