Preliminary Assessment
of an
Identified Illegal Drug Laboratory
at:

6926 W 87th Way, #246
Arvada, CO

Prepared for:
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EXECUTIVE SUMMARY

On Friday, April 27, 2012, Forensic Applications Consulting Technologies, Inc. (FACTs) was contracted to perform a standard cursory evaluation for the presence of methamphetamine at the residence located at 6926 W 87th Way, #246, Arvada, CO (the subject property).

Samples collected during the cursory evaluation confirmed the presence of overt and widespread methamphetamine contamination at the subject property.

On May 3, 2012, FACTs issued a written report of the cursory testing; the report met the definition of "discovery" and "notification," which triggered Colorado State Board of Health Regulation 6 CCR 1014-3.

FACTs was subsequently contracted by the Registered Owner (RO) of the subject property to perform a standard State-mandated Preliminary Assessment (PA). From May 7, 2012 to May 22, 2012, personnel from FACTs performed the PA pursuant to Colorado Regulation 6 CCR 1014-43, Part 4.

Samples taken during the PA conclusively demonstrated the presence of widespread methamphetamine contamination throughout the residence.

Samples taken during the PA were designed to satisfy two regulatory aspects; Preliminary Assessment testing, and Final Verification Testing, pursuant to Section 7 of the Regulations. Samples thus collected during the PA were in an attempt to permit the exclusion of areas from remediation. However, each of the challenged areas exhibited profound contamination, and whole scale remediation will be required to bring the property into compliance.

Based on the totality of the circumstances, FACTs makes the following observations:

- The property exhibits overt noncompliance with Colorado's methamphetamine cleanup standards.

- "Discovery" and "Notification" existed by virtue of the FACTs May 3, 2012 report.

- A noncompliant illegal drug lab, as that term is defined in CRS §25-18.5-101, existed at the subject property from at least May 3, 2012, forward, and continues to exist at the time of this Preliminary Assessment.

- A Class 1 Public Nuisance, as defined in CRS §16-13-303(1) existed at the subject property from at least May 3, 2012 forward, and continues to exist at the time of this report.

- Following the decontamination activities, a qualified Industrial Hygienist must perform the post-decontamination process and issue a Decision Statement before reentry or occupancy of the subject property may occur.

REGULATORY REQUIREMENTS

Federal Requirements

All work associated with this PA was performed in a manner consistent with regulations promulgated by the Federal Occupational Safety and Health Administration (OSHA).

State Requirements

Preliminary Assessment

According to Colorado State Regulation 6-CCR 1014-3, following the discovery of an illegal drug lab, as that term is defined in CRS §25-18.5-101, and following "notification," the property must either be demolished or a "Preliminary Assessment" must be conducted at that property to characterize extant contamination (if any), and to direct appropriate decontamination procedures (if any). Pursuant to these regulations, information obtained in the PA, and those findings, enter the public domain and are not subject to confidentiality.[1]

The PA must be conducted according to specified requirements[2] by an authorized Industrial Hygienist as that term is defined in CRS §24-30-1402. This document, and all associated appendices and photographs, is the PA pursuant to those regulations. Included with this discussion is a read-only digital disc. The disc contains mandatory information and photographs required by State regulation for a PA. This PA is not complete without the digital disc and all associated support documents.

Pursuant to CRS §25-18.5-105, the subject property is deemed a "public health nuisance." Pursuant to CRS §16-13-303, the subject property and all of its contents is deemed a Class 1 Public Nuisance. As such, the subject property must be remediated according to State Board of Health regulations 6-CCR-1014-3 or demolished (CRS §25-18.5-103).

County Requirements

To our knowledge, Jefferson County does not have any specific regulations over and above the State mandated requirements.

City Regulations

To our knowledge, the City of Arvada does not have any specific regulations over and above the State mandated requirements.

[1] Section 8.26 of 6 CCR 1014-3

[2] Section 4 of 6 CCR 1014-3

Preliminary Hypothesis

During the PA, the initial hypothesis is made that the subject area is clean, and data are collected to find support for this hypothesis. Any reliable data that fails to support the hypothesis, including police records, visual clues of illegal production, storage, or use, or documentation of drug paraphernalia being present, is considered conclusive, and requires the Industrial Hygienist to accept the null hypothesis and declare the area non-compliant.[3] The strength of evidence needed to reject the hypothesis is low, and is only that which would lead a reasonable person, trained in aspects of meth laboratories, to conclude the *presence* of methamphetamine, and/or its precursors or waste products as related to processing.

Contrary to common belief, sampling is **not** required during a PA; however, if sampling is performed, it is conducted in the areas with the highest probability of containing the highest possible concentrations of contaminants. According to the State regulations:[4]

> *Identification and documentation of areas of contamination. This identification may be based on visual observation, law enforcement reports, proximity to chemical storage areas, waste disposal areas, or cooking areas, or based on professional judgment of the consultant; or the consultant may determine that assessment sampling is necessary to verify the presence or absence of contamination.*

Initial Statement on Hypothesis Testing

Regarding this subject property, during the PA, FACTs initially accepted the primary regulatory null hypothesis that each functional space was noncompliant, and, then, pursuant to testing consistent with Section 7, 6 CCR 1014-3, FACTs challenged the noncompliance for each functional space.

Through that sampling, we determined that methamphetamine was present at noncompliant concentrations in each functional space, and we were therefore, unable to clear any space and exclude it from the need for remediation.

Elements of the Preliminary Assessment

Specific mandatory information must be presented as part of the PA. This discussion, in its totality, contains the mandatory information for a PA as follows:

[3] This language and emphasis is verbatim from Appendix A (mandatory) of 6 CCR 1014-3

[4] Section 4.6 of 6 CCR 1014-3

Mandatory Final Documents 6-CCR 1014-3	DOCUMENTATION	Included
§4.1	Property description field form	✓
§§4.4, 4.5	Description of manufacturing methods and chemicals	✓
§4.2	Law Enforcement documentation review discussion	✓
§4.7	Description and Drawing of Storage area(s)	✓
§4.8	Description and Drawing of Waste area(s)	✓
§4.9	Description and Drawing of Cook area(s)	✓
§§4.3, 4.6, 4.10	Field Observations field form	✓
	FACTs Functional space inventory field form	✓
§4.11	Plumbing inspection field form	✓
	FACTs ISDS field form	NA
§4.12	Contamination migration field form or description	✓
§4.13	Identification of common ventilation systems	✓
§8.11	Description of the sampling procedures and QA/QC	✓
§8.12	~~Analytical Description and~~ Laboratory QA/QC	✓
§8.13	Location and results of initial sampling with drawings	✓
§8.14	FACTs health and safety procedures in accordance with OSHA	✓
§8.15 - §8.19	These sections are not applicable to a Preliminary Assessment	
§8.20	FACTs Pre-remediation photographs and log	✓
	FACTs Post-remediation photographs and log	NA
§8.21	FACTs SOQ	✓
§8.22	Certification of procedures, results, and variations	✓
§8.23	Mandatory Certification Language	✓
§8.24	Signature Sheet	✓
NA	Analytical Laboratory Reports	✓
	FACTs final document inventory	✓
	FACTs Field Sampling Forms	✓

Table 1
Inventory of Mandatory Elements and Documentation

Subject Structure

Based on information from the Jefferson County (CO) Assessor's Office, the primary structure consists of 1,099 square feet of residential floor space built *circa* 1976. Regulatory sampling requirements are based on this value.

A general layout of the residential setting is depicted in the aerial photograph below. The subject property is outlined in red.

Figure 1
General Site Layout[5]

Review of Law Enforcement Documentation

As part of the PA, FACTs is required by regulation[6] to review available law enforcement documents pertinent to a subject property. During this project, FACTs contacted two law enforcement agencies for documentation:

1. Jefferson County Sheriff's Office (JCSO)
2. City of Arvada Police Department (APD)

Each of the above agencies exhibited the highest degree of professionalism and courtesy, and participated openly and responded promptly with our requests for information.

JCSO informed us that they would defer the request to APD. APD verbally informed us that they did not have any records pertinent to our request for this address.

As such, based on the best available information, there are no law enforcement documents pertaining to controlled substances for this subject property.

Governing Body

Pursuant to statute and regulations, the documentation in this report must be submitted to the "Governing Body" to avail of the statutory liability immunity. The *de facto* "Governing Body" as defined in CRS 25-18.5-101 for this property is:

[5] Courtesy of USDA Farm Service Agency as accessed through Google ™

[6] 6 CCR 1014-3 (Section 4.2)

Mr. Craig Sanders
Environmental Protection Supervisor
Jefferson County Department of Health and Environment
1801 19th Street
Golden, CO 80401

The Jefferson County Department of Health and Environment has not assigned the property a case number.

Visual Inspection of the Property

As part of the Preliminary Assessment, on May 5, 2012, Mr. Caoimhín P. Connell, Forensic Industrial Hygienist with FACTs, performed a visual inspection and sampling of the subject property. Mr. Connell was assisted by Mr. Glen Hardey, Field Technician.[7] A copy of Mr. Connell's statement of qualifications is included as an appendix with this discussion.

FUNCTIONAL SPACE SUMMARY

During a Preliminary Assessment, the Industrial Hygienist is required by regulation to divide the study area into "functional spaces," and evaluate the potential for contamination in each area. The idea is to segment a property into specific areas which may present different potentials for contamination, based on the anticipated use or function conducted in that area. Thus, functions of bedrooms and bathrooms may be different, kitchens and living rooms, may be different, etc. Pursuant to regulations, a building is divided into such areas based solely on subjective professional judgment with foundational guidance in Federal Regulation.[8]

A general overview of each space is provided in the following discussion. Indicators are detailed in FACTs form ML5, included in the appendix of this report. For evaluation purposes, the following Functional Spaces have been identified and are addressed below:

[7] Mr. Hardey has extensive training in illegal drug laboratories and received a training certificate in Clandestine Drug Lab Safety through the Colorado Regional Community Policing Institute (CRCPI) sponsored by the US Dept. of Justice High Intensity Drug Trafficking Area fund as well as site specific training pursuant to 29 CFR §1910.120. Mr. Hardey is further certified in Clandestine Drug Lab entry and processing through the US Drug Enforcement Agency.

