



Flammables Analysis Test No. 16-536 Summary Report

This proficiency test was sent to 349 participants. Each sample set consisted of one nylon bag that contained a charred piece of red oak to which an ignitable liquid had been added (Item 1), one nylon bag that contained a charred piece of red oak that was not spiked (Item 2), and one nylon bag that contained a sample of the unburned red oak substrate which was provided to participants as a negative, control sample (Item 3). Data were returned from 304 participants (87% response rate) and are compiled into the following tables:

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This report contains the data received from the participants in this test. Since these participants are located in many countries around the world, and it is their option how the samples are to be used (e.g., training exercise, known or blind proficiency testing, research and development of new techniques, etc.), the results compiled in the Summary Report are not intended to be an overview of the quality of work performed in the profession and cannot be interpreted as such. The Summary Comments are included for the benefit of participants to assist with maintaining or enhancing the quality of their results. These comments are not intended to reflect the general state of the art within the profession.

Participant results are reported using a randomly assigned "WebCode". This code maintains participant's anonymity, provides linking of the various report sections, and will change with every report.

Manufacturer's Information

Each sample set consisted of three items: one nylon bag that contained a charred piece of red oak to which an ignitable liquid had been added, one nylon bag that contained a charred piece of red oak that was not spiked, and one nylon bag that contained a sample of the unburned red oak substrate which was provided to participants as a negative, control sample. The nylon bags used in this test were produced by the Grand River Products company. Participants were requested to identify and indicate the ASTM class for any ignitable liquid(s) detected in the submitted items.

SAMPLE PREPARATION-

The charred piece of red oak in the Item 1 bag contained a product labeled as Lamplight 60009 Clear Ultra-pure Lamp Oil. The lamp oil was purchased from a local home improvement store in April 2016. The charred piece of red oak in the Item 2 bag did not contain an ignitable liquid.

ITEM 1 (PREPARATION): The charred red oak was prepared by cutting planks of red oak into 1" x 2" x 1" pieces using a miter saw. These pieces were then charred on a small grill using pieces of scrap red oak as fuel for the fire. The charred pieces were then extinguished with water and allowed to air dry for several days. Each charred piece then had 25 μ l of the ignitable liquid pipetted onto it twice for a total of 50 μ l. The wood piece was then dropped into a previously opened 5" x 10" nylon bag. The bag was immediately double heat-sealed across the top using an impulse heat sealer which produces a 1/8" wide band. This bag was then placed in a pre-labeled 6" x 12" nylon bag and double heat-sealed across the top. After sealing, each bag was inspected to determine if it contained an adequate amount of air space. Item 1 was stored separately from other items until the complete sample sets were put together.

ITEM 2 (PREPARATION): The samples were cut, charred, and packaged in the same manner as described for Item 1, but no ignitable liquid was added.

ITEM 3 (COMPARISON BLANK): The samples were cut and packaged in the same way as described for Item 1, but they were not charred and no ignitable liquid was added.

SAMPLE SET ASSEMBLY: Once verification was completed, all sample sets were prepared. Prior to packing items into sample pack boxes, each item was again inspected to ensure it contained an adequate amount of air space. For each sample set, an Item 1, 2 and 3 were each placed into a pre-labeled sample pack box. This process was repeated until all of the sample sets were prepared.

VERIFICATION: Laboratories that conducted predistribution analysis of the items classified the ignitable liquid in Item 1 as heavy normal alkanes and reported "no ignitable liquid detected" for Item 2. The liquid was classified using the ASTM classification scheme.*

*Source: ASTM E 1618-11, Standard Test Method for Ignitable Liquid Residues in Extracts from Fire Debris Samples by Gas Chromatography-Mass Spectrometry, Table 1.

Summary Comments

This test was designed to allow participants to assess their ability in the extraction and identification of ignitable liquids on a charred piece of red oak packaged in nylon bags. Participants were provided with three items: one nylon bag that contained a charred piece of red oak to which an ignitable liquid had been added, one nylon bag that contained a charred piece of red oak that was not spiked, and one nylon bag that contained a sample of the unburned red oak substrate which was provided to participants as a comparison blank. The charred piece of red oak in the Item 1 bag contained a product labeled as Lamplight 60009 Clear Ultra-pure Lamp Oil. (Refer to the Manufacturer's Information for preparation details.)

Of the 304 participants who reported classification results for Item 1, 299 (98.4%) classified the ignitable liquid as belonging to the normal alkanes products classification. Of the remaining five participants, three classified it as belonging to the petroleum distillates classification and two reported "no ignitable liquid(s) detected".

Of the 302 participants who reported classification results for Item 2, 292 (96.7%) reported "no ignitable liquid(s) detected". Of the remaining 10 participants, five classified an ignitable liquid belonging to the oxygenated solvents classification, four classified it as belonging to the normal alkanes products classification, and one classified it as belonging to the isoparaffinic products classification.

Flammable Identification

Indicate the ASTM E 1618-14 class or classes for any ignitable substances detected in the submitted items.

TABLE 1a - Item 1

| WebCode | Item 1: Class | SubClass |
|---------|-------------------------|----------------------------------|
| 224HNM | Normal Alkanes Products | Heavy |
| 2489WM | Normal Alkanes Products | Heavy |
| 264TJM | Normal Alkanes Products | Heavy |
| 272Y32 | Normal Alkanes Products | Heavy |
| 2GUR3C | Normal Alkanes Products | Heavy |
| 2HQ8CN | Normal Alkanes Products | Heavy (C13-C16) |
| 2LR7VT | Normal Alkanes Products | Heavy |
| 2RW3JZ | Normal Alkanes Products | Heavy |
| 2TPTPE | Normal Alkanes Products | heavy |
| 2Z83DB | Normal Alkanes Products | heavy |
| 2Z9X2M | Normal Alkanes Products | Heavy |
| 32D844 | Normal Alkanes Products | Heavy |
| 34PJ9Z | Normal Alkanes Products | Heavy |
| 386DKR | Normal Alkanes Products | Heavy |
| 3DUQNZ | Normal Alkanes Products | Heavy |
| 3L442X | Normal Alkanes Products | heavy |
| 3MGT7V | Normal Alkanes Products | Heavy |
| 3R7ENH | Normal Alkanes Products | heavy |
| 3T93CM | Normal Alkanes Products | Heavy |
| 3V7PKH | Normal Alkanes Products | HEAVY |
| 3W29LJ | Normal Alkanes Products | C13-C18 |
| 3W8D8M | Normal Alkanes Products | Heavy |
| 3XFTET | Normal Alkanes Products | Heavy |
| 3YR6JQ | Normal Alkanes Products | Heavy |
| 49XCQD | Normal Alkanes Products | Heavy |
| 4FGR7U | Normal Alkanes Products | C13-C17 |
| 4V4DKT | Normal Alkanes Products | Heavy |
| 4WYVMU | Normal Alkanes Products | Heavy (C9-C20+) |
| 4Y9XCY | Normal Alkanes Products | heavy |
| 627N9C | Normal Alkanes Products | Heavy (C13 to C17) |
| 62NRNP | Normal Alkanes Products | Heavy |
| 63GQUB | Normal Alkanes Products | heavy in the range of C13 to C16 |
| 63NNDM | Normal Alkanes Products | heavy |
| 6CRRFC | Normal Alkanes Products | Heavy |

TABLE 1a - Item 1

| WebCode | Item 1: Class | SubClass |
|---------|---|-----------------------|
| 6MAA9J | Normal Alkanes Products | heavy |
| 6MVXF7 | Normal Alkanes Products | Heavy Range (C13-C17) |
| 6PYNMK | Normal Alkanes Products | Heavy (C13-C17) |
| 727YNF | Normal Alkanes Products | Heavy |
| 72ZT3C | Normal Alkanes Products | Heavy (C9-C20) |
| 764F3V | Normal Alkanes Products | heavy |
| 78X79A | Normal Alkanes Products | Heavy (C11 - C17) |
| 78Y2VL | Normal Alkanes Products | Heavy |
| 7BXG4A | Petroleum Distillates (including De-Aromatized) | Heavy |
| 7DYH67 | Normal Alkanes Products | |
| 7F9PAK | Normal Alkanes Products | Heavy |
| 7HAK6G | Normal Alkanes Products | Heavy |
| 7LVD4Q | Normal Alkanes Products | Heavy |
| 7REPUC | Petroleum Distillates (including De-Aromatized) | Heavy(C13~C16) |
| 7RGDHH | Normal Alkanes Products | Heavy (C13-C18) |
| 7TB8WD | Normal Alkanes Products | Heavy C9-C20 |
| 7TEJ2W | Normal Alkanes Products | Heavy range |
| 84NP2P | Normal Alkanes Products | Heavy |
| 88NQCK | Normal Alkanes Products | Heavy |
| 89GNH7 | Normal Alkanes Products | C14-C18 |
| 8GECK4 | Normal Alkanes Products | heavy |
| 8GX6BF | Normal Alkanes Products | Heavy |
| 8HPE4G | Normal Alkanes Products | Heavy |
| 8RBHCG | Normal Alkanes Products | Heavy |
| 8RWW3E | Normal Alkanes Products | Heavy |
| 8T9NUW | Normal Alkanes Products | Heavy |
| 8W7ALY | Normal Alkanes Products | Heavy |
| 8XWHJG | Normal Alkanes Products | Heavy |
| 946WAT | Normal Alkanes Products | Heavy |
| 97CAXL | Normal Alkanes Products | Heavy |
| 982PYG | Normal Alkanes Products | Heavy |
| 988UKK | Normal Alkanes Products | HEAVY |
| 9DVGfQ | Normal Alkanes Products | Heavy |
| 9JJ9HD | Normal Alkanes Products | Heavy |
| 9JZFQF | Normal Alkanes Products | Heavy |
| 9PPTUP | Normal Alkanes Products | Heavy |
| 9TP6PP | Normal Alkanes Products | Heavy |

TABLE 1a - Item 1

| WebCode | Item 1: Class | SubClass |
|---------|-------------------------|--------------------------------------|
| 9WNFLP | Normal Alkanes Products | Heavy |
| A44LTF | Normal Alkanes Products | heavy |
| A6Y28X | Normal Alkanes Products | Heavy |
| AKQYAT | Normal Alkanes Products | Heavy |
| AMDMMGM | Normal Alkanes Products | Heavy |
| AN6LW7 | Normal Alkanes Products | heavy |
| ANCNRK | Normal Alkanes Products | heavy (nC13-17) |
| AP228H | Normal Alkanes Products | Heavy (C9-C20+) |
| ATYFU8 | Normal Alkanes Products | heavy |
| B7MVL D | Normal Alkanes Products | Heavy |
| BEF8FL | Normal Alkanes Products | Heavy |
| BF97L8 | Normal Alkanes Products | Heavy |
| BHEL3B | Normal Alkanes Products | Heavy |
| BJ9GG8 | Normal Alkanes Products | Heavy |
| BNKFYR | Normal Alkanes Products | heavy |
| BPFYZT | Normal Alkanes Products | Heavy |
| BU86GG | Normal Alkanes Products | Heavy |
| BWDNJJ | Normal Alkanes Products | Heavy Range C13-C17 |
| BX4X76 | Normal Alkanes Products | Heavy (C9-C20+) |
| C4GUWZ | Normal Alkanes Products | Heavy |
| C4VDGX | Normal Alkanes Products | Heavy |
| C7WG9K | Normal Alkanes Products | Heavy |
| CAGCAR | Normal Alkanes Products | Heavy |
| CAH7QC | Normal Alkanes Products | |
| CDEU8J | Normal Alkanes Products | Heavy |
| CM6FF3 | Normal Alkanes Products | Heavy (C8 - C18) |
| CQNBEN | Normal Alkanes Products | Heavy |
| CXLZWE | Normal Alkanes Products | heavy |
| D94Y8F | Normal Alkanes Products | Heavy |
| DPNWX A | Normal Alkanes Products | Heavy |
| DPQJKE | Normal Alkanes Products | heavy petroleum distillate (C13-C20) |
| E3AG7A | Normal Alkanes Products | Heavy |
| E448CN | Normal Alkanes Products | Heavy |
| E472TA | Normal Alkanes Products | heavy(C13-C16) |
| E4MYK9 | Normal Alkanes Products | Heavy |
| E4ZW86 | Normal Alkanes Products | Heavy |
| E9X42F | Normal Alkanes Products | Heavy range |

TABLE 1a - Item 1

| WebCode | Item 1: Class | SubClass |
|---------|---------------------------------|------------------------|
| EATPNE | Normal Alkanes Products | Heavy |
| EFGGR2 | Normal Alkanes Products | HEAVY |
| EFVXRL | Normal Alkanes Products | Heavy |
| ELG3GF | Normal Alkanes Products | Heavy |
| EP3KY2 | Normal Alkanes Products | Heavy |
| EUVPR6 | Normal Alkanes Products | Heavy |
| EUZX6Y | Normal Alkanes Products | Heavy |
| EX22WL | Normal Alkanes Products | heavy |
| EXY92Y | Normal Alkanes Products | |
| F2Q7H2 | Normal Alkanes Products | HEAVY |
| F6F4GT | Normal Alkanes Products | heavy |
| F7PBJL | Normal Alkanes Products | Heavy |
| F7R727 | Normal Alkanes Products | Medium |
| FCVYAG | Normal Alkanes Products | |
| FDRKQE | Normal Alkanes Products | Heavy |
| FGNVX8 | Normal Alkanes Products | C13-C18 |
| FLYAF7 | Normal Alkanes Products | HEAVY |
| FN6M7K | Normal Alkanes Products | Heavy |
| FR8M7H | Normal Alkanes Products | Heavy (ASTM Class 0.3) |
| FTGFEX | Normal Alkanes Products | Heavy |
| FVQH9A | Normal Alkanes Products | Heavy |
| FZX9CF | Normal Alkanes Products | Heavy (C13-C16) |
| G2AZ7H | Normal Alkanes Products | Heavy |
| GBDFNA | Normal Alkanes Products | Heavy |
| GHDX3L | Normal Alkanes Products | Heavy |
| GR4H9K | Normal Alkanes Products | heavy |
| GTE3F9 | Normal Alkanes Products | |
| GUALGA | Normal Alkanes Products | Heavy range |
| GYNGYT | Normal Alkanes Products | Heavy Range |
| H4P2EA | Normal Alkanes Products | Heavy |
| H99ANU | Normal Alkanes Products | heavy |
| HEU32F | Normal Alkanes Products | Heavy |
| HKHM4A | Normal Alkanes Products | Heavy |
| HLCHH7 | Normal Alkanes Products | Heavy |
| HPTZMU | Normal Alkanes Products | Heavy |
| HQ6DP6 | No Ignitable Liquid(s) Detected | |
| HTEH6E | Normal Alkanes Products | Heavy |

TABLE 1a - Item 1

| WebCode | Item 1: Class | SubClass |
|---------|-------------------------|---------------------------|
| HUAZ8F | Normal Alkanes Products | Heavy |
| J2JUVG | Normal Alkanes Products | Heavy |
| J4NQVB | Normal Alkanes Products | |
| J8A9DW | Normal Alkanes Products | heavy |
| JDFX2W | Normal Alkanes Products | Heavy |
| JEN8VE | Normal Alkanes Products | heavy |
| JKEMFE | Normal Alkanes Products | heavy |
| JPB7MJ | Normal Alkanes Products | Heavy |
| JUZQNE | Normal Alkanes Products | Heavy |
| JVEYT9 | Normal Alkanes Products | Heavy |
| K2FXG4 | Normal Alkanes Products | heavy (C14-C15) |
| K2GL49 | Normal Alkanes Products | Heavy |
| K6VCA4 | Normal Alkanes Products | Heavy |
| KBH74F | Normal Alkanes Products | Heavy |
| KLM47X | Normal Alkanes Products | heavy |
| KLNRU4 | Normal Alkanes Products | heavy |
| KP4E89 | Normal Alkanes Products | Heavy |
| KPM3RN | Normal Alkanes Products | |
| KUY96A | Normal Alkanes Products | heavy |
| KW7Q46 | Normal Alkanes Products | Heavy |
| KY9FH8 | Normal Alkanes Products | Heavy (C14-C17) |
| L8GKUN | Normal Alkanes Products | Heavy |
| LCXKDB | Normal Alkanes Products | Heavy (C13-C17) |
| LG4JH9 | Normal Alkanes Products | Heavy |
| LGRMFP | Normal Alkanes Products | Heavy |
| M4XPPB | Normal Alkanes Products | heavy |
| M4ZFXE | Normal Alkanes Products | Heavy |
| MC9RBC | Normal Alkanes Products | heavy |
| MCD99B | Normal Alkanes Products | Heavy |
| MHWGNU | Normal Alkanes Products | Heavy |
| MN42XL | Normal Alkanes Products | Heavy |
| MPW4E9 | Normal Alkanes Products | heavy |
| MQ763T | Normal Alkanes Products | Heavy |
| MR2N4U | Normal Alkanes Products | medium to heavy (C13-C16) |
| MWX7T8 | Normal Alkanes Products | Heavy (C13 - C17) |
| MWZVX6 | Normal Alkanes Products | heavy |
| MXVGK4 | Normal Alkanes Products | Heavy |

TABLE 1a - Item 1

| WebCode | Item 1: Class | SubClass |
|---------|-------------------------|--------------------------|
| N3GTWC | Normal Alkanes Products | Heavy |
| N8CMWX | Normal Alkanes Products | heavy |
| N9938A | Normal Alkanes Products | Heavy |
| NC8E3A | Normal Alkanes Products | heavy |
| NCA2JN | Normal Alkanes Products | Heavy |
| NF6VGP | Normal Alkanes Products | Heavy |
| NGGUCX | Normal Alkanes Products | Heavy |
| NHEZUD | Normal Alkanes Products | HEAVY |
| NNF7LA | Normal Alkanes Products | Heavy |
| NNXCKY | Normal Alkanes Products | Heavy |
| NP8DQ7 | Normal Alkanes Products | Heavy |
| NQ99F4 | Normal Alkanes Products | Heavy |
| NYXUL3 | Normal Alkanes Products | Heavy |
| NZUCM4 | Normal Alkanes Products | heavy |
| P862B3 | Normal Alkanes Products | Heavy (C9-C20) |
| PAXNGC | Normal Alkanes Products | heavy |
| PHBPQU | Normal Alkanes Products | heavy |
| PQ3DA4 | Normal Alkanes Products | Heavy |
| PQXXW3 | Normal Alkanes Products | Heavy |
| PQZLDG | Normal Alkanes Products | Heavy |
| PRJA23 | Normal Alkanes Products | Heavy |
| PRW4FH | Normal Alkanes Products | Medium to Heavy, C13-C17 |
| PYEC4E | Normal Alkanes Products | Heavy |
| PYF8KY | Normal Alkanes Products | |
| Q3VUY6 | Normal Alkanes Products | heavy |
| Q6YPH8 | Normal Alkanes Products | Heavy |
| QCEHH6 | Normal Alkanes Products | |
| QCLF43 | Normal Alkanes Products | Heavy |
| QCY9HH | Normal Alkanes Products | Heavy |
| QFGA24 | Normal Alkanes Products | Heavy Range |
| QH7P4Y | Normal Alkanes Products | Heavy |
| QHGQPX | Normal Alkanes Products | Heavy (C13-C16) |
| QL9EV9 | Normal Alkanes Products | Heavy |
| QPLLR7 | Normal Alkanes Products | Heavy |
| QRRTBY | Normal Alkanes Products | Heavy (C9-C20+) |
| QXETCW | Normal Alkanes Products | Heavy(C13 ~ C16) |
| QXJ9PX | Normal Alkanes Products | Heavy |

TABLE 1a - Item 1

| WebCode | Item 1: Class | SubClass |
|---------|-------------------------|-------------------------|
| R2UJF7 | Normal Alkanes Products | Heavy (C9-C20+) |
| R4Y9HF | Normal Alkanes Products | Heavy |
| R9GED4 | Normal Alkanes Products | heavy |
| R9WTMY | Normal Alkanes Products | Heavy |
| RD8NPN | Normal Alkanes Products | Heavy |
| RELBZB | Normal Alkanes Products | Heavy |
| RG7YH3 | Normal Alkanes Products | Heavy (C13-C18) |
| RH3HK4 | Normal Alkanes Products | Heavy |
| RMY2Q9 | Normal Alkanes Products | Heavy |
| RPUL9W | Normal Alkanes Products | Heavy |
| T9PV3M | Normal Alkanes Products | Heavy range |
| T9VXW2 | Normal Alkanes Products | HEAVY |
| TD774X | Normal Alkanes Products | Heavy |
| TG7GZX | Normal Alkanes Products | heavy range, C13-C17 |
| TH2Z2Y | Normal Alkanes Products | heavy range |
| TJ8MDH | Normal Alkanes Products | Medium to heavy C13-C17 |
| TK297A | Normal Alkanes Products | heavy |
| TM9NFZ | Normal Alkanes Products | Heavy |
| TNGPDT | Normal Alkanes Products | HEAVY |
| TQQQKK | Normal Alkanes Products | Heavy |
| U64FXD | Normal Alkanes Products | Heavy Range |
| U67BFX | Normal Alkanes Products | Heavy |
| U8A2NY | Normal Alkanes Products | Heavy |
| U94RUD | Normal Alkanes Products | Heavy |
| U96LBX | Normal Alkanes Products | Heavy |
| U999RC | Normal Alkanes Products | C13 - C17 |
| UC6TWV | Normal Alkanes Products | Heavy |
| UJQQKJ | Normal Alkanes Products | Heavy |
| UKX8GT | Normal Alkanes Products | Heavy |
| ULVDZ9 | Normal Alkanes Products | Heavy |
| UQ22P4 | Normal Alkanes Products | heavy |
| V4ACKW | Normal Alkanes Products | heavy Range |
| V66MRT | Normal Alkanes Products | Heavy |
| V9YGPU | Normal Alkanes Products | Heavy |
| VAD2H4 | Normal Alkanes Products | Heavy |
| VAW4P6 | Normal Alkanes Products | heavy |
| VE9WYH | Normal Alkanes Products | Heavy |

TABLE 1a - Item 1

| WebCode | Item 1: Class | SubClass |
|---------|---|----------------------------|
| VKWKUN | Petroleum Distillates (including De-Aromatized) | Heavy |
| VW7BHG | Normal Alkanes Products | Heavy |
| W2XWQV | Normal Alkanes Products | Heavy |
| WBZ4HP | Normal Alkanes Products | Heavy |
| WDAZCT | Normal Alkanes Products | Heavy |
| WDEGAR | Normal Alkanes Products | Heavy |
| WH42D9 | Normal Alkanes Products | Heavy C14-C17 |
| WMZKHR | Normal Alkanes Products | heavy |
| WNPZJM | Normal Alkanes Products | Heavy (C14-C17) |
| WNV76Q | Normal Alkanes Products | Heavy |
| WTLRPY | Normal Alkanes Products | Heavy |
| WVCPM6 | Normal Alkanes Products | Heavy |
| WVXF7 | Normal Alkanes Products | Heavy |
| WYA7YY | Normal Alkanes Products | Heavy |
| WYEMXX | Normal Alkanes Products | C13-C17 |
| X3QY6Y | Normal Alkanes Products | heavy |
| X4J2YT | Normal Alkanes Products | heavy; C13 - C17 |
| X6ELLT | Normal Alkanes Products | Heavy |
| XA6VXC | Normal Alkanes Products | Heavy |
| XEZPTR | Normal Alkanes Products | Heavy |
| XFEYXL | Normal Alkanes Products | Heavy |
| XJWAYW | Normal Alkanes Products | Heavy |
| XPH8LY | Normal Alkanes Products | Heavy |
| XPXQ8G | Normal Alkanes Products | Heavy |
| XV8T9R | Normal Alkanes Products | Medium to Heavy C13 TO C16 |
| XZZND7 | Normal Alkanes Products | heavy |
| Y69GZN | Normal Alkanes Products | C13-C18 |
| Y7JHLM | Normal Alkanes Products | Heavy |
| Y7QF6Y | Normal Alkanes Products | Heavy |
| YAZTMX | Normal Alkanes Products | Heavy petroleum product |
| YEY27M | Normal Alkanes Products | C13 through C18 |
| YLFXLG | Normal Alkanes Products | Heavy |
| YMNXT9 | Normal Alkanes Products | Heavy |
| YNJGUB | Normal Alkanes Products | Heavy |
| YTYQ8E | Normal Alkanes Products | Heavy |
| Z33N82 | Normal Alkanes Products | Heavy |
| Z63LUM | Normal Alkanes Products | Heavy |

TABLE 1a - Item 1

| WebCode | Item 1: Class | SubClass |
|---------|---------------------------------|----------------------|
| ZCNPPW | Normal Alkanes Products | Heavy |
| ZF46D3 | Normal Alkanes Products | heavy |
| ZF6UL7 | Normal Alkanes Products | heavy |
| ZHAHZW | Normal Alkanes Products | Heavy |
| ZJ73NV | No Ignitable Liquid(s) Detected | |
| ZJNX6X | Normal Alkanes Products | Heavy (C13-C17) |
| ZQLNNM | Normal Alkanes Products | heavy |
| ZVGHLN | Normal Alkanes Products | Heavy |
| ZVH6AT | Normal Alkanes Products | Heavy |
| ZVXPUQ | Normal Alkanes Products | Heavy, C14-C16 range |
| ZXRBP3 | Normal Alkanes Products | heavy |

| Response Summary | | Total Participants: 304 |
|---|-------------|--|
| Item 1: Class | | |
| Normal Alkanes Products | 299 (98.4%) | Totals may add up to more than the total number of participants because participants can report multiple ignitable substance classes detected. |
| Petroleum Distillates (including De-Aromatized) | 3 (1.0%) | |
| No Ignitable Liquid(s) Detected | 2 (0.7%) | |

Flammable Identification

Indicate the ASTM E 1618-14 class or classes for any ignitable substances detected in the submitted items.

