

**Preliminary Assessment
of an
Identified Illegal Drug Laboratory
at:**

**611 South Clarkson Street
and
615 South Clarkson Street
Denver , CO 80209**

Prepared for:

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EXECUTIVE SUMMARY

On May 1, 2013, the Denver Police Department (DPD) conducted a standard “knock and talk” procedure at 615 South Clarkson Street, Denver CO. Pursuant to a consent to search, DPD identified drug paraphernalia consistent with the use of methamphetamine, and also identified and confirmed the presence of methamphetamine at the property.

The May 1, 2013 report met the definition of “discovery” and “notification” of an illegal drug laboratory as those terms are used in CRS 25-18.5-103 and CRS 25-18.5-101(2.) respectively, and which triggered Colorado State Board of Health Regulation 6 CCR 1014-3.

On June 17, 2013, DPD again responded to the subject property, and again identified and confirmed the presence of methamphetamine at the property.

From Friday, September 20, 2013, until Friday, September 27, 2013, Forensic Applications Consulting Technologies, Inc. (FACTs) was contracted and performed a standard, State mandated Preliminary Assessment of the property pursuant to Colorado Regulation 6 CCR 1014-43, Part 4.

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

- 615 South Clarkson Street, Denver, Colorado comprises of two distinct residences (a duplex residence); 615 South Clarkson Street, Denver, Colorado and 611 South Clarkson Street, Denver, Colorado (collectively referred to as the subject property).
- Sampling performed at the subject property confirmed that profoundly elevated and widespread methamphetamine contamination exists at the property at concentrations in excess of 330 times the regulatory limits specified by the Colorado Board of Health, (6 CCR 1014-3).
- The subject property, in its entirety, exhibits profound noncompliance with Colorado’s methamphetamine cleanup standards. A noncompliant illegal drug lab, as that term is defined in CRS §25-18.5-101(2.7), existed at the subject property from at least May 1, 2013, forward, and continues to exist at the time of this Preliminary Assessment. In Colorado, an “illegal drug laboratory” is defined as:

25-18.5-101. Definitions.

(2.7) "Illegal drug laboratory" means the areas where controlled substances, as defined by section 18-18-102, C.R.S., have been manufactured, processed, cooked, disposed of, used, or stored and all proximate areas that are likely to be contaminated as a result of such manufacturing, processing, cooking, disposal, use, or storing.

- A Class 1 Public Nuisance, as defined in CRS §16-13-303(1) existed at the subject property from at least May 1, 2013, forward, and continues to exist at the time of this report.



- The entire structure, including the detached garages, automobiles and all personal belongings and contents contained therein must be destroyed or decontaminated in a manner consistent with State regulations.
- Following the decontamination activities, a qualified Industrial Hygienist must perform the post-decontamination process in accordance with 6 CCR 1014-3 and issue a Decision Statement before reentry into the property may occur.
- No personal items may be removed from the property except under the restrictions described by 25-18.5-103 which states:

(3) A person who removes personal property or debris from a drug laboratory shall secure the property and debris to prevent theft or exposing another person to any toxic or hazardous chemicals until the property and debris is appropriately disposed of or cleaned according to board rules. L. 2004: Entire article added, p. 533, § 1, effective April 21. L. 2005: Entire section amended, p. 1495, § 2, effective June 9, 2005.

- No persons are permitted into the residences except under the restrictions described by 25-18.5-103 which states:

25-18.5-104. Entry into illegal drug laboratories.

If a structure or vehicle has been determined to be contaminated or if a governing body or law enforcement agency issues a notice of probable contamination, the owner of the structure or vehicle shall not permit any person to have access to the structure or vehicle unless the person is trained or certified to handle contaminated property pursuant to board rules or federal law. L. 2005: Entire section added, p. 1496, § 3, effective June 9, 2005.

- This Preliminary Assessment (PA) was performed by Mr. Caoimhín P. Connell, Forensic Industrial Hygienist with FACTs. Mr. Connell was assisted by Ms. Christine Carty, Field Technician¹ and Mr. Glenn Hardey, Field Technician.²

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).

¹ Ms. Carty 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 consistent with 29 CFR §1910.120.

² 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.



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 contained in the PA, and those findings, enter the public domain and are not subject to confidentiality.³

The PA must be conducted according to specified requirements⁴ 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, Denver County does not have any specific regulations over and above the State mandated requirements.

City Regulations

The City of Denver does not have any specific regulations over and above the State mandated requirements.

Preliminary Hypothesis

During the Preliminary Assessment (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.⁵ The strength of evidence needed to reject the

³ Section 8.26 of 6 CCR 1014-3

⁴ Section 4 of 6 CCR 1014-3

⁵ This language and emphasis is verbatim from Appendix A (mandatory) of 6 CCR 1014-3



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:⁶

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, the confirmed presence of drug paraphernalia and large quantities⁷ of methamphetamine identified by the DPD was sufficient for FACTs to accept the null hypothesis and conclude that the entire structure was noncompliant.

FACTs collected 24 (twenty four) samples from the combined structure for the quantitative analysis of methamphetamine. We submitted just four of those samples for analysis to initially better understand the potential extent and distribution of contamination.

To this goal, we submitted the samples collected from the interior of the two furnace systems, and two surface samples from the upstairs of each unit. Those samples indicated profoundly elevated concentrations of methamphetamine.

- Unit 615 Living room / dining room surface: 21 µg/100 cm²
- Unit 615 Furnace interior: 145 µg/100 cm²
- Unit 611 Living room / dining room surface: 166 µg/100 cm²
- Unit 611 Furnace interior: 28 µg/100 cm²

Based on those samples alone, it is our professional judgment, based on extensive experience, that no area in the property could be found to be compliant. The rationale for the conclusion is found in the following discussions.

⁶ Section 4.6 of 6 CCR 1014-3

⁷ May 1, 2013 DPD recovered 24g of methamphetamine and on June 17, 2013, DPD recovered 17g of methamphetamine.



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:

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

The *circa* 1921 property is approximately 3,924 square feet, including the basements and the garages, but excluding the attic. Therefore, for regulatory purposes, the sampling square footage will be 3,924 square feet.

A general layout of the structure is depicted in the aerial photographs below. The subject property is outlined in red; north is at the top of the photograph.





**Photograph 1
General Site Layout⁸**



**Figure 1
Partial Plat**

⁸ Copyright Google™ Reproduced under fair use doctrine. Image date: 10/7/2012



Review of Law Enforcement Documentation

As part of the PA, FACTs is required by regulation⁹ to review available law enforcement documents pertinent to a subject property. During this project, FACTs contacted the Denver Police Department for documentation. In the past, the Denver Police Department typically would respond to such requests within three days, and generally openly cooperated with such requests. Earlier this year, however, the DPD began using an internet-based document request system. In spite of prepayment for documentation, FACTs has never been successful in obtaining any law enforcement documents through the new system. As of the date of this report, FACTs has not received any reply from DPD.

As such, based on the best available information, during this assessment there were no *available* 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:

Mr. Bill Benerman
Community Protection and Emergency Response Section Manager
Denver Department of Environmental Health
Denver Department of Environmental Health
200 W Fourth Ave
Suite 300
Denver, CO 80204

To our knowledge, the Denver County Department of Environment Health has not assigned the property a case number.

Visual Inspection of the Property

As part of the Preliminary Assessment, on September 23, 2013, Mr. Caoimhín P. Connell, Forensic Industrial Hygienist with FACTs, performed a visual inspection and sampling of the subject property. Mr. Connell was assisted in the field by Ms. Christine A Carty, Field Technician and Mr. Glenn Hardey, Field Technician. 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

⁹ 6 CCR 1014-3 (Section 4.2)



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 based on knowledge of illegal drug operations and with foundational guidance in Federal Regulation.¹⁰

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:

Structure	Functional Space Number	Indicia (Y/N)	Describe the functional space (See drawings for delineating structural features)
611	1	Y	Upstairs SE bedroom and closet
611	2	Y	Living room, dining room and hallway
611	3	Y	US bathroom
611	4	Y	Upstairs SW bedroom and closet
611	5	Y	Kitchen
611	6	Y	Back porch
611	7	Y	Basement laundry and utility room
611	8	Y	Basement east bedroom
611	9	Y	Basement furnace room
611	10	Y	Basement coal room
611	11	Y	Garage
611	12	Y	Attic
611	13	Y	Furnace system
615	1	Y	Upstairs NE bedroom and closet
615	2	Y	Living room, dining room and hallway
615	3	Y	US bathroom
615	4	Y	Upstairs NW bedroom and closet
615	5	Y	Kitchen
615	6	Y	Back porch
615	7	Y	Basement laundry and utility room
615	8	Y	Basement east bedroom
615	9	Y	Basement furnace room
615	10	Y	Basement coal room
615	11	Y	Garage
615	12	Y	Attic
615	13	Y	Furnace system

Table 2
Functional Space Inventory

¹⁰ Asbestos Containing Materials in Schools; Final Rule and Notice, Title 40 CFR Part 763, Fed. Reg. Vol. 52, No. 210, Fri. Oct. 30, 1987



611 S. Clarkson Street

611 S. Clarkson Street was unoccupied at the time of our site visit. In general there were few visual indicators in this unit. An odor of marijuana permeated the residence, and we observed a marijuana plant in the basement. Overall, the unit appeared otherwise well kempt, and recently cleaned.