[8] Asbestos Containing Materials in Schools; Final Rule and Notice, Title 40 CFR Part 763, Fed. Reg. Vol. 52, No. 210, Fri. Oct. 30, 1987

Functional Space	Describe the functional space
1	Living room Complex
2	Laundry room
3	Southeast Bedroom
4	South toilet room and bath
5	East central bedroom
6	North toilet room
7	North Bedroom
8	Kitchen
9	Furnace

Table 2
Functional Space Inventory

This property does not contain an attic. The carport is an open, common space that is not contiguous with the residential area.

Functional Space 1: Living Room Complex

This space includes the living room, dining room, bedroom hallway and linen closet in the hallway. This functional space was challenged with a discrete sample (SM050812-01) which indicated a methamphetamine concentration of 9 µg/100cm2.

This functional space was characteristic of the entire house in that extensive, high quality renovations were in progress. The space was devoid of carpeting and contained freshly painted walls. This functional space had no visual indicators.

Functional Space 2: Laundry Room

The laundry room is defined as the term is commonly understood and contains the furnace assembly. This room did not have any subjective indicators. The space was challenged with a discrete sample (SM050812-04) which indicated a methamphetamine concentration of 1 µg/100cm2.

Functional Space 3: Southeast Bedroom

This functional space had no subjective indicators and was challenged with Sample Number SM050812-09, which indicated a methamphetamine concentration of 12 µg/100cm2.

Functional Space 4: South Toilet Room and Bath

The two toilet rooms are joined together in the middle by a bath room. We arbitrarily combined the south toilet room with the bathroom, although the bathroom could equally be the same functional space of the north toilet room. This functional space had no subjective indicators and was challenged with Sample Number SM050812-05, which indicated a methamphetamine concentration of 0.51 µg/100cm2.

Functional Space 5: East Central Bedroom

This bedroom is the center bedroom and exhibited no subjective indicators. This area was challenged with Sample Number SM050812-08, which indicated a methamphetamine concentration of 4 µg/100cm2.

Functional Space 6: North Toilet Room

There were no subjective indicators in this functional space, which was subsequently challenged with Sample Number SM050812-06, which indicated a methamphetamine concentration 2 µg/100 cm2.

Functional Space 7: North Bedroom

Probably the Master bedroom, this space is delineated by the surrounding walls and is used as the term is commonly understood. There were no subjective indicators in this functional space, which was subsequently challenged with Sample Number SM050812-07, which indicated a methamphetamine concentration of 10 µg/100 cm2.

Functional Space 8: Kitchen

As the term is commonly understood, this functional space is essentially enclosed but contiguous to the dining room/living room. There were no subjective indicators in this functional space, which was subsequently challenged with Sample Number SM050812-02, which indicated a methamphetamine concentration of 1 µg/100 cm2.

Functional Space 9: Furnace

The Furnace System in the structure is a standard residential forced air system. The actual mechanical unit is located within Functional Space 2 but with a ducted distribution system throughout the entire residential structure.

Although perhaps arguably not a functional space *per se*, FACTs collected a sample from the furnace interior to determine if the furnace system could be excluded from the decontamination process (Sample SM050812-03). The discrete sample collected from the furnace system indicated 27 µg/100 cm2; as such the furnace system cannot be excluded from the decontamination process and will need to be addressed.

It is well established knowledge in the Industrial Hygiene and medical professions that the use of methamphetamine in a home results in elevated exposures to the occupants via airborne migration. When methamphetamine is smoked, between 80%[9] and half[10] of the

[9] Cook CE, *Pyrolytic Characteristics, Pharmacokinetics, and Bioavailability of Smoked Heroin, Cocaine, Phencyclidine, and Methamphetamine* (From: Methamphetamine Abuse: Epidemiologic Issues and Implications Research Monograph 115, 1991, U.S. Department Of Health And Human Services Public Health Service Alcohol, Drug Abuse, and Mental Health Administration National Institute on Drug Abuse

[10] Cook CE, Jeffcoat AR, Hill JM, et al. *Pharmacokenetics of Methamphetamine Self-Administered to Human Subjects by Smoking S-(+)-Methamphetamine Hydrochloride*. Drug Metabolism and Deposition Vol. 21 No 4, 1993 as referenced by Martyny JW, Arbuckle SL, McCammon CS, Erb N, Methamphetamine Contamination on Environmental Surfaces Caused by Simulated Smoking of Methamphetamine (The publication of this study is currently pending. Copies of the study are available from the Colorado Alliance for Drug Endangered Children.)

substance is released from the user's pipe. Of that material which is inhaled, between 33%[11] and 10%[12] of the nominal dose is not absorbed into the body, but rather exhaled back into the ambient air.

Unpublished work conducted by Industrial Hygienists at the National Jewish Hospital[13] in Denver, CO indicate that a single use of methamphetamine, by smoking, could result in an average residential area ambient airborne concentration of methamphetamine ranging from 35 micrograms per cubic meter (µg/m3) to over 130 µg/m3. These authors found that smoking methamphetamine just once in the residence can result in surfaces being contaminated with methamphetamine. The authors concluded:

> "*If methamphetamine has been smoked in a residence, it is likely that children present in that structure will be exposed to airborne methamphetamine during the "smoke" and to surface methamphetamine after the 'smoke*.'[14]

Since it is the purpose of the forced air ventilation system to move air throughout the structure, and the furnace (as evidenced by the sample collected from the duct interior) conclusively contained elevated concentrations of methamphetamine, we conclude the furnace was an effective mechanism of dissemination of methamphetamine and may be a continued source of contamination until appropriately addressed.

The results of the furnace sample alone would lead a reasonable person, trained in aspects of methamphetamine laboratories, to conclude the *presence* of widespread elevated methamphetamine contamination throughout the entire occupied space, all other sample results notwithstanding, and in the absence of any sample result for any specific location. Having said this, the remaining samples have nevertheless objectively confirmed the existence of contamination.

EXTERIOR GROUNDS

Although not truly a functional space *per se*, the exterior grounds were assessed independently. At the time of our visit, we did not observe any indicators in the exterior

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[11] Harris DS, Boxenbaum H, Everhart ET, Sequeira G, et al, *The bioavailability of intranasal and smoked methamphetamine*, Pharmacokinetics and Drug Disposition, 2003;74:475-486.)

[12] Cook CE, Jeffcoat AR, Hill JM, Pugh DE, et al *Pharmacokinetics of methamphetamine self-administered to human subjects by smoking S-(+)-methamphetamine hydrochloride* Drug Metabolism and Disposition, Vol 21, No. 4, pp. 717-723, 07/01/1993

[13] Martyny JW, Arbuckle SL, McCammon CS, Erb N, *Methamphetamine Contamination on Environmental Surfaces Caused by Simulated Smoking of Methamphetamine* (The publication of this study is currently pending. Copies of the study are available from the Colorado Alliance for Drug Endangered Children.)

[14] Martyny JW, Arbuckle SL, McCammon CS, Erb N, *Methamphetamine Contamination on Environmental Surfaces Caused by Simulated Smoking of Methamphetamine* (The publication of this study is currently pending. Copies of the study are available from the Colorado Alliance for Drug Endangered Children.)

grounds that spoke to illegal disposal. The grounds would not be conducive to clandestine disposal.

The exterior portico and access stairway are essentially open to the elements and would not reasonably be expected to contain measureable concentrations of methamphetamine.

SEWERAGE SYSTEM

The sewer system is "city sewer." Although we presume that some waste materials were introduced into the sewer system, based on our observations, there was no damage to the plumbing system.

SAMPLE COLLECTION

Wipe Samples

The sample collected during the April 24, 2012, cursory evaluation was a composite sample and the samples collected during the Preliminary Assessment comprised of "discrete" samples.

Composite samples are single wipes, which are included with other wipes from other locations and are combined and analyzed as a single sample representing multiple areas.

Discrete samples are a single wipe, collected from a single area, and submitted for analysis representing a unique location.

Discrete samples were collected for regulatory compliance purposes and represented structural features.

Each sample location was identified by the Industrial Hygienist based on judgmental authoritative bias sampling theory. In this theory, consistent with State regulation, samples are purposely collected from those areas which have the highest probability of containing the highest concentrations of methamphetamine.

Methamphetamine Analysis

Wipe samples were collected in a manner consistent with State regulations. The wipe sample medium was individually wrapped commercially available Johnson and Johnson™ brand gauze. Each gauze material was assigned a lot number for quality assurance and quality control (QA/QC) purposes and recorded on a log of results. Each gauze was moistened with reagent grade methyl alcohol. Each batch of alcohol was assigned a lot number for QA/QC purposes and recorded on a log of results. Each proposed sample area was delineated with a measured outline. The ruler used to measure each surface area was decontaminated with a single-use disposable alcohol wipe between samples where the ruler contacted the surface.

Each wipe sample was collected by methodically wiping the entire surface of the selected area with moderate pressure; first in one direction and then in the opposite direction,

folding the gauze to reveal fresh material as necessary. Each sample was returned to its centrifuge tube and capped with a screw-cap. The wipe samples were submitted for analysis to Reservoirs Environmental Laboratories in Denver, CO for analysis by GCMS.

QA/QC Precautions

The sampling media were prepared in small batches in a clean environment (FACTs Corporate Offices). The sample media were inserted into individually identified disposable plastic centrifuge tubes with caps.

Field Blanks

For QA/QC purposes, and in accordance with State requirements, one field blank was submitted for every ten wipe samples. For this project, the samples from four separate properties were run as a single QA/QC batch. Therefore the field blanks appear on a second laboratory report identified as "blanks."

The field blanks were randomly selected from the sampling batch and included with the samples. To ensure the integrity of the blanks, FACTs personnel were unaware, until the actual time of sampling, which specific samples would be selected as blanks. Similarly, to ensure the integrity of the blanks, laboratory personnel were unaware of the presence of the blanks in the analysis batch.

Field Spikes

As part of our general QA/QC protocol, FACTs regularly submits surreptitious spikes to the analyzing laboratory. "Spiked" samples consist of randomly selecting sampling assemblies that are submitted to a third party, independent laboratory for the inclusion of known amounts of methamphetamine into the selected samples. The spiked samples are then submitted with the normal project samples. To ensure the integrity of the spikes, laboratory personnel are unaware of the presence or nature of the spikes. The spikes allow FACTs to determine the adequacy of the laboratory in recovering known amounts of methamphetamine from the samples. Sample results are then corrected to the spike recovery. In this case, there was a single spike submitted (HM050912-14) that contained 9 µg of *d*-methamphetamine. The laboratory reported recovering 93% of the spike amount, which is within accepted tolerance for environmental samples.