TABLE 1b- Item 2

| WebCode | Item 2: Class | SubClass |
|---------|---------------------------------|-------------------|
| 224HNM | No Ignitable Liquid(s) Detected | |
| 2489WM | No Ignitable Liquid(s) Detected | |
| 264TJM | No Ignitable Liquid(s) Detected | |
| 272Y32 | No Ignitable Liquid(s) Detected | |
| 2GUR3C | No Ignitable Liquid(s) Detected | |
| 2HQ8CN | No Ignitable Liquid(s) Detected | |
| 2LR7VT | No Ignitable Liquid(s) Detected | |
| 2RW3JZ | No Ignitable Liquid(s) Detected | |
| 2TPTPE | No Ignitable Liquid(s) Detected | |
| 2Z83DB | No Ignitable Liquid(s) Detected | |
| 2Z9X2M | No Ignitable Liquid(s) Detected | |
| 32D844 | No Ignitable Liquid(s) Detected | |
| 34PJ9Z | No Ignitable Liquid(s) Detected | |
| 386DKR | No Ignitable Liquid(s) Detected | |
| 3DUQNZ | No Ignitable Liquid(s) Detected | |
| 3L442X | No Ignitable Liquid(s) Detected | |
| 3MGT7V | No Ignitable Liquid(s) Detected | |
| 3R7ENH | No Ignitable Liquid(s) Detected | |
| 3T93CM | No Ignitable Liquid(s) Detected | |
| 3V7PKH | No Ignitable Liquid(s) Detected | |
| 3W29LJ | No Ignitable Liquid(s) Detected | |
| 3W8D8M | No Ignitable Liquid(s) Detected | |
| 3XFTET | No Ignitable Liquid(s) Detected | |
| 3YR6JQ | No Ignitable Liquid(s) Detected | |
| 49XCQD | No Ignitable Liquid(s) Detected | |
| 4FGR7U | No Ignitable Liquid(s) Detected | |
| 4V4DKT | No Ignitable Liquid(s) Detected | |
| 4WYVMU | No Ignitable Liquid(s) Detected | |
| 4Y9XCX | No Ignitable Liquid(s) Detected | |
| 627N9C | No Ignitable Liquid(s) Detected | |
| 62NRNP | No Ignitable Liquid(s) Detected | |
| 63GQUB | No Ignitable Liquid(s) Detected | |
| 63NNDM | No Ignitable Liquid(s) Detected | |
| 6CRRFC | No Ignitable Liquid(s) Detected | |
| 6MAA9J | No Ignitable Liquid(s) Detected | |
| 6MVXF7 | No Ignitable Liquid(s) Detected | |
| 6PYNMK | No Ignitable Liquid(s) Detected | |
| 727YNF | No Ignitable Liquid(s) Detected | |
| 72ZT3C | Normal Alkanes Products | Heavy (C9 to C20) |

TABLE 1b- Item 2

| WebCode | Item 2: Class | SubClass |
|---------|---------------------------------|------------------|
| 764F3V | No Ignitable Liquid(s) Detected | |
| 78X79A | No Ignitable Liquid(s) Detected | |
| 78Y2VL | No Ignitable Liquid(s) Detected | |
| 7BXG4A | No Ignitable Liquid(s) Detected | |
| 7DYH67 | No Ignitable Liquid(s) Detected | |
| 7F9PAK | No Ignitable Liquid(s) Detected | |
| 7HAK6G | No Ignitable Liquid(s) Detected | |
| 7LVD4Q | No Ignitable Liquid(s) Detected | |
| 7REPUC | No Ignitable Liquid(s) Detected | |
| 7RGDHH | No Ignitable Liquid(s) Detected | |
| 7TB8WD | No Ignitable Liquid(s) Detected | |
| 7TEJ2W | No Ignitable Liquid(s) Detected | |
| 84NP2P | No Ignitable Liquid(s) Detected | |
| 88NQCK | No Ignitable Liquid(s) Detected | |
| 89GNH7 | No Ignitable Liquid(s) Detected | |
| 8GECK4 | No Ignitable Liquid(s) Detected | |
| 8GX6BF | No Ignitable Liquid(s) Detected | |
| 8HPE4G | No Ignitable Liquid(s) Detected | |
| 8RBHCG | No Ignitable Liquid(s) Detected | |
| 8RWW3E | No Ignitable Liquid(s) Detected | |
| 8T9NUW | No Ignitable Liquid(s) Detected | |
| 8XWHJG | No Ignitable Liquid(s) Detected | |
| 946WAT | No Ignitable Liquid(s) Detected | |
| 97CAXL | No Ignitable Liquid(s) Detected | |
| 982PYG | No Ignitable Liquid(s) Detected | |
| 988UKK | No Ignitable Liquid(s) Detected | |
| 9DVGfQ | No Ignitable Liquid(s) Detected | |
| 9JJ9HD | No Ignitable Liquid(s) Detected | |
| 9JZFQF | No Ignitable Liquid(s) Detected | |
| 9PPTUP | No Ignitable Liquid(s) Detected | |
| 9TP6PP | No Ignitable Liquid(s) Detected | |
| 9WNFLP | No Ignitable Liquid(s) Detected | |
| A44LTF | No Ignitable Liquid(s) Detected | |
| A6Y28X | No Ignitable Liquid(s) Detected | |
| AKQYAT | No Ignitable Liquid(s) Detected | |
| AMDMGM | No Ignitable Liquid(s) Detected | |
| AN6LW7 | No Ignitable Liquid(s) Detected | |
| ANCNRK | Oxygenated Solvents | light : methanol |
| AP228H | No Ignitable Liquid(s) Detected | |
| ATYFU8 | No Ignitable Liquid(s) Detected | |
| B7MVLD | No Ignitable Liquid(s) Detected | |
| BEF8FL | No Ignitable Liquid(s) Detected | |

TABLE 1b- Item 2

| WebCode | Item 2: Class | SubClass |
|---------|---------------------------------|-----------------------------|
| BF97L8 | No Ignitable Liquid(s) Detected | |
| BHEL3B | No Ignitable Liquid(s) Detected | |
| BJ9GG8 | No Ignitable Liquid(s) Detected | |
| BNKFYR | No Ignitable Liquid(s) Detected | |
| BPFYZT | No Ignitable Liquid(s) Detected | |
| BU86GG | No Ignitable Liquid(s) Detected | |
| BWDNJJ | No Ignitable Liquid(s) Detected | |
| BX4X76 | No Ignitable Liquid(s) Detected | |
| C4GUWZ | No Ignitable Liquid(s) Detected | |
| C4VDGX | No Ignitable Liquid(s) Detected | |
| C7WG9K | No Ignitable Liquid(s) Detected | |
| CAGCAR | No Ignitable Liquid(s) Detected | |
| CAH7QC | No Ignitable Liquid(s) Detected | |
| CDEU8J | No Ignitable Liquid(s) Detected | |
| CM6FF3 | No Ignitable Liquid(s) Detected | |
| CQNBEN | No Ignitable Liquid(s) Detected | |
| CXLZWE | No Ignitable Liquid(s) Detected | |
| D94Y8F | No Ignitable Liquid(s) Detected | |
| DPNWXA | No Ignitable Liquid(s) Detected | |
| DPQJKE | Oxygenated Solvents | furfural and methylfurfural |
| E3AG7A | No Ignitable Liquid(s) Detected | |
| E448CN | No Ignitable Liquid(s) Detected | |
| E472TA | No Ignitable Liquid(s) Detected | |
| E4MYK9 | No Ignitable Liquid(s) Detected | |
| E4ZW86 | No Ignitable Liquid(s) Detected | |
| E9X42F | No Ignitable Liquid(s) Detected | |
| EATPNE | No Ignitable Liquid(s) Detected | |
| EFGGR2 | No Ignitable Liquid(s) Detected | |
| EFVXRL | No Ignitable Liquid(s) Detected | |
| ELG3GF | No Ignitable Liquid(s) Detected | |
| EP3KY2 | No Ignitable Liquid(s) Detected | |
| EUVPR6 | Normal Alkanes Products | Heavy |
| EUZX6Y | No Ignitable Liquid(s) Detected | |
| EX22WL | No Ignitable Liquid(s) Detected | |
| EXY92Y | No Ignitable Liquid(s) Detected | |
| F2Q7H2 | No Ignitable Liquid(s) Detected | |
| F6F4GT | No Ignitable Liquid(s) Detected | |
| F7PBJL | No Ignitable Liquid(s) Detected | |
| F7R727 | Normal Alkanes Products | Medium |
| FCVYAG | No Ignitable Liquid(s) Detected | |
| FDRKQE | No Ignitable Liquid(s) Detected | |
| FGNVX8 | No Ignitable Liquid(s) Detected | |

TABLE 1b- Item 2

| WebCode | Item 2: Class | SubClass |
|---------|---------------------------------|-----------|
| FLYAF7 | No Ignitable Liquid(s) Detected | |
| FN6M7K | No Ignitable Liquid(s) Detected | |
| FR8M7H | No Ignitable Liquid(s) Detected | |
| FTGFEX | No Ignitable Liquid(s) Detected | |
| FVQH9A | No Ignitable Liquid(s) Detected | |
| FZX9CF | No Ignitable Liquid(s) Detected | |
| G2AZ7H | No Ignitable Liquid(s) Detected | |
| GBDFNA | No Ignitable Liquid(s) Detected | |
| GHDX3L | No Ignitable Liquid(s) Detected | |
| GR4H9K | No Ignitable Liquid(s) Detected | |
| GTE3F9 | No Ignitable Liquid(s) Detected | |
| GUALGA | No Ignitable Liquid(s) Detected | |
| GYNGYT | No Ignitable Liquid(s) Detected | |
| H4P2EA | No Ignitable Liquid(s) Detected | |
| H99ANU | No Ignitable Liquid(s) Detected | |
| HEU32F | No Ignitable Liquid(s) Detected | |
| HKHM4A | No Ignitable Liquid(s) Detected | |
| HLCHH7 | No Ignitable Liquid(s) Detected | |
| HPTZMU | No Ignitable Liquid(s) Detected | |
| HQ6DP6 | Normal Alkanes Products | mid-range |
| HTEH6E | No Ignitable Liquid(s) Detected | |
| HUAZ8F | No Ignitable Liquid(s) Detected | |
| J2JUVG | No Ignitable Liquid(s) Detected | |
| J4NQVB | No Ignitable Liquid(s) Detected | |
| J8A9DW | No Ignitable Liquid(s) Detected | |
| JDFX2W | No Ignitable Liquid(s) Detected | |
| JEN8VE | No Ignitable Liquid(s) Detected | |
| JKEMFE | No Ignitable Liquid(s) Detected | |
| JPB7MJ | No Ignitable Liquid(s) Detected | |
| JUZQNE | No Ignitable Liquid(s) Detected | |
| JVEYT9 | No Ignitable Liquid(s) Detected | |
| K2FXG4 | No Ignitable Liquid(s) Detected | |
| K2GL49 | No Ignitable Liquid(s) Detected | |
| K6VCA4 | No Ignitable Liquid(s) Detected | |
| KBH74F | No Ignitable Liquid(s) Detected | |
| KLM47X | Oxygenated Solvents | light |
| KLNRU4 | No Ignitable Liquid(s) Detected | |
| KP4E89 | No Ignitable Liquid(s) Detected | |
| KPM3RN | No Ignitable Liquid(s) Detected | |
| KUY96A | No Ignitable Liquid(s) Detected | |
| KW7Q46 | No Ignitable Liquid(s) Detected | |
| KY9FH8 | No Ignitable Liquid(s) Detected | |

TABLE 1b- Item 2

| WebCode | Item 2: Class | SubClass |
|---------|---------------------------------|----------|
| L8GKUN | No Ignitable Liquid(s) Detected | |
| LCXKDB | No Ignitable Liquid(s) Detected | |
| LG4JH9 | No Ignitable Liquid(s) Detected | |
| LGRMFP | No Ignitable Liquid(s) Detected | |
| M4XPPB | No Ignitable Liquid(s) Detected | |
| M4ZFXE | No Ignitable Liquid(s) Detected | |
| MC9RBC | No Ignitable Liquid(s) Detected | |
| MCD99B | Oxygenated Solvents | Light |
| MN42XL | No Ignitable Liquid(s) Detected | |
| MPW4E9 | No Ignitable Liquid(s) Detected | |
| MQ763T | No Ignitable Liquid(s) Detected | |
| MR2N4U | No Ignitable Liquid(s) Detected | |
| MWX7T8 | No Ignitable Liquid(s) Detected | |
| MWZVX6 | No Ignitable Liquid(s) Detected | |
| MXVGK4 | No Ignitable Liquid(s) Detected | |
| N3GTWC | No Ignitable Liquid(s) Detected | |
| N8CMWX | No Ignitable Liquid(s) Detected | |
| N9938A | No Ignitable Liquid(s) Detected | |
| NC8E3A | No Ignitable Liquid(s) Detected | |
| NCA2JN | No Ignitable Liquid(s) Detected | |
| NF6VGP | No Ignitable Liquid(s) Detected | |
| NGGUCX | No Ignitable Liquid(s) Detected | |
| NHEZUD | No Ignitable Liquid(s) Detected | |
| NNF7LA | No Ignitable Liquid(s) Detected | |
| NNXCKY | No Ignitable Liquid(s) Detected | |
| NP8DQ7 | No Ignitable Liquid(s) Detected | |
| NQ99F4 | No Ignitable Liquid(s) Detected | |
| NYXUL3 | No Ignitable Liquid(s) Detected | |
| NZUCM4 | No Ignitable Liquid(s) Detected | |
| P862B3 | No Ignitable Liquid(s) Detected | |
| PAXNGC | No Ignitable Liquid(s) Detected | |
| PHBPQU | No Ignitable Liquid(s) Detected | |
| PQ3DA4 | No Ignitable Liquid(s) Detected | |
| PQXXW3 | No Ignitable Liquid(s) Detected | |
| PQZLDG | No Ignitable Liquid(s) Detected | |
| PRJA23 | No Ignitable Liquid(s) Detected | |
| PRW4FH | No Ignitable Liquid(s) Detected | |
| PYEC4E | No Ignitable Liquid(s) Detected | |
| PYF8KY | No Ignitable Liquid(s) Detected | |
| Q3VUY6 | No Ignitable Liquid(s) Detected | |
| Q6YPH8 | No Ignitable Liquid(s) Detected | |
| QCEHH6 | No Ignitable Liquid(s) Detected | |

TABLE 1b- Item 2

| WebCode | Item 2: Class | SubClass |
|---------|---------------------------------|----------|
| QCLF43 | No Ignitable Liquid(s) Detected | |
| QCY9HH | No Ignitable Liquid(s) Detected | |
| QFGA24 | No Ignitable Liquid(s) Detected | |
| QH7P4Y | No Ignitable Liquid(s) Detected | |
| QHGQPX | No Ignitable Liquid(s) Detected | |
| QL9EV9 | No Ignitable Liquid(s) Detected | |
| QPLLR7 | Oxygenated Solvents | |
| QRRUBY | No Ignitable Liquid(s) Detected | |
| QXETCW | No Ignitable Liquid(s) Detected | |
| QXJ9PX | No Ignitable Liquid(s) Detected | |
| R2UJF7 | No Ignitable Liquid(s) Detected | |
| R4Y9HF | No Ignitable Liquid(s) Detected | |
| R9GED4 | No Ignitable Liquid(s) Detected | |
| R9WTMY | No Ignitable Liquid(s) Detected | |
| RD8NPN | No Ignitable Liquid(s) Detected | |
| RELBZB | No Ignitable Liquid(s) Detected | |
| RG7YH3 | No Ignitable Liquid(s) Detected | |
| RH3HK4 | No Ignitable Liquid(s) Detected | |
| RMY2Q9 | No Ignitable Liquid(s) Detected | |
| RPUL9W | No Ignitable Liquid(s) Detected | |
| T9PV3M | No Ignitable Liquid(s) Detected | |
| T9VXW2 | No Ignitable Liquid(s) Detected | |
| TD774X | No Ignitable Liquid(s) Detected | |
| TG7GZX | No Ignitable Liquid(s) Detected | |
| TH2Z2Y | No Ignitable Liquid(s) Detected | |
| TJ8MDH | No Ignitable Liquid(s) Detected | |
| TK297A | No Ignitable Liquid(s) Detected | |
| TM9NFZ | No Ignitable Liquid(s) Detected | |
| TNGPDT | No Ignitable Liquid(s) Detected | |
| TQQQKK | No Ignitable Liquid(s) Detected | |
| U64FXD | No Ignitable Liquid(s) Detected | |
| U67BFX | No Ignitable Liquid(s) Detected | |
| U8A2NY | No Ignitable Liquid(s) Detected | |
| U94RUD | No Ignitable Liquid(s) Detected | |
| U96LBX | No Ignitable Liquid(s) Detected | |
| U999RC | No Ignitable Liquid(s) Detected | |
| UC6TWV | No Ignitable Liquid(s) Detected | |
| UJQQKJ | No Ignitable Liquid(s) Detected | |
| UKX8GT | No Ignitable Liquid(s) Detected | |
| ULVDZ9 | No Ignitable Liquid(s) Detected | |
| UQ22P4 | No Ignitable Liquid(s) Detected | |
| V4ACKW | No Ignitable Liquid(s) Detected | |

TABLE 1b- Item 2

| WebCode | Item 2: Class | SubClass |
|---------|---------------------------------|----------|
| V66MRT | No Ignitable Liquid(s) Detected | |
| V9YGPU | No Ignitable Liquid(s) Detected | |
| VAD2H4 | No Ignitable Liquid(s) Detected | |
| VAW4P6 | No Ignitable Liquid(s) Detected | |
| VE9WYH | No Ignitable Liquid(s) Detected | |
| VKWKUN | No Ignitable Liquid(s) Detected | |
| VW7BHG | No Ignitable Liquid(s) Detected | |
| W2XWQV | No Ignitable Liquid(s) Detected | |
| WBZ4HP | No Ignitable Liquid(s) Detected | |
| WDAZCT | No Ignitable Liquid(s) Detected | |
| WDEGAR | No Ignitable Liquid(s) Detected | |
| WH42D9 | No Ignitable Liquid(s) Detected | |
| WMZKHR | No Ignitable Liquid(s) Detected | |
| WNPZJM | No Ignitable Liquid(s) Detected | |
| WNV76Q | No Ignitable Liquid(s) Detected | |
| WTLRPY | No Ignitable Liquid(s) Detected | |
| WVCPM6 | No Ignitable Liquid(s) Detected | |
| WVXF7 | No Ignitable Liquid(s) Detected | |
| WYA7YY | No Ignitable Liquid(s) Detected | |
| WYEMXX | No Ignitable Liquid(s) Detected | |
| X3QY6Y | No Ignitable Liquid(s) Detected | |
| X4J2YT | No Ignitable Liquid(s) Detected | |
| X6ELLT | No Ignitable Liquid(s) Detected | |
| XA6VXC | No Ignitable Liquid(s) Detected | |
| XEZPTR | No Ignitable Liquid(s) Detected | |
| XFEYXL | No Ignitable Liquid(s) Detected | |
| XJWAYW | No Ignitable Liquid(s) Detected | |
| XPH8LY | No Ignitable Liquid(s) Detected | |
| XPXQ8G | No Ignitable Liquid(s) Detected | |
| XV8T9R | No Ignitable Liquid(s) Detected | |
| XZZND7 | No Ignitable Liquid(s) Detected | |
| Y69GZN | No Ignitable Liquid(s) Detected | |
| Y7JHLM | No Ignitable Liquid(s) Detected | |
| Y7QF6Y | No Ignitable Liquid(s) Detected | |
| YAZTMX | No Ignitable Liquid(s) Detected | |
| YEY27M | No Ignitable Liquid(s) Detected | |
| YLFXLG | No Ignitable Liquid(s) Detected | |
| YMNXT9 | No Ignitable Liquid(s) Detected | |
| YNJGUB | No Ignitable Liquid(s) Detected | |
| YTYQ8E | No Ignitable Liquid(s) Detected | |
| Z33N82 | No Ignitable Liquid(s) Detected | |
| Z63LUM | No Ignitable Liquid(s) Detected | |

TABLE 1b- Item 2

| WebCode | Item 2: Class | SubClass |
|---------|---------------------------------|-----------------|
| ZCNPPW | No Ignitable Liquid(s) Detected | |
| ZF46D3 | No Ignitable Liquid(s) Detected | |
| ZF6UL7 | No Ignitable Liquid(s) Detected | |
| ZHAHZW | No Ignitable Liquid(s) Detected | |
| ZJ73NV | Isoparaffinic Products | medium to heavy |
| ZJNX6X | No Ignitable Liquid(s) Detected | |
| ZQLNNM | No Ignitable Liquid(s) Detected | |
| ZVGHLN | No Ignitable Liquid(s) Detected | |
| ZVH6AT | No Ignitable Liquid(s) Detected | |
| ZVXPUQ | No Ignitable Liquid(s) Detected | |
| ZXRBP3 | No Ignitable Liquid(s) Detected | |

| Response Summary | | Total Participants: 302 |
|---------------------------------|-------------|--|
| Item 2: Class | | |
| No Ignitable Liquid(s) Detected | 292 (96.7%) | Totals may add up to more than the total number of participants because participants can report multiple ignitable substance classes detected. |
| Oxygenated Solvents | 5 (1.7%) | |
| Normal Alkanes Products | 4 (1.3%) | |
| Isoparaffinic Products | 1 (0.3%) | |

Flammable Recovery Techniques

TABLE 2

| WebCode | Adsorption Headspace | | Adsorption Temp | | Adsorption Duration | Adsorbent | Desorption |
|--|----------------------|---------|-----------------|-------------|---------------------------------|-----------------------|--|
| | Passive | Dynamic | Rm Temp | Heated (°C) | | | |
| 224HNM | ✓ | ✓ | ✓ | | 30 min | Carbon/Charcoal | hexane |
| 2489WM | ✓ | | | ✓ 70 | 4 hours | Carbon/Charcoal | |
| 264TJM | ✓ | | | ✓ 65 | 15 min | SPME | Thermal |
| Other Recovery Technique: direct solvent extraction(Diethyl Ether) | | | | | | | |
| 272Y32 | ✓ | | | ✓ 65 | Approx. 16 hours | Carbon/Charcoal | carbon disulfide |
| 2GUR3C | ✓ | | | ✓ 80 | 16 hours | Carbon/Charcoal | Carbon Disulphide |
| 2HQ8CN | | ✓ | | ✓ 100 | N/A - Syringe withdrawal method | TENAX TA 60/80 | Thermal |
| 2LR7VT | ✓ | | | ✓ 60 | 16 hours | Carbon/Charcoal | CS2 |
| 2RW3JZ | ✓ | | | ✓ 70 | 12-16 hours | Carbon/Charcoal | Carbon Disulfide |
| 2TPTPE | ✓ | | | ✓ 60 | 3 hrs / 16 hrs | Tenax TA | Thermal |
| 2Z83DB | | ✓ | ✓ | ✓ 130 | | Tenax TA 60/80 mesh | Thermal |
| 2Z9X2M | ✓ | | | ✓ 67 | 4hrs | Carbon/Charcoal | 1st half: Pentane, 2nd half: Carbon disulfide |
| 32D844 | ✓ | | | ✓ 70 | 16.5 | Carbon/Charcoal | Diethyl Ether, Thermal |
| Other Recovery Technique: SPME for light Vol., 40 C for 5 min with carboxen/PDMS fiber, Thermal desorption. | | | | | | | |
| 34PJ9Z | ✓ | | | ✓ ~90 | 16 hours | Carbon/Charcoal | carbon disulfide |
| 386DKR | ✓ | | | ✓ 60 | 16 hours | Carbon/Charcoal | Carbon Disulfide |
| 3DUQNZ | ✓ | | | ✓ 68 | 10 hrs | Carbon/Charcoal | CS2 |
| Other Recovery Technique: Heated Headspace | | | | | | | |
| 3L442X | ✓ | | | ✓ 75 | 5.5 hours | Carbon/Charcoal | carbon disulfide |
| 3MGT7V | ✓ | | | ✓ 65 | 17 hours | Carbon/Charcoal | carbon disulfide |
| 3R7ENH | ✓ | | | ✓ 60 | 16 hours | Carbon/Charcoal | carbon disulfide |
| 3T93CM | ✓ | | | ✓ 80 | 14 hours | Carbon/Charcoal | Carbon Disulfide |
| 3V7PKH | ✓ | | | ✓ 80 | 10 | SPME (CARBOXEN -PDMS) | Thermal |
| 3W29LJ | ✓ | | | ✓ 70-90 | 16 hours | Carbon/Charcoal | Carbon Disulphide |
| Other Recovery Technique: No other recovery techniques used | | | | | | | |
| 3W8D8M | ✓ | | | ✓ 80 | 17 hours | Carbon/Charcoal | Carbon Disulfide |
| 3XFTET | ✓ | | | ✓ 60 | | Carbon/Charcoal | dichloromethane |
| 3YR6JQ | ✓ | | | ✓ 80 | 14 | Carbon/Charcoal | Carbon disulfide |
| 49XCQD | ✓ | | | ✓ ~80 | ~16 hours | Carbon/Charcoal | Carbon disulfide |
| 4FGR7U | ✓ | | | ✓ 60 | 16 hours | Carbon/Charcoal | carbon disulfide |
| 4V4DKT | ✓ | | | ✓ 80 | 8 hrs. | Carbon/Charcoal | CS2 |
| 4WYVMU | ✓ | | | ✓ 90 | | Carbon/Charcoal | CS2 |

TABLE 2

| WebCode | Adsorption Headspace | | Adsorption Temp | | Adsorption Duration | Adsorbent | Desorption |
|--|----------------------|---------|-----------------|-------------|-------------------------------------|------------------------------------|-------------------|
| | Passive | Dynamic | Rm Temp | Heated (°C) | | | |
| 4Y9XCY | ✓ | | | ✓ 73 | 4 hrs | Carbon/Charcoal | Carbon disulfide |
| Other Recovery Technique: Heated headspace (70 C) | | | | | | | |
| 627N9C | ✓ | | | ✓ 80 | 16 hours | Carbon/Charcoal | Carbon Disulfide |
| 62NRNP | ✓ | | | ✓ 66 | 16hrs | Carbon/Charcoal | CS2 |
| 63GQUB | ✓ | | | ✓ 80 | 10 min | SPME, fiber coating 65 µm PDMS/DVB | Thermal |
| 63NNDM | ✓ | | | ✓ 70 | 5 hours | Carbon/Charcoal | carbon disulfide |
| 6CRRFC | | | | ✓ 70 | | Carbon/Charcoal | CS2 (PCE int STD) |
| 6MAA9J | | ✓ | | ✓ 100 | 1 hr | Tenax | Pentane |
| 6MVXF7 | ✓ | | | ✓ 80 | 2 hours | Carbon/Charcoal | n-Pentane |
| 6PYNMK | | ✓ | | ✓ 88 | 20 minutes | Carbon/Charcoal | Carbon Disulfide |
| 727YNF | ✓ | | | ✓ 60 | ~ 16 hours | Carbon/Charcoal | Carbon Disulfide |
| 72ZT3C | ✓ | | | ✓ 80 | Overnight | Carbon/Charcoal | Carbon Disulfide |
| 764F3V | ✓ | | | ✓ 65 | 16 hours | Carbon/Charcoal | carbon disulfide |
| 78X79A | ✓ | | | ✓ 60 | 16 hours | Carbon/Charcoal | Dichloromethane |
| 78Y2VL | ✓ | | | ✓ 67 | | Carbon/Charcoal | carbon disulfide |
| 7BXG4A | | ✓ | ✓ | | 1 minute | Tenax/Graphite | Thermal |
| 7DYH67 | ✓ | | | ✓ 70 | 15 hours | Carbon/Charcoal | Carbon Disulfide |
| 7F9PAK | ✓ | | | ✓ 65 | | Carbon/Charcoal | |
| 7HAK6G | | ✓ | | ✓ 90 | | Carcotrap/Carbopack | Thermal |
| 7LVD4Q | ✓ | | | ✓ 70 | Approx. 15 hours | Carbon/Charcoal | Carbon Disulfide |
| 7REPUC | ✓ | | | ✓ 60 | 10 min | SPME | |
| 7RGDHH | ✓ | | | ✓ 80 | 30 minutes | SPME | Thermal |
| 7TB8WD | ✓ | | | ✓ 80 | | | Thermal |
| 7TEJ2W | ✓ | | | ✓ 65 | 17 hours | Carbon/Charcoal | Carbon Disulfide |
| 84NP2P | | ✓ | | 100 | | TENAX TA | Thermal |
| Other Recovery Technique: Adsorption method is an active sampling procedure - not strictly dynamic. [Dynamic: "Active"] | | | | | | | |
| 88NQCK | ✓ | | | ✓ 80 | 6 | Carbon/Charcoal | carbon disulfide |
| Other Recovery Technique: Heated headspace for alcohols | | | | | | | |
| 89GNH7 | ✓ | | | ✓ 70 | approximately 16 hours | Carbon/Charcoal | Dichloromethane |
| 8GECK4 | | ✓ | ✓ | | | tenax | Thermal |
| 8GX6BF | ✓ | | ✓ | ✓ 70 | Heated for 2 hours, overnight at RT | Carbon/Charcoal | Carbon disulfide |
| Other Recovery Technique: Extraction with dichloromethane and passive headspace concentration with Solid Phase Microextraction (SPME) | | | | | | | |
| 8HPE4G | ✓ | | ✓ | ✓ 80 | 1 hour/15 minutes | SPME carbox/pdms | Thermal |
| 8RBHCG | ✓ | | | ✓ 80 | ~16 hours | Carbon/Charcoal | carbon disulfide |