Based on our observations, the previous resident had established a marijuana grow operation in 611 S. Clarkson Street.

Functional Space 1: Upstairs South East Bedroom and Closet

Used here as the term is commonly understood, this room is immediately to the left as one enters the front door from the street.

This functional space otherwise contained several subjective indicators of illegal drug use such as a hidden grow room in the closet, modified electrical wiring, window block material, the odor of marijuana, and disabled smoke detectors.

Functional Space 2: Living Room Complex

This space includes the living room and contiguous dining area as well as the hallway leading to the back bedroom. A sample was collected from this space to challenge the compliance and was submitted for analysis. That sample indicated approximately one hundred and sixty six (166) micrograms of methamphetamine per 100 square centimeters (166 $\mu\text{g}/100\text{cm}^2$).

The functional space otherwise contained subjective indicators of illegal drug use such as the odor of marijuana and disabled smoke detectors.

Functional Space 3: Bathroom

Used here as the term is commonly understood, the bathroom contained a shower/bath unit, sink and toilet. We did not observe any indicators that damaging methamphetamine waste materials had been discarded into the city sewer system through the plumbing in this space.

Functional Space 4: Upstairs Southwest Bedroom and Closet

Used here as the term is commonly understood, the corner bedroom contained visual indicators consistent with illegal drug operations including window block material, and “artistic expressions.”¹¹

¹¹ “Artistic expressions” are uncommon, *ad hoc*, often strange, applications of paints, and other “decorative” expressions and may include graffiti, notes or memos written on walls, drawings, psychedelic stylized room colors, etc. Such artistic expressions are very common to structures wherein the occupants are involved in illegal drug use (especially methamphetamine), and are rarely found in structures where no drug use or drug operations occur.



Functional Space 5: Kitchen

Used here as the term is commonly understood, the kitchen occupies the western side of the upstairs portion of the residence. We observed trash and cigarette butts in the kitchen sink, however, no conclusive visual indicators of production or use of controlled substances.

Functional Space 6: Back Porch

The back porch appears to have been an open-air porch at one time, and then subsequently enclosed. We did not observe any conclusive indicators of illegal drug production in this space.

Functional Space 7: Basement Utility Room

Upon descending the stairs, one immediately enters this large utility room containing a washing machine and slop-sink. This space, like the rest of the basement in particular, exhibited a strong odor of marijuana. We observed modified electrical wiring in this space.

Functional Space 8: Basement Bedroom

Contiguous with Functional Space 7, is the large room to the east that appears to have been used as a bedroom. The room contained several inconclusive indicators consistent with illegal drug laboratories including window black material and unusual wall hangings.

Functional Space 9: Basement Furnace Room

Contiguous with Functional Space 7, this is the room to the north containing the water heater and furnace assembly. This room also contained a small marijuana plant, and modified ventilation commonly seen in clandestine marijuana cultivation operations.

Functional Space 10: Basement Coal Room

Contiguous with Functional Space 9, this is the small room to the west of the furnace room. This room had been heavily modified and converted into a marijuana grow room.

Functional Space 11: Garage

Used here as the term is commonly understood, the garage is detached from the main structure. The garage is a single structure that has been symmetrically divided in two; north and south halves. The garage contained several indicators consistent with illegal drug use including pagan symbolism and posters common amongst marijuana cultivators.

Functional Space 12: Attic

The attic for this property is actually more of a shallow plenum space than a traditional attic. The attic is common to both units, and one could conceivably travel from one residence to the other residence unimpeded. However, access into the attic is not feasible, and neither is the attic suitable for storage or occupancy. Due to the restricted space, and lack of accessibility, the attic cannot reasonably pose an exposure potential for an occupant of the property.



However, if the attic is disturbed in the future, the methamphetamine contamination will migrate into the space above both 611S Clarkson and 615 S Clarkson.

We observed a plastic baggie inside the attic; the baggie appeared to be recently placed there, and rests upon the top of the insulation. However, due to the inaccessible nature of the attic, we were not able to retrieve the baggie or investigate further. Based on the history of the residence, and based on the otherwise inexplicable presence of the baggie, we presume the baggie contains contraband, and was hidden in the attic to avoid detection.

Functional Space 13: Furnace and Ventilation System

The Furnace System in the structure is a standard gas-fired residential forced air system. The actual mechanical unit is located within Functional Space 9 of the basement. The system has a ducted distribution system throughout the entire residential structure excluding the attic.

Although perhaps arguably not a functional space *per se*, in compliance with regulation, FACTs collected a sample (CM092413-27) from the furnace interior. The purpose of the sample was to determine if the furnace system could be excluded from the decontamination process and also to determine if contamination could have been spread throughout the residence via the mechanical action of the forced air system.

The sample collected from the furnace interior indicated a profoundly elevated concentration of 28 µg/100cm².

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%¹² and half¹³ of the substance is released from the user's device. Of that material which is inhaled, between 33%¹⁴ and 10%¹⁵ of the nominal dose is not absorbed into the body, but rather exhaled back into the ambient air.

¹² 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)

¹³ Cook CE, Jeffcoat AR, Hill JM, et al. *Pharmacokinetics 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.)

¹⁴ 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.)



Unpublished work conducted by Industrial Hygienists at the National Jewish Hospital¹⁶ 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 ($\mu\text{g}/\text{m}^3$) to over 130 $\mu\text{g}/\text{m}^3$. 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.'¹⁷

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 furnace interior) conclusively contained elevated concentrations of methamphetamine, we conclude the furnace was an effective mechanism of dissemination of methamphetamine contamination and will continue to be a source of contamination throughout the property until appropriately addressed.

In general, since the furnace system is connected to and communicates with all portions of the occupiable spaces of the residence, the results of the furnace sample alone 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, even in the absence of any sample result for any specific location. That is, this sample alone is sufficient to reasonably conclude widespread methamphetamine contamination throughout the entire residence.

However, having said that, the confirmation sample collected in the upstairs living room (CM092413-16; containing 166 $\mu\text{g}/100\text{cm}^2$) nevertheless objectively confirmed the existence of widespread contamination in this residence.

The furnace system, (including all ducts), is heavily contaminated as evidenced by the sample, and must be included in the remediation plan.

¹⁵ 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

¹⁶ 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.)

¹⁷ 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.)



Exterior Grounds

Although perhaps not truly a functional space *per se*, the exterior grounds were assessed independently. At the time of our visit, the grounds were neglected and contained significantly stressed vegetation. However, a thorough inspection did not reveal any conclusive indicators of illegal dumping in the exterior grounds.

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, none of the plumbing was compromised.

During our assessment, we measured each trap for the presence of total hydrocarbons, acid gases and phosphine. During our assessment, we did not observe elevated concentrations of hydrocarbons acid gases or phosphine.

615 S. Clarkson Street

615 South Clarkson Street was occupied at the time of our site visit. In general there were multiple visual indicators consistent with illegal drug use in this unit. However, at the time of our visit, we did not observe indicators conclusive of manufacturing, or processing of methamphetamine or any other controlled substance.

Overall, the upstairs portion of the unit appeared otherwise cluttered but not squalid, whereas the downstairs was both squalid and cluttered.

Functional Space 1: Upstairs Northeast Bedroom and Closet

Used here as the term is commonly understood, this room is immediately to the right as one enters the residence from the front door from the street.

A surface sample (CM092413-01) was collected from this space to challenge the compliance. That sample indicated approximately 21 µg/100cm². This functional space otherwise contained several subjective indicators consistent with illegal drugs including artistic expressions, an odor of marijuana, signs of violence, and graffiti.

Functional Space 2: Living Room Complex

This space includes the living room and contiguous dining area as well as the hallway leading to the back bedroom. The DPD reported observing drug paraphernalia in this room on May 1, 2013; the observed paraphernalia was consistent with methamphetamine use.

We observed signs of violence, artistic expressions and other nonconclusive subjective indicators consistent with structures whose occupants are engaged in controlled substance operations.



Functional Space 3: Bathroom

Used here as the term is commonly understood, the bathroom contained a shower/bath unit, sink and toilet. We observed nonconclusive indicators consistent with clandestine drug activities. We did not observe any indicators that damaging methamphetamine waste materials had been discarded into the city sewer system or that the plumbing was otherwise compromised or damaged.

Functional Space 4: Upstairs Northwest Bedroom and Closet

Used here as the term is commonly understood, this corner bedroom contained visual indicators consistent with illegal drug operations including artistic expressions.

Functional Space 5: Kitchen

Used here as the term is commonly understood, the kitchen occupies the western side of the upstairs portion of the residence. We observed an heating mantle in the kitchen consistent with a repaired stove top heating element, however, no conclusive visual indicators of production or use of controlled substances.

Functional Space 6: Back Porch

Similar to the back porch already described for 611 S. Clarkson, this porch appears to have been an open-air porch at one time, and then subsequently enclosed. We did not observe any conclusive indicators of illegal drug production in this space.