Cross Contamination

Prior to the collection of each specific sample area, the Industrial Hygienist or his Technician donned fresh surgical gloves, to protect against the possibility of cross contamination.

Prior to entry into the property, each member of FACTs donned disposable Tyvek booties.

Collection Rationale

Primary Objective

It is a common misconception that the Industrial Hygienist is required to collect samples during a PA. However, no such requirement exists in Colorado. Rather, regarding samples, the regulations state:

> Pre-decontamination sampling
> In pre-decontamination sampling, the question that is being asked is "Is there evidence of the presence of methamphetamine production in this area?" The assumption (hypothesis) is that the area is clean i.e. "compliant," and data will be collected to find support for the hypothesis. Data (such as samples) are collected to "prove" the area is compliant. Sampling, if it is performed, is conducted in the areas potentially containing the highest possible concentrations of contaminants. Any data that disproves the hypothesis, including police records, visual clues of production, storage, or use or documentation of drug paraphernalia being present, is considered conclusive, and leads the consultant to accept the null hypothesis and declare the area non-compliant. The strength of evidence needed to reject the hypothesis is low, and is only that which would lead a reasonable person, trained in aspects of methamphetamine laboratories, to conclude the presence of methamphetamine, its precursors as related to processing, or waste products.

Similarly, there is a misconception that if samples are collected, and the laboratory results are below the value often misinterpreted as the State's regulatory threshold value (0.5 µg/100 cm2), the samples necessarily indicate that the area is not contaminated and no action is required. However, the regulatory threshold values are exclusively to be used as *prima fascia* evidence during final verification activities in the absence of all other information. Except, during a final verification or a properly designed Preliminary Assessment, there is no *de minimis* concentration of methamphetamine below which a statement of compliance can be made in the absence of final verification sampling. Although State regulation does not require samples to be collected during a Preliminary Assessment, as part of this Preliminary Assessment, samples were collected.

For this project, FACTs had sufficient information from the cursory sampling to conclude that the contamination in the subject property was widespread, and, based on the totality of the circumstances, in accordance with 6 CCR 1014-3, we concluded that each area need not be sampled. However, the registered owner asked that we challenge each functional space in hopes of reducing the remediation fees by excluding any areas that demonstrated compliance.

To objectively test the *a priori* assumption that some areas may in fact be compliant, FACTs collected a sample from all functional spaces which would best represent the worst case scenario in those spaces, as required by regulation. These samples, along with their blanks and spikes were submitted for analysis. Based on these samples, we were unable to exclude any areas from remediation.

Sample Results

Methamphetamine

The results of the methamphetamine samples are summarized in the table below. The shaded samples are those that were collected during the cursory evaluation.

Sample ID	Location or Function	Result µg/100 cm2	Decision Criteria	Status
SM042412-01A	Powder room 1	15.3	<0.5	FAIL
SM042412-01B	Powder room 2			
SM042412-01C	Laundry room			
SM042412-01D	Furnace interior			
SM042412-01E	Kitchen top of cabinet			
SM050812-01	Dining room ceiling fan	8.60	0.50	FAIL
SM050812-02	Kitchen light fixture	0.93	0.50	FAIL
SM050812-03	Furnace interior, return at fan	26.4	0.50	FAIL
SM050812-04	Furnace room top of exhaust duct	1.48	0.50	FAIL
SM050812-05	South bathroom top of light fixture	0.51	0.50	FAIL
SM050812-06	North bathroom top of medicine chest	1.75	0.50	FAIL
SM050812-07	Master bedroom, closet doors	9.84	0.50	FAIL
SM050812-08	Central east bedroom, closet doors	3.71	0.50	FAIL
SM050812-09	Southeast bedroom, closet doors	11.7	0.50	FAIL
HM050912-02	Field Blank	BRL	<0.03	PASS
HM050912-04	Field Blank	BRL	<0.03	PASS
HM050912-06	Field Blank	BRL	<0.03	PASS
HM050912-14	Spike	8.40	9.0	PASS

Result and Criterion are expressed as µg/100cm2 (Field blanks and spike are reported as absolute mass in µg)
The symbol "<" indicates that methamphetamine was not detected at the detection limit expressed.
BRL indicates the analyte was not detected in the sample.

Table 3
Results of Methamphetamine Wipe Samples

Wipe Sample Results

The samples confirmed that noncompliant concentrations of methamphetamine were widespread in the residence.

Quality Assurance/Quality Control

The following section is required by regulation and is not intended to be understood by the casual reader.

PA Data Set

MDL was not given; LOQ was reported as 0.05 µg/100cm2, FACTs recognizes that this information cannot be correct as the LOQ cannot be expressed as µg/100cm2 – this is a non fatal typographical error of the analyzing laboratory; MBX <MDL , FACTs recognizes that this information also cannot be correct as the MBX cannot be expressed as µg/100cm2 – this is a non fatal error associated with the reporting style of the analyzing laboratory; LCS mass was not given, however, the laboratory reported 108%

recovery, RPD was not given. Matrix spike mass was not given, however the recovery was given as 103% (RPD was not given); Matrix spike Dup mass was not given, and the recovery was not given, however the RPD was reported to have been <1%. Surrogate spike recoveries are not given by the laboratory and are unknown. FACTs reagents: MeOH lot # A12Ø1 <MDL for n=4; Gauze lot # G1ØØ6 <MDL for n=47.

Sample Locations

Consistent with State Regulations and good sampling theory, the location of the samples was based on professional judgment. In this case, it was FACTs' Industrial Hygienist's professional judgment that authoritative biased sampling would be appropriate.

As such, during this project, the Industrial Hygienist selected those areas which had the highest probability of exhibiting the highest concentrations of contamination. Based on our experience, state of the art information on indoor methamphetamine migration patterns and professional judgment, FACTs selected specific locations throughout the structure in an attempt to represent the highest possible concentrations of methamphetamine. Each sample area was then delineated with a measured outline.

In the figures that follow, the sample locations have been presented. The drawings are stylized and not intended to be architectural representations and are not to scale. In the diagrams, the sample locations are indicated by triangles. Where the identifier has an alpha code, the sample was collected during the cursory evaluation. The black-fill triangle represent the location of both a cursory sample as well as a PA sample; the gray –fill triangle represents a cursory sample only. White-fill locations are exclusively PA sample locations.

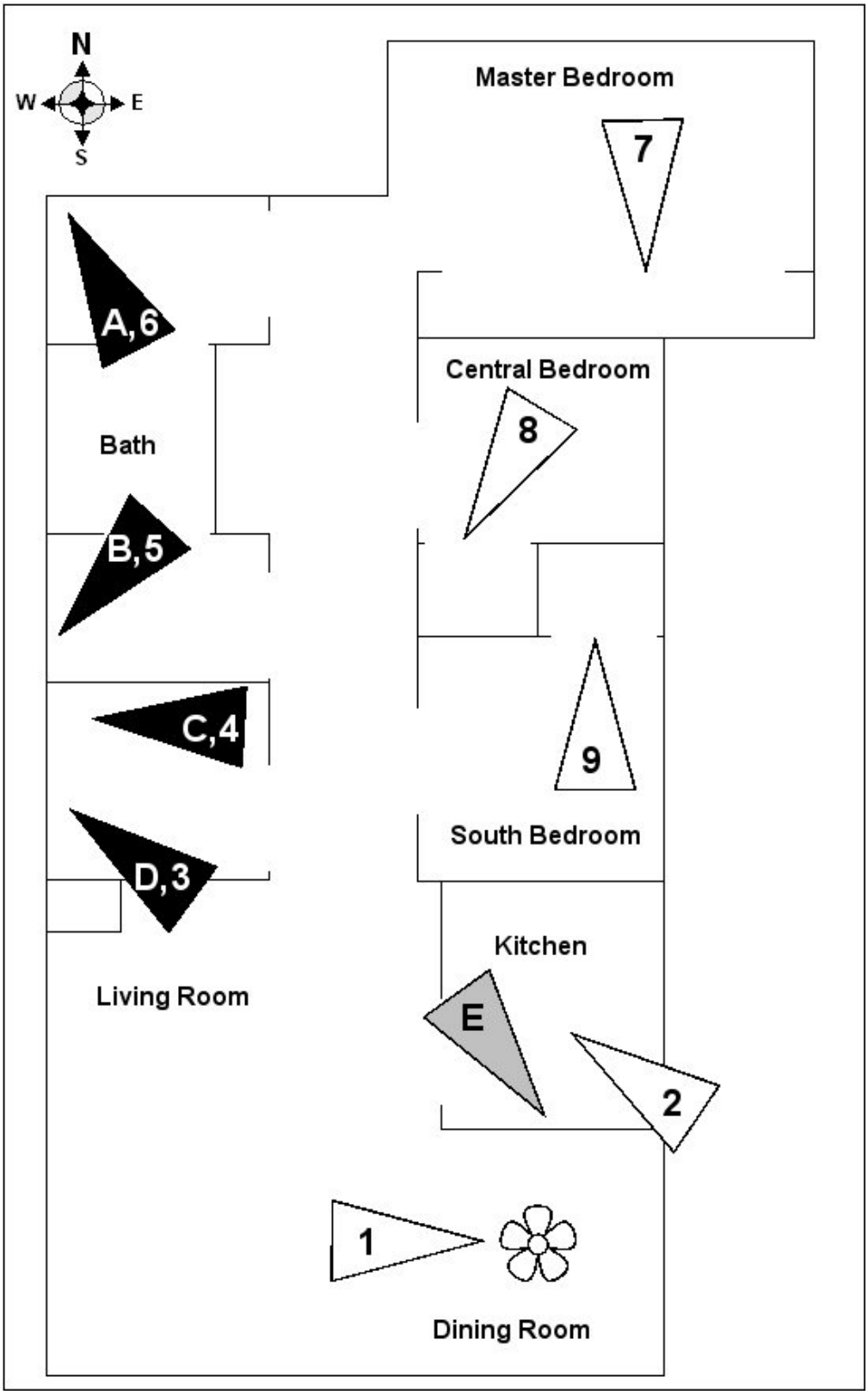


Figure 3
Sample Locations

Identification of Cook/Storage Areas

Colorado Regulations 6 CCR 1014-3 (4.2) states that the Industrial Hygienist is required to perform a:

> Review of available law enforcement reports that provide information regarding the manufacturing method, chemicals present, cooking areas, chemical storage areas, and observed areas of contamination or waste disposal

In this case, based on the best information available and based on visual indicators, we were not able to confidently identify *if* manufacturing took place at all, never mind *where* it may have taken place (if at all). Our best assessment at this point is that the widespread contamination is the result of methamphetamine being smoked and stored at locations throughout the property.