TABLE 2

| WebCode | Adsorption Headspace | | Adsorption Temp | | Adsorption Duration | Adsorbent | Desorption |
|--|----------------------|---------|-----------------|-------------|------------------------|--------------------------------------|--------------------------|
| | Passive | Dynamic | Rm Temp | Heated (°C) | | | |
| 8RWW3E | ✓ | | | ✓ 65 | 16 hours | Carbon/Charcoal | |
| 8T9NUW | ✓ | | | ✓ 80 | 2 Hours | Carbon/Charcoal | CS2 |
| 8W7ALY | ✓ | | | ✓ 61 | 14 hrs | Carbon/Charcoal | CS2 |
| 8XWHJG | ✓ | | | ✓ 80 | 2 hours | Carbon/Charcoal | Dichloromethane |
| 946WAT | ✓ | | | ✓ 70 | approximately 16 hours | Carbon/Charcoal | carbon disulfide |
| 97CAXL | ✓ | | | ✓ 80 | 2 hours | Carbon/Charcoal | Carbon Disulfide |
| 982PYG | ✓ | | ✓ | | 30 min | SPME CAR/PDMS | Thermal |
| 988UKK | ✓ | | | | | SPME | |
| 9DVGFK | ✓ | | | ✓ 70 | 16 hours | Carbon/Charcoal | Carbon Disulfide |
| 9JJ9HD | ✓ | | | ✓ 70 | 16 Hours | Carbon/Charcoal | CS2 |
| 9JZFQF | ✓ | | | ✓ ~80 | ~16 hours | Carbon/Charcoal | Carbon Disulfide (CS2) |
| 9PPTUP | ✓ | | | ✓ 76 | 17 h | Carbon/Charcoal | CS2 |
| 9TP6PP | ✓ | | | ✓ 71 | 17 hours | Carbon/Charcoal | Carbon Disulfide |
| 9WNFLP | ✓ | | | ✓ 70 | 16 hours | Carbon/Charcoal | CS2 |
| A44LTF | ✓ | | | ✓ 69 | 16 hours | Carbon/Charcoal | CS2 |
| A6Y28X | ✓ | | | ✓ 70 | 16.5 hours | Carbon/Charcoal, Carboxen/PDMS fiber | TCE/ether, Thermal |
| Other Recovery Technique: Solid Phase Microextraction heated at 40 degrees C for 20-30 minutes | | | | | | | |
| AKQYAT | ✓ | | | ✓ 65 | ~16 hours | Carbon/Charcoal | CS2 |
| Other Recovery Technique: Solvent extraction with CS2 | | | | | | | |
| AMDMGM | ✓ | | | ✓ 60 | 16 hours | Carbon/Charcoal | Carbon Disulfide |
| Other Recovery Technique: Odor assessment | | | | | | | |
| AN6LW7 | | ✓ | | ✓ 90 | 10 minutes | | |
| ANCNRK | ✓ | | | ✓ 95 | | | |
| AP228H | | | | ✓ 90 | | | n-Hexane |
| ATYFU8 | | | | ✓ 80 | | spme | Thermal |
| B7MVLG | | ✓ | | ✓ 70 | | Tenax TA | Thermal |
| Other Recovery Technique: Direct HS | | | | | | | |
| BEF8FL | ✓ | | | ✓ 80 | 8H | Carbon/Charcoal | Dichloromethane /Butanol |
| BF97L8 | ✓ | | | ✓ 60 | 16 Hrs | Carbon/Charcoal | Carbon Disulfide |
| Other Recovery Technique: Item 2 - simple heated headspace in addition to passive adsorption as listed above. | | | | | | | |
| BHEL3B | ✓ | | | ✓ 70 | 16 hrs | Carbon/Charcoal | CS2 |
| BJ9GG8 | | | | ✓ 90 | 10 minutes | SPME | |
| BNKFYR | ✓ | | | ✓ 73 | | Carbon/Charcoal | Carbon Disulfide |
| Other Recovery Technique: Heated Headspace | | | | | | | |
| BPFYZT | ✓ | | | ✓ 80 | | Carbon/Charcoal | Pentane |

TABLE 2

| WebCode | Adsorption Headspace | | Adsorption Temp | | Adsorption Duration | Adsorbent | Desorption |
|--|----------------------|---------|-----------------|-------------|----------------------------|----------------------|------------------------|
| | Passive | Dynamic | Rm Temp | Heated (°C) | | | |
| BU86GG | ✓ | | | ✓ 80 | 14.5 hours | Carbon/Charcoal | Carbon disulfide |
| Other Recovery Technique: Heated head space for alcohols | | | | | | | |
| BWDNJJ | ✓ | | | ✓ 65,60 | 65C 4 hours; 60C overnight | Carbon/Charcoal | Pentane |
| BX4X76 | ✓ | | | ✓ 80 | 16 hours | Carbon/Charcoal | Carbon Disulphide |
| Other Recovery Technique: Subsample taken for non-solvent headspace analysis by GCMS. | | | | | | | |
| C4GUWZ | ✓ | | | ✓ 60 | | Carbon/Charcoal | |
| C4VDGX | ✓ | | | ✓ 61 | Approximately 20 hrs | Carbon/Charcoal | Carbon disulfide |
| C7WG9K | ✓ | | | ✓ 76 | 17 hours | Carbon/Charcoal | Carbon Disulfide (CS2) |
| CAGCAR | | ✓ | | ✓ 95 | 15 minutes | Carbon/Charcoal | CS2 |
| CAH7QC | | ✓ | | ✓ 90 | 20 minutes | Carbon/Charcoal | CS2 |
| Other Recovery Technique: Heated headspace 5 minutes @ 90C | | | | | | | |
| CDEU8J | ✓ | | | ✓ 69 | 4 hrs | Carbon/Charcoal | CS2 |
| CM6FF3 | ✓ | | ✓ | | Over night | Carbon/Charcoal | Dichloromethane |
| Other Recovery Technique: Solvent extraction using Dichloromethane | | | | | | | |
| CQNBEN | ✓ | | | ✓ 80 | over night | Carbon/Charcoal | CS2/C26 |
| CXLZWE | ✓ | | | ✓ 83 | 17 hours (overnight) | Carbon/Charcoal | Carbon Disulfide |
| D94Y8F | ✓ | | | ✓ 80 | 2 hours | Carbon/Charcoal | Carbon Disulfide |
| DPNWXA | ✓ | | | ✓ 80 | 16 hours | Carbon/Charcoal | Carbon Disulfide |
| DPQJKE | ✓ | | | 90 | | Carbon/Charcoal, CS2 | pentane |
| E3AG7A | ✓ | | | ✓ 60 | 16 hours | Carbon/Charcoal | |
| E448CN | ✓ | | | ✓ 65 | 16 hr | Carbon/Charcoal | CS2 |
| E472TA | ✓ | | ✓ | | 10 minutes | SPME | Thermal |
| Other Recovery Technique: Extraction with hexane | | | | | | | |
| E4MYK9 | ✓ | | | ✓ 67.3 | 18h16m | Carbon/Charcoal | Carbon Disulfide |
| E4ZW86 | | | ✓ | ✓ 90 | | Tenax | Thermal |
| E9X42F | ✓ | | | ✓ 62-64 | | Carbon/Charcoal | PENTANE |
| Other Recovery Technique: Headspace | | | | | | | |
| EATPNE | ✓ | | | ✓ 63 | 17 hours | Carbon/Charcoal | Carbon Disulfide |
| EFGGR2 | ✓ | | | ✓ 95 | 24 hr. | Carbon/Charcoal | Dichloromethane |
| EFVXRL | ✓ | | | ✓ ~80 | Overnight | Carbon/Charcoal | Carbon disulfide |
| ELG3GF | ✓ | | | 60 | 16 hours | Carbon/Charcoal | pentane |
| EP3KY2 | | | | ✓ 70 | | | |
| EUVPR6 | ✓ | | | ✓ 71 | 4 hours | Carbon/Charcoal | CS2 |
| EUZX6Y | ✓ | | | ✓ 65 | 18 hrs | Carbon/Charcoal | Carbon disulfide |
| EX22WL | ✓ | | | ✓ 65 | 16 hours | Carbon/Charcoal | carbon disulfide |
| EXY92Y | ✓ | | | 70 | 15 hours | Carbon/Charcoal | Carbon Disulfide |

TABLE 2

| WebCode | Adsorption Headspace | | Adsorption Temp | | Adsorption Duration | Adsorbent | Desorption |
|--|----------------------|---------|-----------------|-------------|---------------------|-----------------|------------------------|
| | Passive | Dynamic | Rm Temp | Heated (°C) | | | |
| F2Q7H2 | | | | | | | |
| Other Recovery Technique: Solvent extraction by n-Pentane | | | | | | | |
| F6F4GT | ✓ | | | ✓ 60 | ~17 hrs | Carbon/Charcoal | CS2 |
| F7PBJL | ✓ | | | ✓ 70 | 12-16 hours | Carbon/Charcoal | Carbon Disulfide |
| F7R727 | ✓ | | | ✓ 85 | | | |
| FCVYAG | ✓ | | | ✓ 65 | 18 hours | Carbon/Charcoal | CS2 |
| FDRKQE | ✓ | | | ✓ 60 | | Carbon/Charcoal | carbon disulfide |
| FGNVX8 | ✓ | | | ✓ 72 | 10 hours | Carbon/Charcoal | |
| FLYAF7 | ✓ | | | ✓ 90 | 10 MINUTES | | N-HEXANE |
| FN6M7K | ✓ | | | ✓ 70 | 20 hours | Carbon/Charcoal | Carbon Disulfide |
| FR8M7H | ✓ | | | ✓ 90 | 5 hrs | Carbon/Charcoal | CS2 |
| FTGFEX | ✓ | | | ✓ 50 | over night | Carbon/Charcoal | CS2 (Carbon Disulfur) |
| FVQH9A | | ✓ | | ✓ 88 | 20 minutes | Carbon/Charcoal | carbon disulfide |
| Other Recovery Technique: Heated headspace at 88 degrees C | | | | | | | |
| FZX9CF | | ✓ | | ✓ 100 | | | Thermal |
| G2AZ7H | ✓ | | | ✓ 60 | 16 hours | Carbon/Charcoal | Carbon Disulfide |
| GBDFNA | ✓ | | | ✓ 60 | | Carbon/Charcoal | carbon disulfide |
| Other Recovery Technique: Headspace-starting temp. @ 35C and final temp. 100c | | | | | | | |
| GHDX3L | ✓ | | | ✓ 63 | 17 hours | Carbon/Charcoal | Carbon Disulfide |
| GR4H9K | ✓ | | | ✓ 70 | 16 hours | Carbon/Charcoal | CS2 |
| GTE3F9 | | ✓ | | ✓ 90 | 20 minutes | Carbon/Charcoal | CS2 |
| Other Recovery Technique: Heated headspace 90 degrees C | | | | | | | |
| GUALGA | ✓ | | | ✓ 80 | ~16 hours | Carbon/Charcoal | carbon disulfide |
| GYNGYT | ✓ | | | ✓ ~60 | Overnight ~17 hours | Carbon/Charcoal | Pentane |
| H4P2EA | | | | | | | n-Pentane |
| H99ANU | ✓ | | | ✓ 63 | approx 24 hours | Carbon/Charcoal | carbon disulfide |
| HEU32F | ✓ | | | ✓ 60 | 18 hours | Carbon/Charcoal | Carbon Disulfide |
| HKHM4A | ✓ | | | ✓ 80 | 21 hours | Carbon/Charcoal | Carbon disulfide |
| HLCHH7 | | | | | | | n-Hexane |
| HPTZMU | ✓ | | | ✓ 70 | 16 hours | Carbon/Charcoal | Carbon Disulfide (CS2) |
| HQ6DP6 | ✓ | | | ✓ 80 | 2 hrs | Carbon/Charcoal | CS2 |
| HTEH6E | ✓ | | | ✓ 65 | 16 Hours | Carbon/Charcoal | Carbon Disulfide |
| HUAZ8F | ✓ | | | ✓ 70 | 16 hours | Carbon/Charcoal | Carbon Disulfide |
| J2JUVG | ✓ | | | ✓ 75 | 5 hours | Carbon/Charcoal | CS2 |
| J4NQVB | | ✓ | | 90 | | SPME | Thermal |
| J8A9DW | ✓ | | | ✓ 90 | 16H | Carbon/Charcoal | CS2 |
| JDFX2W | ✓ | | ✓ | | 24 hours | Carbon/Charcoal | DCM |

TABLE 2

| WebCode | Adsorption Headspace | | Adsorption Temp | | Adsorption Duration | Adsorbent | Desorption |
|--|----------------------|---------|-----------------|-------------|---------------------|-----------------|------------------|
| | Passive | Dynamic | Rm Temp | Heated (°C) | | | |
| JEN8VE | ✓ | | | ✓ 70 | 12 hours | Carbon/Charcoal | diethyl ether |
| Other Recovery Technique: Direct headspace analysis | | | | | | | |
| JKEMFE | ✓ | | | ✓ 70 | 16-18 hours | Carbon/Charcoal | carbon disulfide |
| JPB7MJ | ✓ | | | ✓ 68 | 8 HR. | Carbon/Charcoal | CS2 |
| Other Recovery Technique: Heated Headspace [Passive: "Heated 68°C 1 HR."] | | | | | | | |
| JUZQNE | ✓ | | | ✓ 80 | 16 hours | Carbon/Charcoal | Carbon disulfide |
| JVEYT9 | | | | ✓ 90 | 10 minute | | Hexane |
| K2FXG4 | ✓ | | | ✓ 100 | 40 mins | Tenax | Pentane |
| K2GL49 | ✓ | | | ✓ ~80 | ~ 16 hours | Carbon/Charcoal | Carbon Disulfide |
| Other Recovery Technique: Direct heated headspace sampling | | | | | | | |
| K6VCA4 | ✓ | | | ✓ 60 | | Carbon/Charcoal | Carbon Disulfide |
| KBH74F | ✓ | | | ✓ 80 | overnight | Carbon/Charcoal | Carbon Disulfide |
| KLM47X | ✓ | | | ✓ 80 | 16 hours | Carbon/Charcoal | n-pentane |
| KLNRU4 | ✓ | | | ✓ 65 | 16 hrs | Carbon/Charcoal | CS2 |
| KP4E89 | ✓ | | | ✓ 60-70 | 16 Hours | Carbon/Charcoal | Carbon Disulfide |
| KPM3RN | ✓ | | | ✓ 80 | 6 H | Carbon/Charcoal | CS2 |
| KUY96A | ✓ | | | ✓ 65 | 16 hrs | Carbon/Charcoal | CS2 |
| KW7Q46 | ✓ | | | ✓ 65 | | Carbon/Charcoal | |
| KY9FH8 | | | | ✓ 90 | 10 minutes | | Thermal |
| Other Recovery Technique: Liquid Extraction | | | | | | | |
| L8GKUN | ✓ | | ✓ | ✓ 80 | 3 hours - 3 days | Tenax | Thermal |
| LCXKDB | ✓ | | | ✓ 65 | 16 Hours | Carbon/Charcoal | Carbon Disulfide |
| LG4JH9 | ✓ | | | ✓ 70 | Approx. 12 Hrs. | Carbon/Charcoal | Carbon Disulfide |
| LGRMFP | | ✓ | ✓ | ✓ 130 | | Tenax | Thermal |
| M4XPPB | | | | ✓ 90 | 16h | Tenax TA | Thermal |
| M4ZFXE | ✓ | | | ✓ 70 | 12-16 hours | Carbon/Charcoal | carbon disulfide |
| MC9RBC | | ✓ | | 90 | 30 min | tenax | Thermal |
| MCD99B | ✓ | | | ✓ 60 | 16 hrs | Carbon/Charcoal | CS2 |
| MHWGNU | ✓ | ✓ | ✓ | ✓ 80 | | SPME | n-hexane |
| MN42XL | ✓ | | | ✓ 70 | ~16 hours | Carbon/Charcoal | Carbon disulfide |
| Other Recovery Technique: Simple heated headspace | | | | | | | |
| MPW4E9 | ✓ | | | ✓ ~60 | ~16 hrs. | Carbon/Charcoal | Carbon Disulfide |
| MQ763T | ✓ | | | ✓ ~80 | ~16 hours | Carbon/Charcoal | Carbon disulfide |
| MR2N4U | ✓ | | | ✓ 40 | 10 min | | |
| Other Recovery Technique: SPME (DVB/CAR/PDMS) | | | | | | | |
| MWX7T8 | ✓ | | ✓ | ✓ 60 | 16 hours | Carbon/Charcoal | Pentane |
| MWZVX6 | ✓ | | | ✓ 65 | 16 hours | Carbon/Charcoal | carbon disulfide |
| MXVGK4 | ✓ | | | ✓ 80 | 16hrs | Carbon/Charcoal | Carbon Disulfide |
| N3GTWC | ✓ | | | ✓ 81.2 | 4 hours | Carbon/Charcoal | CS2 |

TABLE 2

| WebCode | Adsorption Headspace | | Adsorption Temp | | Adsorption Duration | Adsorbent | Desorption |
|---|----------------------|---------|-----------------|-------------|---------------------------------------|---------------------------|------------------------------|
| | Passive | Dynamic | Rm Temp | Heated (°C) | | | |
| N8CMWX | ✓ | | | ✓ 60 | ~16 hours | Carbon/Charcoal | CS2 |
| N9938A | ✓ | | | ✓ 80 | 16 hours | Carbon/Charcoal | carbon disulfide |
| NC8E3A | | | | ✓ 60 | 16 hours | Carbon/Charcoal | carbon disulfide |
| NCA2JN | ✓ | | ✓ | ✓ 85 | | Carbon/Charcoal | DCM & Water |
| NF6VGP | ✓ | | ✓ | | 24 hours | Carbon/Charcoal | Cs2 |
| NGGUCX | ✓ | | | ✓ 68.5 | 15 hours 38 minutes | Carbon/Charcoal | |
| NHEZUD | ✓ | | | ✓ 90 | 10 hours | Carbon/Charcoal | Carbon disulfide |
| NNF7LA | ✓ | | | ✓ 80 | | Carbon/Charcoal | Carbon disulfide |
| NNXCKY | ✓ | | | ✓ 90 | 10 minutes | | Hexane |
| NP8DQ7 | ✓ | | | ✓ 66 | 16 hours | Carbon/Charcoal | CS2 |
| NQ99F4 | ✓ | | | ✓ 75 | 4.5 hours | Carbon/Charcoal | Carbon Disulfide |
| NYXUL3 | ✓ | | | ✓ 80 | 2 hours 40 minutes | Carbon/Charcoal | CS2 |
| NZUCM4 | ✓ | | | 110 | 30 mins | Tenax | Thermal |
| P862B3 | | | | ✓ 90 | | | |
| Other Recovery Technique: Solvent extraction using Hexane | | | | | | | |
| PAXNGC | ✓ | | | ✓ 80 | 4 hours | Carbon/Charcoal | pentane |
| PHBPQU | ✓ | | | ✓ 80 | 15H | Carbon/Charcoal | pentane |
| PQ3DA4 | ✓ | | | 75 | 18 hours | Carbon/Charcoal | Carbon Disulfide |
| PQXXW3 | ✓ | | | ✓ 80 | 2 h | Carbon/Charcoal, Tenax TA | Carbon-disulfide, Thermal |
| Other Recovery Technique: SPME | | | | | | | |
| PQZLDG | ✓ | | | ✓ 62 | 6 hr | Carbon/Charcoal | CS2 / PCE |
| PRJA23 | ✓ | | | ✓ 80 | | | |
| PRW4FH | ✓ | | | ✓ 70 | 16 hours | Carbon/Charcoal | Carbon Disulfide |
| PYEC4E | | ✓ | | ✓ 80 | 20 mins | Carbon/Charcoal | CS2 |
| PYF8KY | | ✓ | | ✓ 90 | 20 min | Carbon/Charcoal | Carbon Disulfide |
| Q3VUY6 | ✓ | | | ✓ 65 | 16 hours | Carbon/Charcoal | |
| Q6YPH8 | ✓ | | | ✓ 70 | 12 hours | Carbon/Charcoal | Ethyl Ether |
| Other Recovery Technique: Heated headspace, 70 C, 30 minutes | | | | | | | |
| QCEHH6 | ✓ | | | ✓ 65 | 16 hours | Carbon/Charcoal | Carbon disulfide |
| QCLF43 | ✓ | | | ✓ 70 | 20.5 | Carbon/Charcoal | CS2 |
| QCY9HH | ✓ | | | ✓ 60 | 16 hrs | Carbon/Charcoal | CS2 |
| Other Recovery Technique: Direct headspace - 15 min at 65C | | | | | | | |
| QFGA24 | ✓ | | ✓ | ✓ 60 | 2 hours at room temp, 16 hours at 60C | Carbon/Charcoal | toluene and carbon disulfide |
| QH7P4Y | ✓ | | | ✓ 79 | 16 hours | Carbon/Charcoal | CS2 |
| QHGQPX | ✓ | | | ✓ 80 | 2:30 | Carbon/Charcoal | CH2Cl2 |
| QL9EV9 | ✓ | | | ✓ 65 | 16 hours | Carbon/Charcoal | carbon disulfide |

TABLE 2

| WebCode | Adsorption Headspace | | Adsorption Temp | | Adsorption Duration | Adsorbent | Desorption |
|---|----------------------|---------|-----------------|-------------|---------------------|-----------------|---------------------------------|
| | Passive | Dynamic | Rm Temp | Heated (°C) | | | |
| QPLL7 | | | | ✓ 65 | 16 hrs | Carbon/Charcoal | |
| QRRTBY | ✓ | | | ✓ 80 | 2:30 | Carbon/Charcoal | CH ₂ Cl ₂ |
| QXETCW | ✓ | | | ✓ 55 | 5 min | SPME | Thermal |
| QXJ9PX | ✓ | | | ✓ 60 | 16 Hours | Carbon/Charcoal | Carbon Disulfide |
| R2UJF7 | ✓ | | | ✓ 60 | 18 hours | Carbon/Charcoal | Carbon Disulfide |
| R4Y9HF | ✓ | | | ✓ 70 | 16.5hrs | Carbon/Charcoal | Diethyl Ether |
| Other Recovery Technique: SPME-heated @ 40C for 30mins, 75um Carboxen/PDMS fiber, Desorption-Thermal | | | | | | | |
| R9GED4 | ✓ | | | ✓ 180 | 12 Hours | Carbon/Charcoal | ether |
| R9WTMY | ✓ | | | ✓ 60 | 16 hr | Carbon/Charcoal | Carbon disulfide |
| RD8NPN | ✓ | | ✓ | ✓ 90 | 16 hrs / 3 hrs | Tenax TA | Thermal |
| RELBZB | ✓ | | | ✓ 65 | 19 hours | Carbon/Charcoal | carbon disulfide |
| RG7YH3 | ✓ | | | ✓ 110 | 45 minutes | | |
| Other Recovery Technique: Solvent extraction with n-pentan | | | | | | | |
| RH3HK4 | ✓ | | | ✓ 75 | overnight | Carbon/Charcoal | hexane |
| RMY2Q9 | ✓ | | | ✓ 65 | 16 hours | Carbon/Charcoal | Carbon Disulfide |
| RPUL9W | ✓ | | | ✓ ~60 | ~17 hours | Carbon/Charcoal | CS ₂ / PCE |
| T9PV3M | ✓ | | | ✓ 60 | 4 hours | Carbon/Charcoal | carbon disulfide |
| T9VXW2 | | | | | | | |
| Other Recovery Technique: Heated headspace, 90°C for 10minutes | | | | | | | |
| TD774X | ✓ | | | ✓ 77 | 5.5 Hours | Carbon/Charcoal | Carbon disulfide |
| TG7GZX | ✓ | | | ✓ 77.7 | 3.5 hours | Carbon/Charcoal | carbon disulfide |
| TH2Z2Y | ✓ | | | ✓ 65 | 16 hrs | Carbon/Charcoal | CS ₂ |
| TJ8MDH | ✓ | | | ✓ 80 | 12-18 hours | Carbon/Charcoal | CS ₂ |
| TK297A | ✓ | | | ✓ 65 | 16 hr | Carbon/Charcoal | carbon disulfide |
| TM9NFZ | ✓ | | | 65 | 16 hours | Carbon/Charcoal | CS ₂ |
| TNGPDT | ✓ | ✓ | ✓ | ✓ 80 | 10MIN | SPME | N-PENTAN |
| TQQQKK | ✓ | | | ✓ 70 | 80 hours | Carbon/Charcoal | Diethyl ether |
| U64FXD | ✓ | | | ✓ 70 | 16-20 hrs | Carbon/Charcoal | CS ₂ |
| U67BFX | ✓ | | | ✓ 80 | 30 minutes | Carbon/Charcoal | Carbon Disulfide |
| U8A2NY | ✓ | | | ✓ 60 - 70 | 16 hours | Carbon/Charcoal | Carbon Disulfide |
| U94RUD | ✓ | | | ✓ 70 | ~16 hours | Carbon/Charcoal | CS ₂ |
| Other Recovery Technique: Simple Heated Headspace | | | | | | | |
| U96LBX | ✓ | | | ✓ 70 | 2 hours | Carbon/Charcoal | Carbon Disulfide |
| U999RC | | ✓ | | ✓ 80 | 2 min | Carbon/Charcoal | Pentane |
| UC6TWW | ✓ | | | ✓ 80 | 16 hours | Carbon/Charcoal | Carbon Disulfide |
| Other Recovery Technique: Direct headspace sampling. | | | | | | | |
| UJQQKJ | ✓ | | | ✓ 60 | 16 hours | Carbon/Charcoal | CS ₂ |
| Other Recovery Technique: Solvent extraction with pentane | | | | | | | |

TABLE 2

| WebCode | Adsorption Headspace | | Adsorption Temp | | Adsorption Duration | Adsorbent | Desorption |
|--|----------------------|---------|-----------------|-------------|---------------------|---|---|
| | Passive | Dynamic | Rm Temp | Heated (°C) | | | |
| UKX8GT | ✓ | | | ✓ 90 | 10 minutes | solid-phase microextraction (carbox/PDMS) | Thermal |
| ULVDZ9 | ✓ | | | ✓ 65 | 16 hours | Carbon/Charcoal | CS2 |
| UQ22P4 | ✓ | | | ✓ 50 | 5 minutes | SPME/PDMS | Thermal |
| V4ACKW | ✓ | | | ✓ 65 | 16 hrs | Carbon/Charcoal | CS2 |
| V66MRT | ✓ | | ✓ | | more than 24 hrs | Carbon/Charcoal | CS2 (Carbon disulfide) |
| V9YGPU | ✓ | | | ✓ 80 | 3 hours | Carbon/Charcoal | Dichloromethane |
| VAD2H4 | ✓ | | | | 5 hrs | Carbon/Charcoal | CS2 |
| VAW4P6 | ✓ | | | ✓ 70 | 17 hours | Carbon/Charcoal | carbon disulfide |
| VE9WYH | ✓ | | | ✓ 80 | 16 hours | Carbon/Charcoal | CS2 |
| VKWKUN | ✓ | | | ✓ 90 | 5 hours | Carbon/Charcoal | Carbon Disulfide |
| VW7BHG | ✓ | | ✓ | | 16.5 hours | Carbon/Charcoal | Carbon Disulfide |
| W2XWQV | ✓ | | | ✓ 70 | 21.5hrs | Carbon/Charcoal | CS2 |
| WBZ4HP | ✓ | | | ✓ 70 | 18 hours | Carbon/Charcoal | Carbon Disulfide |
| WDAZCT | | ✓ | | ✓ ~95 | 25 minutes | Carbon/Charcoal | Carbon Disulfide |
| WDEGAR | ✓ | | | ✓ 65 | 16 Hours | Carbon/Charcoal | Carbon Disulfide |
| WH42D9 | ✓ | | | ✓ 80 | 12 Hours | Carbon/Charcoal | CS2 |
| WMZKHR | ✓ | | | ✓ 130 | 15 min | spme | Thermal |
| Other Recovery Technique: headspace | | | | | | | |
| WNPZJM | ✓ | | | ✓ 70 | ~15 HRS | Carbon/Charcoal | |
| WNV76Q | ✓ | | | ✓ 65 | 16 hours | Carbon/Charcoal | carbon disulfide |
| WTLRPY | ✓ | | | ✓ 62 | 18 hours | Carbon/Charcoal | Carbon disulfide |
| WVCPM6 | ✓ | | | ✓ 70 | 5 1/2 hours | Carbon/Charcoal | Carbon disulfide |
| WVTXF7 | ✓ | | | ✓ 81-99 | 15 hours | Carbon/Charcoal | CS2 |
| WYA7YY | ✓ | | | ✓ 70 | 14 Hours | Carbon/Charcoal | Carbon Disulfide |
| WYEMXX | ✓ | | | ✓ 80 | | Carbon/Charcoal | Pentane, Carbon Disulfide |
| X3QY6Y | ✓ | | | | 16 hours | Carbon/Charcoal | |
| X4J2YT | ✓ | | | ✓ 65 | ~16 hrs | Carbon/Charcoal | CS2 |
| X6ELLT | ✓ | | | ✓ 80 | ~16 Hours | Carbon/Charcoal | Carbon Disulfide |
| XA6VXC | ✓ | | | ✓ 70 | 16 hours | Carbon/Charcoal | #1. 5% carbon disulfide in pentane; #2. toluene |
| XEZPTR | ✓ | | | ✓ 80 | 16 hours | Carbon/Charcoal | Carbon Disulfide |
| XFEYXL | ✓ | | | ✓ 70 | ~18 hrs | Carbon/Charcoal | CS2 |
| XJWAYW | ✓ | | | ✓ 60 | 12 hours | Carbon/Charcoal | Carbon disulfide |
| XPH8LY | ✓ | | | ✓ 80 | 8:00 | Carbon/Charcoal | Dichloromethan and Butan-1-ol |