Functional Space 7: Basement Utility Room

Upon descending the stairs, one immediately enters this large utility room containing a washing machine, clothes dryer, and double slop-sink. The space was cluttered. From this room, one accesses the furnace room to the south and the bedroom to the east.

Functional Space 8: Basement Bedroom

Contiguous with Functional Space 7, this is a large room to the east that is used as a bedroom. The room contained several conclusive indicators consistent with illegal drug laboratories including the presence of hypodermic needles and methamphetamine, as reported by the DPD.

Functional Space 9: Basement Furnace Room

Contiguous with Functional Space 7, this is the large room to the south containing the water heater and furnace assembly. We observed several nonconclusive indicators consistent with structures associated with illegal drug operations, including graffiti and a knife ostensibly hidden in the ventilation system.

Functional Space 10: Basement Coal Room

Contiguous with Functional Space 9, this is the small room to the west of the furnace room. This room also had nonconclusive indicators consistent with structures associated with illegal drug operations.



Functional Space 11: Garage

Used here as the term is commonly understood, the garage is detached from the main structure. The garage is a single structure that has been symmetrically divided in two; north and south halves.

Functional Space 12: Attic

The attic has been previously discussed in the Functional Space discussion for 611 South Clarkson.

Functional Space 13: Furnace and Ventilation System

The Furnace System in the structure is a standard gas-fired residential forced air system. The actual mechanical unit is located within Functional Space 9 of the basement. The system has a ducted distribution system throughout the entire residential structure excluding the attic.

We observed a dagger ostensibly hidden in the interior of the return air duct.

FACTs collected a sample (CM092413-15) from the furnace interior. The purpose of the sample was to determine if the furnace system could be excluded from the decontamination process and also to determine if contamination could have been spread throughout the residence via the mechanical action of the forced air system.

The sample collected from the furnace interior indicated a profoundly elevated concentration of methamphetamine (145 $\mu\text{g}/100\text{cm}^2$); approximately 300 times greater than the regulatory threshold.

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 furnace interior) conclusively contained elevated concentrations of methamphetamine, we conclude the furnace was an effective mechanism of dissemination of methamphetamine contamination and will continue to be a source of contamination throughout the property until appropriately addressed.

The results of the furnace sample alone 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, even in the absence of any sample result for any specific location. That is, this sample alone is sufficient to reasonably conclude widespread methamphetamine contamination throughout the entire residence.

However, having said that, the confirmation sample collected in the upstairs front bedroom (CM092413-01; containing 21 $\mu\text{g}/100\text{cm}^2$) nevertheless objectively confirmed the existence of widespread contamination.

The furnace system, (including all ducts), is heavily contaminated as evidenced by the sample, and must be included in the remediation plan.



Exterior Grounds

Although perhaps not truly a functional space *per se*, the exterior grounds were assessed independently. At the time of our visit, the grounds were neglected and contained significantly stressed vegetation. However, a thorough inspection did not reveal any conclusive indicators of illegal dumping in the exterior grounds.

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, none of the plumbing was compromised.

During our assessment, we measured each trap for the presence of total hydrocarbons, acid gases and phosphine. During our assessment, we did not observe elevated concentrations of hydrocarbons acid gases or phosphine.

SAMPLE COLLECTION

Wipe Samples

The samples collected during the September 23, 2013, Preliminary Assessment site visit, all consisted of discrete regulatory compliance samples.

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 the intent of 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 material 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.

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. Field blanks were randomly selected from the sampling batch and included with the samples. To ensure the integrity of the blanks, FACTs personnel are unaware, until the actual time of sampling, which specific samples will be selected as blanks. Similarly, to ensure the integrity of the blanks, laboratory personnel are never aware of the presence of the blanks in the analysis batch.

For this project, just one of the blanks was submitted. There was no methamphetamine identified in the field blank which confirms that none of the sampling materials or handling procedures contributed to the methamphetamine identified in the actual samples collected from the property.

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. The historical pooled spike recovery used for this sample suite is 95.5%, ($n=27$ and $\sigma = 0.19 \mu\text{g}$).

Cross Contamination

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

Prior to entry into each residence at the subject property, each member of FACTs donned disposable Tyvek suits and then booties upon entering the second unit.

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 facie* evidence during final verification challenges 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 law enforcement statements and our sample results to conclude that the contamination of the subject property was widespread, and, based on the totality of the circumstances, in accordance with 6 CCR 1014-3, we concluded that the sample for each specific functional space need not be analyzed.

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 subject property 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 necessarily to scale. In the diagrams, the sample locations are indicated by triangles.