Methamphetamine is currently being stored at the property on all surfaces in the noncompliant functional spaces.

Identification of Contamination Migration

Based on the best information readily available, FACTs was not able to find any indicators that would suggest contamination migration.

FACTs lacked any authority to enter and evaluate the potential for migration from the subject property into the residence below. However, it must also be noted that it is equally possible that migration of methamphetamine may have occurred from the lower residence into the subject property. The most probable rout of air movement in the structure is from bottom to top. Therefore, it is not likely that significant migration occurred into the lower residence. The fire wall between the subject property and the residence to the west would have provided a limiting barrier between the two residences.

CONCLUSIONS

Based on the totality of the circumstances, including our subjective observations and objective data from sampling, we find that there is insufficient evidence to support the preliminary hypothesis and we accept the null hypothesis and conclude that methamphetamine contamination exists throughout the subject property.

Based on our observations, all surfaces in the noncompliant functional spaces, and the furnace system and associated duct-work must be cleaned pursuant to 6 CCR 1014-3.

Universal Site Requirements

Based on our observations, and laboratory results, we recommend standard industry practices for decontamination be followed. The remediation contractor should be given full responsibility for their own standard operating procedures. The following are provided as guidance and reflect standard practices for the remediation of similar properties. The Governing Body has statutory authority to require a greater degree of decontamination of the subject property.

1. An on-site storage container should be established on the grounds (such as a poly lined and covered roll on-roll off container (ro-ro) or temporary trailer).

2. The on-site container shall be secured with a padlock at all times when not immediately manned by remediation personnel.

3. A licensed contractor, who is trained and experienced in methlab decontamination, as required by State regulations, should be contracted for the decontamination work. All work performed at the residence should be conducted by an experienced contractor whose employees are documented to have been properly trained in accordance with 29 CFR §1910.120 and Colorado Revised Statute §25-18.5-104; *Entry into illegal drug laboratories*.

4. We recommend the decontamination process be conducted in Level C PPE ensembles with a minimum of half-face APRs.

5. We recommend that a decontamination corridor with showers be established in the car port.

6. All remediation work performed at the residence should be conducted under written contract with a reputable remediation company qualified to perform the work.

7. All work performed at the residence should be conducted with open communication and cooperation with the Jefferson County Department of Health and Environment.

8. All remediation work should be presumed to be pursuant to Title 29 of the Code of Federal Regulations, §1910.120 until otherwise indicated.

9. The contractor should be contractually obligated to perform personnel air monitoring for methamphetamine for at least one full shift employee per day to allow for support of proper PPE selection. If the air monitoring results in a concentration of greater than 120 µg methamphetamine per cubic meter of air, the contractor is required to upgrade respiratory protection to a minimum of either full face APR or PAPR.

10. The contractor *should* be contractually obligated to include the personnel air monitoring data in their final documentation.

11. Any contractors (and their subcontractors) should be contractually obligated, through a written contract, to decontaminate the subject property to below the statutory limits. Any recleaning required by a contractor (or their subcontractor) pursuant to a failed final assessment should be contractually obligated to be performed at the expense of the contractor.

12. Contractors should be contractually obligated to cover costs of return visits by the Industrial Hygienist and sample expenses, as a result of a failed final clearance(s).

13. State regulations prohibit painting or otherwise encapsulating surfaces prior to final clearance sampling by the Industrial Hygienist.

14. State regulations prohibit the use of strong oxidizers to mask the presence of methamphetamine; no cleaning agents greater than 5% hydrogen peroxide (or other oxidizer) are permitted on site.

15. Following the decontamination process, and prior to the final clearance sampling by the Industrial Hygienist, the remediation contractor/subcontractor should be contractually obligated to collect a minimum of three QA/QC wipe samples from the subject property, as part of their own QA program, and required to submit those samples for methamphetamine analysis. The contractor should be contractually obligated to provide their wipe sampling data (including location of sample, area of sample, and analysis results), to the consulting Industrial Hygienist for review prior to final clearance sampling.

16. If the contractor's three QA/QC samples suggest that contamination in the subject property remains at a concentration in excess of 0.35 $\mu g/100\ cm^2$, the contractor should be contractually obligated to continue to clean, and sample, until the elevated concentrations are not observed.

17. Once the contractor's samples indicate the contamination has been sufficiently reduced, the Industrial Hygienist should perform final clearance sampling according to 6-CCR 1014-3.

Decontamination of the Residence

Although FACTs does not believe that the furnace can be economically decontaminated, the contractor may propose removal of the furnace and associated ductwork, *in toto*, or may propose cleaning and decontamination of the ventilation system.

For this property, FACTs is of the opinion that all fixtures and all cabinets and large appliances are salvageable. The ceiling fan in the dining room should be discarded. The remediation contract should specify that with the exception of the ceiling fan, all fixtures and appliances and cabinetry are to be salvaged.

The following decontamination process should take place in this order: (any asbestos abatement not withstanding):

1. Establish negative pressure inside the decontamination area pursuant to State regulations. The contractor should visually inspect each critical barrier and ensure proper negative pressure.

2. The contractor shall be required to periodically check and monitor the negative enclosure to ensure that the negative pressure (pressure differential) between the work area and the adjoining residences is not less than 0.02 inches of water column at all times.

3. Exhaust from the negative enclosure may take place at any exterior location.

4. No work, except as needed to establish critical barriers, shall begin until negative pressure is established.

5. Negative pressure should be maintained at all times until final sampling has been completed and the written intent to issue a Decision Statement has been issued to the contractor by the consulting Industrial Hygienist.

6. The contractor should establish a standard, two-chambered decon and/or bag-out/load-out at the front (south) door.

7. Window coverings (window blinds) shall be discarded.

8. All large household appliances (refrigerator) in the affected areas shall be wiped down and salvaged.

9. All personal work tools and construction tools in the residence shall be wiped clean.

10. Once all items are bagged and/or wrapped, the items can be transported through the airlock and transloaded to the bag-out. At the bag-out, the exterior surfaces of the bags and wrapping should be wiped down, and the bags and items may be discarded.

11. All bathroom exhaust fans shall be removed and cleaned or discarded.

12. Following the removal of interior contents, <u>all</u> surfaces in the remediation areas including all ceilings, all hanging fixtures, all cabinets (interior and exterior surfaces), all shelving, all floors, doors, hinges, bathtubs, sinks, appliances (interior and exterior surfaces), exterior fireplaces, and every other interior surface whether specifically mentioned or not, shall be thoroughly wiped down to remove residual contamination.

-*END*-

Enclosures: One CD; Data package, and Appendices

Appendix A:

Supporting Documents

FACTs project name: 6926	Form # ML1
Date: May 8, 2012	
Reporting IH:	Caoimhín P. Connell, Forensic IH

PROPERTY DESCRIPTION:

Physical address	**6926 W 87th Way, #246, Arvada, CO 80003**
Legal description or VIN	**Neighborhood: 1905, Subdivision: 041400 - Arbor Green Townhomes, Phase V, Block 62B, Lot 246, Section 26, Township 2, Range 69, NE Quarter section, Schedule: 125977 Parcel ID: 29-261-06-005**
Registered Property Owner	**Carolyn Siria** **1380 Fairfax St** **Denver CO 80220**
Number of structures	**One**
Type of Structures (Each affected structure will need a "Functional Space" inventory)	Single level residence 1,099 Square feet
Adjacent and/ or surrounding properties	Below: Townhome residence North: Common greens South: Street front East: Parking area West: Townhome residence
General Property Observations	**Renovations underway**
Presumed Production Method	**Smoking, possession, distribution**

Plumbing Inspection and Inventory

FACTs project name: 6926	Form # ML2
Date: May 8, 2012	
Reporting IH:	Caoimhín P. Connell, Forensic IH

Functional Space	Room	Fixture	Indicia?	Comments
4	Bathroom # 1	Bath	Y	Staining
4	Bathroom # 1	Shower	Y	Staining
4	Bathroom # 1	Sink	Y	No comment
4	Bathroom # 1	Toilet	Y	No comment
6	Bathroom # 2	Sink	Y	No comment
6	Bathroom # 2	Toilet	Y	No comment
8	Kitchen	Dishwasher	N	No comment
8	Kitchen	West Sink	N	No comment
8	Kitchen	East Sink	N	No comment
2	Laundry Room	Washing machine	N	No comment

This area is intentionally left blank

Ventilation Inspection and Inventory

Item	Y/N	Indicia ?	Sampled ?	Comments
Isolated AHU?	Y	Y	Y	Elevated contamination
Common air intake?	N	This section intentionally left blank		
Common bathroom exhausts?	N			
Forced air system?	N			
Steam heat?	N			
Common ducts to other properties?	N			
Passive plena to other properties?	N			
Active returns to other properties?	N			
Passive wall grilles to other properties?	N			
Industrial ventilation?	N			
Residential ventilation?	Y			
Pressurized structure?	N			

FUNCTIONAL SPACE INVENTORY

FACTs project name: 6926	Form # ML3
Date: May 8, 2012	
Reporting IH:	Caoimhín P. Connell, Forensic IH

Structure Number	Functional Space Number	Indicia (Y/N)	Describe the functional space (See drawings for delineating structural features)
1	1	Y	Living room complex
1	2	Y	Laundry room
1	3	Y	Southeast Bedroom
1	4	Y	South toilet room and bath
1	5	Y	East central bedroom
1	6	Y	North toilet room
1	7	Y	North Bedroom
1	8	Y	Kitchen
1	9	Y	Furnace

This section intentionally left blank

Law Enforcement Documentation

FACTs project name: 6926	Form # ML4
Date: May 8, 2012	
Reporting IH:	Caoimhín P. Connell, Forensic IH

Inventory of Reviewed Documents	No documents available
Described method(s) of production	No documents available
Chemicals identified by the LEA as being present	No documents available
Cooking areas identified	No documents available
Chemical storage areas identified	No documents available
LE Observation on areas of contamination or waste disposal	No documents available

FORENSIC APPLICATIONS CONSULTING TECHNOLOGIES, INC.