TABLE 2

| WebCode | Adsorption Headspace | | Adsorption Temp | | Adsorption Duration | Adsorbent | Desorption |
|--|----------------------|---------|-----------------|-------------|---------------------|-----------------|------------------|
| | Passive | Dynamic | Rm Temp | Heated (°C) | | | |
| XPXQ8G | ✓ | | | ✓ 70 | 4 days | Carbon/Charcoal | Diethyl Ether |
| XV8T9R | | ✓ | | ✓ 120 | | Tenax TA | Thermal |
| Other Recovery Technique: 10ml vapour sampled | | | | | | | |
| XZZND7 | ✓ | | | ✓ 70 | 18 hrs | Carbon/Charcoal | CS2 |
| Y69GZN | ✓ | | | ✓ 72 | 24 hours | Carbon/Charcoal | CS2 |
| Y7JHLM | | | | ✓ 90 | | | |
| Y7QF6Y | ✓ | | | ✓ 60 | 16 hours | Carbon/Charcoal | CS2 |
| YAZTMX | ✓ | | | ✓ 75 | 17 hours | Carbon/Charcoal | Carbon Disulfide |
| YEY27M | ✓ | | | ✓ 72 | 20 hours | Carbon/Charcoal | CS2 |
| YLFXLG | ✓ | | | ✓ ~80 | ~16 hours | Carbon/Charcoal | Carbon disulfide |
| YMNXT9 | ✓ | | | ✓ 80 | 2 hours | Carbon/Charcoal | Pentane |
| YNJGUB | ✓ | | | ✓ 70 | 3 hours | Carbon/Charcoal | pentane |
| Other Recovery Technique: Heated headspace | | | | | | | |
| YTYQ8E | ✓ | | | ✓ 80 | 2 Hours | Carbon/Charcoal | Carbon Disulfide |
| Z33N82 | ✓ | | | ✓ 65 | overnight | Carbon/Charcoal | carbon disulfide |
| Z63LUM | ✓ | | | ✓ 78 | 16 hours | Carbon/Charcoal | Carbon disulfide |
| ZCNPPW | ✓ | | | ✓ 68 | ~16 hours | Carbon/Charcoal | Carbon disulfide |
| ZF46D3 | ✓ | | | ✓ 77 | 4 hours | Carbon/Charcoal | CS2 |
| ZF6UL7 | ✓ | | | | ~4 hours | Carbon/Charcoal | CS2 / toluene |
| ZHAHZW | ✓ | | | ✓ 80 | 1 hour | Carbon/Charcoal | Carbon Disulfide |
| ZJ73NV | | | | | | | pentane |
| ZJNX6X | ✓ | | | ✓ 80 | 4.67 hours | Carbon/Charcoal | Carbon Disulfide |
| ZQLNNM | ✓ | | | ✓ 80 | 15h | Carbon/Charcoal | pentane |
| ZVGHLN | | | | | | | Extraction |
| ZVH6AT | ✓ | | | ✓ 50 | 18 hours | Carbon/Charcoal | Carbon disulfide |
| ZVXPUQ | ✓ | | | ✓ 80 | 5 hrs | Carbon/Charcoal | CS2 |
| ZXRBP3 | ✓ | | | ✓ 65 | ~19.5 hours | Carbon/Charcoal | Carbon disulfide |

Response Summary

| Participants | Adsorption Headspace | | Adsorption Temp | | Adsorbent | | Desorption | |
|--------------|----------------------|---------|-----------------|--------|-----------------|-------|------------|---------|
| | Passive | Dynamic | Rm Temp | Heated | Carbon/Charcoal | Other | Thermal | Solvent |
| 304 | 262 | 26 | 22 | 275 | 246 | 39 | 35 | 246 |

Identification Techniques

TABLE 3

| WebCode | GC | GC/MS | Other | WebCode | GC | GC/MS | Other | WebCode | GC | GC/MS | Other |
|---------|----|-------|-------|---------|----|-------|-------|---------|----|-------|--------------------|
| 224HNM | | ✓ | | 6CRRFC | | ✓ | | 988UKK | | ✓ | |
| 2489WM | | ✓ | | 6MAA9J | ✓ | | | 9DVGfQ | | ✓ | |
| 264TJM | ✓ | ✓ | | 6MVXF7 | ✓ | ✓ | | 9JJ9HD | | ✓ | |
| 272Y32 | | ✓ | | 6PYNMK | | ✓ | | 9JZFQF | | ✓ | |
| 2GUR3C | | ✓ | | 727YNF | | ✓ | | 9PPTUP | | ✓ | |
| 2HQ8CN | | ✓ | | 72ZT3C | | ✓ | | 9TP6PP | ✓ | ✓ | Odor Assessment |
| 2LR7VT | | ✓ | | 764F3V | | ✓ | | 9WNFLP | ✓ | ✓ | |
| 2RW3JZ | ✓ | ✓ | | 78X79A | | ✓ | | A44LTF | | ✓ | |
| 2TPTPE | | ✓ | | 78Y2VL | | ✓ | | A6Y28X | | ✓ | |
| 2Z83DB | | ✓ | | 7BXG4A | | ✓ | | AKQYAT | | ✓ | |
| 2Z9X2M | | ✓ | | 7DYH67 | | ✓ | | AMDMGM | ✓ | ✓ | |
| 32D844 | | ✓ | | 7F9PAK | | ✓ | | AN6LW7 | | ✓ | |
| 34PJ9Z | ✓ | ✓ | | 7HAK6G | | ✓ | | ANCNRK | | ✓ | |
| 386DKR | | ✓ | | 7LVD4Q | | ✓ | | AP228H | | ✓ | |
| 3DUQNZ | | ✓ | | 7REPUC | | ✓ | | ATYFU8 | | ✓ | |
| 3L442X | | ✓ | | 7RGDHH | | ✓ | | B7MVLd | | ✓ | |
| 3MGT7V | | ✓ | | 7TB8WD | | ✓ | | BEF8FL | | ✓ | |
| 3R7ENH | | ✓ | | 7TEJ2W | | ✓ | | BF97L8 | | ✓ | |
| 3T93CM | | ✓ | | 84NP2P | | ✓ | | BHEL3B | | ✓ | |
| 3V7PKH | | ✓ | | 88NQCK | | ✓ | | BJ9GG8 | | ✓ | |
| 3W29LJ | | ✓ | | 89GNH7 | | ✓ | | BNKFYR | | ✓ | |
| 3W8D8M | | ✓ | | 8GECK4 | | ✓ | | BPFYZT | | ✓ | |
| 3XFTET | ✓ | ✓ | | 8GX6BF | ✓ | ✓ | | BU86GG | | ✓ | |
| 3YR6JQ | | ✓ | | 8HPE4G | | ✓ | | BWDNJJ | | ✓ | |
| 49XCQD | | ✓ | | 8RBHCG | | ✓ | | BX4X76 | | ✓ | |
| 4FGR7U | ✓ | ✓ | | 8RWW3E | | ✓ | | C4GUWZ | | ✓ | |
| 4V4DKT | | ✓ | | 8T9NUW | | ✓ | | C4VDGX | | ✓ | |
| 4WYVMU | | ✓ | | 8W7ALY | | ✓ | | C7WG9K | | ✓ | |
| 4Y9XCY | | ✓ | | 8XWHJG | | ✓ | | CAGCAR | | ✓ | |
| 627N9C | | ✓ | | 946WAT | | ✓ | | CAH7QC | | ✓ | |
| 62NRNP | | ✓ | | 97CAXL | | ✓ | | CDEU8J | | ✓ | |
| 63GQUB | | ✓ | | 982PYG | | ✓ | | CM6FF3 | | ✓ | |
| 63NNDM | | ✓ | | | | | | | | | |

TABLE 3

| WebCode | GC | GC/MS | Other | WebCode | GC | GC/MS | Other | WebCode | GC | GC/MS | Other |
|---------|----|-------|-------------------|---------|----|-------|-------|---------|----|-------|-------|
| CQNBEN | | ✓ | | GBDFNA | | ✓ | | KY9FH8 | | ✓ | |
| CXLZWE | | ✓ | | GHDX3L | | ✓ | | L8GKUN | ✓ | ✓ | |
| D94Y8F | | ✓ | | GR4H9K | | ✓ | | LCXKDB | | ✓ | |
| DPNWXA | | ✓ | | GTE3F9 | | ✓ | | LG4JH9 | | ✓ | |
| DPQJKE | ✓ | ✓ | | GUALGA | | ✓ | | LGRMFP | | ✓ | |
| E3AG7A | | ✓ | | GYNGYT | | ✓ | | M4XPPB | | ✓ | |
| E448CN | | ✓ | | H4P2EA | | ✓ | | M4ZFXE | ✓ | ✓ | |
| E472TA | | ✓ | | H99ANU | | ✓ | | MC9RBC | ✓ | ✓ | |
| E4MYK9 | | ✓ | | HEU32F | ✓ | ✓ | | MCD99B | | ✓ | |
| E4ZW86 | | ✓ | GC/MS-TD | HKHM4A | | ✓ | | MHWGNU | ✓ | ✓ | |
| E9X42F | | ✓ | | HLCHH7 | | ✓ | | MN42XL | | ✓ | |
| EATPNE | | ✓ | | HPTZMU | | ✓ | | MPW4E9 | | ✓ | |
| EFGGR2 | ✓ | ✓ | | HQ6DP6 | | ✓ | | MQ763T | | ✓ | |
| EFVXRL | | ✓ | | HTEH6E | | ✓ | | MR2N4U | | ✓ | |
| ELG3GF | | ✓ | | HUAZ8F | ✓ | ✓ | | MWX7T8 | | ✓ | |
| EP3KY2 | | | GCMS Headspace | J2JUVG | | ✓ | | MWZVX6 | ✓ | ✓ | |
| EUVPR6 | | ✓ | | J4NQVB | | ✓ | | MXVGK4 | | ✓ | |
| EUZX6Y | | ✓ | | J8A9DW | | ✓ | | N3GTWC | | ✓ | |
| EX22WL | | ✓ | | JDFX2W | | ✓ | | N8CMWX | | ✓ | |
| EXY92Y | | ✓ | | JEN8VE | | ✓ | | N9938A | ✓ | ✓ | |
| F2Q7H2 | | ✓ | | JKEMFE | | ✓ | | NC8E3A | | ✓ | |
| F6F4GT | | ✓ | | JPB7MJ | | ✓ | | NCA2JN | | ✓ | |
| F7PBJL | ✓ | ✓ | | JUZQNE | ✓ | ✓ | | NF6VGP | | ✓ | |
| F7R727 | | ✓ | | JVEYT9 | | ✓ | | NGGUCX | | ✓ | |
| FCVYAG | | ✓ | | K2FXG4 | ✓ | | | NHEZUD | ✓ | ✓ | |
| FDRKQE | | ✓ | | K2GL49 | ✓ | ✓ | | NNF7LA | | ✓ | |
| FGNVX8 | | ✓ | | K6VCA4 | | ✓ | | NNXCKY | | ✓ | |
| FLYAF7 | ✓ | | | KBH74F | | ✓ | | NP8DQ7 | | ✓ | |
| FN6M7K | | ✓ | | KLM47X | | ✓ | | NQ99F4 | | ✓ | |
| FR8M7H | | ✓ | | KLNRU4 | | ✓ | | NYXUL3 | | ✓ | |
| FTGFEX | | ✓ | | KP4E89 | | ✓ | | NZUCM4 | | ✓ | |
| FVQH9A | | ✓ | | KPM3RN | | ✓ | | P862B3 | | ✓ | |
| FZX9CF | | ✓ | | KUY96A | | ✓ | | PAXNGC | | ✓ | |
| G2AZ7H | | ✓ | | KW7Q46 | | ✓ | | PHBPQU | | ✓ | |

TABLE 3

| WebCode | GC | GC/MS | Other | WebCode | GC | GC/MS | Other | WebCode | GC | GC/MS | Other |
|---------|----|-------|-------|---------|----|-------|--------|---------|----|-------|--------------------|
| PQ3DA4 | | ✓ | | TH2Z2Y | | ✓ | | WVCPM6 | | ✓ | |
| PQXXW3 | ✓ | ✓ | | TJ8MDH | ✓ | ✓ | | WVTXF7 | ✓ | ✓ | |
| PQZLDG | | ✓ | | TK297A | | ✓ | | WYA7YY | | ✓ | |
| PRJA23 | ✓ | ✓ | | TM9NFZ | | ✓ | | WYEMXX | | ✓ | |
| PRW4FH | | ✓ | | TNGPDT | ✓ | ✓ | | X3QY6Y | | ✓ | |
| PYEC4E | | ✓ | | TQQQKK | | ✓ | | X4J2YT | | ✓ | |
| PYF8KY | | ✓ | | U64FXD | | ✓ | | X6ELLT | | ✓ | |
| Q3VUY6 | | ✓ | | U67BFX | ✓ | ✓ | | XA6VXC | | ✓ | |
| Q6YPH8 | | ✓ | | U8A2NY | | ✓ | | XEZPTR | | ✓ | |
| QCEHH6 | | ✓ | | U94RUD | | ✓ | | XFEYXL | | ✓ | |
| QCLF43 | | ✓ | | U96LBX | ✓ | ✓ | | XJWAYW | | ✓ | |
| QCY9HH | | ✓ | | U999RC | | ✓ | | XP88LY | | ✓ | |
| QFGA24 | | ✓ | | UC6TWW | | ✓ | | XPXQ8G | | ✓ | |
| QH7P4Y | | ✓ | | UJQQKJ | | ✓ | | XV8T9R | | | ATD-GC/MS |
| QHGQPX | | ✓ | | UKX8GT | | ✓ | | XZZND7 | | ✓ | |
| QL9EV9 | | ✓ | | ULVDZ9 | | ✓ | | Y69GZN | | ✓ | |
| QPLL7 | | ✓ | | UQ22P4 | | ✓ | | Y7JHLM | | ✓ | |
| QRRBY | | ✓ | | V4ACKW | | ✓ | | Y7QF6Y | | ✓ | |
| QXETCW | ✓ | ✓ | | V66MRT | | ✓ | | YAZTMX | | ✓ | |
| QXJ9PX | | ✓ | | V9YGPU | | ✓ | | YEY27M | | ✓ | |
| R2UJF7 | | ✓ | | VAD2H4 | | ✓ | | YLFXLG | | ✓ | |
| R4Y9HF | | ✓ | | VAW4P6 | | ✓ | | YMNXT9 | | | GC/MS-FID |
| R9GED4 | | ✓ | | VE9WYH | | ✓ | | YNJGUB | | ✓ | |
| R9WTMY | | ✓ | | VKWKUN | | ✓ | | YTYQ8E | ✓ | ✓ | |
| RD8NPN | | ✓ | | VW7BHG | | ✓ | GC/FID | Z33N82 | | ✓ | |
| RELBZB | | ✓ | | W2XWQV | | ✓ | | Z63LUM | | ✓ | |
| RG7YH3 | ✓ | ✓ | | WBZ4HP | | ✓ | | ZCNPPW | ✓ | ✓ | odor assessment |
| RH3HK4 | | ✓ | | WDAZCT | | ✓ | | ZF46D3 | | ✓ | |
| RMY2Q9 | | ✓ | | WDEGAR | | ✓ | GC/FID | ZF6UL7 | | ✓ | |
| RPUL9W | | ✓ | | WH42D9 | | ✓ | | ZHAHZW | | ✓ | |
| T9PV3M | | ✓ | | WMZKHR | | ✓ | | ZJ73NV | ✓ | ✓ | |
| T9VXW2 | | ✓ | | WNPZJM | | ✓ | | ZJNX6X | | ✓ | |
| TD774X | | ✓ | | WNV76Q | | ✓ | | ZQLNNM | | ✓ | |
| TG7GZX | | ✓ | | WTLRPY | | ✓ | | | | | |

TABLE 3

| WebCode | GC | GC/MS | Other | WebCode | GC | GC/MS | Other | WebCode | GC | GC/MS | Other |
|---------|----|-------|-------|---------|----|-------|-------|---------|----|-------|-------|
| ZVGHLN | | ✓ | | | | | | | | | |
| ZVH6AT | | ✓ | | | | | | | | | |
| ZVXPUQ | | ✓ | | | | | | | | | |
| ZXRBP3 | | ✓ | | | | | | | | | |

| Response Summary | | |
|-------------------------|-----------|------------|
| Participants | GC | GC/MS |
| 304 | 39 | 298 |

Conclusions

TABLE 4

| WebCode | Conclusions |
|---------|---|
| 224HNM | item 1 : n-Alkanes(C11-C18). item 2 : no ignitable liquid product detected |
| 2489WM | An ignitable liquid classified as a heavy normal alkane was detected in item 1. Examples of heavy normal alkane products include lamp oils, candle oils, carbonless form papers, or copier toners. No ignitable liquids were detected in items 2 or 3. |
| 264TJM | These samples were analyzed using GC and GC/MS. Normal alkanes products in the heavy range were identified in item 1 and no ignitable liquid was identified in item 2. |
| 272Y32 | Exhibit 1 contained a heavy n-alkane product, which is an ignitable liquid. Examples of heavy n-alkane products include some candle oils, some insecticide vehicles, and some polishes. No ignitable liquids were identified in Exhibit 2 or 3. |
| 2GUR3C | Item #1 - Heavy range normal-alkanes products were detected in item #1. Examples of commercial products that contain normal-alkanes in this range are some candle oils, carbonless forms, and some copier toners. Item #2 - No ignitable liquids were detected in item #2 except for compounds which are common to burned woods. Item #3 - No ignitable liquids were detected in item #3. |
| 2HQ8CN | Item 1 bore a residue of an n-alkane product (a volatile flammable liquid), which was not present on the control wood sample (item 3). This finding indicates that the fire had been accelerated by the presence of this flammable liquid. Item 2 bore no flammable liquid residues. This could be due to none having been present/used, or any such liquid having burnt off or evaporated during the fire. The findings in relation to item 2 are therefore inconclusive with regard to a flammable liquid having been applied to / present in the area from which this sample was taken. |
| 2LR7VT | Items 001-001-001, 001-002-001, and 001-003-001 were sampled using passive headspace concentration with activated charcoal. The sample extracts from each item were split into two pieces. The sample extracts (items 001-001-001-001, 001-002-001-001, and 001-003-001-001) were analyzed by gas chromatography/ mass spectrometry (GC/MS) for the presence of ignitable liquid residues. The sample extracts (items 001-001-001-002, 001-002-001-002, and 001-003-001-002) were not analyzed. A heavy normal alkane product was detected in the sample extract (item 001-001-001-001). Examples of heavy normal alkane products include some candle oils, carbonless forms and copier toners. Ignitable liquid residues were not detected in the sample extracts (item 001-002-001-001 or 001-003-001-001). The absence of ignitable liquid residues could be due to the following: Ignitable liquids not being used, Ignitable liquids are volatile compounds and may have evaporated. |
| 2RW3JZ | Item 1 was found to contain a heavy normal-alkane product. Some examples include: some candle oils, carbonless forms, some copier toners. There were no ignitable liquids identified in Item 2. This does not exclude the possibility of an ignitable liquid being consumed by the fire or evaporating. Item 3 was used as a control. |
| 2TPTPE | Item 1: A low volatility hydrocarbon product consisting of C13-C17 normal-alkane hydrocarbons, was detected in the contents of this item. Normal-alkane hydrocarbons of this type are found in some specialised industrial solvents and in some lamp oil/torch fuel products. Item 2: The contents of this item were examined for the presence of ignitable liquid residues, and none were found. Item 3: The contents of this item were examined for the presence of ignitable liquid residues, and none were found. |
| 2Z83DB | A heavy normal alkane product was identified in item 1. No volatile ignitable liquid was identified in item 2. No volatile ignitable liquid was identified in item 3. |
| 2Z9X2M | Item 1: An ignitable liquid classified as a heavy normal alkane was detected. Examples of heavy normal alkanes include candle oils, carbonless form papers, or copier toners. Item 2: An ignitable liquid was not detected. Item 3: An ignitable liquid was not detected. |
| 32D844 | Analysis by Gas Chromatography/Mass Spectrometry of the burned wood (Item 1) reveals the presence of a heavy normal-alkane product. Examples of heavy normal-alkane products include: some candle oils, carbonless forms and some copier toners. Analysis by Gas Chromatography/Mass |

TABLE 4

| WebCode | Conclusions |
|---------|---|
| | Spectrometry of the burned wood (Item 2) fails to reveal the presence of any ignitable liquids including methanol, ethanol, isopropanol and acetone. Analysis by Gas Chromatography/Mass Spectrometry of the wood comparison sample fails to reveal the presence of any ignitable liquids including methanol, ethanol, isopropanol and acetone. |
| 34PJ9Z | A normal alkanes was identified in Item 1-1. Some examples of normal alkanes would include some brands of lamp oils/fuels and candle oils. No ignitable liquids were detected in Item 1-2 and Item 1-3. |
| 386DKR | Item 1: A normal alkane ignitable liquid was detected. Examples include: Normal alkane specialty products, some candle oils and copier toners. Item 2: No flammable or combustible liquid detected Item 3: Comparison Sample |
| 3DUQNZ | Item 1 was analyzed for the presence of ignitable liquid residues. A Heavy Normal Alkane Product was detected. Examples include some candle oils, carbonless forms, and some copier toners. Item 2 was analyzed for the presence of ignitable liquid residues and none were detected. Item 3 was a comparison sample. |
| 3L442X | The volatile contents of Items 1, 2, and 3 were extracted using a passive adsorption/elution technique and analyzed by gas chromatography - mass spectrometry (GC-MS). A heavy range normal alkane product was identified in Item 1(Identification). Examples of heavy range normal alkane products include but are not limited to some lamp oils and some solvents. No ignitable liquid residues were identified in Items 2 and 3(Not Identified). |
| 3MGT7V | Item 1 contained a heavy normal alkane product, which is an ignitable liquid. Examples of such products include some polishes, some candle oils and some insecticide vehicles. No ignitable liquids were identified in Item 2 or Item 3. |
| 3R7ENH | 1) A heavy normal-alkanes product was detected in Exhibit 1. Heavy normal-alkanes products are ignitable liquids and could act as a fire accelerant. Heavy normal-alkanes products are used in the production of, but are not limited to, some candle oils, carbonless copy forms and some copier toners. 2) No ignitable liquid, or its residue, was detected in Exhibit 2 or 3. |
| 3T93CM | Item 1 was analyzed by gas chromatography/mass spectrometry and determined to contain a heavy Normal Alkane ASTM class ignitable liquid. Examples of this ASTM class are carbonless forms, some candle oils, and some copier toners. Items 2 and 3 were analyzed by gas chromatography/mass spectrometry; however, ignitable liquids could not be detected. |
| 3V7PKH | ITEM 1. IT SHOWS A GAUSSIAN DISTRIBUTION OF N-ALCANES IN THE RANGE C-13 TO C-20. ITEM 2: IT SHOWS A SIMILAR RESULTS TO CHARRED ITEM 3, THAT WAS BURNED IN OUR LABORATORY, BEING OBSERVED THE PRESENCE OF PYROLYSIS PRODUCTS. |
| 3W29LJ | Item 1: does not contain any ignitable petroleum material or accelerated material.(in our internal technical report the consideration of results is focusing on petroleum distillate and gasoline classes mainly because its our major product of the local refinery which usually causes arson offenses accidents). Item 2: does not contain any ignitable petroleum material or accelerated material. |
| 3W8D8M | Item 1 was analyzed by gas chromatograph/mass spectrometer and determined to contain a heavy Normal Alkane ASTM class ignitable liquid. Examples of this class are some candle oils, some copier toners and some lamp oils. Items 2 and 3 were analyzed by gas chromatograph/mass spectrometer; however, ignitable liquids could not be detected. |
| 3XFTET | A normal alkane product pattern from tetradecane to octadecane with a major peak corresponding to tetradecane were detected and identified in Item 1 charred portion of wood from the work room. The item 3 unburned wood substrate was used as a comparison blank. This pattern of normal alkanes present in the lanterns, in some candle oils and lamp oils but also in industrial solvents seems to be suspect. No flammable liquid residues were detected and identified in Item 2 charred portion of wood from the hay loft compared to item 3 unburned wood substrate intended as a comparison blank. The only difference between Item 2 and Item 3 is the presence of furfural in item 2 which is not classified as an ignitable liquid. |
| 3YR6JQ | Residues of a heavy normal alkane product was identified on Item 1. Examples of a heavy normal |

TABLE 4

| WebCode | Conclusions |
|---------|--|
| | alkane product include some candle oils, carbonless forms, and some copier toners. No ignitable liquid residues were detected on Items 2 and 3. Items 1 through 3 were examined using a passive adsorption/elution technique followed by analysis with gas chromatography/mass spectrometry. |
| 49XCQD | Item 1.1: Passive Headspace Concentration/Gas Chromatography-Mass Spectrometry disclosed the following: Heavy (C9-C20+) n-Alkane Product. Examples of a Heavy (C9-C20+) n-Alkane Product include some candle oils, carbonless forms, and some copier toners. Item 1.2 and Item 1.3: Passive Headspace Concentration/Gas Chromatography-Mass Spectrometry disclosed the following: No ignitable liquids/ignitable liquid residues identified. |
| 4FGR7U | Examination of item #1 revealed the presence of a n-alkane product. N-alkane products include some candle oils and some copier toners. Examination of items #2 and #3 failed to reveal the presence of ignitable liquids. |
| 4V4DKT | Analysis of Item 1 revealed the presence of a heavy n-alkanes product. Examples of heavy n-alkanes products include some candle oils and copier toners. Analysis of Item 2 failed to reveal the presence of identifiable flammable or combustible liquids. A negative result does not preclude the possibility that flammable or combustible liquids were present at the fire scene. Negative results mean that the laboratory did not identify flammable or combustible liquids in the submitted samples. |
| 4WYVMU | The analysis performed in our laboratory on item 1 has enabled the detection of a Normal-Alkanes product (in the subclass C9-C20+) in this sample. The analysis performed in our laboratory on item 2 and on item 3 did not enable the detection of any ignitable liquid in these samples. |
| 4Y9XCY | Item 1.1 contained a heavy normal-alkane product. Examples of which include some candle oils, carbonless forms, and some copier toners. No ignitable liquids were detected in item 1.2. No ignitable liquids were detected in item 1.3 |
| 627N9C | Item 1 was found to be a partially burnt piece of wood measuring approximately 3.5 centimeters (cm) by 2 cm by 1 cm. It was examined for the presence of ignitable liquid residues and a mixture of tridecane, tetradecane, pentadecane, hexadecane and heptadecane was detected. Item 2 was found to be a partially burnt piece of wood measuring approximately 3.5 cm by 1.6 cm by 1 cm. It was examined for the presence of ignitable liquid residues but none was detected. Item 3 was found to be an unburnt piece of wood measuring approximately 3.7 cm by 2 cm by 1 cm, which was submitted as a comparison blank. It was examined for the presence of ignitable liquid residues but none was detected. Note: a) Tridecane, tetradecane, pentadecane, hexadecane and heptadecane are ignitable liquids. Examples of commercial products containing a mixture of these compounds includes some lamp oils, some candle oils and some industrial solvents. b) The identification of an ignitable liquid residue in a fire scene does not necessarily lead to the conclusion that a fire was incendiary in nature. Further investigation may reveal a legitimate reason for the presence of ignitable liquid residues. |
| 62NRNP | Item #1- The presence of a heavy normal alkane product was detected in this sample. Item #2- No ignitable liquids were detected in this sample. |
| 63GQUB | A heavy normal alkanes products in the range of C13 to C16 was identified in the Item 1. Example of commercial products that contain heavy n-alkanes products include some candle oils and copier toners. No ignitable liquids were identified on the Item 2. |
| 63NNDM | Item 1 was found to contain a heavy-range normal-alkane product. Examples of heavy-range normal-alkane products include, but are not limited to, some candle oils, carbonless forms and some copier toners. No ignitable liquids were identified in item 2. |
| 6CRRFC | A Heavy-Normal Alkane product was present in Item 1. This class of ignitable liquid includes some candle oils, some carbonless forms, and some copier toners. No ignitable liquid residues were detected in Item 2 or Item 3. |
| 6MAA9J | A heavy normal alkane product was identified in Item 1. Examples of heavy normal alkane products include some candle oils, carbonless forms and some copier toners. No ignitable liquids were identified in Item 2. |
| 6MVXF7 | Heavy range n-alkane product residues were detected in Item 001-1. No ignitable liquid residues were detected in Item 001-2 or Item 001-3. |