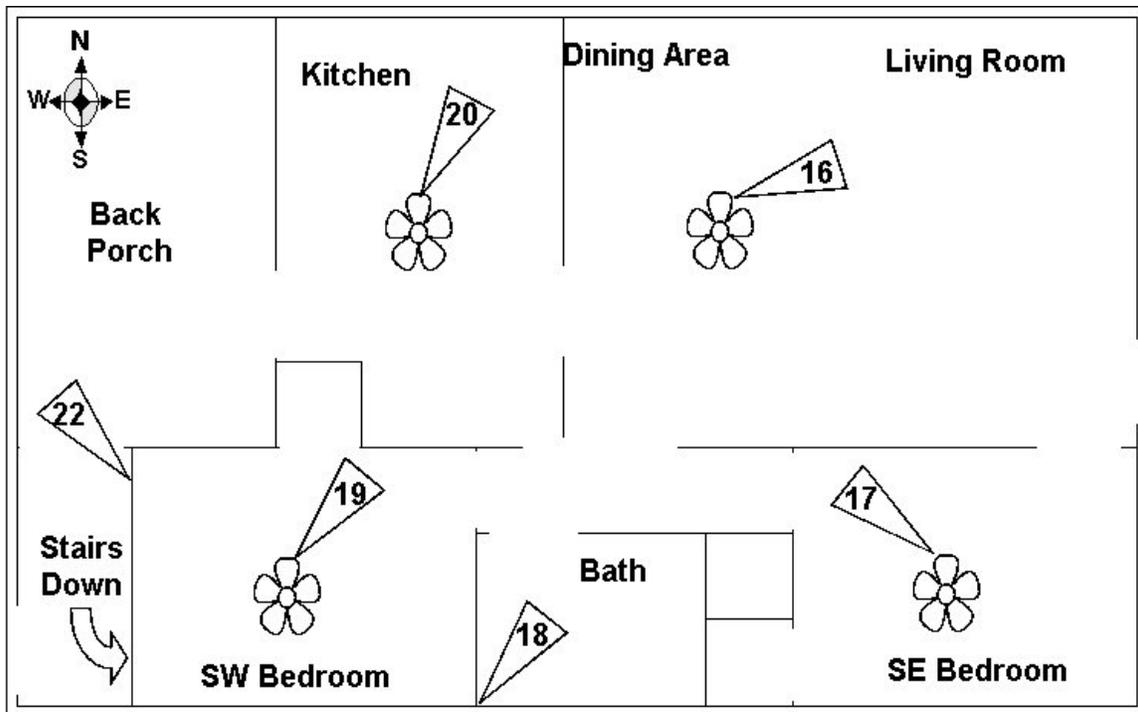


Figure 2
611 Grade Level Samples

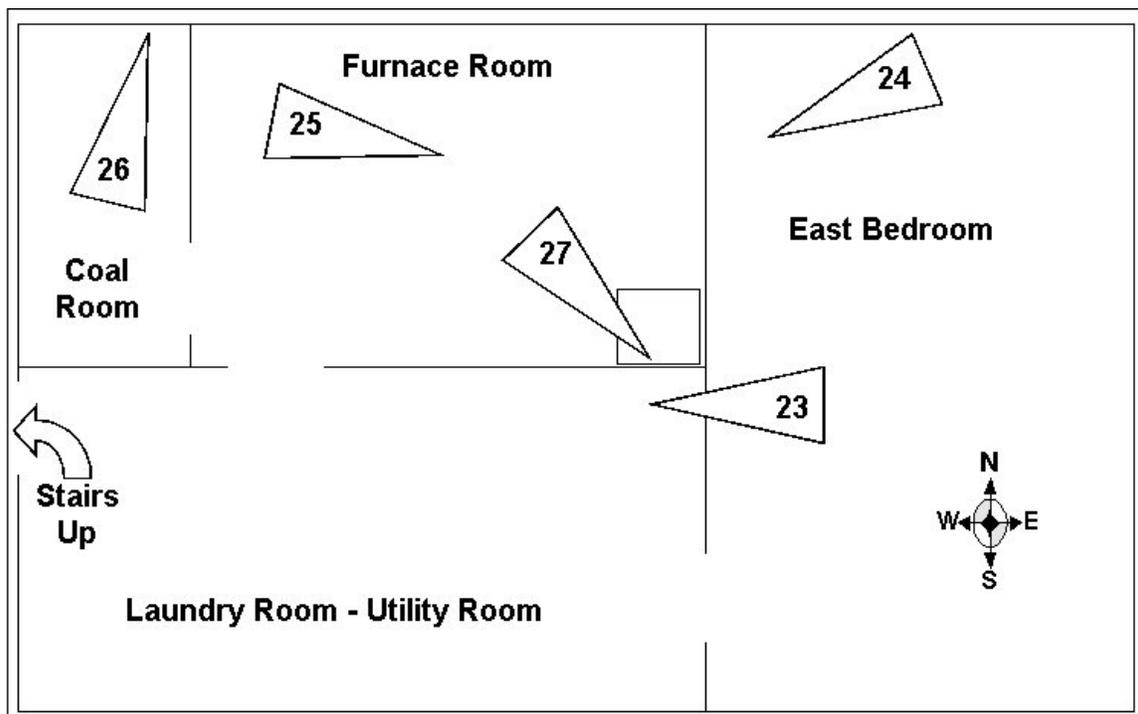


Figure 3
611 Basement Samples



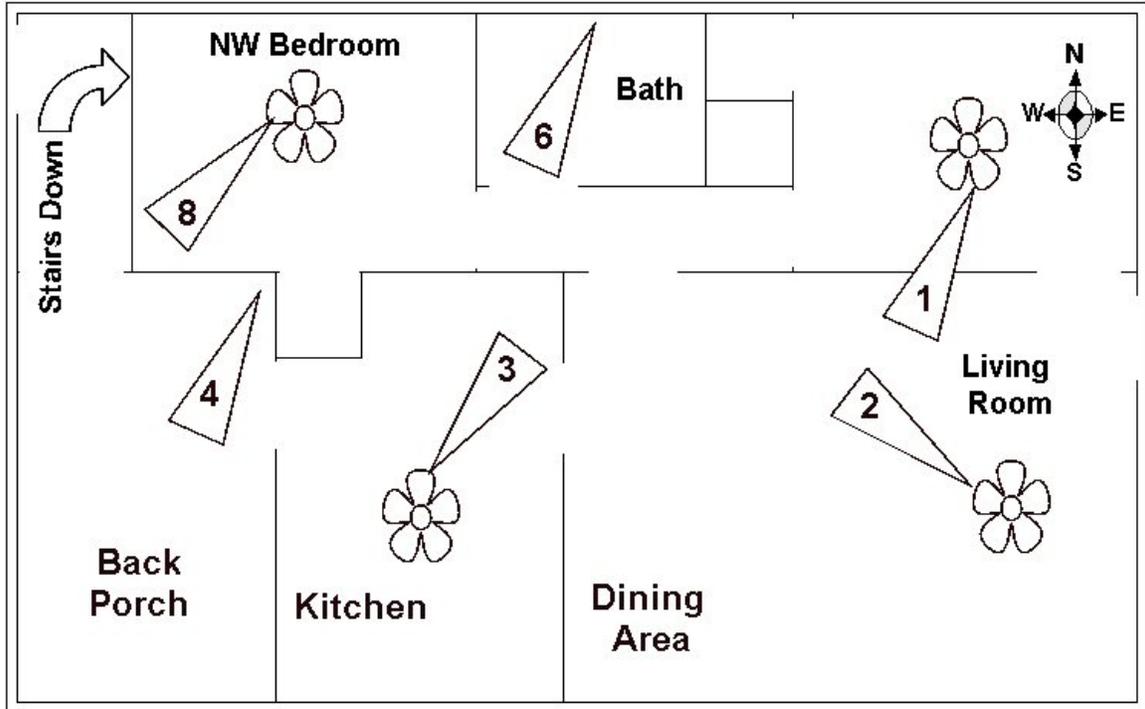


Figure 4
615 Grade Level Samples

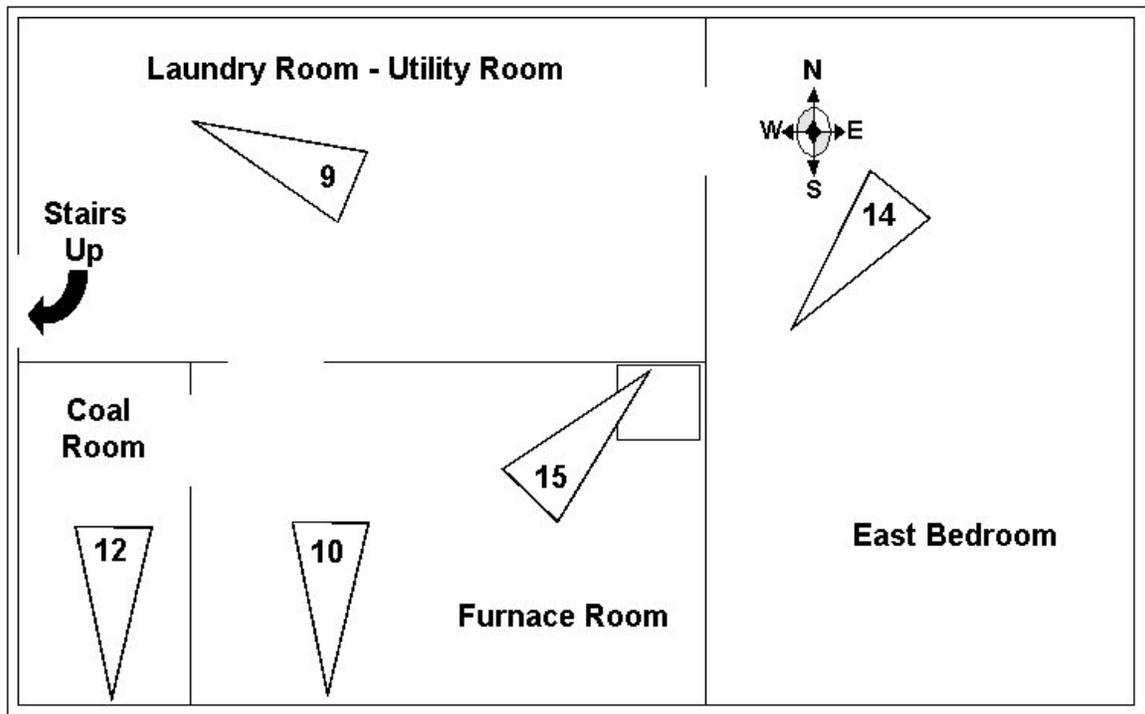
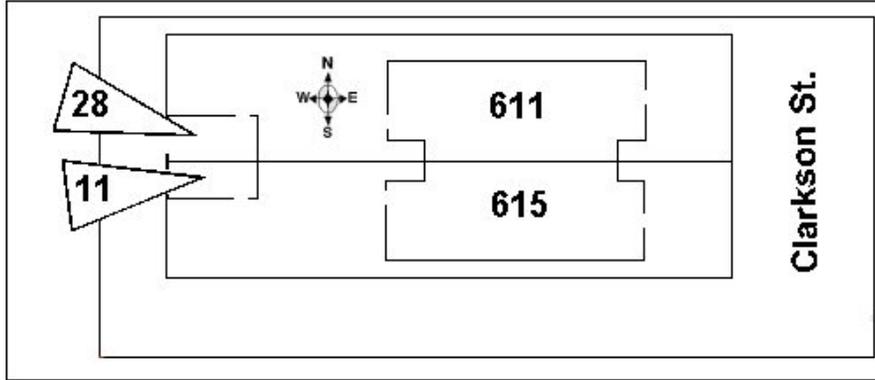


Figure 5
615 Basement Samples





**Figure 6
Garage Sample Locations**

Sample Results

The results of the methamphetamine samples are summarized in the table below.

Sample ID	Sample Location	Result µg/100cm ²	Status
CM092413-01	Unit 615 NE Bedroom Ceiling Fan	20.7	FAIL
CM092413-02	Unit 615 Living room dining room fan	ARCHIVED	
CM092413-03	Unit 615 Kitchen Ceiling fan		
CM092413-04	Unit 615 Back porch top of refrigerator		
CM092413-05	Field Blank		
CM092413-06	Unit 615 Bathroom top of medicine chest		
CM092413-07	Field Blank		
CM092413-08	Unit 615 NW Bedroom ceiling fan	ARCHIVED	
CM092413-09	Unit 615 Basement utility room light fixture		
CM092413-10	Unit 615 Furnace room top of water heater		
CM092413-11	Unit 615 Garage top of light fixture		
CM092413-12	Unit 615 Coal room top of duct		
CM092413-14	Unit 615 Basement bedroom top of duct		
CM092413-15	Unit 615 Furnace interior		
CM092413-16	Unit 611 Living room ceiling fan	166.0	FAIL
CM092413-17	Unit 611 SE Bedroom ceiling fan	ARCHIVED	
CM092413-18	Unit 611 Bathroom top of light fixture		
CM092413-19	Unit 611SW Bedroom ceiling fan		
CM092413-20	Unit 611Kitchen ceiling fan		
CM092413-21	Field Blank		
CM092413-22	Unit 611 Back porch top of handrail		
CM092413-23	Unit 611 Laundry room top of duct		
CM092413-24	Unit 611Bsmt Bedroom top of duct		
CM092413-25	Unit 611 Furnace room top of duct		
CM092413-26	Unit 611 Coal room top of duct		
CM092413-27	Unit 611 Furnace interior		
CM092413-28	Unit 611 Garage top of light fixture	ARCHIVED	

**Table 3
Results of Methamphetamine Wipe Samples**



Wipe Sample Results

The samples confirm that elevated concentrations of methamphetamine are widespread throughout the structure.

