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CASA – Wipes Collection Study

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Section 1: Introduction

1.1 Study Purpose and Overview

The purpose of the Study Report is to document the development, execution, and findings of the CASA-INDA Wipes Collection Study (Study) to meet the requirements of Assembly Bill 818 (AB 818). Part 9, Section 49652 (a) of AB 818 requires establishing a Consumer Education and Outreach Program (Program). The Study is a key input into the design of the Program to gain an understanding of consumer behavior regarding the flushing of covered products.

Through sampling events, the Study collected data from participating wastewater collection systems related to the quantity and characteristics of non-sewage materials that are being flushed into the collection system, including premoistened nonwoven disposal wipes as well as other material (e.g., clothing, toys) and sampling conditions. The data was collated and summarized for use in the design of the Program.

Kennedy/Jenks Consultants, Inc. (KJ) was responsible for designing the Study, with input from representatives from key entities, including:

- California Association of Sanitation Agencies (CASA).
- Association of the Nonwoven Fabrics Industry, which represents premoistened nonwoven disposable wipes manufacturers (INDA).
- Responsible Flushing Alliance (RFA), which will use the Study to develop the Program.

This Study Report describes the following:

1. **Collection Site Selection:** Details about the rationale and criteria for selecting specific collection sites.
2. **Procedures/Guidelines:** A description of the methodologies and guidelines developed for the execution of the Study.
3. **Study Findings:** A presentation of the findings derived from the collected data, useful for understanding consumer behavior and subsequently informing the design of the Consumer Education and Outreach Program.

1.2 Study Objectives

Based on the requirements of AB 818 and lessons learned from previous collection studies, the advisory group agreed on the following study objectives:

1. To identify and select representative treatment facilities for the Study using a survey of CASA member agencies with collection systems that have features common to collection systems throughout the State of California.

-
2. To use collection events at the selected representative agencies to gain an understanding of measurable consumer behavior by assessing and quantifying the types of wipes and other materials that are found in the collection system at dimensions greater than 1 inch.

Section 2: Collection Study

2.1 Summary

Two collection studies were conducted by INDA in partnership with RFA, CASA, and selected CASA member agencies: the Inland Empire Utilities Agency (IEUA) in Southern California and the Central Contra Costa Sanitation District (Central San) in Northern California. To participate in the Study, KJ selected two willing agencies that had facilities with dry weather sanitary flow over 5 MGD and vertical bar screens with rakes at the headworks. To reduce material damage and aid in sample identification, selected facilities at each agency were fed by predominantly gravity-driven networks.

Four collection events were conducted during peak sanitary flow in the dry season at the selected facilities. Two collection events were conducted at each agency. Through discussions with operations staff at both agencies, the timing of peak flows was established. At IEUA, both collection events occurred during the morning peak flow (9 AM), while at Central San, one collection event occurred at the daytime peak (12 PM) and the other at the nighttime peak (11 PM).

Samples at both facilities were retrieved from the bar screens, cleaned, and sorted. Excluding human waste, samples with dimensions exceeding 1 inch in any direction were identified using reference folders of nonwoven wipes. Samples were categorized in alignment with covered products identified in AB 818, with eight additional categories of materials included. These additional categories accounted for paper products, nonwovens that were stretched or badly damaged, and recognizable trash items such as dental floss, toys, and clothing. See Appendix A for a copy of the recorded sampling log.

A total of 1,745 articles were documented across the four sampling events, marking it as one of the largest such collection studies conducted in the United States. Table 1 shows the average distribution of articles across the four collection events, providing a comprehensive look at what Californians are flushing.

Table 1. High-level average of total materials collected – Total California (N=1,745)

Category	Percentage
Paper Towels & Non-flushable Paper Products	52.8%
Nonwoven Labeled DNF	34.1%
Feminine Hygiene	7.2%
Trash	4.9%
Nonwoven – Labeled Flushable	0.9%

The percentage of materials collected within each category had a high degree of consistency across collection events and facilities suggesting similar behavior across California. Based on this information, implementing consumer education to discourage the flushing of the top three categories could capture over 90 percent of the recovered materials.