TABLE 4

| WebCode | Conclusions |
|---------|---|
| 6PYNMK | Exhibit 1: Normal-alkane product, examples of which are some lamp oils, some candle oils, and some copier toners. Exhibit 2: No flammable or combustible liquids were found. Exhibit 3: Used in conjunction with Exhibit #1 and Exhibit #2. |
| 727YNF | A normal alkane in the heavy range was identified in item 1. Examples of normal alkanes in the heavy range include, but are not limited to, some candle oils, some carbonless forms and some copier toners. No ignitable liquid residues were identified in item 2 or 3. |
| 72ZT3C | Item 1 Charred Wood from Work Room, Heavy Petroleum Distillate C13 to C18. Item 2 Charred Wood from Hay Loft, Heavy Petroleum Distillate C13 to C18 |
| 764F3V | Item 1: Confirmed heavy normal alkane product. Examples include: some candle oils, carbonless forms and some copier toners. Item 2: No ignitable liquids were identified |
| 78X79A | Item 1.1: Heavy normal alkane product identified (C11 - C17), Item 1.2: Nil ignitable liquid identified, Item 1.3: Nil ignitable liquid identified. If no ignitable liquid residues are detected in the debris this does not necessarily indicate that an accelerant was not used in the fire. Possible explanations include: Ignitable liquids were present but the tests used were not sensitive enough to confirm this; Ignitable liquids were present but had evaporated prior to the tests being conducted (possibly due to incorrect packaging and/or storage, or the ignitable liquid was totally consumed in the fire); Similarly, the identification of the residues of an ignitable liquid does not necessarily lead to the conclusion that a fire was deliberately lit as there may be legitimate reasons for the presence of an ignitable liquid. |
| 78Y2VL | Item 1 contained a heavy normal alkane product, in the range of C14-C16. Examples of a heavy normal alkane product include some candle oils, carbonless forms, and copier toners. No ignitable liquids were detected in Item 2. Item 3 was examined as a comparison sample for Item 1 and Item 2. No ignitable liquids were detected in Item 3. |
| 7BXG4A | Heavy petroleum distillates were detected in Item 1. Some examples of heavy petroleum distillates include diesel and kerosene. No common ignitable liquid residues (ILR) were detected in Item 2 or 3. Item 3 did contain some acetone which is considered flammable, however the origin of this is unknown. |
| 7DYH67 | Item 1: Ignitable liquid residue containing a normal alkane product. Products in this range include, but are not limited to, some lamp oils, some lamp fuels, and some solvents. Item 2: No ignitable liquid residues were detected. Item 3: No ignitable liquid residues were detected. Comparison sample. |
| 7F9PAK | Item A1-1 was found to contain materials consistent with the composition of "HEAVY N-ALKANES PRODUCTS" as described by ASTM specifications E1618-14. The term "HEAVY N-ALKANES PRODUCTS" includes products such as some candle oils and copier toners. No ignitable liquids were detected in item A1-2. Item A1-3 was "Control Sample" used for comparison purposes. |
| 7HAK6G | Analysis of item1 revealed the presence of a chromatographic pattern of petroleum product comparable to that of heavy n-alkanes. No ignitable liquids were detected in item2 |
| 7LVD4Q | List of Evidence: Item # 1: Charred portion of wood from work room, Item # 2: Charred portion of wood from hay loft, Item # 3: Unburned wood substrate (comparison blank). Results of Analysis: Item 1 was determined to contain the following: A Heavy Normal-Alkanes Product Ignitable Liquid, examples of which include some candle oils, carbonless forms and some copier toners. Item 2 was determined to contain the following: No ignitable liquids were identified. Item 3 was determined to contain the following: No ignitable liquids were identified. Submitted as a comparison sample. Methodology: Confirmation of Item 1 was made using Gas Chromatography/Mass Spectrometry (GC/MS). Analysis of Item 2 and Item 3 was made using Gas Chromatography/Mass Spectrometry (GC/MS). |
| 7REPUC | Item 1: Contain Petroleum Distillates in the range C13-C16. The samples extract were classified as heavy petroleum distillates. Item 2: No ignitable liquids were detected. |
| 7RGDHH | Item 1 was detected Normal Alkanes Products (C13-C18, heavy). No ignitable liquids were detected Item 2. |

TABLE 4

| WebCode | Conclusions |
|---------|--|
| 7TB8WD | Upon analysis, I found that Item 1 bear traces of Normal alkanes products. |
| 7TEJ2W | A normal alkane product in the heavy range was identified in Item 1. Examples of normal alkane products in the heavy range include some candle oils, some carbonless forms and some copier toners. A normal alkane product is an ignitable liquid. No ignitable liquids were identified in Items 2 and 3. |
| 84NP2P | Analysis of a sample of air (headspace) taken from within the packaging containing Item 1 detected a Heavy Normal Alkane Product, comparable to some specialist solvents and some lamp oils previously encountered at this laboratory; this indicates that this sample has come into contact with such a product. Ignitable liquid residues were not detected during similar analysis of Item 2 or the control sample, Item 3. |
| 88NQCK | A heavy normal alkane product was identified within Item 1. Examples of commercial products containing a heavy normal alkane product include some lamp oils, some copy toners, and carbonless forms. No ignitable liquid residues were identified within Item 2 or Item 3. Items 1 through 3 were examined using heated headspace gas chromatography-mass spectrometry (GC-MS) and a passive adsorption/elution technique with GC-MS analysis. |
| 89GNH7 | Items 1 and 2 each consisted of a sealed cryovac bag containing a small block of blackened wood, approximately 3cm x 3cm x 1.5cm, heat sealed within a second cryovac bag. Item 3 consisted of a sealed cryovac bag containing a small block of unburnt wood, approximately 3cm x 3cm x 1.5cm, heat sealed within a second cryovac bag. The above items were examined for the presence of ignitable liquid residues using passive headspace sampling (adsorption onto activated charcoal/carbon material and solvent desorption) followed by analysis of the extract using gas chromatography mass spectrometry. Item 1 was found to contain a normal alkane product in the range of C14 to C18. Products in this range include paraffin oils, solvents and lubricants. No common ignitable liquid residues were detected on Items 2 or 3. |
| 8GECK4 | The results of the examination extremely strongly support that Item 1 contains ignitable liquid, charcoal starter type. In Item 2 no ignitable liquid was detected. |
| 8GX6BF | Item 1 - The sample contains an ignitable liquid. Item 2 - No content of ignitable liquids could be detected. Item 3 - No content of ignitable liquids could be detected. |
| 8HPE4G | A heavy normal alkane product was identified on item 1. No ignitable liquids were detected in item 2. |
| 8RBHCG | Results of gas chromatography-mass spectrometry (GC-MS, Passive Headspace Concentration): Laboratory Item #1: A heavy normal-alkane (n-alkane) product was identified. Examples of heavy n-alkane products include, but are not limited to, some candle oils, some carbonless forms, and some copier toners. Laboratory Item #2: No ignitable liquids were identified. Laboratory Item #3 (comparison sample): No ignitable liquids were identified. |
| 8RWW3E | Heavy N-Alkane product found. Examples include: candle oils, NCR papers and copier toners. |
| 8T9NUW | Item 1: An ignitable liquid was detected. This liquid was identified as a normal alkane product. Liquid of this type can be used as solvents, lamp oils, or in feedstock. Item 2: No ignitable liquids, other than background or matrix compounds, were detected. Item 3: No ignitable liquids, other than background or matrix compounds, were detected. |
| 8W7ALY | 1: Analysis revealed the presence of a heavy normal alkane petroleum product, examples include candle & lamp oils & some specialty solvents. 2: No ignitable liquids were detected. 3: No ignitable liquids were detected. |
| 8XWHJG | The residue characteristic of heavy normal alkanes products(according to ASTM E1618, ignitable liquid classification scheme by GC-MA) was identified in item 1; and no ignitable liquids were detected in item 2 and 3. The absence of detectable quantities of ignitable liquid residue doesn't preclude the possibility that the ignitable liquids were present at the fire scene. Ignitable liquids are volatile compounds that may have evaporated, been totally consumed in a fire, environmentally altered or removed or otherwise indistinguishable from background materials. |
| 946WAT | Analysis of Item 1 disclosed the presence of an ignitable liquid from the heavy normal-alkanes |

TABLE 4

| WebCode | Conclusions |
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| | products class. Examples of this class include some candle oils, carbonless forms, and some copier toners. Analysis conducted on Item 2 did not identify the presence of an ignitable liquid. This does not preclude the possibility that an ignitable liquid was present at an earlier time. Analysis conducted on Item 3 did not identify the presence of an ignitable liquid. Item 3 was submitted as a comparison blank. Items 1.1, 2.1, 3.1 and BL1 have been retained in a packet labeled "Packet FDB1". This packet is being returned to the submitting agency. |
| 97CAXL | A heavy normal alkanes product was identified in Item 1. Heavy normal alkanes products include, but are not limited to, some copier toners, some candle oils and carbonless forms. No common ignitable liquid was identified in Items 2 and 3. Some conditions that could lead to this result are: A. No common ignitable liquid was present in the material analyzed. B. An ignitable liquid was present but below quantities required for positive identification. C. An uncommon ignitable liquid was present. |
| 982PYG | Sample (Item) 1 contains Ignitable liquid - normal alkanes products, heavy. Range n-C10-n-C17, the majority of the pattern occurs in the range n-C13-n-C16. Cycloalkanes, aromatics and condensed ring aromatics - not present in significant amount. It could be candle and lamp oil or copier toners. Sample (Item) 2 does not contain Ignitable liquids. |
| 988UJK | A HEAVY NORMAL ALKANES PRODUCT WAS DETECTED IN THE ITEM 1. NO FLAMMABLE PRODUCTS WERE DETECTED IN ITEM 2 |
| 9DVGfq | Item 1 was analyzed and determined to contain a heavy n-alkane product. Examples of heavy n-alkane products include, but are not limited to, some candle oils, carbonless forms, and copier toners. Item 2 was analyzed, and no common ignitable liquid residue was detected. Item 3 (comparison blank) was analyzed, and no common ignitable liquid residue was detected. This conclusion is based upon gas chromatography-mass spectrometry (GC-MS) analysis of concentrated headspace vapors from each sample. A reserve carbon strip containing concentrated headspace vapors from each sample was returned inside the original evidence containers. |
| 9JJ9HD | Item 1: A heavy normal alkane product was detected in Item 1. Examples of heavy normal alkane products include some candle oils and some copier toners. Item 2: No ignitable liquids were detected in Item 2. Item 3: No ignitable liquids were detected in Item 2. |
| 9JZFQF | RESULTS OF EXAMINATION/ANALYSIS - Results of gas chromatography-mass spectrometry analysis (GC-MS, Passive Headspace Concentration): Laboratory item #1: A heavy normal-alkane product was identified. Examples of heavy normal-alkanes products include, but are not limited to, some candle oils, carbonless forms, and some copier toners. Laboratory items #2 and #3 (Comparison Sample for Laboratory items #1 and #2): No ignitable liquids were identified. The identification of an ignitable liquid residue on tested evidence does not necessarily lead to the conclusion that a fire was incendiary in nature. Further investigation may reveal a legitimate reason for the presence of ignitable liquid residues. |
| 9PPTUP | Evidence addressed in this report was received into the laboratory on August 4, 2016. Analysis for ignitable liquid residues using Diffusive Flammable Liquid Extraction trapping, followed by Gas Chromatography / Mass Selective Detection: Item #1: Heavy Petroleum Product (n-Alkanes), examples of which include (but not limited to): Specialty industrial solvents, lantern candle wax oil, lamp oil, paraffin oil and torch fuels. Items #2 and #3: No Ignitable Liquid Residues Identified. Ignitable liquid residue does not necessarily lead to the conclusion that the fire was incendiary in nature. In addition, negative results do not preclude the possibility that ignitable liquids were present. |
| 9TP6PP | Examination of item #1 revealed the presence of a n-alkane product. N-alkane products include some candle oils and some copier toners. Examination of items #2 and #3 failed to reveal the presence of ignitable liquids. |
| 9WNFLP | Examination of item #1 revealed the presence of a n-alkane product. N-alkane products include some candle oils and some copier toners. Examination of items #2 and #3 failed to reveal the presence of ignitable liquids. |
| A44LTF | Item 1 Q1: A heavy range (nC13-nC17) normal alkane product was detected. Item 2 Q2: No ignitable liquid detected. Item 3 K1: Analyzed for comparison. Examples of a heavy range normal alkane product include but are not limited to some candle oils, carbonless forms and some copier |

TABLE 4

| WebCode | Conclusions |
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| | toners. |
| A6Y28X | Analysis by Gas Chromatography/Mass Spectrometry of the debris (Item 1A) reveals the presence of a normal-alkane product. Examples of normal-alkane products include: some candle oils, some copier toners, and carbonless forms. Analysis by Gas Chromatography/Mass Spectrometry of the debris (Item 1B) fails to reveal the presence of any ignitable liquids including methanol, ethanol, isopropanol, and acetone. Analysis by Gas Chromatography/Mass Spectrometry of the debris (Item 1C) fails to reveal the presence of any ignitable liquids including methanol, ethanol, isopropanol, and acetone. |
| AKQYAT | A normal alkanes product in the heavy range was identified in item 1. Normal alkanes products are ignitable liquids. Examples of normal alkanes products in the heavy range include some candle/lamp oils, some copier toners and some insecticide vehicles. No ignitable liquids were identified in the contents of items 2 and 3. |
| AMDMMGM | Examination of Item 1 revealed the presence of a n-alkane product. N-alkane products include some candle oils and some copier toners. Examination of Item 2 failed to reveal the presence of ignitable liquid |
| AN6LW7 | (i) "Item 1" was subjected to headspace technique followed by Gas Chromatography/Mass Spectrometric (GCMS) analysis shows presence of ignitable liquid residue of normal alkanes product class and heavy subclass. (ii) "Item 2" was subjected to headspace technique followed by Gas Chromatography/Mass Spectrometric (GCMS) analysis shows no ignitable liquid detected. |
| ANCNRK | Item 1 contains a mixture of n-alkanes (C13>17) and virtually no branched alkanes, corresponding to a normal alkane product (ASTM E1618-14 classification). The best match in the NCFS data base is the product Exxon Norpar 15 (#0080), but there are at least 5 other commercial products with a close composition ; they are used mainly as lamp oils. Item 2 contains no n-alkanes, thus no normal alkane product as item 1. On the other hand, the concentration of methanol is about 30 times higher than in the unburned control sample (item 3) and 5 times higher than in the burned item 1. This methanol may come from the pyrolysis of the wood matrix (combustion of item 2 less ventilated than item 1) or is the remains of poured methanol. Without further information about the fire or preferably another control sample, burned and collected near the location of item 2, it is not possible to tell the difference. |
| AP228H | I examined the items received and found; a) Item 1 to consist of charred portion of wood from the work room which on analysis, I detected to presence of normal alkanes products (heavy). b) Item 2 to consists of charred portion of wood from the hay loft which on analysis, I did not detect any ignitable product. c) Item 3 to consists of wood substrate which on analysis, I did not detect any ignitable product. |
| ATYFU8 | It was found that item 1 Included Heavy n-alkanes products, Item 2 does not includes ignitable liquids |
| B7MVL D | Item 1: Volatile components have been identified which originate from a heavy normal alkane product. Item 2: No volatile components have been identified which originate from an ignitable liquid. |
| BEF8FL | Heavy NAlkanes product has been identified in Item1. Some flammable liquids, as lampoil for example, belong to this class. No flammable liquid has been found in Item2 |
| BF97L8 | Item 1 - The presence of a heavy normal alkane product was detected. Examples of heavy normal alkane products include, but are not limited to: some candle oils, carbonless forms, and copier toners. Item 2 - No ignitable liquids were detected. Item 3 (control) - No ignitable liquids were detected. |
| BHEL3B | A heavy normal alkane product was identified in Item 1. No ignitable liquids were identified in Item 2 or Item 3. Samples of recovered materials from this case have been preserved with the evidence. |
| BJ9GG8 | the presence of n-alkanes is typical of a lamp oil |
| BNKFYR | Item 1.1 contained a heavy normal-alkanes product. Examples of which include some candle oils carbonless forms, and some copier toners. No ignitable liquids were detected in Item 1.2. No ignitable liquids were detected in Item 1.3. |
| BPFYZT | A heavy normal alkane product was detected in Item 1. Examples of a heavy normal alkane product |

TABLE 4

| WebCode | Conclusions |
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| | include but are not limited to some lamp oils. No ignitable liquids were detected in Item 2 and Item 3. |
| BU86GG | A heavy normal alkane product was identified within Item 1. Examples of commercial products containing heavy normal alkanes include some lamp oils, some copier toners, and carbonless forms. No ignitable liquid residues were identified within Item 2 or Item 3. Items 1 through 3 were examined using heated headspace gas chromatography-mass spectrometry (GC-MS) and a passive adsorption/elution technique followed by analysis with GC-MS. |
| BWDNJJ | Items 1 and 2 were analyzed for light volatile compounds and oxygenates and for non-oxygenates. A normal alkane product in the range of C13 through C17 was identified in item 1. Examples of normal alkane products are some candle oils and copier toners. No ignitable liquids were detected in item 2. No ignitable liquids were detected in item 3. The above items were analyzed by gas chromatography-mass spectrometry (GC-MS). |
| BX4X76 | From Item 1: A heavy normal alkane product was detected containing n-alkanes in the carbon range from nC13 to nC20+. Additional peaks were not detected indicating a clean n-alkane product. Products of this type include paraffin waxes, some toners and some technical solvents. Candle waxes containing fragrances would normally contain additional compounds which were not detected in this sample. From Item 2: A number of low level oxygenates (C1-C6 alcohols, ketones and aldehydes) were detected. These same compounds were also found in Item 3 at roughly the same levels indicating that the source of these compounds is common to the environment. The case file indicated that the samples were taken from a barn and the fermentation of hay has been shown to produce these compound in the literature. Based on this information, an ignitable liquid residue is not present in Item 2. |
| C4GUWZ | Analysis of Item 1 revealed the presence of an n-alkane product. Examples of this class are some candle oils, carbonless forms and some copier toners. Analysis of Item 2 failed to reveal the presence of an identifiable ignitable liquid. A negative result does not preclude the possibility that an ignitable liquid was present in the location where the sample was collected. Negative results mean that the laboratory did not identify flammable or combustible liquids in the submitted sample. |
| C4VDGX | A heavy normal alkane class ignitable liquid was detected in one of the plastic bags containing charred wood (Item 1). Examples of ignitable liquids in the heavy normal alkane class includes some candle oils, lamp oils, carbonless forms, and some copier toners. No ignitable liquids were detected in the second plastic bag containing charred wood (Item 2). No ignitable liquids were detected in the third plastic bag containing unburned wood substrate(Item 3). This item was submitted as a comparison blank. |
| C7WG9K | Evidence addressed in this report was received into the laboratory on the following date: August 4, 2016. Analysis for ignitable liquid residues by Diffusive Flammable Liquid Extraction trapping followed by Gas Chromatography / Mass Selective Detection: Item #1: Heavy Petroleum Product (Normal Alkane). Examples of products containing heavy petroleum products include (but are not limited to) some candle oils, some copier toners, and certain brands of lamp oils. Items #2 and #3: No ignitable liquid residues identified. |
| CAGCAR | 1 - Normal Alkane Product examples of which are some brands of candle oil and some brands of lamp oil. No alcohol was found. 2 - No flammable or combustible liquids were found. No alcohol was found. |
| CAH7QC | Ex1: Normal Alkane Product. Ex2: No ignitable liquids found. Ex3: Control: Used in conjunction with Exhibits 1 and 2. |
| CDEU8J | Item 1 was subjected to adsorption-elution extraction followed by gas chromatographic/mass spectrometric (GC/MS) analysis. GC/MS analysis shows the presence of a heavy normal-alkanes ignitable liquid product. Examples of heavy normal-alkanes products include but are not limited to some candle oils, carbonless forms and some copier toners. Item 2 was subjected to adsorption-elution extraction followed by gas chromatographic/mass spectrometric (GC/MS) analysis. GC/MS analysis does not show the presence of an ignitable liquid. Item 3 was subjected to adsorption-elution extraction followed by gas chromatographic/mass spectrometric (GC/MS) analysis. GC/MS analysis does not show the presence of an ignitable liquid. One laboratory vial was |

TABLE 4

| WebCode | Conclusions |
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| | repackaged with the evidence. The presence of ignitable liquids in Item 1 does not necessarily lead to the conclusion that the fire was incendiary in nature. Further investigation may reveal a legitimate reason for the presence of ignitable liquids. The absence of ignitable liquids in Item 2 and Item 3 does not preclude their use at the scene. |
| CM6FF3 | Item 001 contained a piece of charred wood, a N-alkane product in the range of C8 - C18 was detected from the item. Normal alkane products have a variety of uses including microencapsulation products used for NCR paper, solvents for waxes and polishes, insecticides, liquid candle fuels, lubricants and agricultural chemicals (pesticides and herbicides). Item 002 contained a piece of charred wood, no ignitable liquid residues were detected from the item. Item 003 contained a piece of unburnt wood, no ignitable liquid residues were detected from the item. |
| CQNBEN | Item 1: The submitted sample was analyzed using a passive headspace technique and gas chromatography-mass spectrometry (GC-MS). A Heavy N-Alkane product was identified. Examples of this type ignitable liquid include: some candle oils, carbonless forms and copier toners. Item 2: The submitted sample was analyzed using a passive headspace technique and gas chromatography-mass spectrometry (GC-MS). Ignitable liquids were not identified in the sample. Item 3: The submitted sample was analyzed using a passive headspace technique and gas chromatography-mass spectrometry (GC-MS). Ignitable liquids were not identified in the sample. |
| CXLZWE | Item 1 was analyzed by gas chromatography/mass spectrometry and determined to contain a heavy Normal Alkane ASTM class ignitable liquid. Examples of this ASTM class are some candle oils, carbonless forms, and some copier toners. Items 2 and 3 were analyzed by gas chromatography/mass spectrometry; however, ignitable liquids could not be detected. |
| D94Y8F | A heavy normal-alkane product was identified in item 1. Heavy normal-alkane products include, but are not limited to, some copier toners, candle oils and carbonless forms. No common ignitable liquid was identified in items 2 and 3. Some conditions which could lead to this result are: A. No common ignitable liquid was present in the material analyzed. B. An ignitable liquid was present but below quantities required for a positive identification. C. An uncommon ignitable liquid was present. |
| DPNWXA | 1) In the sample received and labeled as item 1, it was detected the presence of one mixture which can be classified in the scheme proposed by the ASTM E 1618-14 Standard Methods as Heavy Normal Alkane Products. The product detected have the same patron of a lamp oil (liquid candle wax). 2) In the sample received and labeled as item 2, it were not detected any mixture which can be classified in the scheme proposed by the ASTM E 1618-14 Standard Method. 3) In the sample received and labeled as item 3, it were not detected any mixture which can be classified in the scheme proposed by the ASTM E 1618-14 Standard Method. 4) The Heavy Normal Alkanes Products are ignitable liquids. Ignitable liquid may start or accelerate a fire. |
| DPQJKE | Sample 1: Alkanes from C-13 to C-20 are detected, which can be allocated to the presence of a normal alkane product. sample 2: Furfural and methylfurfural are detected, which can be allocated to an oxygenated solvent. |
| E3AG7A | Item 1 was analyzed using Gas Chromatography / Mass Spectrometry (GC/MS). This item contains an ignitable liquid in the heavy normal alkane class. Examples of products in the heavy normal alkane class include some candle oils, some copier toners and carbonless forms. Item 2 was analyzed using Gas Chromatography / Mass Spectrometry (GC/MS). No ignitable liquids were identified. It should be noted that ignitable liquids may evaporate or can be totally consumed during a fire. A negative finding of ignitable liquids does not preclude its presence during a fire. |
| E448CN | Exhibit 1 contained a heavy normal alkane product, which is an ignitable liquid. Examples of heavy normal alkane products include some copier toners, some lamp oils, and some specialty solvents. No ignitable liquids were identified in Exhibits 2 and 3. |
| E472TA | Item 1 contains C13 to C16. Base on these compounds, we suspected that normal alkanes products(heavy) were used in this arson case. Item 2 showed analytical results same as item3. So, we decided that item 2 contains no ignitable liquid residues. |
| E4MYK9 | A heavy normal alkane product was identified in Lab Item 1. No ignitable liquids were identified in Lab Item 2 or in Lab Item 3. |

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| WebCode | Conclusions |
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| E4ZW86 | Item 1 (Charred portion of wood from the work room sealed in a nylon evidence bag) was found to contain Heavy Normal-Alkanes Products. Some examples of Heavy Normal-Alkanes products such as some candle oils, carbonless forms and some copier toners. Item 2 (Charred portion of wood from the hay loft sealed in a nylon evidence bag), No flammable liquid was detected. Item 3 (Unburned wood substrate intended as a comparison blank in a nylon evidence bag), No flammable liquid was detected. |
| E9X42F | Items 1-3 were analyzed using Gas Chromatography Mass Spectrometry. A normal alkane in the heavy range was detected in item 1. Examples of a heavy range normal alkane include some candle oils. No ignitable liquids were detected in items 2 and 3. |
| EATPNE | Items 1, 2 and 3 were analyzed by gas chromatography / mass spectrometry for the presence of ignitable liquids. Residues of a heavy, normal alkane product were detected in item 1. Examples include some lamp oils and candle oils. No ignitable liquids were detected in items 2 and 3. |
| EFGGR2 | A HEAVY NORMAL ALKANE PRODUCTS WAS DETECTED IN ITEM 1. NO IGNITABLE LIQUIDS WERE DETECTED IN ITEM2 AND ITEM3. |
| EFVXRL | Item 1: The submitted sample was analyzed using a passive headspace technique and gas chromatography/mass spectrometry (GC/MS). A heavy N-alkane product was identified. Examples of this type ignitable liquid include: some candle oils, carbonless forms and copier toners. Item 2: The submitted sample was analyzed using a passive headspace technique and gas chromatography/mass spectrometry (GC/MS). Ignitable liquids were not identified in the sample. Item 3: The submitted sample was analyzed using a passive headspace technique and gas chromatography/mass spectrometry (GC/MS). Ignitable liquids were not identified in the sample. |
| ELG3GF | Item 1 was found to contain a heavy n-alkane product (a petroleum product). Examples include but are not limited to candle oils, carbonless forms and some copier toners. No ignitable liquids were identified in items 2 and 3. |
| EP3KY2 | An ignitable liquid is detected on item (1) and found to be from the class of Normal Alkane products (heavy). No ignitable liquid is detected on item (2). No ignitable liquid is detected on item (3). |
| EUVPR6 | The samples were examined utilizing gas chromatography-mass spectrometry utilizing methods described in ASTM E1412-16 and ASTM E1618-14. Item #1 showed the presence of a heavy range normal alkane product. Item #2 showed the presence of a heavy range normal alkane product. No ignitable liquids were detected in the control sample (Item #3). Examples of normal alkane products include some lamp oils, candle oils and hydrocarbon fluids. |
| EUZX6Y | A residue of a heavy normal alkane product was detected in Item 1. Examples of heavy normal alkane products include some candle oils, carbonless forms, and some copier toners. No ignitable liquids were detected in Item 2 or the control sample (Item 3). The samples were extracted by passive adsorption-elution techniques and analyzed by gas chromatography with mass spectrometry. |
| EX22WL | Item 1: An ignitable liquid residue was detected – a heavy normal-alkanes product. Heavy normal-alkanes products may originate from some candle oils, some lamp oils, and some wax lifters. Item 2: No ignitable liquid residues were detected. Item 3: No ignitable liquid residues were detected. Item 3 was submitted as a comparison sample for Items 1 and 2. |
| EXY92Y | Item #1: Ignitable liquid residue containing a normal alkane product. Footnote: Products in this range include but are not limited to, some lamp oils, some lamp fuels, and some solvents. Item #2: No ignitable liquids were detected. Item #3: No ignitable liquids were detected. |
| F2Q7H2 | 1: Item 1 contained a heavy normal alkanes product. Examples of heavy normal alkanes products include, but are not limited to, some candle oils, carbonless forms and copier toners. 2: no ignitable liquids were identified in item 2. |
| F6F4GT | A Heavy Normal Alkane product was detected in Item 1. Some examples include some candle oils, carbonless forms, and some copier toners. No ignitable liquid residues were detected in Item 2. No ignitable liquid residues were detected in Item 3. |
| F7PBJL | Item 1 was found to contain a heavy normal-alkane product. Examples include: some candle oils, carbonless forms, some copier toners. There were no ignitable liquids identified in Item 2. This does |