Quality Assurance/Quality Control

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

Regulatory 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 98% recovery, RPD was not given. Matrix spike mass was not given, however the recovery was given as 97% (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 3%. Surrogate spike recoveries are not given by the laboratory and are unknown. FACTs reagents: MeOH lot # A13Ø1 <MDL for n=29/29; Gauze lot # G12Ø1 <MDL for n=48/48.

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, however, is that methamphetamine was not manufactured in this residence, but rather smoked, stored and distributed at all locations throughout the residence.

Identification of Contamination Migration

Based on the best information readily available, FACTs determined that methamphetamine migrated into the attic contaminating that space. However, the attic, being a ceiling plenum rather than an occupiable space, is being treated in a manner similar to the other plena and hollow walls in the structure.

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 noncompliant



methamphetamine contamination exists throughout the subject property (duplex residence) located at 615 South Clarkson Street, and 611 South Clarkson Street, in Denver CO.

Based on our observations, all surfaces in the noncompliant functional spaces 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, and may direct the decontamination contractor to decontaminate the attic. FACTs concludes that the attic does not need to be addressed in this case, but will defer the final decision to the Governing Body.

1. An on-site storage container should be established in the back of the west side of the building. The container should be a poly lined and covered roll on-roll off container (ro-ro) or temporary trailer, or similar.
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 illegal drug laboratory decontamination, as required by State regulations, should be contracted for the decontamination work. All work performed at the subject property 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. All remediation work should be presumed to be pursuant to Title 29 of the Code of Federal Regulations, §1910.120 until otherwise indicated. By virtue of this PA, the contractor may presume that 29 CFR 1910.120(c)(5)(iii) has been met, and pursuant to 29 CFR 1910.120(c)(5)(iv), the hazards of the site have been identified, and the appropriate PPE would be a Level C ensemble. We recommend the decontamination process be conducted in Level C PPE ensemble with a minimum of full-face APRs.
5. 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 full face PAPR.



6. If decontamination of the attic does occur, special care should be taken due to anticipated heat that will be encountered by the employees. FACTs is of the opinion the work would be considered a Permit Required Confined Space as defined in 29 CFR §1910.146. No employee shall be permitted to work in the attic alone when the temperature of the attic exceeds 100°F (38°C).
7. If work is performed in the attic, Wet Bulb Globe Temperature (WBGT) shall be continuously monitored in the attic during occupancy. When the WBGT is less than 75°F (24°C), full work cycle is permitted. From 76°F (24.5°C) to 82°F (28°C) a 75% work-rest cycle shall be implemented. From 83°F (29°C) to 89°F (31.5°C) a 50% work-rest cycle shall be implemented. From 89.5°F (31.6°C) to 91°F (32.5°C) a 25% work-rest cycle shall be implemented. From 91°F (32.6°C) to 101°F (38.5°C), the Industrial Hygienist shall be consulted for job specific restrictions. At temperatures exceeding 101°F (38.5°), work will be restricted to 15 minutes of attic time per 90 minute period. No work shall be permitted in the attic at temperatures exceeding 104°F (40°C). Pregnant employees shall not be exposed to attic temperatures exceeding 102°F (39°C).
8. DPD identified the presence of hypodermic needles in the basement of 615 S. Clarkson. As such, the remediation contractor should have a blood borne pathogens program in place pursuant to the requirements of Title 29 CFR §1910.1030.
9. The contractor shall establish and maintain a sharps injury log for the recording of percutaneous injuries from contaminated sharps. The information in the sharps injury log shall be recorded and maintained in such a manner as to protect the confidentiality of the injured employee. The sharps injury log shall contain, at a minimum: A) The type and brand of device involved in the incident, B) The work area where the exposure incident occurred, and C) an explanation of how the incident occurred. The requirement to establish and maintain a sharps injury log shall apply regardless of any other mandatory compliance issues 29 CFR §1904.
10. The discovery of child pornography shall be immediately reported to the Denver Police Department and shall not be photographed.
11. The discovery of any controlled substances shall be immediately secured, photographed and reported to the Denver Police Department.
12. We recommend that a decontamination corridor with showers be established on the west side of the property, thus allowing access to both units and the garages simultaneously - donning and doffing of PPE and entry into the structure should be performed in the back-yard.
13. All remediation work performed at the residence should be conducted under written contract with a reputable remediation company qualified to perform the work.



14. All work performed at the residence should be conducted with open communication and cooperation with Denver Police Department and the City and County of Denver Department of Health.
15. State regulations prohibit painting or otherwise encapsulating surfaces prior to final clearance sampling by the Industrial Hygienist.
16. State regulations prohibit the use of strong oxidizers to mask the presence of methamphetamine; no cleaning agents greater than 2% hydrogen peroxide (or other oxidizer) are permitted on site.
17. 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 two QA/QC wipe samples from each unit of 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 result), to the consulting Industrial Hygienist for review prior to final clearance sampling.
18. If the contractor's QA/QC samples suggest that contamination in any sampled location remains at a concentration in excess of $0.35 \mu\text{g}/100 \text{ cm}^2$, the contractor should be contractually obligated to continue to clean, and sample, until the elevated concentrations are not observed.
19. Once the contractor's sample indicates the contamination has been sufficiently reduced, the Industrial Hygienist shall perform final clearance sampling according to 6-CCR 1014-3.
20. Contractors (and their subcontractors) should be contractually obligated, through a written contract, to clean the property. The thoroughness of cleaning shall be determined by the Industrial Hygienist, based on the totality of circumstances (subjective and objective). The overt presence of dust on surfaces or debris in the property will be a *de facto* sign of a failure to properly decontaminate the property.
21. No post verification samples shall be collected until the Industrial Hygienist has determined the structure has been sufficiently cleaned, according to State regulations and the samples are thereby used as *prima facie* evidence that insufficient evidence exists to support the hypothesis that any given area is non-compliant.
22. At a minimum, the contractor shall 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.

23. 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).

Decontamination of the Chattels

Unit 615 S Clarkson Street, Denver, CO contains considerable personal belongings that must either be cleaned and tested to confirm compliance, or discarded.

The occupant/ owner of the personal belongings should come to a negotiated settlement as to what should be decontaminated and what can be replaced, since the costs of decontamination and verification testing, can far exceed the replacement value of many of the items.

For example, the mattresses may cost several hundreds of dollars more to clean and test than the costs associated with replacement. Similarly, clothing can be merely laundered by the decontamination contractor; however, the cleaning and testing costs are likely to exceed the replacement costs.

At this point, we recommend the owner and remediation contractor develop an inventory of the personal property in 615 S Clarkson Street, and determine the fees associated with decontamination of individual items versus the replacement costs for those items.

Unit 611 S Clarkson Street should be the first unit of the two to be completely decontaminated and have clearance sampling performed. Following successful decontamination and verification clearance, Unit 611 can be used to stage decontaminated and tested personal belongings, until all belongings in Unit 615 have been addressed and removed.

DECONTAMINATION PROCESS GUIDANCE:

The following is provided as guidance for the decontamination process:

Due to the elevated concentrations of methamphetamine associated with the property, all surfaces must be addressed and decontaminated. Currently, the State of Colorado prohibits encapsulation, and there is no waiver mechanism in place to obtain variances.

Any and all disturbance of asbestos containing materials (ACMs or PACMs) in the subject property must be in accordance with State and Federal Regulations.

The following decontamination process should take place in this order: (any asbestos or lead abatement notwithstanding):

1. Establish negative pressure inside 615 (but NOT inside 611). The negative pressure inside 615 should continue continuously until 615 has been fully cleared and compliance verified.



2. Once negative pressure has been established inside 615, decontamination work should begin in 611.
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 must be maintained at all times in 615 (but NOT in 611) 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 back door entrances.
7. Carefully bag and remove all debris and other waste items from the property. Liquid wastes shall be subjected to haz-cat and lab-packed, or neutralized, pursuant to RCRA.
8. An effort shall be made to clean and salvage all personal items belonging to the owner of the personal belongings (After property owner and remediation contractor come to an agreement).
9. The contractor may choose to launder all clothing and soft fabrics onsite. If this is done, then the laundry room of 615 shall be cleared and decontaminated and cleared through sampling first; and thereafter accessed through an airlock in the residence (by the back door) and staged in that room after laundering and while awaiting testing.
10. Following clearance of the laundry room, the laundry room shall be placed under *positive* pressure with a standard HEPA filtered NAM (or alternatively, the negative pressure from the rest of 615 can be used).
11. All soft fabrics, such as draperies and clothing from 615, which are otherwise removed from site for laundering or dry-cleaning or other decontamination, shall be wrapped in poly and transloaded. Following the decontamination, the items may be tested at the off-site location or upon their return. Cleaned items shall be secured in a segregated clean area for final clearance testing. (It may be wise to first decontaminate and clear a garage and then transload and store all cleaned items there.)
12. The contractor shall make every effort to economically salvage all items of value such as power tools, hand tools, coin collections, jewelry, statuary, electronics and notable furniture. The contractor shall consult with the occupant for guidance on all specific items in which the occupant expresses interest.