The materials frequently found in collection and treatment systems present varying degrees of concern to the environment and wastewater infrastructure:

- Paper towels and other non-flushable paper products are generally constructed of relatively short plant-based biodegradable fibers. They are designed for good wet strength and can be recovered largely intact.
- Per the AB 818 categories, non-flushable wipes, particularly baby wipes and cleaning/disinfecting wipes may contain plastic fibers, are often of larger size (typically 40 square inches and larger), have higher tensile strength (approximately two orders of magnitude greater than paper), and significant stretch capability (up to 50%). These wipes pose a risk of clogging network pumps and causing pipe snags due to their longer fibers (up to 25 millimeter in length). Smaller non-flushable wipes (wipes for makeup removal, acne, hemorrhoid treatment, etc.) have similar characteristics.
- Feminine hygiene and menstrual care products, such as panty-liners, menstrual pads, tampons, wrappers, and applicators are thicker than paper towels and wipes, designed to resist tearing, and often contain plastic components, and are generally not designed to be flushed.
- Nonwoven wipes, labeled as flushable, are generally required to have relatively short, non-plastic fibers that can biodegrade and are designed to be relatively dispersible in water.
- Toilet tissue and facial tissue are designed with short, plant-based fibers that do not exhibit good wet strength.
- Various items of trash (toys, socks, underwear, towels, wrappers, condoms, dental floss, facemasks, etc.) are found in collection systems, as are solidified fats, oils, and greases (FOGS). All of the above-mentioned materials can agglomerate with trash and FOG to present increased risk of clogged pumps and damaged infrastructure.¹

The following sections provide insight into agency selection, Study framework, and details of the collection events.

¹ At Central San, where approximately 30 percent of the network is pumped, the Study team encountered agglomerations of FOGs, paper products, wipes, feminine hygiene, and other materials that ranged from baseball to football size. While a single paper towel or wipe presents minimal risk to a pump, the combination of these materials, and the tendency for FOGs to capture and bond these materials together, can amplify risks. Although it is outside this study's scope, attention should be given to reducing the flushing of paper towels and other non-flushable materials in addition to non-flushable wipes.

2.2 Agency Selection

A web survey of CASA member agencies was used to identify representative agencies, facilities, and locations of willing participant agencies for the Study. The survey (provided in Appendix B) consisted of a set of questions related to:

- Physical attributes of the collection system (e.g., influent flows, conveyance equipment, sewer lengths)
- Sewershed characteristics (e.g., collection area, land use types, population demographics)
- Agency interest and capacity to participate in the study
- Observations related to the frequency of wipes impacting operations
- Safety of wipes collection at available facilities

The selected agencies share features common to wastewater treatment systems across California, including wide use of gravity-fed collection systems, bar screens with ease of access for collecting samples, and flow of above 5 MGD. The bulk of the population of California is served by mid-to-large size wastewater treatment facilities, with a dry weather average flow of 5 MGD to 50 MGD. Facilities of this size generally serve mixed urban/suburban areas that capture wider demographics and flushing behavior than smaller facilities, without the distortion that can be caused by large facilities with flows above 50 MGD.

Survey questions evaluated responding agencies using questions regarding wastewater treatment plant capacity, collection system or wastewater treatment plant infrastructure type, and ragging occurrences. Eleven (11) agencies representing 14 wastewater treatment facilities responded to the survey. The survey is available in Appendix B.

Of the 11 agencies that responded to the survey, 6 volunteered to participate as a study collection site. Three (3) locations were in Northern California and three (3) locations in Southern California. Additional considerations in selecting a collection site included:

- Accessibility of screens and collection site: is there a safe and uncomplicated way to collect whole pieces of materials?
- Is there adequate space nearby to process materials?
- Is the sewershed representative of the survey respondents?

To confirm statewide flushing behavior, KJ selected one Northern and one Southern California agency from the survey respondents, one large and one medium size. Based on the results of the survey and the willingness of the agencies to participate, Central Contra Costa Sanitary District (Central San) and Inland Empire Utilities Agency (IEUA) were selected:

- Central San was established in 1946 and is located at 5019 Imhoff Pl, Martinez, CA 94553. This District serves nearly 500,000 customers. The facility has an average dry weather flow of 34 MGD.
- IEUA's Regional Water Recycling Plant No. 4 (RP-4), Headworks, 12811 6th Street, Rancho Cucamonga, CA 91739. Established in 1997, at the time of the collection event, the plant was accepting flow from approximately 50,000 connections. The facility has an average dry weather flow of 10 MGD.