TABLE 4

| WebCode | Conclusions |
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| | not exclude the possibility of an ignitable liquid being consumed by the fire or evaporating. Item 3 was used as a control. |
| F7R727 | Item 1: Evidence of the presence of residues of flammable liquid, a kind of lampoil. Item 2: Evidence of the presence of very slight traces of a kind of lampoil (same as Item 1). |
| FCVYAG | Sample #1: Analysis indicates the presence of a normal alkane product. Sample #2: No ignitable liquids were detected. Sample #3: No ignitable liquids were detected. |
| FDRKQE | RESULTS OF ANALYSIS: Item 1, 2 and 3 were extracted by passive adsorption/elution and analyzed by gas chromatography-mass spectrometry. Item 1. A heavy normal alkane product was identified in the charred wood block approx. 1"x1"x1/2". Examples of this product are lamp oils and copier toner fluid. Item 2. No ignitable liquids were identified in the charred wood block approx. 1"x1"x1/2". Item 3. No ignitable liquids were identified in the uncharred wood block approx. 1"x1"x1/2" |
| FGNVX8 | A homologous series of normal alkanes, ranging from C13 to C18 were detected in Item 1. Normal alkane products include, but are not limited to, some lamp oils, candle oils and other specialty use solvents and thinners. No ignitable liquids were detected in Items 2 or 3. |
| FLYAF7 | On analysis, I detected heavy normal alkane products in item 1 and no ignitable liquids detected in item 2 |
| FN6M7K | Item #1 - Charred wood from work room: Normal alkanes in the heavy range identified. Examples are some candle oils, carbonless forms and some copier toners. Item #2 - Charred wood from hay loft: No ignitable liquids detected. Item #3 - Unburned wood substrate: Used for comparison. |
| FR8M7H | The analysis performed in our laboratory on item 01 enabled the detection of a normal alkane product (ASTM Class 0.3 C13-C17) in this sample. The analysis performed on item 02 and 03 did not show the presence of any ignitable liquid in these samples. |
| FTGFEX | [No Conclusions Reported.] |
| FVQH9A | Item 1 contains a normal alkanes product, examples of which are some solvents, some copier toners, some candle oils, and carbonless copy forms. Item 2 does not contain an ignitable liquid. |
| FZX9CF | A vapour containing a heavy normal alkanes product in the range C13-C16 was detected with item 1. No ignitable liquids were detected with item 2 or item 3. |
| G2AZ7H | Item 1- (Exhibit 1) A Heavy Normal-Alkane product was detected. Examples of a Heavy Normal-Alkane include some candle oils, some carbonless forms and some copier toners. Items 2-3 (Exhibits 2-3) No ignitable liquid was detected. |
| GBDFNA | Item# 1-A Heavy Normal Alkanes was identified. Item# 2-No ignitable liquid was detected. Item# 3-No ignitable liquid was detected. |
| GHDX3L | Instrumental analysis of Item 1 revealed the presence of a normal alkanes product, examples of which are some candle oils and some copier toners. Instrumental analysis of Item 2 did not reveal the presence of ignitable liquids. Instrumental analysis of Item 3 did not reveal the presence of ignitable liquids. Item 3 was submitted as a wood comparison sample. |
| GR4H9K | Analysis of item 01 revealed the presence of a normal alkane product, examples of which include solvents, some candle oils, some copier toners, and carbonless forms. The product identified is further classified as a heavy range product. Analysis of item 02 failed to reveal the presence of ignitable liquids. A negative result does not preclude the possibility that ignitable liquids were present at the fire scene. Negative results mean that the analyst did not identify ignitable liquids in the submitted samples. |
| GTE3F9 | Exhibit 1: Normal alkanes product, examples of which are some solvents, some copier toners, some candle oils, and some carbonless copy forms. Exhibit 2: No ignitable liquids were found. Exhibit 3: No ignitable liquids were found. Used as a comparison to Exhibits 1 and 2. |
| GUALGA | Results of gas chromatography-mass spectrometry analysis (GC-MS, Passive Headspace Concentration): Laboratory Item #1: A Heavy Range Normal-Alkanes Products was identified. Examples of Heavy Range Normal-Alkanes Products include, but are not limited to, some candle oils, |

TABLE 4

| WebCode | Conclusions |
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| | carbonless forms and some copier toners. The identification of an ignitable liquid residue on tested evidence does not necessarily lead to the conclusion that a fire was incendiary in nature. Further investigation may reveal a legitimate reason for the presence of ignitable liquid residues. Results of gas chromatography-mass spectrometry analysis (GC-MS, Passive Headspace Concentration): Laboratory item #2: No ignitable liquids were identified. Results of gas chromatography-mass spectrometry analysis (GC-MS, Passive Headspace Concentration): Laboratory item #3: (Comparison Sample for Laboratory item #'s 1 and 2): No ignitable liquids were identified. The absence of an ignitable liquid residue does not preclude the possibility that ignitable liquids were present at the fire scene. Ignitable liquids are volatile compounds that may have evaporated, been totally consumed in a fire, environmentally altered or removed, or otherwise indistinguishable from background materials. |
| GYNGYT | Analysis indicates the presence of a Normal-Alkane Product (Heavy Range) in item 1. This would include but not be limited to some candle and lamp oils, carbonless forms and some copier toners. No ignitable liquid residue was detected in items 2 and 3. |
| H4P2EA | On analysis, I found that Item 1 to bear traces of accelerant that are consistent with Normal Alkanes Products. Subclass Heavy (C13-C16). Item 2 and Item 3 was not detected any accelerant. |
| H99ANU | Item 1: The burned piece of wood contains a heavy normal alkane ignitable liquid residue. Examples of this type of ignitable liquid can include, but are not limited to, some candle oils, carbonless forms, and some copier toners. Item 2: An ignitable liquid residue was not detected on the burned piece of wood. Item 3: An ignitable liquid residue was not detected on the unburned piece of wood. |
| HEU32F | The evidence was received on August 8, 2016. The above items were extracted using passive adsorption/elution and analyzed using Gas Chromatograph/Flame Ionization Detector (GC/FID) and Gas Chromatograph/Mass Spectrometer (GC/MS). Item 1: Heavy Normal-Alkane Product residue was identified. Examples of this include but are not limited to some candle oils, carbonless forms, and some copier toners. Item 2: No Ignitable Liquids were identified. Item 3: This item is listed as a control sample. This control sample was analyzed and the results were used in evaluating possible matrix influences on other submitted sample(s). No Ignitable Liquids were identified. |
| HKHM4A | Residues of a heavy normal alkane product were identified on Item 1. Examples of a heavy normal alkane product include some candle oils, carbonless forms, and some copier toners. No ignitable liquid residues were detected on Items 2 and 3. Items 1 through 3 were examined using a passive adsorption/elution technique followed by analysis with gas chromatography/mass spectrometry. |
| HLCHH7 | Based on analysis, Item 1 was found to bear traces of normal alkanes products (subclass heavy). For Item 2, no ignitable liquid was detected. |
| HPTZMU | An ignitable liquid classified as a heavy normal alkanes product was identified in Item 1. Examples of products that contain heavy normal alkanes include, but are not limited to, some lamp oils. No recognizable ignitable liquids were identified in Item 2 or Item 3. |
| HQ6DP6 | Item 1: No ILR identified. Item 2: Contains an ignitable mid-range petroleum-derived normal alkane product. such products are commonly labelled as "nor-par" products. item 3: No ILR identified. |
| HTEH6E | GC/MS analysis of Specimen Q1 disclosed the presence of a Heavy N-Alkane. Examples of a Heavy N-Alkane include, but are not limited to, some candle oils, some copier toners, and carbonless forms. GC/MS analysis of Specimen Q2 failed to disclose the presence of an ignitable liquid. |
| HUAZ8F | Item 1: Heavy normal alkanes product ignitable liquid. Examples of heavy normal alkanes products are some candle oils, some lamp oils, carbonless forms and some copier toners. Item 2: No ignitable liquid identified by methods utilized. Item 3: Comparison Sample. |
| J2JUVG | The volatile contents of Items 1, 2, and 3 were extracted using a passive carbon adsorption/elution technique and analyzed by gas chromatography - mass spectrometry (GC-MS). A heavy normal alkane product was identified in Item 1 (Identification). Normal alkane products include but are not limited to some lamp oils and some copier toners. No ignitable liquid residues were detected in Items 2 or 3 (Not Detected). |
| J4NQVB | Item 1 was found to be positive for the presence of residues of a Normal Alkane product. Item 2 was found to be negative for the presence of an ignitable liquid. Item 3 intended as a comparison blank, |

TABLE 4

| WebCode | Conclusions |
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| | was found to be negative for the presence of an ignitable liquid. |
| J8A9DW | Item 1: An heavy normal alkanes product (range from C13 to C18) was identified . Examples of this include but are not limited to, lamp oil, liquid candle wax or solvents such as some pesticide formulations. Item 2: No ignitable liquid detected. Item 3: Evaluated as a comparison sample. No ignitable liquid detected. |
| JDFX2W | The charred portion of wood from the work room (item 1) was found to contain heavy normal alkane product class ignitable liquid residues. The charred portion of wood from the hay loft (item 2) and the unburned wood substrate (item 3) were found not to contain any detectable ignitable liquid residues. |
| JEN8VE | Analysis of Item 1 detected the presence of a heavy normal alkane product (examples include: some lamp or candle oils, some copier toners, some insecticide vehicles, etc.). Analysis of Item 2 and Item 3 failed to detect the presence of any ignitable liquids. Items 1, 2 and 3 were initially extracted using direct, heated headspace sampling and then were further extracted by passive headspace adsorption onto activated charcoal strips. The extracts were analyzed by gas chromatography-mass spectrometry. |
| JKEMFE | Exhibit 1 was analyzed and determined to contain a heavy n-alkane product. Examples of heavy n-alkane products include, but are not limited to, some candle oils, carbonless forms, and copier toners. Exhibit 2 was analyzed, and no common ignitable liquid residue was detected. This conclusion is based upon gas chromatography-mass spectrometry (GC-MS) analysis of concentrated headspace vapors from each sample. A reserve carbon strip containing concentrated headspace vapors from each sample was returned inside the original evidence containers. |
| JPB7MJ | Item 1 was analyzed for the presence of ignitable liquid residues. A Heavy Normal Alkane Product was detected. Examples include some Candle Oils and some Copier Toners. Item 2 was analyzed for the presence of ignitable residues and none were detected. Item 3 was a sample submitted for comparison. |
| JUZQNE | Item 1: A piece of partially burnt wood which was analysed for the presence of ignitable liquid residues and heavy normal alkanes product was detected. Item 2: A piece of partially burnt wood which was analysed for the presence of ignitable liquid residues and none was detected. Item 3: A piece of wood submitted as a control to exhibits marked "Item 1" and "Item 2" which was analysed for the presence of ignitable liquid residues and none was detected. Note: Examples of heavy normal alkanes products include some candle oils and some copier toners. |
| JVEYT9 | Upon analysis, I found that: i)Item 1 to contain heavy normal alkanes product. ii) No ignitable substance was detected on Item 2. |
| K2FXG4 | Item 1 was identified as a heavy normal alkane product with carbon number range (C14-C15). Example lamp oils. No ignitable liquid was detected with the extracts of item 3 and item 2. |
| K2GL49 | Description of Evidence: Item #1 - Charred portion of wood from the work room sealed in a nylon evidence bag. Item #2 - Charred portion of wood from the hay loft sealed in a nylon evidence bag. Item #3 - Unburned wood substrate intended as a comparison blank sealed in a nylon evidence bag. Results/Opinions/Interpretations of Fire Debris Analysis: Item #1 - The volatile contents were recovered using a heated headspace recovery method and analyzed by gas chromatography, and were extracted by passive headspace adsorption using an activated charcoal strip recovery method and analyzed by gas chromatography/mass spectrometry. A heavy normal alkane product was identified. Examples of this type of product include some candle oils, carbonless forms, and some copier toners. Item #2 - The volatile contents were recovered using a heated headspace recovery method and analyzed by gas chromatography, and were extracted by passive headspace adsorption using an activated charcoal strip recovery method and analyzed by gas chromatography/mass spectrometry. No added ignitable liquid residues were identified. Item #3 - The volatile contents were recovered using a heated headspace recovery method and analyzed by gas chromatography, and were extracted by passive headspace adsorption using an activated charcoal strip recovery method and analyzed by gas chromatography/mass spectrometry. The item was analyzed as a comparison sample. |
| K6VCA4 | Item 1 was analyzed utilizing Gas Chromatography/Mass Spectrometry (GC/MS). This item contains an ignitable liquid in the heavy normal alkane class. Examples of products in the heavy normal alkane |

TABLE 4

| WebCode | Conclusions |
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| | class include some candle oils, some copier toners, and carbonless forms. Item 2 was analyzed utilizing Gas Chromatography/Mass Spectrometry (GC/MS). No ignitable liquids were identified. It should be noted that ignitable liquids may evaporate or can be totally consumed during a fire. A negative finding of ignitable liquids does not preclude its presence during a fire. |
| KBH74F | Item 1: The submitted sample was analyzed using a passive headspace technique and gas chromatography/mass spectrometry (GC-MS). A heavy N-Alkane product was identified. Examples of this type of ignitable liquid include: some candle oils, carbonless forms and some copier toners. Item 2: The submitted sample was analyzed using a passive headspace technique and gas chromatography/mass spectrometry (GC-MS). No ignitable liquid was identified. Item 3: The submitted sample was analyzed using a passive headspace technique and gas chromatography/mass spectrometry (GC-MS). No ignitable liquid was identified. |
| KLM47X | Item 1 : Normal alkane products from tridecane(C13) to heptadecane(C17) were detected. So, heavy normal alkane products was detected in Item 1. Item 2 : Acetic acid(Major) and furfural were detected. So, oxygenated solvents(acetic acid is oxygenated solvent) was detected in Item 2. |
| KLNRU4 | Analysis of the samples gave the following results: Item 1: Analysis indicates the presence of a normal alkane product. Item 2: No ignitable liquids were detected. Item 3: No ignitable liquids were detected. Normal alkane products include but are not limited to some candle oils, some copier toners, and carbonless forms. Conclusions: A normal alkane product was detected in Item 1. No ignitable liquids were detected in Items 2 and 3. |
| KP4E89 | Item: 1 A heavy normal alkane product found. Examples of heavy normal alkane products include, but are not limited to, some candle oils, carbonless forms, and some copier toners. Item: 2 No ignitable liquids found. Item: 3 No ignitable liquids found. |
| KPM3RN | 1) A normal alkane product was obtained. Examples of normal alkane products are lamp oils, copier toners, and carbonless forms. 2&3) No ignitable liquids were identified. |
| KUY96A | A heavy normal alkane product was detected in the extract of Item #1-1. Examples of heavy normal alkane products include petroleum specialty solvents, some pesticide formulations, and some lamp fuels. No ignitable liquids were detected in the extracts of Items #1-2 and # 1-3. |
| KW7Q46 | Item A1-1 was found to contain materials consistent with the composition of "HEAVY N-ALKANES PRODUCTS" as described by ASTM specifications E1618-14. The term "HEAVY N-ALKANES PRODUCTS" includes products such as some candle oils and copier toners. No ignitable liquids were detected in item A1-2. Item A1-3 was "Control Sample" used for comparison purposes. |
| KY9FH8 | Item 1 was found to contain a heavy normal alkanes products (C14-C17). No ignitable liquids or residue were detected in Item 2. |
| L8GKUN | Traces of heavy normal alkanes products were recovered from item 1, the charred portion of wood from the work room. Nothing of significance was found with respect to the recovery of fire accelerant residues from item 2, the charred portion of wood from the hay loft. Nothing of significance was found with respect to the recovery of fire accelerant residues from item 3, the unburned wood substrate intended as a comparison blank. |
| LCXKDB | GCMS analysis of Specimen Q1 (Item 1) disclosed the presence of a heavy range Normal Alkane product. Examples of a heavy range Normal Alkane product include, but are not limited to, some candle oils, some carbonless forms, and some copier toners. GCMS analysis of Specimen Q2 (Item 2) failed to disclose the presence of an ignitable liquid. |
| LG4JH9 | Item 1: Item 1 was subjected to adsorption-elution extraction followed by GC/MS analysis. GC/MS analysis shows the presence of a heavy normal alkane ignitable liquid. Examples of heavy normal alkane ignitable liquids include (but are not limited to): some candle oils, carbonless forms, and some copier toners. Item 2: Item 2 was subjected to adsorption-elution extraction followed by GC/MS analysis. GC/MS analysis shows no evidence of ignitable liquids. Item 3: Item 3 was subjected to adsorption-elution extraction followed by GC/MS analysis. GC/MS analysis shows no evidence of ignitable liquids. The absence of ignitable liquids in Item 2 and Item 3 does not preclude their use at the scene. The presence of ignitable liquids in Item 1 does not necessarily lead to the conclusion that the fire was incendiary in nature. Further investigation may reveal a legitimate reason for the presence |

TABLE 4

| WebCode | Conclusions |
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| | of ignitable liquids. Three laboratory glass vials were repackaged with the evidence. |
| LGRMFP | A volatile ignitable liquid (heavy normal alkane product) was identified in item 1. No volatile ignitable liquids were identified in items 2 and 3. |
| M4XPPB | In item 1 (piece of partially burned wood) the residues of ignitable liquid were found. This liquid consists on n-alkanes in the carbon (volatility) range from tridecane (C13) to heptadecane (C17) and belongs to the class "Heavy Normal - Alkanes Products, according to the classification system from the standard ASTM 1618-14. Liquids from this class are sold and used e.g. as lamp oils. In item 2 and item 3 no residues of ignitable liquid were found. |
| M4ZFXE | Item 1 was found to contain a heavy normal-alkane product. Examples include: some candle oils, carbonless forms, some copier toners. There were no ignitable liquids identified in Item 2. This does not exclude the possibility of an ignitable liquid being consumed by the fire or evaporating. Item 3 was used as a control. |
| MC9RBC | Analysis of item 1 revealed the presence in high abundance, of a heavy normal alkanes product in range C14 to C18. The product identified on charred portion of wood from the work room includes some lighting(candle fuel, lamp oils),industrial solvents,metal processing, oilfield drilling, agricultural emulsifiable concentrates (pesticide, herbicide). Analysis of item 2 revealed the presence of traces acetic acid(not flammable)and ethyl alcohol. This charred portion of wood comes from the hay loft and products detected may come from a fermentation of hay. No other product has been identified. The chromatographic profile of item 3 (unburned wood)has been compared to item 1 and item 2. It's a matrix profile. |
| MCD99B | Item 1 contains a heavy normal-alkane product. Some examples of a heavy normal-alkane product are carbonless forms, some candle oils and copier toners. Item 2 contains an unidentified petroleum product. No ignitable liquids were detected in item 3. |
| MHWGNU | it was found that item 1 included heavy n-alkanes products, item-2 hasn't included ignitable liquids. |
| MN42XL | 1) A heavy-range normal alkane product was identified in the headspace vapors of Exhibit 1 (fire debris). Ignitable liquid belonging to this class are commercially available as some lamp oils, some candle oils, and some copier toners. 2) No ignitable liquid residue classifications were identified in the headspace vapors of Exhibits 2 (fire debris) or 3 (wood control sample). |
| MPW4E9 | Instrumental analysis of exhibit #1 revealed heavy normal alkane product. No ignitable liquid was detected in exhibits #2 and 3. |
| MQ763T | Item 1.1: Passive Headspace Concentration/Gas Chromatography-Mass Spectrometry disclosed the following: Heavy (C9-C20+) n-Alkane Product. Examples of a Heavy (C9-C20+) n-Alkane Product include some candle oils, carbonless forms, and some copier toners. Items 1.2 and 1.3: Passive Headspace Concentration/Gas Chromatography-Mass Spectrometry disclosed the following: No ignitable liquids/ignitable liquid residues identified. |
| MR2N4U | The samples were analyzed by gas chromatography-mass spectrometry for presence of ignitable liquids. Item 1: Instrumental analysis detected the presence of normal alkane type compounds. The ignitable liquid identified as medium to heavy n-alkanes products, examples of which include some candle oils, carbonless forms and some copier toners. Item 2: No ignitable liquids were detected in the sample. Item 3: No ignitable liquids were detected in the sample. |
| MWX7T8 | A normal alkane product in the range of C13 through C17 was identified in Item 1. Examples of normal alkane products include some candle oils and copier toners. Low levels of volatile compounds detected in Item 2 could be associated with volatile compounds found in Item 3 (the substrate). |
| MWZVX6 | Items 1, 2 and 3 were extracted using a passive adsorption-elution technique. The Item 1, 2 and 3 extracts were examined using Gas Chromatography-Mass Spectrometry (GC-MS). Additionally, the Item 1 extract was examined using Gas Chromatography (GC). The Item 1 extract contained a mixture of tridecane, tetradecane, pentadecane, hexadecane and heptadecane (a heavy normal alkanes product), which can be found in, but is not limited to, some lamp oils. No ignitable liquids were identified in the Item 2 or 3 extracts. |
| MXVGK4 | Results of gas chromatography-mass spectrometry analysis (GC-MS, Passive Headspace |

TABLE 4

| WebCode | Conclusions |
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| | Concentration): Laboratory item #1: A heavy normal alkane product was identified. Examples of heavy normal alkane products include some candle oils, carbonless forms and some copier toners. Laboratory item #2: No ignitable liquids identified. Laboratory item #3: No ignitable liquids identified. (Comparison sample for Items 2 and 3) |
| N3GTWC | The volatile contents of Items 1, 2, and 3 were extracted using a passive carbon adsorption/elution technique and analyzed by gas chromatography - mass spectrometry (GC-MS). Normal alkane product was identified in Item 1 (Identification). Normal alkane products include but are not limited to liquid candles and odorless fuels. No ignitable liquid residues were identified in Items 2 or 3 (Not Identified). |
| N8CMWX | A normal alkane product in the heavy range was identified in item 1. Examples of normal alkanes in the heavy range include, but are not limited to, some candle oils, carbonless forms and some copier toners. No ignitable liquid residues were identified in items 2 and 3. |
| N9938A | The exhibit marked "Item 1" was found to be a block of charred wood-like material which was examined for the presence of ignitable liquid residues and heavy normal-alkanes product was detected. The exhibit marked "Item 2" was found to be a block of charred wood-like material which was examined for the presence of ignitable liquid residues and none was detected. The exhibit marked "Item 3" was found to be a block of unburnt wood-like material which was examined for the presence of ignitable liquid residues and none was detected. Note: Examples of heavy normal-alkanes products include some candle oils and some copier toners. |
| NC8E3A | It was determined utilizing activated charcoal strip extraction and gas chromatography/mass spectrometry analysis that item 1 exhibited the presence of a normal-alkanes product in the heavy range. An example of a normal-alkanes product includes but is not limited to some types of lamp oils. It was determined utilizing activated charcoal strip extraction and gas chromatography/mass spectrometry analysis that item 2 and item 3 (comparison sample) did not exhibit the presence of any ignitable liquid. |
| NCA2JN | A heavy normal alkane product was detected on the charred portion of wood from the work room (item 1). Heavy normal alkane products similar to that detected include solvents and lamp oils. No ignitable liquids were detected on the charred portion of wood from the hay loft (item 2). This means that either ignitable liquids were not present on this item, or they were present but were consumed in the fire or they evaporated prior to sampling. No ignitable liquids were detected on the unburned wood substrate intended as a comparison blank (item 3). |
| NF6VGP | An ignitable liquid categorized as a Normal Alkane was detected in Item #1. Common examples found in this class are candle oils, lamp oils, and solvents. No ignitable liquids were detected in Item #2 or Item #3. |
| NGGUCX | A heavy normal alkane product was identified in Lab Item 1. No ignitable liquids were identified in Lab Item 2 and Lab Item 3. |
| NHEZUD | A normal alkane product consistent with some brands of lamp oils was identified in Item 1-1. No ignitable liquids detected in Items 1-2 and 1-3. |
| NNF7LA | [No Conclusions Reported.] |
| NNXCKY | Item 1 found to contain normal alkanes products (Subclass: Heavy). No ignitable liquid or residue was detected in Item 2. |
| NP8DQ7 | Item #1: The presence of a Heavy Normal Alkane Product was detected in this sample. Item #2: No ignitable liquids were detected in this sample. |
| NQ99F4 | Item 1 was found to contain a heavy-range normal alkane product. Examples of heavy-range normal alkane products include, but are not limited to, some candle oils, some copier toners, and carbonless forms. No ignitable liquid residues were detected in items 2 or 3. Item 3 was listed as a comparison sample. |
| NYXUL3 | A heavy normal alkane product was identified in item 1. Some examples of heavy normal alkane products include some candle oils and some copy toners. No ignitable liquids were identified in item 2. Item 3 was evaluated as a comparison sample. Acetone, isopropyl alcohol and 2-pentanone were |

TABLE 4

| WebCode | Conclusions |
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| | identified in item 3. |
| NZUCM4 | Items 1 to 3 were examined for the presence of hydrocarbon fire accelerants e.g. petrol, white spirits, paraffin oil, diesel oil. No such hydrocarbon fire accelerants were detected in these items. Partly evaporated heavy alkane product vapour similar to commercial candle oil/lamp oil was detected in Item 1. |
| P862B3 | I found Item 1 to contain ignitable liquid of class normal alkane products with heavy (C9 - C20) subclass. I did not detect any ignitable liquid in Item 2. |
| PAXNGC | A heavy normal alkane product was detected on Item 1. Examples of heavy normal alkane products include (but are not limited to) lamp oils, candle oils and some specialty solvents. No ignitable liquids were detected on Items 2 or 3. Volatile organic compounds were collected off of the items onto activated charcoal strips with an adsorption/elution technique. The compounds were then analyzed with a gas chromatograph/mass spectrometer. The strips used are contained in plastic vials and have been repackaged inside the original items. |
| PHBPQU | [No Conclusions Reported.] |
| PQ3DA4 | Analysis of Item 1 revealed the presence of a normal alkane product. Products in this range include, but are not limited to, some lamp oils, some solvents for insecticides and polishes, and other specialty products. Analysis of Item 2 did not reveal the presence of any ignitable liquid residues. This does not eliminate the possibility that an ignitable liquid was used. |
| PQXXW3 | Item 1. was found to contain Heavy Normal Alkanes product such as candle and lamp oil. Item 2. was not found to contain any ignitable liquids. |
| PQZLDG | Item 1 analysis revealed the presence of a heavy normal alkane petroleum product, examples include candle and lamp oils and some specialty solvents. Item 2: No ignitable liquids were detected. Item 3: No ignitable liquids were detected. |
| PRJA23 | In the sample item 1 was detected normal alkanes which are classified as ignitable liquids. No ignitable liquid was detected in the sample item 2. Matrix reference sample item 3 was taken into account when making the interpretation. |
| PRW4FH | Item 1 - A Medium to Heavy, (C13-C17) Normal Alkane Product was identified in Item 1, the sample of charred wood from the Work Room. Examples of commercial products that contain Medium to Heavy Normal Alkane Products include, but are not limited to, some candle oils, carbonless forms and some copier toners. Item 2 - No ignitable liquid was detected in Item 2, the sample of charred wood from the Hay Loft. Item 3 - This item was analyzed for quality control purposes only. |
| PYEC4E | Item 1 - Normal alkane product, examples of which are some lamp oils, some solvents for insecticides and polishes. Item 2 - No flammable or combustible liquids were found. Item 3 - Used for comparison to items 1 and 2. |
| PYF8KY | Item 1: Normal Alkane Product examples of which are some solvents, lamp oils, degreasers, insecticides, and polishes. Item 2: No flammable or combustible liquids were found. |
| Q3VUY6 | A heavy normal alkane product was detected in the extract of Item #1. Examples of heavy normal alkane products include some industrial solvents, some candle oils, and some copier toners. No ignitable liquids were detected in the extracts of Item #2 and #3. |
| Q6YPH8 | Analysis of Item 1 detected the presence of a heavy normal alkanes product (examples: some lamp oils, some copier toners, carbonless forms, etc.). Analysis of Items 2 and 3 failed to detect the presence of an ignitable liquid. |
| QCEHH6 | A normal alkane product was detected in sample 1. No ignitable liquids were detected in sample 2. No ignitable liquids were detected in sample 3. |
| QCLF43 | Items 1, 2 and 3 were examined using passive headspace adsorption and gas chromatography/mass spectrometry. Item 1 was found to contain a volatile mixture identified as a heavy normal alkane product (norpar). Examples of such mixtures include some lamp oils and organic solvents. No common ignitable liquid residues were detected in Items 2 and 3. This does not preclude the possibility that an ignitable liquid may have been present at an earlier time. |