13. Window coverings (window blinds) shall be discarded.
14. All large appliances can be salvaged. The decision concerning decontamination versus discarding of all large household appliances (dishwasher, clothes dryer, etc) shall be placed in writing for clarification and documentation by the contractor.
15. 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; trash items shall be discarded, and decontaminated personal belongings shall be transloaded to a secured storage container (or a previously cleaned and cleared garage).
16. If any textiles or fabrics remain on scene, they shall be subject to final clearance sampling in accordance with standard industrial hygiene microvacuum sampling procedures¹⁸ and the decision criteria shall be 0.5 µg per 100 cm² of vacuumed surface.
17. Following the removal of interior contents, all surfaces in the entire interior space excluding the attic, all hanging fixtures, all cabinets (interior and exterior surfaces), all shelving, all floors, doors, hinges, bathtubs, sinks, appliances (interior and exterior surfaces), exterior fireplace, and every other interior surface whether specifically mentioned or not, shall be thoroughly wiped down to remove residual contamination.
18. Ceiling fans should be discarded.
19. The furnace is profoundly contaminated; FACTs is of the opinion that the two furnace systems cannot be feasibly decontaminated, and we recommend removal *in toto*.
20. The contractor may propose removal of the furnaces and associated ductwork, *in toto*, or the contractor may propose cleaning, and decontamination of the ventilation systems. If the furnace systems are allowed to remain, three discrete samples will be collected from each system for final verification – all samples must have methamphetamine concentrations no greater than 0.5 µg/100 cm².

Decontamination of the Residence

For this property, FACTs is of the opinion that it is economically advisable to attempt salvage of all original structural fixtures (door knobs, vent grilles, doors, original wood, bathroom porcelain items etc). The remediation contract should specify which fixtures and appliances and cabinetry are to be discarded (if any).

¹⁸ For example, see ASTM Method D 5756-02



The following decontamination process should take place in this order: (any asbestos or lead paint abatement notwithstanding):

1. Turn off the gas line to the structure.
2. Establish negative pressure in 615 (but NOT 611)
3. Decontamination of 611 shall occur first. (At this point either or both garages may also be decontaminated).
4. The contractor should visually inspect each critical barrier and ensure proper negative pressure.
5. The contractor shall be required to periodically check and monitor the negative enclosure to ensure that negative pressure (pressure differential) between the work area and the adjoining residence is maintained. No numerical pressure differential is specified for this property.
6. Negative pressure should be maintained in Unit 615 at all times while work is occurring.
7. 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.
8. All remaining 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), and every other interior surface whether specifically mentioned or not, shall be thoroughly wiped down to remove residual contamination.

Enclosures: One CD; Data package, and Appendices follow.



APPENDIX A:

SUPPORTING DOCUMENTS





**FORENSIC APPLICATIONS CONSULTING TECHNOLOGIES, INC.
CLANDESTINE METHAMPHETAMINE LABORATORY
ASSESSMENT FIELD FORMS[©]**

FACTs project name: South Clarkson	Form # ML1
Date: Sept 23, 2013	
Reporting IH:	Caoimhin P. Connell, Forensic IH

PROPERTY DESCRIPTION:

Physical address	611 S Clarkson Street Denver CO 80209-4321 615 S Clarkson Street Denver CO 80209-4321	
Legal description or VIN	Lots 42, 43 and S1/2 of 44, Block 8 Knox & Curriers Subdivision, Schedule Number 0515132027000 PIN: 161360102	
Registered Property Owner	Sara Ann Hardesty 615 S Clarkson St Denver , CO 80209-4321	
Number of structures	Four	
Type of Structures (Each affected structure will need a "Functional Space" inventory)	611 S Clarkson	1,746 Square feet
	611 S Clarkson garage	216 Square feet
	611 S Clarkson	1,746 Square feet
	611 S Clarkson garage	216 Square feet
	Total Assessment Area	3,924 Square feet
Adjacent and/ or surrounding properties	North: Residential structure	
	South: Residential structure	
	East: Street front	
	West: City alley	
General Property Observations	Fair to Neglected	
Presumed Production Method	Indeterminable based on totality of available information	

PLUMBING INSPECTION AND INVENTORY

FACTs project name: South Clarkson	Form # ML2
Date: Sept 23, 2013	
Reporting IH:	Caoimhin P. Connell, Forensic IH

Unit	Functional Space	Room	Fixture	Indicia?	Comments
611	3	Bathroom	Bath	N	
611	3	Bathroom	Shower	N	
611	3	Bathroom	Sink 1	N	
611	3	Bathroom	Toilet	N	
611	5	Kitchen	Dishwasher	N	
611	5	Kitchen	Sink	Y	Cigarettes and debris
611	7	Laundry Room	Slop sink	N	
611	7	Laundry Room	Washing machine	N	
615	3	Bathroom	Bath	Y	
615	3	Bathroom	Shower	Y	
615	3	Bathroom	Sink 1	N	
615	3	Bathroom	Toilet	N	
615	5	Kitchen	Dishwasher	None	
615	5	Kitchen	Sink	-	Obscured
615	7	Laundry Room	Slop sink	N	
615	7	Laundry Room	Washing machine	N	

VENTILATION INSPECTION AND INVENTORY

Unit	Item	Y/N	Indicia	Sampled	Comments
611	Isolated AHU?	Y	Y	Y	27.8 µg/100cm ²
611	Common air intake?	N			This space blank
611	Common bathroom exhausts?	N			
611	Forced air system?	Y			
611	Steam heat?	N			
611	Common ducts to other properties?	N			
611	Passive plena to other properties?	Y			
611	Active returns to other properties?	N			This space blank
611	Passive wall grilles to other properties?	N			
611	Industrial ventilation?	N			
611	Residential ventilation?	Y			
611	Pressurized structure?	N			
615	Isolated AHU?	Y	Y	Y	145 µg/100cm ²
615	Common air intake?	N			This space blank
615	Common bathroom exhausts?	N			
615	Forced air system?	Y			
615	Steam heat?	N			
615	Common ducts to other properties?	N			
615	Passive plena to other properties?	Y			
615	Active returns to other properties?	N			This space blank
615	Passive wall grilles to other properties?	N			
615	Industrial ventilation?	N			
615	Residential ventilation?	Y			
615	Pressurized structure?	N			



FUNCTIONAL SPACE INVENTORY

FACTs project name: South Clarkson	Form # ML3
Date: Sept 23, 2013	
Reporting IH:	Caoimhín P. Connell, Forensic IH

Structure	Functional Space Number	Indicia (Y/N)	Describe the functional space (See drawings for delineating structural features)
611	1	Y	Upstairs SE bedroom and closet
611	2	Y	Living room, dining room and hallway
611	3	Y	US bathroom
611	4	Y	Upstairs SW bedroom and closet
611	5	Y	Kitchen
611	6	Y	Back porch
611	7	Y	Basement laundry and utility room
611	8	Y	Basement east bedroom
611	9	Y	Basement furnace room
611	10	Y	Basement coal room
611	11	Y	Garage
611	12	Y	Attic
611	13	Y	Furnace system
615	1	Y	Upstairs NE bedroom and closet
615	2	Y	Living room, dining room and hallway
615	3	Y	US bathroom
615	4	Y	Upstairs NW bedroom and closet
615	5	Y	Kitchen
615	6	Y	Back porch
615	7	Y	Basement laundry and utility room
615	8	Y	Basement east bedroom
615	9	Y	Basement furnace room
615	10	Y	Basement coal room
615	11	Y	Garage
615	12	Y	Attic
615	13	Y	Furnace system

THIS SPACE BLANK



LAW ENFORCEMENT DOCUMENTATION

FACTs project name: South Clarkson	Form # ML4
Date: Sept 23, 2013	
Reporting IH:	Caoimhín P. Connell, Forensic IH

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





FORENSIC APPLICATIONS CONSULTING TECHNOLOGIES, INC.

September 20, 2013

Denver Police Civil Liability Bureau
1331 Cherokee Street, Room 504
Denver CO 80204

Via Fax: 720-913-7035

Dear Records:

Forensic Applications, Inc. has been contracted to perform a "Preliminary Assessment" of an illegal clandestine 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 Denver at:

611 and 615 South Clarkson Street

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 the records 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 drug related 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 the City and County of Denver Department of Health.

Forensic Applications takes extreme caution to protect all Law Enforcement Sensitive information. When requested by the Law Enforcement Agency, we do NOT reveal names, document identities, or include any information considered sensitive by an investigating agency. We have developed a close working relationship with DPD in the past, and we value the close working relationship you have extended to us on other properties. I have included my SOQ. Please feel free to call me directly with any comments or questions.

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 Denver PD, such records shall not be used for the direct solicitation of business for pecuniary gain.

Sincerely,

Caoimhín P. Connell
Forensic Industrial Hygienist

Your transaction was completed successfully.