May 7, 2012

Arvada Police Department
8101 Ralston Rd
Arvada, CO 80001-8101

Via fax: 720-898-6921 and 720-898-6921

To Whom It May Concern:

Forensic Applications, Inc. has been contracted to perform a "Preliminary Assessment" at an identified illegal drug lab pursuant to Colorado Board Of Health Regulations 6-CCR-1014-3, and CRS §25-18.5-101 *et seq*. The property is located in the City of Arvada at:

6926 W 87th Way, #246, Arvada, CO

As you are aware, as part of that assessment, the Industrial Hygienist is required by regulation (6-CCR-1014-3 (§4.2)) to review available law enforcement documents associated with the property. Generally, we initially do not require copies of any documents; and, if preferable, we can visit your offices and review available information there.

We would like to review any narratives regarding controlled substances or hazardous materials responses, or speak with any Law Enforcement personnel who may be familiar with controlled substance activities at the property. We are only interested in issues involving controlled substances or hazardous materials responses in the last five years. If no such records are available please let us know and we will merely make that notation in our report to Mr. Sanders at the Jefferson County Department of Health.

We will be performing the on-site assessment on Tuesday, May 8, 2012, and would like to review any available documents this week. We apologize for the short notice, however, we usually hav no control over the time-frames involved.

Forensic Applications takes extreme caution to protect all Law Enforcement Sensitive information. In the past, when requested by Arvada PD, we have not revealed names, document identities, or included any information considered sensitive. In the past, we developed a close working relationship with Colorado Law Enforcement and we value and respect that open line of communication. I have included my SOQ. Please feel free to call me directly with any comments or questions. Please advise us of any fees associated with our request. If you need copies of our reports on this property, please let me know. A copy of the "Discovery" report is temporarily located here:

http://forensic-applications.com/meth/Siria_cursory_report.pdf

Pursuant to CRS §24-72-305.5, I affirm that upon receipt of requested records of official actions and/or criminal justice records from the APD, such records shall not be used for the direct solicitation of business for pecuniary gain.

Sincerely,

Caoimhín P. Connell
Forensic Industrial Hygienist

185 BOUNTY HUNTER'S LANE, BAILEY, COLORADO 80421
PHONE: 303-903-7494 www.forensic-applications.com

Field Observations

FACTs project name: 6926	Form # ML5
Date: May 8, 2012	
Reporting IH:	Caoimhín P. Connell, Forensic IH

Structure:

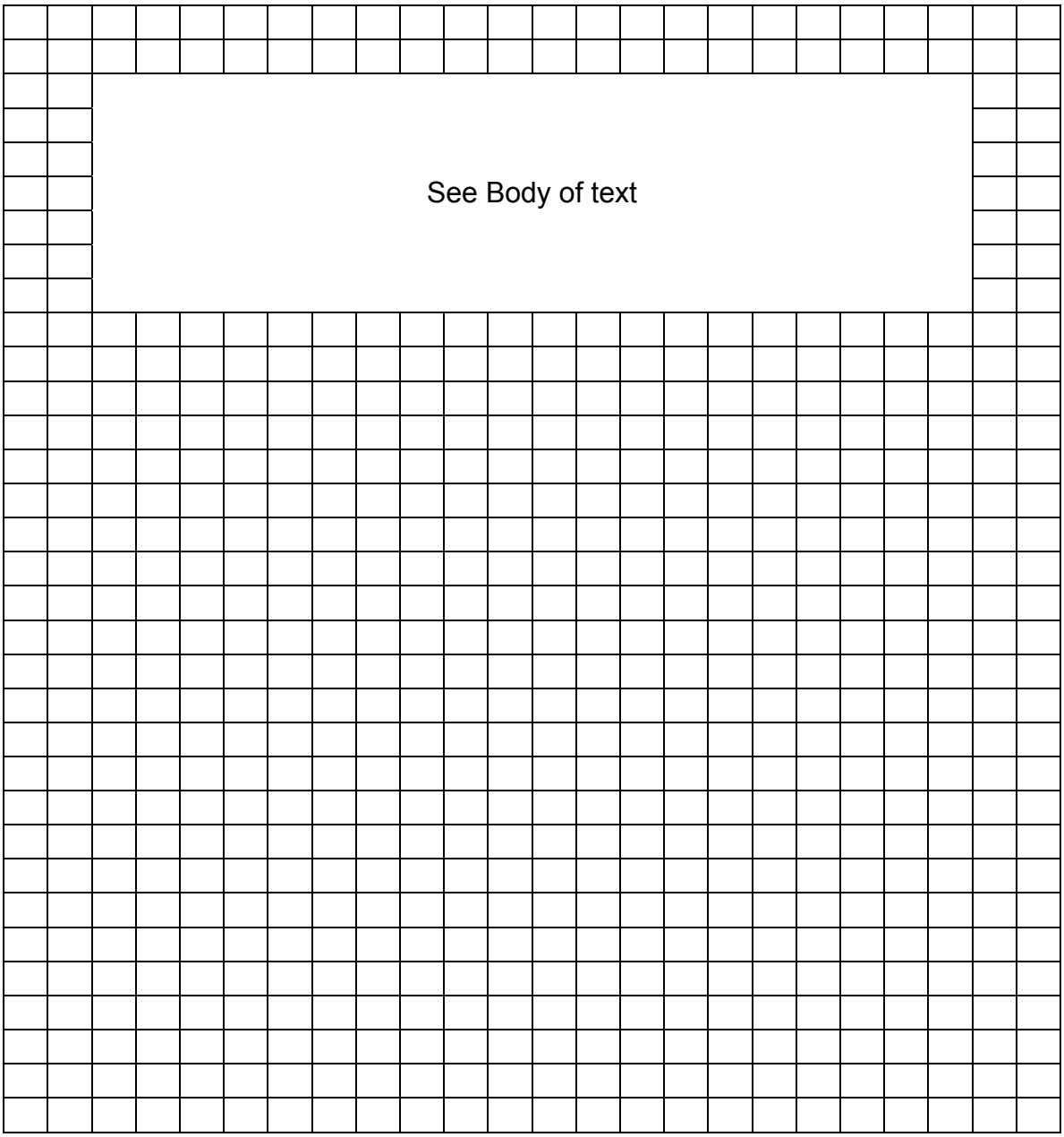
Indicator	Functional Space	Indicator	Functional Space
Acids	No comment	Match components	No comment
Aerosol cans	No comment	Mercury	No comment
Alcohols (MeOH, EtOH)	No comment	Methamphetamine	1,2,3,4,5,6,7,8,9
Ammonia	No comment	Modified coolers/containers	No comment
Ammunition	No comment	Modified electrical	No comment
Artistic expressions	No comment	Modified plumbing	No comment
Bags of salt	No comment	Modified structure	No comment
Bases	No comment	Modified ventilation	No comment
Basters/Pipettes	No comment	Needles/Syringes	No comment
Batteries	No comment	OTC Containers	No comment
Bi-phasic wastes	No comment	OTC drugs	No comment
Booby traps	No comment	pH papers/indicators	No comment
Bullet holes	No comment	Phenyl-2-propanone	No comment
Burn marks	No comment	Pornography, Sex toys	No comment
Cat litter	No comment	Prescription drugs	No comment
Chemical storage	No comment	Presence of cats	No comment
Colored wastes	No comment	Propane bottles	No comment
Corrosion on surfaces	No comment	Pseudoephedrine	No comment
Death bag	No comment	Red P	No comment
Delaminating paint	No comment	Red Staining	No comment
Drug paraphernalia	No comment	Reserved	No comment
Empty OTC Containers	No comment	Salters	No comment
Ephedrine	No comment	Security devices	No comment
Feces	No comment	Signs of violence	No comment
Filters	No comment	Smoke detectors disabled	No comment
Forced entry marks	No comment	Solvents - (organic)	No comment
Funnels	No comment	Squalor	No comment
Gang markings	No comment	Staining on floors	No comment
Gas cylinders	No comment	Staining on walls or ceiling	No comment
Gerry cans	No comment	Stash holes	No comment
Glassware	No comment	Taping on surfaces	No comment
No comment Graffiti	No comment	Tubing	No comment
Heating mantle/hot plate	No comment	Urine containers	No comment
Hidden items	No comment	Wall anchors	No comment
Hydrogen peroxide	No comment	Wall coverings	No comment
Iodine	No comment	Wall damage	No comment
Lead	No comment	Weapons	No comment
Lithium	No comment	Window block material	No comment
Marijuana	No comment	Yellow staining	No comment

① Present but not as indicia
② Copious or unusual quantities
③ Present in normal household expectations
④ Modified in manner consistent with clanlab use

Contaminant Migration Observations

FACTs project name: 6926	Form # ML6
Date: May 8, 2012	
Reporting IH:	Caoimhín P. Connell, Forensic IH

Describe/identify adjacent areas where contaminants may have migrated.



Each grid equals approximately _____ (Approximate lay-out; Not to scale)

Describe the area:_____

_____

_____

_____

Individual Sewage Disposal System Field Form

FACTs project name: 6926	**Form # ML7**
Date: May 8, 2012	
Reporting IH:	**Caoimhín P. Connell, Forensic IH**

	Yes	No	N/C
Does the property have an ISDS		X	
Is there unusual staining around internal drains		X	
Are solvent odors present from the internal drains		X	
Is there evidence of wastes being disposed down internal drains		X	
Are solvent odors present from the external sewer drain stacks			X
Was the septic tank lid(s) accessible	N/A		
Was the leach field line accessible			
Was the septic tank or leach field lines opened			
Are solvent odors present from the leach field lines (if "yes" see below)			
Are solvent odors present from the septic tank (if "yes" see below)			
Is "slick" present in the septic tank			
Are biphasic (aqueous-organic) layers present in the septic tank			
Was pH measured in the septic tank			
Were organic vapors measured in the septic tank (if "yes" see below)			
Is sampling of the ISDS warranted			
Were calawasi/drum thief samples collected from the septic tank			

*NC = Not checked

Qualitative Organic Vapor Monitoring

Instrument Type	Make and Model
Hydrocarbon detector	EnMet Target Series, MOS detector
pH Strips	Baker Industries

Location	MOS*	PID*	FID*
All internal sinks	<1 ppm	NA	
All surrounding soils (see body of report for explanation)			

*Units of measurement are in parts per million equivalents compared to the toluene calibration vapor. Detection limit 1 ppm