TABLE 4

| WebCode | Conclusions |
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| QCY9HH | The submitted items were sampled for ignitable liquid residues using a simple headspace technique and a passive charcoal adsorption technique. The samples were analyzed using gas chromatography with mass spectrometry. A Heavy Normal Alkanes Product was detected in Item 1. Examples of heavy normal-alkanes products include some candle oils, carbonless paper, and copier toners. No ignitable liquid residues were detected in Item 2. No ignitable liquid residues were identified in Item 3 (comparison blank). Due to the volatility of ignitable liquids and the possibility of interfering thermal degradation products, negative results do not preclude the possibility that ignitable liquids were present at the scene. |
| QFGA24 | EXHIBIT #: 1, AGENCY #: 1. DESCRIPTION: Nylon bag containing a nylon bag containing a piece of burnt wood. Examination reveals the presence of an ignitable liquid residue in the Heavy Range of the Normal Alkane Class. Refer to the attached Ignitable Liquid Classification System. EXHIBIT #: 2, AGENCY #: 2, DESCRIPTION: Nylon bag containing a nylon bag containing a piece of burnt wood. No ignitable liquid residue as defined by the attached Ignitable Liquid Classification System was detected. EXHIBIT #: 3, AGENCY #: 3, DESCRIPTION: Nylon bag containing a nylon bag containing a piece of un-burnt wood (comparison sample). No ignitable liquid residue as defined by the attached Ignitable Liquid Classification System was detected. The exhibits listed on this report were analyzed using passive adsorption on an activated charcoal disk. The disk was extracted with a solvent and the recovered volatile material was analyzed by gas chromatography / mass spectrometry. |
| QH7P4Y | GC/MS (gas chromatography/mass spectrometry) analysis of concentrated headspace vapors from item #1 - 16-536-1 revealed the presence of compounds having retention times and mass ions characteristic of a heavy n-alkane product. Heavy n-alkane products include some candle oils, some NCR papers, and some copier toners. GC/MS (gas chromatography/mass spectrometry) analysis of concentrated headspace vapors from item #2 - 16-536-2 revealed the presence of compounds having retention times and mass ions characteristic of matrix components and/or pyrolysis products. GC/MS (gas chromatography/mass spectrometry) analysis of concentrated headspace vapors from item #3 - 16-536-3, submitted as a comparison blank, revealed the presence of compounds having retention times and mass ions characteristic of matrix components and/or pyrolysis products. |
| QHGQPX | 4.1 Item 1 contained Heavy normal Alkane Products as per ASTM E 1618-14 classification which is comparable to commonly known ignitable liquid such as some candle oils, carbonless forms and copier toners. 4.2 No commonly known ignitable liquid could be identified in Item 2 and Item 3. |
| QL9EV9 | Exhibit 1 contained a heavy normal alkane (n-alkane) product, which is an ignitable liquid. No ignitable liquids were identified in Exhibits 2 or 3. |
| QPLLR7 | Item #1 contains a heavy normal-alkane product. Some examples of a heavy normal-alkane product are carbonless forms, some oils and copier toners. Item #2 contains an unidentified petroleum product. Item #3 is no ignitable liquids were detected: a negative result means that the lab did not identify ignitable liquids in the submitted item. |
| QRRTBY | 4.1 Exhibit "A" (Item No. 1) contained Heavy Normal Alkanes Products as per ASTM E 1618-14 classification but was found not to be comparable to a commonly known ignitable liquid standard between some candle oils; carbonless forms, and some copier toners. 4.2 No commonly known ignitable liquid could be identified in Exhibit "B" (Item No. 2) and Exhibit "C" (Item No. 3). |
| QXETCW | These samples were analyzed using GC and GC/MS. Normal alkanes products in the heavy range (C13 ~ C16) were identified in item 1. Item 2 was not ignitable charred portion of wood(i.e. negative). |
| QXJ9PX | The following items were analyzed utilizing the gas chromatograph/mass spectrometer. Item 1 This item contains an ignitable liquid in the heavy normal alkane class. Examples of heavy normal alkane products include some lamp oils, some solvents, and some specialty products. Item 2 No ignitable liquids were identified. It should be noted that ignitable liquids may evaporate or can be totally consumed during a fire. A negative finding of ignitable liquids does not preclude its presence during a fire. Item 3 No ignitable liquids were identified. It should be noted that ignitable liquids may evaporate or can be totally consumed during a fire. A negative finding of ignitable liquids does not preclude its presence during a fire. |

TABLE 4

| WebCode | Conclusions |
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| R2UJF7 | Item 1 - A heavy normal alkane product was detected. Examples of this class of ignitable liquids include some candle oils, carbonless forms and some copier toners. Item 2 and 3- No ignitable liquid detected. |
| R4Y9HF | Analysis by Gas Chromatography/Mass Spectrometry of the charred wood (Item 1A) reveals the presence of a heavy normal alkane product. Examples of normal alkane products include: some candle oils, carbonless forms and some copier toners. Analysis by Gas Chromatography/Mass Spectrometry of the charred wood (Item 1B) fails to reveal the presence of any ignitable liquids, including methanol, ethanol, isopropanol and acetone. Analysis by Gas Chromatography/Mass Spectrometry of the wood (Item 1C) fails to reveal the presence of any ignitable liquids, including methanol, ethanol, isopropanol and acetone. |
| R9GED4 | Item I contains components identifiable as a normal alkane product containing a homologous series of normal alkanes ranging from C13 through C17, characteristic of some candle and lamp oils, etc. Items II and III failed to reveal the presence of an identifiable ignitable liquid |
| R9WTMY | Item 1) A heavy normal alkane product was identified in the heat sealed fire debris bag. Examples of a heavy normal alkane product include some candle oils, carbonless forms, and copier toners. Item 2) No ignitable liquids were identified in the heat sealed fire debris bag. Item 3) No ignitable liquids were identified in the heat sealed fire debris bag. |
| RD8NPN | Item 1: A low volatility hydrocarbon fraction, consisting of normal alkanes in the range of C13-C17, was detected in the contents of this item. Examples of commercially available products reported to contain these substances include some specialised and industrial solvents, some candle/lamp oils, and some insecticides. Item 2: The contents of this item were examined for the presence of ignitable liquid residues, and none were found. Item 3: The contents of this item were examined for the presence of ignitable liquid residues, and none were found. |
| RELBZB | A normal alkane product was identified in Item 1. Normal alkanes are ignitable liquids. Examples of normal alkanes include lamp/candle oils, some copier toners, and some insecticide vehicles. No ignitable liquids were identified in Items 2 and 3. |
| RG7YH3 | Item 1 (work room) : Heavy normal-alkanes products were highlighted. They can be found in some candle oils, carbonless forms and some copier toners (according to ASTM E1618-14 / Tab.1). Item 2 (hay loft) : No flammable liquid was detected in sample. Item 3 was given as analytical blank for item 1 & 2. |
| RH3HK4 | A heavy normal- alkane product (C13-C18),was detected in charred portion of wood from the work room(item 1).An example of this heavy normal- alkane product, is lamp-oil. No ignitable liquid was detected in charred portion of wood ,from the hay loft(item 2). No ignitable liquid was detected in unburned wood ,substrate as a comparison blank(item 3). |
| RMY2Q9 | Item 1: An ignitable liquid residue was detected- a heavy normal-alkane product. Heavy normal-alkane products may originate from some candle oils, some lamp oils, and some candle wax removers. Items 2 and 3: No ignitable liquid residues were detected. Item 3 was submitted as a comparison for Items 1 and 2. |
| RPUL9W | Item 1 analysis revealed the presence of a heavy normal alkane petroleum product, examples include candle and lamp oils and some specialty solvents. Item 2 No ignitable liquids were detected. Item 3 No ignitable liquids were detected. |
| T9PV3M | Testing on extractions from the samples revealed a heavy normal alkanes product (normal alkanes range: C13-C18) present in sample #1. No identifiable ignitable liquid residue is present in sample #2 and comparison sample #3. Examples of heavy normal alkanes products include some candle oils, some carbonless forms, and some copier toners. |
| T9VXW2 | On analysis, I found that: i) Item 1 (charred portion of wood from the work room) to bear residues of ignitable liquid which could fall into class of normal alkanes product (subclass Heavy). ii) Item 2 (charred portion of wood from the hay loft to bear no residues of ignitable liquid. |
| TD774X | Item 1 contained an ignitable liquid residue identified as a heavy-range normal alkane product (hydrocarbon range: C13 - C17). Heavy-range normal alkane products may be found in, but are not |

TABLE 4

| WebCode | Conclusions |
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| | limited to, lamp oils and liquid candle fuels. No ignitable liquid residues were identified in Item 2. No ignitable liquid residues were identified in Item 3. |
| TG7GZX | Item 1 was found to contain a heavy-range normal alkanes product. Commercially available products include some candle and lamp oils. No ignitable liquids were identified in item 2. Item 3 was analyzed for comparison purposes only. |
| TH2Z2Y | A normal-alkane in the heavy range was identified in Item #1, examples of which include some candle oils, carbonless forms, and some copier toners. There were no ignitable liquids identified in Item #2 or Item #3. |
| TJ8MDH | Item 1 contained a small piece of burnt wood. A series of n-alkanes (C13-C16) were present in this item. Item 2 contained a small piece of burnt wood. No accelerant was detected in this item. Item 3 contained a small piece of un-burnt wood. No accelerant was detected in this item. |
| TK297A | Exhibit 1 contained a heavy normal alkane product, which is an ignitable liquid. Example of this type of product include some candle oils, some polishes, and some insecticide vehicles. No ignitable liquids were identified in Exhibit 2 or 3. |
| TM9NFZ | A heavy normal alkane product was detected in the extract of Item #1. Examples of heavy normal alkane products include some specialty solvents, some insecticide vehicles, and some lamp oils. No ignitable liquids were detected in the extracts of Item #2 and #3. |
| TNGPDT | It was found that Item1 included heavy n-alkanes products, Item2 hasn't included ignitable liquids. |
| TQQQKK | Item 1 was found to contain a normal alkane series (C13-C17) ignitable liquid, consistent with a lamp oil/torch fuel, or similar product. Item 2: no ignitable liquid was detected on this item. This may mean that there was none originally present, or that any present had burnt or evaporated below detectable levels. Item 3: low levels of 2-propanone (acetone) and even lower levels of 2-pentanone were detected. The significance of this was unclear. |
| U64FXD | 1. Volatile residues from Exhibits 1 (Charred portion of wood from the work room), 2 (Charred portion of wood from the hay loft), and 3 (Unburned wood substrate intended as a comparison blank) were collected using direct and passive headspace concentration techniques and analyzed using gas chromatography/mass spectrometry for the presence of ignitable liquid residues. 2. A heavy range normal alkane product was identified in the concentrated headspace vapors of Exhibit 1. Ignitable liquids belonging to this class are commercially available as some candle oils, some copier toners, and carbonless paper forms. 3. No ignitable liquid residues were detected in the concentrated headspace vapors of Exhibits 2 or 3. 4. It should be noted that the identification of an ignitable liquid residue in a fire scene does not necessarily lead to the conclusion that a fire was incendiary in nature. Further investigation may reveal a legitimate reason for the presence of ignitable liquid residues. |
| U67BFX | Item #1 - The volatile contents were recovered using a heated headspace recovery method and analyzed by gas chromatography, and were extracted by passive headspace adsorption using an activated charcoal strip recovery method and analyzed by gas chromatography/mass spectrometry. A heavy petroleum product (e.g. diesel fuel, kerosene, fuel oil, specialty solvents etc.) was detected. Item #2 - The volatile contents were recovered using a heated headspace recovery method and analyzed by gas chromatography, and were extracted by passive headspace adsorption using an activated charcoal strip recovery method and analyzed by gas chromatography/mass spectrometry. No ignitable liquid residues were identified. Item #3 - The volatile contents were recovered using a heated headspace recovery method and analyzed by gas chromatography, and were extracted by passive headspace adsorption using an activated charcoal strip recovery method and analyzed by gas chromatography/mass spectrometry. The item was analyzed as a comparison sample. |
| U8A2NY | Item 1: A heavy normal alkane product found. Examples of heavy normal alkane products include, but are not limited to, some candle oils, carbonless forms, and some copier toners. Item 2: No ignitable liquids found. Item 3: No ignitable liquids found. |
| U94RUD | 1. Volatile residues from Exhibits 1 (charred portion of wood from the work room), 2 (charred portion of wood from the hay loft), and 3 (unburned wood substrate intended as a comparison blank) were collected using simple heated headspace and passive headspace concentration techniques, and were |

TABLE 4

| WebCode | Conclusions |
|---------|---|
| | analyzed using gas chromatography-mass spectrometry (GC-MS) for the presence of ignitable liquid residues. 2. A heavy-range normal alkane product was identified in the concentrated headspace vapors from Exhibit 1. Some examples of commercial products in this ignitable liquid classification would include some candle oils, copier toners, and specialty solvents. 3. No ignitable liquid residues were identified in the concentrated headspace vapors from Exhibits 2 or 3. |
| U96LBX | Description of Evidence: Item #1 - Charred portion of wood from the work room sealed in a nylon evidence bag. Item #2 - Charred portion of wood from the hay loft sealed in a nylon evidence bag. Item #3 - Unburned wood substrate intended as a comparison blank in a nylon evidence bag. Results/Opinions/Interpretations of Fire Debris Analysis: Item #1 - The volatile contents were recovered using a heated headspace recovery method and analyzed by gas chromatography, and were extracted by passive headspace adsorption using an activated charcoal strip recovery method and analyzed by gas chromatography/mass spectrometry. A heavy petroleum product (e.g. specialty solvents, candle oils, lamp oils etc.) was detected. Item #2 - The volatile contents were recovered using a heated headspace recovery method and analyzed by gas chromatography, and were extracted by passive headspace adsorption using an activated charcoal strip recovery method and analyzed by gas chromatography/mass spectrometry. No (added) volatile substances were detected. Item #3 - The volatile contents were recovered using a heated headspace recovery method and analyzed by gas chromatography, and were extracted by passive headspace adsorption using an activated charcoal strip recovery method and analyzed by gas chromatography/mass spectrometry. The item was analyzed as a comparison sample. |
| U999RC | 1. GC/MS analysis of submission #1 (item 1) revealed the presence of a medium boiling range petroleum product. 2. GC/MS analysis of submission #2 (item 2) failed to reveal the presence of a flammable liquid. 3. GC/MS analysis of submission #3 (item 3) failed to reveal the presence of a flammable liquid. |
| UC6TWW | A heavy range normal paraffinic product was identified in the extracts from Item 1. Products of this type include some candle oils, some copy toner solvents, and some specialty solvents. No ignitable liquids were identified in the extracts from Item 2. Item 3 consists of a portion of uncharred wood. This exhibit was submitted and analyzed as a comparison sample. Items 1, 2, and 3 were extracted using both direct and passive headspace techniques and analyzed using gas chromatography/mass spectrometry. |
| UJQQKJ | Within the limits of the applied methodology and after considering item 3 intended as a comparison blank : the presence of a heavy normal alkanes product was detected in item 1. This class of products includes in particular some candle and lamp oils. no ignitable liquid residue was detected in item 2. |
| UKX8GT | According to ASTM E1618-14 Ignitable Liquid Classification Scheme, Items 1, 2, and 3 were analyzed using gas chromatograph-mass spectrometer with solid-phase microextraction (carbox/SPME). (1) Ignitable liquid(s) with heavy n-alkanes products was identified in Item 1. (2) No ignitable liquid(s) was observed in Item 2. |
| ULVDZ9 | Exhibit 1 contained a heavy normal alkane product, which is an ignitable liquid. Examples of heavy normal alkane products include some candle oils and copier toners. No ignitable liquids were identified in Exhibits 2 and 3. |
| UQ22P4 | Item #1: heavy n-alkane product detected. Positive for ignitable liquids. Item #2: negative for ignitable liquids. |
| V4ACKW | A normal alkane product in the heavy range was identified in Item #1. Examples of this include some candle oils, carbonless forms, and some copier toners. There were no ignitable liquids identified in Item #2 or Item #3. |
| V66MRT | By means of physical study and chemical analysis: a flammable/combustible substance was detected in Item 1 within the classification of Heavy Normal-Alkane Products. Examples of this classification include some candle oils and carbonless forms. No flammable/combustible substances were detected in Item 2. No flammable/combustible substances were detected in the control Item 3. |
| V9YGPU | Residue characteristic of heavy normal alkanes products(according to ASTM E1618, ignitable liquid classification scheme by GC-MA) was identified in item 1. No ignitable liquids were detected in item 2 |

TABLE 4

| WebCode | Conclusions |
|---------|--|
| | and 3. |
| VAD2H4 | Gas chromatographic analysis was performed (heated headspace and passive headspace concentration) on the submitted items and yielded the following results and conclusions: Item #01 - A heavy normal alkane was identified. Examples of normal alkanes of the type present may include some specialty automotive products, some candle oils, and some copier toners. Items # 02 & 03 - An ignitable liquid residue was not identified. |
| VAW4P6 | Analysis of Item 1 disclosed the presence of an ignitable liquid from the heavy normal-alkanes products class. Examples of this class include some candle oils, carbonless forms, and some copier toners. Analysis of Item 2 and Item 3 did not identify the presence of an ignitable liquid. This does not preclude the possibility that an ignitable liquid was present at an earlier time. |
| VE9WYH | Item #1 - A heavy normal alkane (HNA) product was identified in Item #1 with range from n-C10 to n-C20 and mainly peaks in n-C13 to n-C18. Examples of commercial products that contain HNAs include some lamp oils, candle oils and industrial solvents. Item #2 - No ignitable liquids were detected on Item #2 other than compounds associated with it. Item #3 - No ignitable liquids were detected on Item #3. |
| VKWKUN | The samples were extracted from the fire debris per ASTM method E1412-00 and analyzed following ASTM method E1618-01. A gas chromatography/mass spectrometry (GC/MS) analysis was performed on the extracts of sample #'s 1 & 2. Analysis results indicate the presence of a heavy petroleum distillate in sample #1. There was no presence of an ignitable liquid in sample #2. The heavy petroleum distillate detected in sample #1 may be kerosene, diesel fuel, some jet fuels or charcoal starters. |
| VW7BHG | Item 1 contained a normal alkanes product. Examples of normal alkanes products include, but are not limited to, some candle oils, carbonless forms, and copier toners. Items 2 and 3 contained no ignitable liquid. |
| W2XWQV | Items 1 through 3 were examined using passive headspace adsorption and gas chromatography/mass spectrometry. Item 1 was found to contain a volatile mixture identified as a heavy normal alkane product. Examples of such mixtures include some lamp oils and some organic solvents. No common ignitable liquids were detected in items 2 or 3. This does not preclude the possibility that an ignitable liquid may have been present at an earlier time. |
| WBZ4HP | Item 1: A heavy normal alkane product was identified in Item 1. Examples include some candle oils and some copier toners. Item 2: No ignitable liquids were detected in Item 2. Item 3: No ignitable liquids were detected in Item 3. |
| WDAZCT | Item #1 - Normal Alkane product, examples of which are some lamp and candle oils, and some copier toners. Item #2 - No ignitable liquids found. Item #3 - Used for comparison. |
| WDEGAR | Item 1: A normal alkane product was identified. Examples of normal alkane products include some lamp oils, candle oils, and some solvents for specialty applications made from normal alkanes. Item 2: No ignitable liquids were detected. Item 3: No ignitable liquids were detected. |
| WH42D9 | Item 1 contains an ignitable liquid. This ignitable liquid was found to be a normal alkane product. Examples would be an aliphatic lamplighter product. Item 2: No ignitable liquids detected. Item 3: No ignitable liquids detected. |
| WMZKHR | Item 1 - heavy normal alkane was found C13-C17. it can be consist with lamp oil. |
| WNPZJM | Heavy N-Alkanes (C14-C17) were detected in Item #1. Examples of Heavy N-Alkanes include: candle oils, carbonless forms, and some copier toners. There were no ignitable liquids detected in Item #2 and Item #3. The specimens were extracted by passive concentration headspace extraction with activated charcoal and analyzed by gas chromatography/mass spectrometry. |
| WNV76Q | A normal alkane product was detected in item 1. No ignitable liquids were detected in item 2. No ignitable liquids were detected in item 3. Examples of normal alkane products include, but are not limited to, solvents, some candle oils, some copier toners and carbonless forms. |
| WTLRPY | Item 1: Heavy normal alkane product. Examples include some candle oils, carbonless forms and |

TABLE 4

| WebCode | Conclusions |
|---------|---|
| | some copier toners. Item 2: No ignitable liquid(s) detected. |
| WVCPM6 | Item #1 tested positive for the presence of a Heavy Normal Alkane Product. Items in this classification include but are not limited to some candle/lamp oils, some carbonless forms, & some copier toners. Item #2 no ignitable liquids were detected. This does not preclude the possibility that an ignitable liquid was present & consumed. |
| WVTF7 | A normal alkane product was identified in Item 1-1. Some examples of a normal alkane product would include some brands of lamp oils, candle oils and copier toners. No ignitable liquids were detected in Item 1-2 and 1-3. |
| WYA7YY | Item 1 was subjected to adsorption - elution extraction followed by gas chromatographic / mass spectrometric (GC/MS) analysis. GC/MS analysis shows the presence of a Heavy Normal Alkane Product Ignitable Liquid. Examples of this class of ignitable liquid could include (but are not limited to): some candle oils, carbonless forms and some copier toners. Item 2 was subjected to adsorption - elution extraction followed by gas chromatographic / mass spectrometric (GC/MS) analysis. GC/MS analysis shows no evidence of ignitable liquids. Item 3 was subjected to adsorption - elution extraction followed by gas chromatographic / mass spectrometric (GC/MS) analysis. GC/MS analysis shows no evidence of ignitable liquids. |
| WYEMXX | Item: 1: Results: Alkanes. Package: Nylon bag placed inside one-quart metal can from laboratory supplies. Description: Charred portion of wood. Origin: Work Room. Item: 2: Results: Negative. Package: Nylon bag placed inside one-quart metal can from laboratory supplies. Description: Charred portion of wood. Origin: Hay loft. Item: 3: Results: Negative. Package: Nylon bag placed inside one-quart metal can from laboratory supplies. Description: Unburned wood substrate. Origin: Exemplar |
| X3QY6Y | Instrumental analysis of exhibit #1 revealed heavy normal alkane product. No ignitable liquid was detected in exhibits #2 and 3. |
| X4J2YT | Items 1, 2, and 3 were extracted using a passive adsorption-elution technique. The Item 1, 2, and 3 extracts were examined using Gas Chromatography-Mass Spectrometry (GC-MS). The Item 1 extract contained a mixture of tridecane, tetradecane, pentadecane, hexadecane, and heptadecane (a heavy normal alkanes product), which can be found in, but is not limited to, some lamp oils. No ignitable liquids were identified in the Item 2 or 3 extracts. |
| X6ELLT | Results of gas chromatography-mass spectrometry analysis (GC-MS, Passive Headspace Concentration): Laboratory item #1: A heavy normal-alkane product was identified. Examples of heavy normal-alkane products include, but are not limited to, some candle oils, some copier toners, and carbonless forms. Laboratory item #2: No ignitable liquids were identified. Laboratory item #3 (Comparison Sample): No ignitable liquids were identified. |
| XA6VXC | A heavy normal alkanes petroleum residue was detected within the charred wood material from the work room (Item 1). Examples of this class of petroleum products includes, but is not limited to, the following: some odorless and smokeless lamp oils and candle oils. No ignitable liquid residues were detected within the charred wood material from the hay loft (Item 2). |
| XEZPTR | ITEM 1 WAS ANALYZED BY GAS CHROMATOGRAPHY/MASS SPECTROMETRY AND DETERMINED TO CONTAIN A HEAVY NORMAL ALKANE PRODUCTS ASTM CLASS IGNITABLE LIQUID. EXAMPLES OF THIS ASTM CLASS ARE SOME CANDLE OILS AND SOME COPIER TONERS. ITEMS 2 AND 3 WERE ANALYZED BY GAS CHROMATOGRAPHY/MASS SPECTROMETRY; HOWEVER, IGNITABLE LIQUIDS COULD NOT BE DETECTED. |
| XFEYXL | A heavy normal alkane was identified in specimen #1. Some examples of normal alkanes include candle and lamp oils and some copier toners. No ignitable liquids were detected in specimen #2 or specimen #3. All three specimens were extracted by passive concentration headspace and analyzed by gas chromatography / mass spectrometry. |
| XJWAYW | Item 1. A heavy normal alkane product was identified in the heat-sealed fire debris bag containing a piece of charred wood. Examples of heavy normal alkane products include some candle oils, carbonless forms, and some copier toners. Item 2. No ignitable liquids were identified in the heat-sealed fire debris bag containing a piece of charred wood. Item 3. No ignitable liquids were |

TABLE 4

| WebCode | Conclusions |
|---------|--|
| | identified in the heat-sealed fire debris bag containing a piece of uncharred wood. (comparison) |
| XPH8LY | A heavy normal alkane product was detected in Item 1. Examples of this n-alkane product include some lantern candles and lamp oil and some specialty solvent. Heavy normal alkane products are also found in some copier toners. No ignitable liquids were identified on Item 2 and Item 3. |
| XPXQ8G | Item 1 was found to contain a mixture of hydrocarbons which included tetradecane, pentadecane and hexadecane, possibly tridecane, consistent with being an odourless lamp oil or similar product. No flammable liquid was detected on Item 2. This may mean that there was no flammable liquid originally present or that any flammable liquid had burnt or evaporated to below the detectable level. Acetone was detected on Item 3, the significance of which was unclear, but it may be naturally present in the timber collected. |
| XV8T9R | Nothing of significance was detected in items 2 or 3. Item 3 contained paraffin-based lamp oil or a closely related product. This type of lamp oil would normally be sold as ultra pure, smokeless or odour-free oil |
| XZZND7 | Item 1 - a heavy normal alkanes product was identified. Heavy normal alkanes products are ignitable liquids and include, but are not limited to, some candle/lamp oils and some copier toners. Item 2 - no ignitable liquid was identified. |
| Y69GZN | A homologous series of normal alkanes ranging from C13 (tridecane) to C18 (octadecane) were detected in Item 1. Normal alkane products include, but are not limited to, some lamp oils, some candle oils, carbonless paper products, some specialty cleaners and other specialty application solvents and thinners. No ignitable liquids were detected in Items 2 or 3. |
| Y7JHLM | Yes examination and analysis, i found: i)Item 1 contain heavy class of normal alkanes products. ii) No ignitable liquids were detected in Item 2 and Item 3. |
| Y7QF6Y | Item 1: A heavy normal-alkane product was detected. Item 2: No ignitable liquids were detected. Item 3: No ignitable liquids were detected. |
| YAZTMX | Evidence addressed in this report was received into the laboratory on the following date: August 4, 2016. Analysis for ignitable liquid residues by Diffusive Flammable Extraction trapping followed by Gas Chromatography / Mass Selective Detection: Item #1: Heavy petroleum product (Normal Alkane), examples of which are (but not limited to) some candle and lamp oils and specialty industrial solvents. Items #2 and #3; No ignitable liquid residues identified. Ignitable liquid residue does not necessarily lead to the conclusion that a fire was incendiary in nature. In addition, negative results do not preclude the possibility that ignitable liquids were present. |
| YEY27M | A homologous series of normal alkanes ranging from tridecane (C13) to octadecane (C18)was detected in Item 1. Commercially available products containing these components include, but are not limited to, some lamp oils, some candle oils, some specialty removers and as a constituent in some floor coverings. No ignitable liquid residues were detected in Items 2 or 3. |
| YLFXLG | Item 1.1: Passive Headspace Concentration/Gas Chromatography-Mass Spectrometry disclosed the following: Heavy (C9-C20+) n-Alkane Product. Examples of a Heavy (C9-C20+) n-Alkane Product include some candle oils, carbonless forms, and some copier toners. Item 1.2: Passive Headspace Concentration/Gas Chromatography-Mass Spectrometry disclosed the following: No ignitable liquids/ignitable liquid residues identified. Item 1.3: Passive Headspace Concentration/Gas Chromatography-Mass Spectrometry disclosed the following: No ignitable liquids/ignitable liquid residues identified. |
| YMNXT9 | Item 001-1 contained heavy range normal alkane product residues. Some examples that may include this class of compounds are lamp oils and specialty solvents. No common ignitable liquid residues were detected in the burnt wood, Item 001-2, or the wood, Item 001-3 (Comparison). |
| YNJGUB | An ignitable liquid residue classified as a heavy, normal alkanes product was detected from the charred wood in item 1. Examples of products that may contain heavy, normal alkanes include some candle oils and some copier toners. There were no ignitable liquid residues identified in the charred wood from item 2. The unburned wood (item 3) was submitted as a comparison sample. |
| YTYQ8E | Item #1: A heavy Normal Alkane product was detected. Examples of this type of product include |