Transaction #: 375346

Issued: 20-Sep-2013 02:36 PM

Information

e-Mail

Address admin@forensic-applications.com
(optional):

Payor Name: Caoimhín P. Connell

Payor Phone: 303-903-7494

Description

Computer Aided Dispatch (CAD) Records

\$15.00

Payment Amount:\$15.00

Company Name: FACTs
Requestor Name: Caoimhin P Connell
Requestor Address: 185 Bounty Hunter Lane
City: Bailey
State: co
Zip: 80421
Phone: 303-903-7494
Email: admin@forensic-applications.com
Case or GO Number: any/all
Location of Incident: 611 and 615 South Clarkson Street Denver
Incident Date: 01-Jan-1900
List People Involved: Any and all

Premise History / Calls for Service

\$15.00

Payment Amount:\$15.00

Company Name: FACTs
Requestor Name: Caoimhin P Connell
Requestor Address: 185 Bounty Hunter Lane
City: Bailey
State: CO

Zip: 80421
Phone: 303-903-7494
Email: admin@forensic-applications.com
Location to Search: Forensic Applications, Inc. has been contracted to perform a "Preliminary Assessment" of an illegal clandestine 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 De
From: 01-Jan-1900
To: 20-Sep-2013

SubTotal :	\$30.00
N/A :	\$.00
Total:	\$30.00

Payment: MasterCard - *****8378 - 01/16 USD\$30.00
Reference Number: 001 050090
Authorization Number: 614574
Response Code:



Dear Caoimhin P. Connell,

Re: DPD Request 611 and 615 South Clarkson

The 2 page fax you sent through [eFax.com](http://www.efax.com) to 17209137035 was successfully transmitted at 2013-09-20 20:46:21 (GMT).

The length of transmission was 73 seconds.

The receiving machine's fax ID: .

Best Regards,

If you need additional assistance, please visit our online help center at <http://www.efax.com/help/>. Thank you for using the eFax service.

eFax.com

Customer Service

Online Help: <http://www.efax.com/help/>

Tel: 323-817-3205 (US) or 353 1 656 4910 (EU)

Email: help@mail.efax.com

**IT PAYS TO
HAVE FRIENDS**
REFER A FRIEND
TO EFAX®
AND EARN \$10



FIELD OBSERVATIONS

FACTs project name: South Clarkson		Form # ML5
Date: Sept 23, 2013		
Reporting IH:	Caoimhín P. Connell, Forensic IH	

Structure: 611 S Clarkson

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

- 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



FORENSIC APPLICATIONS CONSULTING TECHNOLOGIES, INC.

FIELD OBSERVATIONS

FACTs project name: South Clarkson		Form # ML5
Date: Sept 23, 2013		
Reporting IH:	Caoimhín P. Connell, Forensic IH	

Structure: 615 South Clarkson

Indicator	Functional Space	Indicator	Functional Space	
Acids	7①,8①	Match components	No comment	
Aerosol cans	7①,11①	Mercury		
Alcohols (MeOH, EtOH)	No comment	Methamphetamine	Throughout	
Ammonia		Modified coolers/containers	No comment	
Ammunition		Modified electrical		
Artistic expressions	1,2,4,5,6,7,8,9,11	Modified plumbing		
Bags of salt	①③	Modified structure		
Bases	①③	Modified ventilation		
Basters/Pipettes	①③	Needles/Syringes	6①,7①,10①	
Batteries	①③	OTC Containers		
Bi-phasic wastes	No comment	OTC drugs	6①,7①,10①	
Booby traps		pH papers/indicators	No comment	
Bullet holes		Phenyl-2-propanone		
Burn marks			Pornography, Sex toys	10
Cat litter		①③	Prescription drugs	6①,7①,10①
Chemical storage	①③	Presence of cats	Throughout	
Colored wastes	10	Propane bottles	No comment	
Corrosion on surfaces	No comment	Pseudoephedrine		
Death bag		Red P		
Delaminating paint	6	Red Staining		
Drug paraphernalia	10	Reserved		
Empty OTC Containers	Throughout ①③	Salters	Exterior, 10	
Ephedrine	No comment	Security devices		
Feces		Signs of violence	1,2,10	
Filters		Smoke detectors disabled	2	
Forced entry marks	1,6,10	Solvents - (organic)	5④	
Funnels	No comment	Squalor	10	
Gang markings		Staining on floors	No comment	
Gas cylinders		Staining on walls or ceiling	1	
Gerry cans		Stash holes	13	
Glassware	10	Taping on surfaces	No comment	
Graffiti	No comment	Tubing		
Heating mantle/hot plate	5④	Urine containers		
Hidden items	13	Wall anchors		
Hydrogen peroxide	No comment	Wall coverings		
Iodine		Wall damage		
Lead		Weapons	13	
Lithium		Window block material	10	
Marijuana		Yellow staining	1	

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



INDIVIDUAL SEWAGE DISPOSAL SYSTEM FIELD FORM

FACTs project name: South Clarkson	Form # ML7
Date: Sept 23, 2013	
Reporting IH:	Caoimhín P. Connell, Forensic IH

611 S Clarkson

	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	City Sewer		
Was the leach field line accessible			
Was the septic tank <u>or</u> 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 for this property



INDIVIDUAL SEWAGE DISPOSAL SYSTEM FIELD FORM

FACTs project name: South Clarkson		Form # ML7
Date: Sept 23, 2013		
Reporting IH:	Caoimhín P. Connell, Forensic IH	

615 S Clarkson

	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	City Sewer		
Was the leach field line accessible			
Was the septic tank <u>or</u> 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:

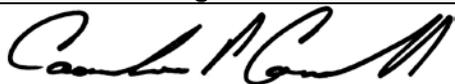
No location required for this property



CERTIFICATION, VARIATIONS AND SIGNATURE SHEET

FACTs project name: Clarkson	Form # ML14
Date: August 11, 2011	
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.	XXXXXXXXXXXXXXXXXX
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: September 27, 2013





**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:	Clarkson	Form # ML15
Date	Sept 23, 2013	

Caoimhín P. Connell, has been involved in clandestine drug lab investigations since 2002 and meets the Colorado Revised Statute §24-30-1402 definition of an "Industrial Hygienist." He has been a practicing Industrial Hygienist since 1987 and was the contract Industrial Hygienist for the National Center for Atmospheric Research for over ten years. Mr. Connell is a recognized authority in drug-lab operations and is a Certified Instructor in Meth-Lab Safety through the Colorado Regional Community Policing Institute, CRCPI (through the Colorado Division of Criminal Justice) and was the lead instructor for the CRCPI providing over 260 hours of methlab training for over 45 Colorado Law Enforcement Agencies, federal agents, probation and parole officers throughout Colorado judicial districts. He has provided meth-lab lectures to the US Air Force, the National Safety Council, and the American Industrial Hygiene Association (of which he is a member and serves on the Clandestine Drug Lab Work Group and for whom he conducted the May, 2010, Clandestine Drug Lab Course, and is a coauthor of the AIHA methlab assessment publication.)

Mr. Connell is also a member of the American Conference of Governmental Industrial Hygienists, the Occupational Hygiene Society of Ireland, the Colorado Drug Investigators Association, an appointed Full Committee Member of the National Fire Protection Association And the ASTM International Forensic Sciences Committee, (where he was the sole sponsor of the draft ASTM E50 *Standard for the Assessment of Suspected Clandestine Drug Laboratories*.)

From 2009, Mr. Connell served as the Industrial Hygiene Subject Matter Expert on the Federally funded Interagency Board (Health, Medical, and Responder Safety SubGroup), and was elected full member of the IAB-HMRS in 2011 where he now serves. He is the only private consulting Industrial Hygienist in Colorado 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 has received over 144 hours of highly specialized law-enforcement sensitive training in illegal drug lab operation, and under supervision of the US Drug Enforcement Agency, he has manufactured methamphetamine using a variety of street methods. He has received highly specialized drug lab assessment training 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 sworn law enforcement officer 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 condominiums. Mr. Connell has conducted over 389 assessments of illegal drug labs in Colorado, Nebraska and Oklahoma, and collected over 3,634 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 and a NIOSH Recommended Peer Review Expert for the U.S. NIOSH 9109 Method, *Methamphetamine*. He has been admitted as a clandestine drug lab expert in Colorado, and an Industrial Hygiene Expert in Colorado civil and criminal courts and Federal Court in Pennsylvania; providing expert witness testimony in several criminal cases including Grand Jury testimony and testimony for US Bureau ATF and he 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 Investigators, and Federal Investigators with forensic services and arguments against corrupt regulators, fraudulent industrial hygienists, and unauthorized consultants performing invalid methlab assessments.