Locator Notes:
No location required

Pre-Remediation Photograph Log Sheet

FACTs project name: 6926	Form # ML8
Date: May 8, 2012	
Reporting IH:	Caoimhín P. Connell, Forensic IH

Name	Date Picture Taken
Dining RM	4/7/2012 3:58 PM
Dining RM (2)	4/7/2012 4:09 PM
Dining RM (3)	4/7/2012 4:10 PM
Dinning RM	4/7/2012 3:58 PM
EC BR	4/7/2012 4:01 PM
EC BR (2)	4/7/2012 4:01 PM
EC BR (3)	4/7/2012 4:01 PM
EC BR (4)	4/7/2012 4:01 PM
EC BR (5)	4/7/2012 4:01 PM
Exterior	4/7/2012 3:48 PM
Exterior (2)	4/7/2012 3:48 PM
Exterior (3)	4/7/2012 3:48 PM
Exterior (4)	4/7/2012 3:49 PM
Exterior (5)	4/7/2012 3:49 PM
Exterior (6)	4/7/2012 3:49 PM
Exterior (7)	4/7/2012 3:50 PM
Exterior (8)	4/7/2012 3:52 PM
Exterior (9)	4/7/2012 3:50 PM
Exterior (10)	4/7/2012 3:52 PM
Exterior (11)	4/7/2012 3:52 PM
Exterior (12)	4/7/2012 3:52 PM
Family RM	4/7/2012 3:59 PM
Family RM (2)	4/7/2012 3:59 PM
Family RM (3)	4/7/2012 3:59 PM
Family RM (4)	4/7/2012 4:08 PM
Family RM (5)	4/7/2012 4:08 PM
Family RM (6)	4/7/2012 4:09 PM
Furnace RM	4/7/2012 4:00 PM
Furnace RM (2)	4/7/2012 4:00 PM
Furnace RM (3)	4/7/2012 4:00 PM
Furnace RM (4)	4/7/2012 4:00 PM
Furnace RM (5)	4/7/2012 4:11 PM
Gloves	4/7/2012 5:23 PM
Gloves (2)	4/7/2012 5:23 PM
Hall	4/7/2012 4:04 PM

Name	Date Picture Taken
Kitchen	4/7/2012 3:59 PM
Kitchen (2)	4/7/2012 3:59 PM
Kitchen (3)	4/7/2012 3:59 PM
Kitchen (4)	4/7/2012 3:59 PM
Kitchen (5)	4/7/2012 3:59 PM
Kitchen (6)	4/7/2012 4:11 PM
Kitchen (7)	4/7/2012 4:11 PM
Master BR	4/7/2012 4:01 PM
Master BR (4)	4/7/2012 4:02 PM
Master BR (5)	4/7/2012 4:02 PM
Master BR (6)	4/7/2012 4:02 PM
Master BR (7)	4/7/2012 4:02 PM
N Bath	4/7/2012 4:03 PM
N Bath (2)	4/7/2012 4:03 PM
N Bath (3)	4/7/2012 4:13 PM
N Bath (4)	4/7/2012 4:13 PM
N Bath (5)	4/7/2012 4:13 PM
S Bath	4/7/2012 4:02 PM
S Bath (2)	4/7/2012 4:02 PM
S Bath (3)	4/7/2012 4:02 PM
S Bath (4)	4/7/2012 4:03 PM
S Bath (5)	4/7/2012 4:03 PM
S Bath (6)	4/7/2012 4:12 PM
S Bath (7)	4/7/2012 4:12 PM
S Bath (8)	4/7/2012 4:13 PM
Sample 1	4/7/2012 5:20 PM
Sample 2	4/7/2012 5:20 PM
Sample 3	4/7/2012 5:20 PM
Sample 3 (2)	4/7/2012 5:20 PM
Sample 4	4/7/2012 5:21 PM
Sample 5	4/7/2012 5:21 PM
Sample 6	4/7/2012 5:22 PM
Sample 8	4/7/2012 5:22 PM
Sample 8 (2)	4/7/2012 5:22 PM
Sample 8 (3)	4/7/2012 5:22 PM

Name	Date Picture Taken
Sample 9	4/7/2012 5:21 PM
Samples	4/7/2012 5:23 PM
SE BR	4/7/2012 4:00 PM
SE BR (2)	4/7/2012 4:00 PM
SE BR (3)	4/7/2012 4:00 PM

Drawing of Cook Area(s)

FACTs project name: 6926	Form # ML10
Date: May 8, 2012	
Reporting IH:	Caoimhín P. Connell, Forensic IH

See Body of text

Each grid equals approximately _____ (Approximate lay-out; Not to scale)

Describe the area:_____

_____

_____

_____

Drawing of Storage/Disposal Area(s)

FACTs project name: 6926	Form # ML11
Date: May 8, 2012	
Reporting IH:	Caoimhín P. Connell, Forensic IH

See Body of text

Each grid equals approximately _____ (Approximate lay-out; Not to scale)

Describe the area:_____

_____

_____

_____

Drawing of General Lab Area

FACTs project name: 6926	Form # ML12
Date: May 8, 2012	
Reporting IH:	Caoimhín P. Connell, Forensic IH

See Body of text

Each grid equals approximately _____ (Approximate lay-out; Not to scale)

Describe the area:_____

_____

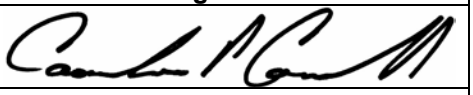
_____

_____

Certification, Variations and Signature sheet

FACTs project name: 6926	**Form # ML14**
Date: May 8, 2012	
Reporting IH:	**Caoimhín P. Connell, Forensic IH**

Certification

Statement	Signature
I do hereby certify that I conducted a preliminary assessment of the subject property in accordance with 6 CCR 1014-3, § 4.	
~~I do hereby certify that the property has been decontaminated in accordance with the procedures set forth in 6 CCR 1014-3, § 5.~~	XXXXXXXXXXXXX
~~I do hereby certify that I conducted post-decontamination clearance sampling in accordance with 6 CCR 1014-3, §6.~~	
~~I do hereby certify that the cleanup standards established by 6 CCR 1014-3, § 7 have been met as evidenced by testing I conducted~~.	
I do hereby certify that the analytical results reported here are faithfully reproduced.	

In the section below, describe any variations from the standard.

No known deviation of standard occurred.

Mandatory Language Pursuant To 6 CCR 1014-3 (§8.23 and §8.24)

I do hereby certify that I conducted a preliminary assessment of the subject property in accordance with 6 CCR 1014-3, § 4. ~~I further certify that the cleanup standards established by 6 CCR 1014-3, § 7 have been met as evidenced by testing I conducted.~~

Signature  Date: May 24, 2012

FORENSIC APPLICATIONS CONSULTING TECHNOLOGIES, INC.
CONSULTANT STATEMENT OF QUALIFICATIONS

(as required by State Board of Health Regulations 6 CCR 1014-3 Section 8.21)

FACTs project name:	Siria	Form # ML15
Date May 24, 2012		
Reporting IH:	Caoimhín P. Connell, Forensic IH	

Caoimhín P. Connell, who has been involved in clandestine drug lab (including meth-lab) investigations since 2002, is a consulting forensic Industrial Hygienist meeting the Colorado Revised Statutes §24-30-1402 definition of an "Industrial Hygienist." He has been a practicing Industrial Hygienist in the State of Colorado since 1987; and is the contract Industrial Hygienist for the National Center for Atmospheric Research.

Mr. Connell is a recognized authority in methlab operations and is a Certified Meth-Lab Safety Instructor through the Colorado Regional Community Policing Institute (Colorado Department of Public Safety, Division of Criminal Justice). Mr. Connell was the lead instructor for the Colorado Division of Criminal Justice and has provided over 260 hours of methlab training for officers of over 25 Colorado Police agencies, 20 Sheriff's Offices, federal agents and probation and parole officers throughout Colorado judicial districts. He has provided meth-lab lectures to prestigious organizations such as the County Sheriff's of Colorado, the American Industrial Hygiene Association, US Air Force, and the National Safety Council.

Mr. Connell is Colorado's only private consulting Industrial Hygienist certified by the Office of National Drug Control Policy High Intensity Drug Trafficking Area Clandestine Drug Lab Safety Program, and P.O.S.T. certified by the Colorado Department of Law; he is a member of the Colorado Drug Investigators Association, the American Industrial Hygiene Association (where he serves on the Clandestine Drug Lab Work Group), the American Conference of Governmental Industrial Hygienists and the Occupational Hygiene Society of Ireland. From 2009, as a law enforcement officer representing his agency, Mr. Connell served as the Industrial Hygiene Subject Matter Expert on the Federally funded Interagency Board (www.IAB.gov) Health, Medical, and Responder Safety SubGroup, and was elected full member of the IAB-HMRS in 2011, and he conducted the May, 2010, AIHA Clandestine Drug Lab Course.

He has received over 144 hours of highly specialized law-enforcement sensitive training in meth-labs and clan-labs (including manufacturing and identification of booby-traps commonly found at meth-labs) through the Iowa National Guard/Midwest Counterdrug Training Center and the Florida National Guard/Multijurisdictional Counterdrug Task Force, St. Petersburg College as well as through the US NHTSA, and the U.S. Bureau of Justice Assistance (US Dept. of Justice). Additionally, he received extensive training in the Colorado Revised Statutes, including Title 18, Article 18 "Uniform Controlled Substances Act of 1992" and is currently ARIDE Certified.

Mr. Connell is a current law enforcement officer in the State of Colorado, who has conducted clandestine laboratory investigations and performed risk, contamination, hazard and exposure assessments from both the law enforcement (criminal) perspective, and from the civil perspective in residences, apartments, motor vehicles, and condominia. Mr. Connell has conducted over 275 assessments in illegal drug labs in Colorado, Nebraska and Oklahoma, and collected over 2,710 samples during assessments (a detailed list of drug lab experience is available on the web at):

http://forensic-applications.com/meth/DrugLabExperience2.pdf

He has extensive experience performing assessments pursuant to the Colorado meth-lab regulation, 6 CCR 1014-3, (State Board Of Health *Regulations Pertaining to the Cleanup of Methamphetamine Laboratories*) and was an original team member on two of the legislative working-groups which wrote the regulations for the State of Colorado. Mr. Connell was the primary contributing author of Appendix A (*Sampling Methods And Procedures*) and Attachment to Appendix A (*Sampling Methods And Procedures Sampling Theory*) of the Colorado regulations. He has provided expert witness testimony in civil cases and testified before the Colorado Board of Health and Colorado Legislature Judicial Committee regarding methlab issues. Mr. Connell has provided services to private consumers, Indian Nations, state officials and Federal Government representatives with forensic services and arguments against fraudulent industrial hygienists and other unauthorized consultants performing invalid methlab assessments.