TABLE 4

| WebCode | Conclusions |
|---------|---|
| | some candle oils and some copier toners. Item #2: No ignitable liquid residues were detected. |
| Z33N82 | A heavy normal alkane product, which is an ignitable liquid, was identified in Exhibit 1. Examples of heavy normal alkane products include candle oils, some brands of lamp oil and some copier toners. No ignitable liquids were identified in Exhibits 2 and 3. |
| Z63LUM | 1) In the sample received and labeled as item 1, it was detected the presence of one mixture which can be classified in the scheme proposed by the ASTM E 1618-14 Standard Methods as Heavy Normal-Alkanes Products (Solvent Industrial). 2) In the sample received and labeled as item 2, it were not detected any mixture which can be classified in the scheme proposed by the ASTM E 1618-14 Standard Method (see additional comment). 3) In the sample received and labeled as "Control Bag", it were not detected any mixture which can be classified in the scheme proposed by the ASTM E 1618-14 Standard Method (see additional comment). 4) The Heavy Normal-Alkanes Products is an ignitable liquid. Ignitable liquid may start or accelerate a fire. The identification of an ignitable liquid residue in the item 1, do not necessarily lead to the conclusion that a fire was incendiary in nature. Further investigation may reveal a legitimate reason for the presence of this ignitable liquid residue. |
| ZCNPPW | Examination of item #1 revealed the presence of a n-alkane product. N-alkane products include some candle oils and some copier toners. Examination of items #2 and #3 failed to reveal the presence of ignitable liquids. |
| ZF46D3 | The volatile contents of Items 1, 2 and 3 were extracted using a passive carbon adsorption/desorption technique and analyzed by gas chromatography - mass spectrometry (GC-MS). A heavy normal alkane product, which includes but is not limited to some lamp oils and some copier toners was identified in Item 1 (Identification). There were no ignitable liquid residues identified in Items 2 or 3 (Not Identified). |
| ZF6UL7 | The charred portion of wood from the work room (item 1) contains a heavy normal-alkanes ignitable liquid residue. Heavy normal-alkanes can include products such as some candle oils, carbonless forms, and some copier toners. No ignitable liquid residues were identified in the charred portion of wood from the hay loft (item 2) or the unburned wood substrate (item 3). |
| ZHAHZW | 001.01: Analysis of an activated charcoal strip extract by gas chromatography/mass selective detector identified a heavy normal alkane ignitable liquid product. Products in this class include, but are not necessarily limited to: some candle/lamp oils, some copier toners and carbonless forms. 001.02: Analysis of an activated charcoal strip extract by gas chromatography/mass selective detector failed to identify an ignitable liquid product. 001.03: Analysis of an activated charcoal strip extract by gas chromatography/mass selective detector failed to identify an ignitable liquid product. |
| ZJ73NV | Item 1 : no ignitable liquid detected. Item 2 : Contains n alkanes from C14 until C19. The flammable could be some lamp oil or charcoal starters |
| ZJNX6X | Item 1 contains a heavy normal alkane solvent. Item 2 is negative for identifiable ignitable liquids. Item 3 was utilized as a comparison. |
| ZQLNNM | [No Conclusions Reported.] |
| ZVGHLN | On analysis, I found Item 1 to bear traces of Normal Alkanes products - Heavy class-sub. On Analysis, I did not find any ignitable liquid(s) on Item 2. |
| ZVH6AT | Item #1: An ignitable liquid residue consistent with a heavy normal-alkane product was identified in Item #1. Examples of the heavy normal-alkane class of ignitable liquids include some candle oils, carbonless forms, and some copier toners. Item #2: No ignitable liquid residues were detected in Item #2. Item #3: No ignitable liquid residues were detected in Item #3. |
| ZVXPUQ | RESULTS An ignitable liquid, identified as a heavy normal alkane product in the C14 to C16 range was isolated on sample 1. Some examples of consumer products that may contain such a product are, but are not limited to, lamp oil, candle oil, copier toners and carbonless copy forms. Volatile chemical residues were isolated on samples 2 and 3. The volatile chemical residues isolated on samples 2 and 3 do not compare favorably to current laboratory standards of ignitable liquids. CONCLUSIONS Based upon the samples that were submitted and analyzed as described, it is the opinion of this laboratory that an ignitable liquid was isolated on sample 1. The ignitable liquid |

TABLE 4

| WebCode | Conclusions |
|---------|---|
| | isolated on sample 1 has been identified as a heavy normal alkane product in the C14 to C16 range. It is also the opinion of this laboratory that no ignitable liquids were isolated on samples 2 or 3. |
| ZXRBP3 | Exhibit 1 contained a heavy normal alkane product (an ignitable liquid), examples of which include some specialty solvents and some lamp oils. No ignitable liquids were detected in Exhibits 2 or 3. |

Additional Comments

TABLE 5

| WebCode | Additional Comments |
|---------|--|
| 2GUR3C | Item # 2 Furfural, which is normally present in pyrolyzed / burned soft wood, was detected in item #2. |
| 2TPTPE | Item 1: The normal-alkane product detected in the contents of this item was found to be similar in composition to a number of products including Norpar 14 industrial solvent, Lamplight Farms candle & lamp oil and Aroma Glow mixed berries lamp oil. |
| 34PJ9Z | Classification scheme: Item 3 was no ignitable liquids detected. Same recovery & identification techniques used as Items 1 & 2. |
| 3L442X | An explanation of terms would be included in the report. |
| 3W29LJ | Item 1: contain hydrocarbons (alkanes) range from (C13-C18) |
| 3XFTET | Item 1 was sampled in the work room. It is therefore necessary to check that no industrial solvents, lanterns, candle oils or lamps oil, were stored in the area where the Item 1 was collected. These lantern candles or lamp oils can be optionally used for lighting. |
| 627N9C | Consider using other types of substrates that produce pyrolysis products when burnt in order to test the scientist's ability to differentiate ignitable liquids residues from pyrolysis products. |
| 63GQUB | All chemical compounds extracted from Item 2 were identical structure with those extracted from Item 3 (a comparison blank). For this reason, the analysis results of Item 2 are negative for ignitable liquids residue. |
| 63NNDM | Item 3 was stated to be comparison sample and treated as such. |
| 7BXG4A | Although an ignitable liquid type or class has been nominated, it must be noted that some commercial products incorporate similar liquids into their products – either within their specific formulation (e.g. degreasers, carburettor cleaners, etc), or as “carrier” for the key compounds (e.g. some aerosol or liquid products). The absence of ignitable liquid residues (ILR) in an exhibit can be due to a number of factors including: ILR was never present in the exhibit; ILR was present, but not in the portion of the exhibit collected; ILR was present in the submitted exhibit, but at levels too low for identification; ILR was originally present but subsequently lost (evaporated) prior to collection |
| 84NP2P | Oxygenated chemical species, including Acetic Acid, were detected on all of the analysed samples (Item 1-3). The presence of such chemicals on the control sample (Item 3) renders them insignificant. |
| 8GECK4 | Examples of charcoal starter products: charcoal starter, lamp oil. |
| 8GX6BF | The content of the ignitable liquid detected in Item 1 could origin from a candle oil or a charcoal starter. |
| 8RBHCG | The identification of an ignitable liquid residue on tested evidence does not necessarily lead to the conclusion that a fire was incendiary in nature. Further investigation may reveal a legitimate reason for the presence of ignitable liquid residues. The absence of an ignitable liquid residue does not preclude the possibility that ignitable liquids were present at the fire scene. Ignitable liquids are volatile compounds that may have evaporated, been totally consumed in a fire, environmentally altered or removed, or otherwise indistinguishable from background materials. |
| 8W7ALY | Tested for C6-C20 ignitable liquids only. |
| 8XWHJG | The techniques herein can't pick up highly volatile flammable liquids (e.g. methylated spirits) due to its limitations. This means that the negative results might very well contain highly volatile flammable liquids. The positive results might also contain additional highly volatile flammable liquids. |
| 9JZFQF | The absence of an ignitable liquid residue does not preclude the possibility that ignitable liquids were present at the fire scene. Ignitable liquids are volatile compounds that may have evaporated, been totally consumed in a fire, environmentally altered or removed, or otherwise indistinguishable from background materials. REMARKS Evidence listed on Invoice #Q111822 will be forwarded to the Property Clerk for storage. |

TABLE 5

| WebCode | Additional Comments |
|---------|--|
| A44LTF | A low abundance acetic acid peak was detected in item 2 Q2. |
| A6Y28X | Item 1A is considered CTS item 1. Item 1B is considered CTS item 2. Item 1C is considered CTS control sample. |
| AP228H | The presence of normal alkanes products (heavy) detected on item 1 and did not detect any ignitables product on item 2. |
| BEF8FL | Analysis of item revealed presence of slight amount of a HPD taht could have interfere with analysis |
| BPFYZT | Activated charcoal strips were used to collect any volatile organic compounds with an adsorption/elution technique. The compounds were then analyzed with a gas chromatograph/mass spectrometer. The charcoal strips used are contained in plastic vials and have each been repackaged inside the original item. |
| BWDNJJ | Aldehydes, including furfural, low abundance levels, were detected in item 2. |
| BX4X76 | Conclusions and caveats below are based on ASTM 1618-14. The identification of an ignitable liquid residue in a fire scene does not necessarily lead to the conclusion that a fire was incendiary in nature. Further investigation may reveal a legitimate reason for the presence of ignitable liquids. The absence of an ignitable liquid residue does not preclude the possibility that ignitable liquids were present at the fire scene. Ignitable liquids are volatile compounds that may have evaporated, been totally consumed in a fire, environmentally altered or removed, or otherwise indistinguishable from background materials. |
| C4GUWZ | Ignitable liquid classification is based on ASTM 1618 Standard Test Method for ignitable liquid residues in extracts from fire debris samples by gas chromatography-mass spectrometry and/or the laboratory's internal policy and procedures. |
| DPNWXA | The Heavy Normal Alkane Product detected on the sample received and labeled as item 1, has a carbon number range between C11 – C20. In the Items 1, 2 and 3 also it was detected the chromatograph peak of Nylon (sample container material described as nylon evidence bag). |
| E9X42F | Current submission policies and fire debris analysis procedures for this laboratory do not include the analysis of items submitted in nylon bags. |
| EX22WL | The above items were examined in accordance with [Laboratory] methods and procedures based upon ASTM International standard test methods and practices. The samples were extracted using passive headspace sampling and analyzed via gas chromatography – mass spectrometry. An extract generated from each item will be maintained with the evidence (Items 1A, 2A, and 3A). |
| F6F4GT | Caprolactam was detected in Items 2 and 3. Caprolactam is typically seen with these evidence bags. |
| FDRKQE | Caprolactam was also present in items 1 and 2, but was found in the Item 3 (substrate comparison control) |
| FZX9CF | The normal alkanes product detected in item 1 could have originated from lamp oil or another solvent. For future trials, could a larger headspace volume, (at least 400ml) be provided if possible. |
| GUALGA | These are just comments not on the Report! Item # 2 and 3: Acetone and Acetic acid are present in very low abundances; also in item #3: 2-pentanone is also present. Acetone, Acetic acid and 2-pentanone are commonly used by industry as paint additives and coating additive (website and relevant pages included in the casefile). Searched both the NCFS and [police department] lab references collection data base and did not find product. Also according to ASTM E1618-14 (10.2.7.6) Acetone will not be reported. Acetone, Acetic acid and 2-pentanone in large amounts/abundances would have been reported as an "Oxygenated" product however due to the low quantity perhaps they are part of the coating on the substrate (polished wood). |
| JDFX2W | Examples of heavy normal alkane products include some formulations of the following: candle oils, copier toners, firelighters. |
| JKEMFE | Exhibit 3 (comparison blank) was analyzed, and light oxygenated compounds were detected in the sample. This sample was not required for comparison to Exhibits 1 and 2. |
| JPB7MJ | Abundant Caprolactan peak in TIC. Nylon bags may be going bad. |

TABLE 5

| WebCode | Additional Comments |
|---------|---|
| KPM3RN | 2&3) Caprolactam was tentatively identified in item #2 and item #3 (comparison sample), using known library spectra. |
| LGRMFP | Heavy normal alkane products are volatile ignitable liquids that may be found in commercial products such as lamp oils and specialty solvents. The identification of a volatile ignitable liquid in an item does not necessarily indicate that a fire has been deliberately set. Possible explanations for the results of items 2 and 3 include: No volatile ignitable liquid was present in the item. Any volatile ignitable liquid that was present had evaporated or been consumed by the fire |
| MC9RBC | There's only one place where a flammable product has been detected : in the work room. Normal alkanes product has been identified. It doesn't necessarily mean that the fire was an arson. One more police investigation may reveal a legitimate reason for the presence of this product in the work room. Was it present in this part of the barn before the fire started? In the hay loft we have identified only degradation products of the hay. |
| MCD99B | Item 2 is reported as unidentified because a RIL is not available in-house for comparison. |
| MPW4E9 | "Ignitable liquid classification scheme" will be sent along with report. |
| MR2N4U | Note: The identification of an ignitable residue from the fire debris from a fire scene does not necessarily lead to the conclusion that a fire was incendiary in nature. Further investigation may reveal a legitimate reason for the presence liquid residues. |
| NQ99F4 | Following analysis, the sample and blank activated charcoal strips were placed into a padded bag and sealed in a brown envelope labeled SLJ1. |
| PQ3DA4 | Analysis of Item 3 did not reveal the presence of any ignitable liquid residues. |
| PQXXW3 | Item 2. was found to contain the same matrix components such as Item 3., the comparison blank. |
| PRJA23 | Normal alkanes products are for example lamp oils and industry solvents. |
| Q3VUY6 | Acetone (low level) was detected in Item #2, but was also present in the substrate control. As a result, it was not reported. |
| QCY9HH | The nylon bags used for these tests have been determined to be inadequate for packaging volatiles by our Laboratory as they are prone to leakage. |
| QFGA24 | A copy of the Ignitable Liquid Classification System is attached to all reports. |
| QH7P4Y | A heavy n-alkane product was observed in item 1. No ignitable liquid residues were observed in items 2 and 3. The presence of an ignitable liquid residue in item 1 does not in and of itself indicate an incendiary fire. The results do not eliminate the possibility that an ignitable liquid was present at the incident in question for items 2 and 3. |
| QPLLR7 | Item #2 has one (1) peak which (furfura) w/chemical structure C5H4O2 that is oxygenated compound. That compound may be also the result from the pyrolysis of this kind of wood but the laboratory has no reference RIL for that compound that why it classified as unidentified petroleum product. |
| R4Y9HF | CTS PT item 1 is my item 1A. CTS PT item 2 is my item 1B. CTS PT item 3 is my item 1C |
| RG7YH3 | Research on the NCFS ILRC database allows us to find chromatographic patterns similar to that observed item 1. The main found applications are lamp oils, including oil for farm lamp potentially compatible with the activity of the affected area (a barn). |
| RMY2Q9 | The above items were examined in accordance with [Laboratory] methods and procedures based upon ASTM International standard test methods and practices. The samples were extracted using passive headspace sampling and analyzed via gas chromatography – mass spectrometry. An extract generated from each item will be maintained with the evidence (Items 1A, 2A, and 3A). |
| TJ8MDH | This laboratory does not use the ASTM classification scheme. |
| TQQQKK | There was no 2-propanone (acetone) detected on Items 1 and 2, however, these items were both lightly charred, and any acetone (if originally present) may have burnt or evaporated due to exposure to heat. |

TABLE 5

| WebCode | Additional Comments |
|---------|---|
| U67BFX | The unanalyzed portion of the activated charcoal strips are being returned to the submitting agency along with the rest of the original evidence. |
| U96LBX | Disposition of Evidence: The unanalyzed portions of the activated charcoal strips are being returned to the submitting agency along with the rest of the original evidence. |
| VE9WYH | The analysis identified some oxygenated compounds in Item #2 and Item #3, such as acetone, acetic acid, propanoic acid, Methanol, Ethanol, acetic methyl ester, acetic ethyl ester and furfural, which are all commonly found in wood or charred wood materials. |
| WMZKHR | Item 1 - we do not have such standart in our laboratory. a similar profile was found in "GC-MS guide to ignitable liquids" Alkane #3 Norpolar 15 page 498. Item 2 - has "weak" traces of similar components found in Item 1. not enough for a positive result in a real case. |
| WNV76Q | Failure to identify an ignitable liquid in any samples of fire debris should not be interpreted to mean that an ignitable liquid could not have been present. It means only that none could be recovered from the debris and or detected during analysis. These opinions are based upon my knowledge, skills, experience, training, education and personal observations as well as facts and data perceived by or made known to me, which facts and data are of the type reasonably relied upon by experts in my particular field in forming opinions or inferences. |
| WYA7YY | One laboratory glass vial was repackaged with the evidence. The presence of ignitable liquids in Item 1 does not necessarily lead to the conclusion that the fire was incendiary in nature. Further investigation may reveal a legitimate reason for the presence of ignitable liquids. The absence of ignitable liquids in Item 2 and Item 3 does not preclude their use at the scene. |
| WYEMXX | Key to Results and Conclusions: Ignitable Liquids were detected in one or more items. ALKANES: N-alkanes in the range of C13-C17 were chromatographically detected. Examples of n-alkanes include specialty solvents, candle and lamp oils, copier toners, and carbonless paper. NEGATIVE: No commercially available ignitable liquids were chromatographically detected. NEGATIVE (EXEMPLAR): No commercially available ignitable liquids were chromatographically detected. *Note that [Laboratory] uses "exemplar" as a comparison notation when a sample of similar material to the submitted debris is sent in with case to be used as a comparison. "Control" is used only when the comparison sample comes from unused/uncontaminated stock (e.g. a newly opened piece of gauze, carpet or wood samples from the manufacturer, any stock sample NOT found on crime scene itself, etc.). "Comparison" is used when an unknown liquid is submitted in the hopes of 'matching' it to a positive sample submitted in the same case. Although, [Laboratory] does NOT do this type of analysis, agencies need a label to appropriately title the type of sample being submitted. "Exemplar" is used here, instead of control, bc it's intent is to give an example of the type of wood used for elimination of "matrix noise" purposes AND no indication has been given that the sample of wood came from the manufacturer's stores. |
| X3QY6Y | We include a "classification" table that lists examples of products. |
| X6ELLT | Qualifiers included in conclusions: The identification of an ignitable liquid residue on tested evidence does not necessarily lead to the conclusion that a fire was incendiary in nature. Further investigation may reveal a legitimate reason for the presence of ignitable liquid residues. The absence of an ignitable liquid residue does not preclude the possibility that ignitable liquids were present at the fire scene. Ignitable liquids are volatile compounds that may have evaporated, been totally consumed in a fire, environmentally altered or removed, or otherwise indistinguishable from background materials. |
| XA6VXC | Two activated carbon strips (ACS) were used recover possible ignitable liquid residues from each item. One ACS was extracted with 5% CS2 in pentane; the other was extracted with toluene. |
| XPXQ8G | Although there was no acetone detected on Items 1 and 2, both of these were partially burnt and any acetone may have burnt or evaporated as a result of exposure to the heat. |
| XV8T9R | Possibly biologically degraded. |
| XZZND7 | Item 3 - a light oxygenated solvent was identified. |
| YTYQ8E | When the Items were sampled by heating the nylon bags they were contained in, caprolactam was |

TABLE 5

| WebCode | Additional Comments |
|---------|--|
| Z33N82 | detected in all three items. The samples were re-sampled with out the nylon bags present and the caprolactam was absent in all three samples. The caprolactam was considered to be an artifact of the nylon bags as it is a precursor in the manufacture of nylon. |
| Z63LUM | The investigator would be called to discuss the results for Item 2 and the comparison. In the Item No. 2 suggested in the pattern aromatic ion, the presence of light aromatics products (toluene, ethylbenzene and xylenes), but the chromatographic spectrum quality is low and peaks are observed low intensity and very noisy, so which are not reported. Both the Itemn No.2 and Item No. 3, it was detected the chromatographic peak of nylon(sample container material). |
| ZF46D3 | Explanation of Terms: The following descriptions are meant to provide context to the types of opinions reached in fire debris / ignitable liquid examinations. Identification: The sample contained an ignitable liquid or residues of an ignitable liquid. Not Identified: Compounds were detected that may be present in some ignitable liquids. Possible factors that prevented identification of an ignitable liquid may include one or more of the following: The detected compounds may originate from substrate materials and/or pyrolysis of substrate materials. Other compounds in the sample impeded data interpretation. An unexplained absence of components and/or differences in ratios of compound types compared to a reference liquid was observed. No comparable sample in the reference collection was found. Not Detected: The data did not indicate the presence of an ignitable liquid. |

Collaborative Testing Services ~ Forensic Testing Program
Test No. 16-536: Flammables Analysis

DATA MUST BE RECEIVED BY October 03, 2016 TO BE INCLUDED IN THE REPORT

Participant Code:

WebCode:

Accreditation Release Statement

CTS submits external proficiency test data directly to ASCLD/LAB, ANAB and A2LA. Please select one of the following statements to ensure your data is handled appropriately.

- This participant's data is intended for submission to ASCLD/LAB, ANAB and/or A2LA.
(Accreditation Release section on the last page must be completed and submitted.)
- This participant's data is **NOT** intended for submission to ASCLD/LAB, ANAB or A2LA.

Scenario:

Police are investigating a suspected arson of a barn. It appears that the fire was started in two places, the work room and hay loft. Investigators collected pieces of charred wood from each of these areas and immediately sealed the wood within nylon evidence bags. The police are requesting you to identify any flammable liquid(s) that may be present on the charred pieces of wood.

Please note: For laboratories that do not process evidence in nylon bags, please utilize the following method to transfer the items to a sampling container consistent with fire debris submission in your laboratory:

Cut open 3 sides of the interior bag containing the sample and place this opened interior bag and its contents into your laboratory container. Do not separate the sample (cloth, wood, etc.) from this bag when transferring to the laboratory container.

CTS will not reproduce Interpretation Scales, Scale of Conclusions or Terminology Keys in the final report, please do not submit with the participant's data sheet.

Items Submitted (Sample Pack FLAM):

- Item 1 Charred portion of wood from the work room sealed in a nylon evidence bag.
- Item 2 Charred portion of wood from the hay loft sealed in a nylon evidence bag.
- Item 3 Unburned wood substrate intended as a comparison blank in a nylon evidence bag.

Please return all pages of this data sheet.

Page 1 of 4

Participant Code:

WebCode:

1.) Using the ASTM E1618-14 Ignitable Liquid Classification Scheme, indicate the class for any flammable substance detected in the submitted items.

With the exception of the gasoline class, there are three subclasses for each major class based on n-alkane range: **Light** (C4-C9), **Medium** (C8-C13) and **Heavy** (C9-C20+). When the carbon range does not fit clearly into one of the previous categories (e.g. "light to medium", "medium to heavy"), report the carbon number range. Typical chromatograms for some of the classes/subclasses may be found in the published ASTM standard.

| | Item 1 | Item 2 |
|--|--------------------------------|--------------------------------|
| No Ignitable Liquid(s) Detected | <input type="checkbox"/> | <input type="checkbox"/> |
| Class | <i>Subclass</i> | <i>Subclass</i> |
| Gasoline | <input type="checkbox"/> | <input type="checkbox"/> |
| Petroleum Distillates (including De-Aromatized) | <input type="checkbox"/> _____ | <input type="checkbox"/> _____ |
| Isoparaffinic Products | <input type="checkbox"/> _____ | <input type="checkbox"/> _____ |
| Aromatic Products | <input type="checkbox"/> _____ | <input type="checkbox"/> _____ |
| Naphthenic Paraffinic Products | <input type="checkbox"/> _____ | <input type="checkbox"/> _____ |
| Normal Alkanes Products | <input type="checkbox"/> _____ | <input type="checkbox"/> _____ |
| Oxygenated Solvents | <input type="checkbox"/> _____ | <input type="checkbox"/> _____ |
| Others - Miscellaneous | <input type="checkbox"/> _____ | <input type="checkbox"/> _____ |

2.) Flammable Recovery Techniques

Adsorption Headspace

a) Method:

- Passive
- Dynamic

b) Adsorption Temperature:

- Room Temperature
- Heated (_____ °C)

c) Adsorption Duration: _____

d) Adsorbent:

- Carbon/Charcoal
- Other: _____

e) Desorption:

- Solvent: _____
- Thermal

Other Recovery Techniques

Specify: _____

3.) Flammable Identification Techniques

- GC
- GC/MS
- Other (specify): _____

Please return all pages of this data sheet.

Participant Code:

WebCode:

4.) What would be the wording of the Conclusions in your report?

5.) Additional Comments

Return Instructions: Data must be received via online data entry, fax (please include a cover sheet), or mail by *October 03, 2016* to be included in the report. Emailed data sheets are not accepted.

QUESTIONS?

TEL: +1-571-434-1925 (8 am - 4:30 pm EST)

EMAIL: forensics@cts-interlab.com

www.ctsforensics.com

Participant Code:

ONLINE DATA ENTRY: www.cts-portal.com

FAX: +1-571-434-1937

MAIL: Collaborative Testing Services, Inc.

P.O. Box 650820

Sterling, VA 20165-0820 USA

Please return all pages of this data sheet.

Collaborative Testing Services - Forensic Testing Program

RELEASE OF DATA TO ACCREDITATION BODIES

The following Accreditation Releases will apply only to:

Participant Code:

WebCode:

for Test No. **16-536: Flammables Analysis**

This release page must be completed and received by **October 3, 2016** to have this participant's submitted data included in the reports forwarded to the respective Accreditation Bodies.

Have the laboratory's designated individual complete the following steps **only if your laboratory is accredited in this testing/calibration discipline** by one or more of the following Accreditation Bodies.

Step 1: Provide the applicable Accreditation Certificate Number(s) for your laboratory

ASCLD/LAB Certificate No. _____

ANAB Certificate No. _____

A2LA Certificate No. _____

Step 2: Complete the Laboratory Identifying Information in its entirety

Signature and Title _____

Laboratory Name _____

Location (City/State) _____

| Accreditation Release | |
|--|---|
| <p><u>Return Instructions</u> Please submit the completed Accreditation Release at the same time as your full data sheet. See Data Sheet Return Instructions on the previous page.</p> | <p><i>Questions? Contact us 8 am-4:30 pm EST</i> Telephone: +1-571-434-1925 email: forensics@cts-interlab.com</p> |

Please return all pages of this data sheet.