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

APPENDIX B

ANALYTICAL REPORTS FOR FACTS SAMPLES

SAMPLING FIELD FORM

WLS S. CLARKSON

FACTs project name: Clarkson	Form # ML17
Date: Sept 23, 2013	Alcohol Lot#: A1301 Gauze Lot#: G1201
Reporting IH: Caoimhin P. Connell, Forensic IH	Preliminary <input checked="" type="checkbox"/> Intermediate <input type="checkbox"/> Final <input type="checkbox"/>

Sample ID	Type	Location	Func. Space	Dimensions	Substrate
CM092313-01	W	N.E. BEDROOM CEILING FAN	1	NA	LWD
-02	W	LIVING DINING CEILING FAN	2	*	W LWD
-03	W	KITCHEN CEILING FAN	3	15 x 33.5	LWD
-04	W	BACK PORCH TOP REFRIGERATOR	4	10 x 50	PM
-05	W				
-06	W	UP STAIRS BATHROOM TOP MEDICINE CABINET	5	20 x 25	PWD
-07	W	UP STAIRS			
-08	W	UP STAIRS N.W. BED ROOM CEILING FAN	6	NA	LWD
-09	W	DOWN LAMPY TOP FLOORCEMENT LIGHT X 2	7	* x *	PI
-10	W	FURNACE ROOM TOP WARE TRAY	8	20 x 25	GAL METAL
-11	W	ATTIC ATTIC GARAGE	11		
-12	W	DOWN STAIRS COAT ROOM TOP AIR DUCT	9	15 x 33.3	GAL METAL
-13	W	GARAGE PANIC	13	15 x 33.3	PM
-14	W	DOWN STAIRS BED ROOM FLOORCEMENT TOP OF DUCT	10	15 x 33.3	GAL METAL
-15	W	INSIDE FURNACE	12	20 x 25	GAL METAL

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, PI=Plastic

- * 2 = 15 x 25 + 14 x 10 10% under sampled
- * 1 = 12 x 40 + 10 x 10
- 8 = 10% under sampled
- 12 = 12 x 41.5
- 20 = 20% under sampled
- 1 x 47.6 + 5 x x
- 15 = 50% under sampled
- 10 = 12 x 12 x 2 + 15 x 15 / PT METAL

13 # - Exclude Attic; communication w/ 611; not occupiable; no non-porous surfaces
 11 #3 = 5 x 1 + 15 x 33.3; 70% under sampled; PM

SAMPLING FIELD FORM

FACTs project name: Clarkson Form # ML17
 Date: Sept 23, 2013 Alcohol Lot#: A1301 Gauze Lot#: G1201
 Reporting IH: Caoimhin P. Connell, Forensic IH Preliminary Intermediate _____ Final _____

Sample ID	Type	Location	Funct. Space	Dimensions	Substrate
-16	W	LIVING / DINING CEILING FAN	2	12x42	LWD
-17	W	SE UPSTAIRS BED ROOM CEILING FAN	1	12x41.7	LWD
-18	W	UPSTAIR BATH / TOP OF LIGHT FIXTURE	3	10x50	M
-19	W	UPSTAIR SW BED ROOM CEILING FAN	4	33.7x15	LWD
-20	W	KITCHEN CEILING FAN		33.4x15	LWD
-21	W	BX			
-22	W	BACK PORCH / TOP OF HANDRAIL		8x62.5	VWD
-23	W	BS UTILITY RM / TOP OF E DUCT		15x33.3	G MET
-24	W	BS & BDRM / TOP OF N ROUND DUCT		15x33.3	G MET
-25	W	FURNACE RM / TOP OF CENTRAL DUCT		10x50	G MET
-26	W	COAL RM / TOP OF DUCT		10x50	G MET
-27	W	FURNACE INTERIOR		10x50	G MET
-28	W	GARAGE / TOP OF LIGHT FIXTURE			M
-29	W				M
-30	W				

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

16 = 12x42
 4 = 50% under
 18 = 20% under
 19 = SW Cg Fan - LWD - 12x41.7
 27 = 6x43 + 2x43 + 4x43
 20 = PAINTED METAL
 23 = 20% under sampled



Forensic Applications

Final Report

RES 270641-1R

September 24, 2013

	Page
Cover Sheet	1
Letter	2
Report / Data	3
Quality Control Data	4
Chain of Custody	5



September 24, 2013

Laboratory Code: RES
Subcontract Number: NA
Laboratory Report: RES 270641-1R
Project # / P.O. #: None Given
Project Description: Clarkson

Caoimhin Connell
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 in-house 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 270641-1R 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,

A handwritten signature in blue ink, appearing to read "Jeanne Orr", is written over a horizontal line.

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 270641-1R**
 Client: **Forensic Applications**
 Client Project Number / P.O.: **None Given**
 Client Project Description: **Clarkson**
 Date Samples Received: **September 23, 2013**
 Analysis Type: **Methamphetamine by GCMS**
 Turnaround: **24 Hour**
 Date Samples Analyzed: **September 24, 2013**

Client ID Number	Lab ID Number	Reporting Limit (µg)	METHAMPHETAMINE CONCENTRATION (µg)
CM092313-02	EM 1034431	0.050	114
CM092313-07	EM 1034432	0.050	BRL
CM092313-15	EM 1034433	0.050	346
CM092313-16	EM 1034434	0.050	759
CM092313-27	EM 1034435	0.050	137

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

RESERVOIRS ENVIRONMENTAL, INC.

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

QUALITY CONTROL: METHAMPHETAMINE BY WIPE

RES Job Number: **RES 270641-1R**
Client: **Forensic Applications**
Client Project Number / P.O.: **None Given**
Client Project Description: **Clarkson**
Date Samples Received: **September 23, 2013**
Analysis Type: **Methamphetamine by GCMS**
Turnaround: **24 Hour**
Date Samples Analyzed: **September 24, 2013**

Quality Control Batch	Reporting Limit ($\mu\text{g}/100\text{cm}^2$)	Matrix Blank ($\mu\text{g}/100\text{cm}^2$)	Matrix Duplicate (% RPD)	Matrix Spike (% Recovery)	Laboratory Control Sample (% Recovery)
1	0.05	BRL	3	97	98

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

** These analytical results meet NELAC requirements.

271527

Due Date: 7.24.13
Due Time:

REILAB Reservoirs Environmental, Inc.

RES 270641

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After Hours Cell Phone: 720-339-8228

INVOICE TO: (IF DIFFERENT)

CONTACT INFORMATION:

Company: FACTS Contact: Adimbar
 Address: 185 Sanyon Hunter Phone: _____
Bailey Fax: _____
 Project Number and/or P.O. #: _____ Cell pager: _____
 Project Description/Location: CLARKSON Final Data Deliverable Email Address: admin@forensic-applications.com

REQUESTED ANALYSIS		VALID MATRIX CODES		LAB NOTES:	
ASBESTOS LABORATORY HOURS: Weekdays: 7am - 7pm	PRIORITY (Next Day) _____	Air = A	Bulk = B		
PLM / PCM / TEM _____	RUSH (Same Day) _____	Dust = D	Paint = P		
	(Rush PCM = 2hr, TEM = 6hr.)	Soil = S	Wipe = W		
CHEMISTRY LABORATORY HOURS: Weekdays: 8am - 5pm	Weekdays: 8am - 5pm	Swab = SW	F = Food		
Metal(s) / Dust _____	RUSH _____ 24 hr. _____ 3-5 Day	Drinking Water = DW	Waste Water = WW		
RCRA 8 / Metals & Welding _____	RUSH _____ 5 day _____ 10 day	**ASTM E1792 approved wipe media only**			
Fume Scan / TCLP _____	RUSH _____ 3 day _____ 5 Day				
Organics _____	***Prior notification is required for RUSH turnarounds.***				
MICROBIOLOGY LABORATORY HOURS: Weekdays: 9am - 6pm	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 _____ 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: <u>RUSH. STANDARD REI.</u>					
<u>REPORTING LIMITS.</u>					
Client sample ID number (Sample ID's must be unique)					

Client sample ID number	SAMPLERS INITIALS OR OTHER NOTES	MICROBIOLOGY		Date Collected	Time Collected	EM Number (Laboratory Use Only)
		Salmonella: +/-	Listeria: +/-			
1	X			10/31/13	10:30	1034431
2	X			10/31/13	10:30	2
3	X			10/31/13	10:30	2
4	X			10/31/13	10:30	2
5	X			10/31/13	10:30	2
6						
7						
8						
9						
10						

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)	ORGANICS - METH	Mold: +/-, Identification, Quantification	Y & M: +/-, or Quantification	S.aureus: +/-, or Quantification	Coliforms: +/-, or Quantification	E.coli: +/-, or Quantification	Aerobic Plate Count: +/-, or Quantification	Salmonella: +/-	E.coli O157:H7: +/-	Listeria: +/-	Sample Volume (L) / Area	Matrix Code	# Containers	Date Collected	Time Collected	

Number of samples received: _____
 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.

Reinquired By: _____ Date/Time: 9/23/13 1457
 Laboratory Use Only: _____ Date/Time: 9/23/13 3:08
 Received By: _____ Date _____ Time _____
 Results: _____ Date _____ Time _____
 Contact: _____ Phone _____ Email _____ Fax _____
 Carrier: _____ Date _____ Time _____
 Contact: _____ Date _____ Time _____
 Initials: _____
 Initials: _____
 Sample Condition: Sealed Yes / No _____
 Intact Yes / No _____
 Temp. (F) _____ On Ice Yes / No _____

APPENDIX C

COMPACT DIGITAL DISK (PHOTOGRAPHS AND ADDITIONAL DOCUMENTATION)