Mr. Connell, who is a committee member of the ASTM International Forensic Sciences Committee, was the sole sponsor of the draft ASTM E50 *Standard Practice for the Assessment of Contamination at Suspected Clandestine Drug Laboratories*, and he is a coauthor of a 2007 AIHA Publication on methlab assessment and remediation.

Appendix B

Analytical Reports for FACTs Samples

Sampling Field Form

FACTs project name: 6926	**Form # ML17**
Date: May 8, 2012	**Alcohol Lot#: A12Ø1 Gauze Lot#: G1ØØ6**
Reporting IH: Caoimhín P. Connell, Forensic IH	**Preliminary X Intermediate____ Final _____**

Sample ID SMØ5Ø812-	Type	Location	Funct. Space	Dimensions cm	Substrate
-Ø1	W	Dining room ceiling fan blade	1	Note 1	LW
-Ø2	W	Kitchen – rim of ceiling light fixture	8	2 X 250	W
-Ø3	W	Furnace interior	9	Note 1	M
-Ø4	W	Furnace room, top of hot flue exhaust duct	2	10 X 50	M
-Ø5	W	South bathroom, top of light fixture	4	Note 1	M
-Ø6	W	North bathroom, top of medicine chest	6	38.6 X 13	M
-Ø7	W	Master bedroom, closet doors	7	Note 1	PW
-Ø8	W	Central bedroom, closet doors	5	Note 1	PW
-Ø9	W	South bedroom, closet doors	3	Note 1	PW

Sample Types: W=Wipe; V=Microvacuum; A=Air; B=Bulk; L=liquid
Surfaces: DW= Drywall, P=Painted; W= Wood, L= Laminated, V= Varnished, M= Metal, C=Ceramic, Pl=Plastic

Note 1: Convoluted topography – total surface area 500 cm2
Sample 7: 20% undersampled
Sample 8: 20% undersampled
Sample 9: 20% undersampled

Reservoirs Environmental, Inc.

Forensic Applications

Final Report

RES 235547-1

May 18, 2012

REI LAB **Reservoirs Environmental, Inc.**

May 18, 2012

Laboratory Code:	**RES**
Subcontract Number:	**NA**
Laboratory Report:	**RES 235547-1**
Project # / P.O. #:	**6926**
Project Description:	**None Given**

Forensic Applications
185 Bounty Hunter Ln.
Bailey CO 80421

Dear Customer,

Reservoirs Environmental, Inc. is an analytical laboratory accredited for the analysis of Environmental matrices by the National Environmental Laboratory Accreditation Program, Lab Certification #E871030. The laboratory is currently proficient in the ERA PAT Program.

Reservoirs has analyzed the following sample(s) using Gas Chromatography Mass Spectrometry (GC/MS) / Gas Chromatography Flame Ionization Detector (GC/FID) per your request. The analysis has been completed in general accordance with the appropriate methodology as stated in the analysis table. Results have been sent to your office.

RES 235547-1 is the job number assigned to this study. This report is considered highly confidential and the sole property of the customer. Reservoirs Environmental, Inc. will not discuss any part of this study with personnel other than those authorized by the client. The results described in this report only apply to the samples analyzed. This report shall not be reproduced except in full, without written approval from Reservoirs Environmental, Inc. Samples will be disposed of after sixty days unless longer storage is requested. If you should have any questions about this report, please feel free to call me at 303-964-1986.

Sincerely,

Jeanne Spencer Orr
President

Analyst(s): _____
Mike Schaumloeffel

RESERVOIRS ENVIRONMENTAL, INC.

NVLAP Accredited Laboratory #101896
AIHA Certificate of Accreditation #480 LAB ID 101533

TABLE I. ANALYSIS: METHAMPHETAMINE BY WIPE

RES Job Number: **RES 235547-1**
Client: **Forensic Applications**
Client Project Number / P.O.: **6926**
Client Project Description: **None Given**
Date Samples Received: **May 10, 2012**
Analysis Type: **Methamphetamine by GCMS**
Turnaround: **5 Day**
Date Samples Analyzed: **May 17, 2012**

Client ID Number	Lab ID Number	Reporting Limit (µg)	METHAMPHETAMINE CONCENTRATION (µg)
SM050812-01	EM 880721	0.05	40.00
SM050812-02	EM 880722	0.05	4.31
SM050812-03	EM 880723	0.05	123.00
SM050812-04	EM 880724	0.05	6.87
SM050812-05	EM 880725	0.05	2.39
SM050812-06	EM 880726	0.05	8.16
SM050812-07	EM 880727	0.05	36.60
SM050812-08	EM 880728	0.05	13.80
SM050812-09	EM 880729	0.05	43.60

*** Unless otherwise noted all quality control samples performed within specifications established by the laboratory.**

BRL = Below Reporting Limit

Data QA_____

RESERVOIRS ENVIRONMENTAL, INC.

NVLAP Accredited Laboratory #101896
AIHA Certificate of Accreditation #480 LAB ID 101533

QUALITY CONTROL: METHAMPHETAMINE BY WIPE

RES Job Number: **RES 235547-1**
Client: **Forensic Applications**
Client Project Number / P.O.: **6926**
Client Project Description: **None Given**
Date Samples Received: **May 10, 2012**
Analysis Type: **Methamphetamine by GCMS**
Turnaround: **5 Day**
Date Samples Analyzed: **May 17, 2012**

Quality Control Batch	Reporting Limit (µg/100cm²)	Matrix Blank (µg/100cm²)	Matrix Duplicate (% RPD)	Matrix Spike (% Recovery)	Laboratory Control Sample (% Recovery)
1	0.05	BRL	0	103	108

*** Unless otherwise noted all quality control samples performed within specifications established by the laboratory.**
**** These analytical results meet NELAC requirements.**

BRL = Below Reporting Limit

Data QA_____

Due Date: 5.17.12
Due Time: —

RES 235547

REI LAB Reservoirs Environmental, Inc.

Page 1 of 1

After Hours Cell Phone: 720-339-9228

Company:	Forensic Applications,Inc	Company:	
Address:	185 Bounty Hunters Lane	Address:	Paridwise
	Bailey, CO 80421		
Project Number and/or P.O. #:	6926		
Project Description/Location:			

INVOICE TO: (IF DIFFERENT)

CONTACT INFORMATION:

Contact:	Caoimhín P. Connell	Contact:	
Phone:	303-903-7494	Phone:	
Fax:		Fax:	
Cell/pager:		Cell/pager:	
Final Data Deliverable Email Address:	admin@forensic-applications.com		

ASBESTOS LABORATORY HOURS: Weekdays: 7am - 7pm

PLM / PCM / TEM ___ RUSH (Same Day) ___ PRIORITY (Next Day) ___STANDARD (Rush PCM = 2hr, TEM = 6hr.)

CHEMISTRY LABORATORY HOURS: Weekdays: 8am - 5pm

Metal(s) / Dust ___ RUSH ___ 24 hr. ___3-5 Day

RCRA 8 / Metals & Welding Fume Scan / TCLP ___ RUSH ___ 5 day ___10 day

Organics ___ 24 hr. ___ 3 day _X__5 Day

Prior notification is required for RUSH turnarounds.

MICROBIOLOGY LABORATORY HOURS: Weekdays: 9am - 6pm

E.coli O157:H7, Coliforms, S.aureus ___ 24 hr. ___2 Day ___3-5 Day

Salmonella, Listeria, E.coli, APC, Y & M ___ 48 Hr. ___3-5 Day

Mold ___ RUSH ___24 Hr ___48 Hr ___ 3 Day ___5 Day

Turnaround times establish a laboratory priority, subject to laboratory volume and are not guaranteed. Additional fees apply for afterhours, weekends and holidays.

Special Instructions: Standard REI Reportable limits. Please report all samples as total µg. Please use entire sample.

REQUESTED ANALYSIS

Client sample ID number (Sample ID's must be unique)	PLM - Short report, Long report, Point Count	TEM - AHERA, Level II, 7402, ISO, +/-, Quant, Semi-quant, Micro-vac, ISO-Indirect Preps	PCM - 7400A, 7400B, OSHA	DUST - Total, Respirable	METALS - Analyte(s) _____ RCRA 8, TCLP, Welding Fume, Metals Scan	ORGANICS - METH	MICROBIOLOGY: Salmonella: +/-	E.coli O157:H7: +/-	Listeria: +/-	Aerobic Plate Count: +/- or Quantification	E.coli: +/- or Quantification	Coliforms: +/- or Quantification	S.aureus: +/- or Quantification	Y & M: +/- or Quantification	Mold: +/-, Identification, Quantification	SAMPLER'S INITIALS OR OTHER NOTES: Not submitted	Sample Volume (L) / Area	Matrix Code	# Containers	Date Collected mm/dd/yy	Time Collected hh/mm a/p	EM Number (Laboratory Use Only)
1 SMØ5Ø812-Ø1						X											NA	W	1	Ø5/Ø8/12		580721
2 SMØ5Ø812-Ø2						X											NA	W	1	Ø5/Ø8/12		22
3 SMØ5Ø812-Ø3						X											NA	W	1	Ø5/Ø8/12		23
4 SMØ5Ø812-Ø4						X											NA	W	1	Ø5/Ø8/12		24
5 SMØ5Ø812-Ø5						X											NA	W	1	Ø5/Ø8/12		25
6 SMØ5Ø812-Ø6						X											NA	W	1	Ø5/Ø8/12		26
7 SMØ5Ø812-Ø7						X											NA	W	1	Ø5/Ø8/12		27
8 SMØ5Ø812-Ø8						X											NA	W	1	Ø5/Ø8/12		28
9 SMØ5Ø812-Ø9						X											NA	W	1	Ø5/Ø8/12		29
10 SMØ5Ø812-1Ø						X										X	NA	W	1	Ø5/Ø8/12		30

VALID MATRIX CODES

Air = A	Bulk = B
Dust = D	Paint = P
Soil = S	Wipe = W
Swab = SW	F = Food
Drinking Water = DW	Waste Water = WW
O = Other	

ASTM E1792 approved wipe media only

LAB NOTES:

Number of samples received: 9 (Additional samples shall be listed on attached long form.)

NOTE: REI will analyze incoming samples based upon information received and will not be responsible for errors or omissions in calculations resulting from the inaccuracy of original data. By signing client/company representative agrees that submission of the following samples for requested analysis as indicated on this Chain of Custody shall constitute an analytical services agreement with payment terms of NET 30 days, failure to comply with payment terms may result in a 1.5% monthly interest surcharge.

Relinquished By: Date/Time:

Laboratory Use Only

Received By: Date/Time: 5.10.12 1140 Carrier:

Sample Condition: On Ice Sealed

Temp. (F°) ____ Yes / No Yes / N

Results:

Contact	Phone	Email	Fax	Date	Time	Initials	Contact	Phone	Email	Fax	Date 5E17	Time 1045
Contact	Phone	Email	Fax	Date	Time	Initials	Contact	Phone	Email	Fax	Date	Time

7-2011_version 1

Reservoirs Environmental, Inc.

Forensic Applications

Final Report

RES 235549-1

May 18, 2012

REI LAB **Reservoirs Environmental, Inc.**

May 18, 2012

Laboratory Code:	**RES**
Subcontract Number:	**NA**
Laboratory Report:	**RES 235549-1**
Project # / P.O. #:	**Hannah Blank**
Project Description:	**None Given**

Forensic Applications
185 Bounty Hunter Ln.
Bailey CO 80421

Dear Customer,

Reservoirs Environmental, Inc. is an analytical laboratory accredited for the analysis of Environmental matrices by the National Environmental Laboratory Accreditation Program, Lab Certification #E871030. The laboratory is currently proficient in the ERA PAT Program.

Reservoirs has analyzed the following sample(s) using Gas Chromatography Mass Spectrometry (GC/MS) / Gas Chromatography Flame Ionization Detector (GC/FID) per your request. The analysis has been completed in general accordance with the appropriate methodology as stated in the analysis table. Results have been sent to your office.

RES 235549-1 is the job number assigned to this study. This report is considered highly confidential and the sole property of the customer. Reservoirs Environmental, Inc. will not discuss any part of this study with personnel other than those authorized by the client. The results described in this report only apply to the samples analyzed. This report shall not be reproduced except in full, without written approval from Reservoirs Environmental, Inc. Samples will be disposed of after sixty days unless longer storage is requested. If you should have any questions about this report, please feel free to call me at 303-964-1986.

Sincerely,

Jeanne Spencer Orr
President

Analyst(s): _____
Mike Schaumloeffel

RESERVOIRS ENVIRONMENTAL, INC.

NVLAP Accredited Laboratory #101896
AIHA Certificate of Accreditation #480 LAB ID 101533

TABLE I. ANALYSIS: METHAMPHETAMINE BY WIPE

RES Job Number: **RES 235549-1**
Client: **Forensic Applications**
Client Project Number / P.O.: **Hannah Blank**
Client Project Description: **None Given**
Date Samples Received: **May 10, 2012**
Analysis Type: **Methamphetamine by GCMS**
Turnaround: **5 Day**
Date Samples Analyzed: **May 17, 2012**

Client ID Number	Lab ID Number	Reporting Limit (µg)	METHAMPHETAMINE CONCENTRATION (µg)
HM050912-01	EM 880734	0.05	BRL
HM050912-02	EM 880735	0.05	BRL
HM050912-03	EM 880736	0.05	0.14
HM050912-04	EM 880737	0.05	BRL
HM050912-05	EM 880738	0.05	BRL
HM050912-06	EM 880739	0.05	BRL
HM050912-07	EM 880740	0.05	BRL
HM050912-08	EM 880741	0.05	BRL
HM050912-09	EM 880742	0.05	BRL
HM050912-10	EM 880743	0.05	BRL
HM050912-11	EM 880744	0.05	BRL
HM050912-12	EM 880745	0.05	BRL
HM050912-13	EM 880746	0.05	0.09
HM050912-14	EM 880747	0.05	8.40

*** Unless otherwise noted all quality control samples performed within specifications established by the laboratory.**

BRL = Below Reporting Limit

Data QA_____

RESERVOIRS ENVIRONMENTAL, INC.

NVLAP Accredited Laboratory #101896
AIHA Certificate of Accreditation #480 LAB ID 101533

QUALITY CONTROL: METHAMPHETAMINE BY WIPE

RES Job Number: **RES 235549-1**
Client: **Forensic Applications**
Client Project Number / P.O.: **Hannah Blank**
Client Project Description: **None Given**
Date Samples Received: **May 10, 2012**
Analysis Type: **Methamphetamine by GCMS**
Turnaround: **5 Day**
Date Samples Analyzed: **May 17, 2012**

Quality Control Batch	Reporting Limit (µg/100cm²)	Matrix Blank (µg/100cm²)	Matrix Duplicate (% RPD)	Matrix Spike (% Recovery)	Laboratory Control Sample (% Recovery)
1	0.05	BRL	0	103	108
2	0.05	BRL	3	113	106

*** Unless otherwise noted all quality control samples performed within specifications established by the laboratory.**
**** These analytical results meet NELAC requirements.**
Quality Control Batch 1 = Samples HM050912-01 thru HM050912-04 (EM 880734 thru 880737).
Quality Control Batch 2 = Samples HM050912-05 thru HM050912-14 (EM 880738 thru 880747).

BRL = Below Reporting Limit

Data QA_____

Due Date:_____
Due Time:_____

REI LAB Reservoirs Environmental, Inc.

Job # 235549
Page 2 of 2

After Hours Cell Phone: 720-339-9228

INVOICE TO: (IF DIFFERENT)		CONTACT INFORMATION:	
Company: Forensic Applications,Inc	Company:	Contact: Caoimhín P. Connell	Contact:
Address: 185 Bounty Hunters Lane	Address:	Phone: 303-903-7494	Phone:
Bailey, CO 80421		Fax:	Fax:
		Cell/pager:	Cell/pager:
Project Number and/or P.O. #: Hannah -Blanks		Final Data Deliverable Email Address: admin@forensic-applications.com	
Project Description/Location:			

ASBESTOS LABORATORY HOURS: Weekdays: 7am - 7pm

PLM / PCM / TEM ____ RUSH (Same Day) ___ PRIORITY (Next Day) ___STANDARD
(Rush PCM = 2hr, TEM = 6hr.)

CHEMISTRY LABORATORY HOURS: Weekdays: 8am - 5pm

Metal(s) / Dust ___ RUSH ___ 24 hr. ___3-5 Day
RCRA 8 / Metals & Welding Fume Scan / TCLP ___ RUSH ___ 5 day ___10 day
Organics ___ 24 hr. ___ 3 day _X__5 Day

Prior notification is required for RUSH turnarounds.

MICROBIOLOGY LABORATORY HOURS: Weekdays: 9am - 6pm

E.coli O157:H7, Coliforms, S.aureus ___ 24 hr. ___2 Day ___3-5 Day
Salmonella, Listeria, E.coli, APC, Y & M ___ 48 Hr. ___3-5 Day
Mold ___ RUSH ___24 Hr ___48 Hr ___3 Day ___5 Day

Turnaround times establish a laboratory priority, subject to laboratory volume and are not guaranteed. Additional fees apply for afterhours, weekends and holidays.

Special Instructions: Standard REI Reportable limits. Please report all samples as total µg. Please use entire sample.

REQUESTED ANALYSIS																				VALID MATRIX CODES		LAB NOTES:
		PLM - Short report, Long report, Point Count	TEM - AHERA, Level II, 7402, ISO, +/-, Quant, Semi-quant, Micro-vac, ISO-Indirect Preps	PCM - 7400A, 7400B, OSHA	DUST - Total, Respirable	METALS - Analyte(s) RCRA 8, TCLP, Welding Fume, Metals Scan	ORGANICS - METH	MICROBIOLOGY: Salmonella: +/-	MICROBIOLOGY: E.coli O157:H7: +/-	MICROBIOLOGY: Listeria: +/-	MICROBIOLOGY: Aerobic Plate Count: +/- or Quantification	MICROBIOLOGY: E.coli: +/- or Quantification	MICROBIOLOGY: Coliforms: +/- or Quantification	MICROBIOLOGY: S.aureus: +/- or Quantification	MICROBIOLOGY: Y & M: +/- or Quantification	MICROBIOLOGY: Mold: +/-, Identification, Quantification	SAMPLER'S INITIALS OR OTHER NOTES: Not submitted			Air = A	Bulk = B	
	Client sample ID number (Sample ID's must be unique)																			Dust = D	Paint = P	
																				Soil = S	Wipe = W	
																				Swab = SW	F = Food	
																				Drinking Water = DW	Waste Water = WW	
																				O = Other		
																				ASTM E1792 approved wipe media only		

	Client sample ID number	Sample Volume (L) / Area	Matrix Code	# Containers	Date Collected mm/dd/yy	Time Collected hh/mm a/p	EM Number (Laboratory Use Only)
1	HMØ5Ø912-11	NA	W	1	Ø5/Ø9/12		850744
2	HMØ5Ø912-12	NA	W	1	Ø5/Ø9/12		45
3	HMØ5Ø912-13	NA	W	1	Ø5/Ø9/12		46
4	HMØ5Ø912-14	NA	W		Ø5/Ø9/12		47
5							
6							
7							
8							
9							
10							

Number of samples received: _____ (Additional samples shall be listed on attached long form.)

NOTE: REI will analyze incoming samples based upon information received and will not be responsible for errors or omissions in calculations resulting from the inaccuracy of original data. By signing client/company representative agrees that submission of the following samples for requested analysis as indicated on this Chain of Custody shall constitute an analytical services agreement with payment terms of NET 30 days, failure to comply with payment terms may result in a 1.5% monthly interest surcharge.

Relinquished By: _____ Date/Time:

Sample Condition: On Ice Yes / No Sealed Yes / No Intact Yes / No
Temp. (F°) _____

Laboratory Use Only
Received By: Date/Time: Carrier:

Results:	Contact	Phone	Email	Fax	Date	Time	Initials	Contact	Phone	Email	Fax	Date	Time	Initials
	Contact	Phone	Email	Fax	Date	Time	Initials	Contact	Phone	Email	Fax	Date	Time	Initials

Appendix C

Compact Digital Disk
(Photographs and Additional Documentation)