2.3 Study Framework Collection Methodology

2.3.1 Procedures/Guidelines

This Study Framework Procedure was developed to prioritize safety and efficiency during the facility headworks screening collection phase. Participating agency staff were presumed to possess the necessary health and safety training and personal protective equipment (PPE) for handling the screenings. Procedures and guidelines were refined based on feedback from CASA, INDA, and the participating agencies.

Materia and Equipment Required:

- Personal Protective Equipment (PPE):
 - Goggles/safety glasses/face shields
 - Gloves
 - Safety shoes/non-slip work shoes
 - Hard hats
 - Long sleeves
 - Coverall/Tyvek suit (optional)
- 5-gallon bucket (minimum 2)
- Shallow tray (2)
- Water resistant tarp (minimum 2 - 8'x10') and anchorage
- Index cards and pens for labeling and documenting notes
- Trash picker (2)
- Tongs & Tweezers
- Folding table (1)
- Board for collection
- Heavy-duty trash bags
- Camera
- Clean water
- Cleaning wipes
- Clipboard
- Data collection Log (Appendix A)
- Reference materials
 - Treatment Plant Health and Safety Procedures
 - Wipes Samples Binder

2.3.1.1 Basic Hygiene Practices:

Basic hygiene practices were reviewed with participant agencies. The following practices were included in the Study framework:

- Wash hands with soap and water immediately after handling human waste or sewage.
- Avoid touching the face, mouth, eyes, nose, or open sores and cuts while handling human waste or sewage.
- Before eating, remove soiled work clothes and eat in designated areas away from human waste and sewage-handling activities.
- Do not smoke or chew tobacco or gum while handling human waste or sewage.
- Keep open sores, cuts, and wounds covered with clean, dry bandages.
- Remove shoes and work clothes before leaving the worksite.
- Change into clean work clothing on a daily basis.
- Wash contaminated work clothing after use.
- If human waste or sewage comes into contact with your eyes, gently flush them with safe water.

2.3.1.2 Collection Schedule

Each collection event was anticipated to occur over a three consecutive-day period:

- Day 1: Check-in, introductions, safety review, and dry-run training
- Day 2: Morning peak flow sampling and categorizing and night peak flow sampling.
- Day 3: Night peak flow categorizing and morning peak flow sampling and categorizing.

2.3.1.3 Daily Schedule

Each facility was provided its own sampling schedule for Days 2 and 3 based on peak flows.

Table 2. Collection event sampling schedules

IEUA:	Central San:
Morning Peak sampling:	Morning Peak sampling:
700: CASA/INDA arrive on-site	1000: CASA/INDA arrive on-site
700 – 900: Setup	1000 – 1200: Setup
900 – 1000: Sample collection for 1 hour or until 400 pieces are obtained.	1200 – 1300: Sample collection for 1 hour or until 400 pieces are obtained.
1000 – 1300: Rinsing, sorting, and counting of samples.	1300 – 1600: Rinsing, sorting, and counting of samples.
1300 – 1400: Cleanup	1600 – 1700: Cleanup
1400: End of morning peak sampling.	1700: End of morning peak sampling.

IEUA:	Central San:
Night Peak sampling:	Night Peak sampling:
Was not feasible given the volume of materials, automated collection, and staff is not onsite during nighttime hours as the plant is staffed only 10 hours a day.	2245: INDA arrive on-site
	2300: Sample collection for 1 hour or until 400 pieces are obtained.
	2300: End of night peak sampling.

2.3.1.4 Sample Collection and Sorting Procedure

Sample collection and recording was a coordinated effort involving three individuals, each tasked with classifying the nature of the collected items. To maintain objectivity and transparency, the recording, sign-off, and correction procedures were distributed between INDA, CASA, and the participating agencies. This collaborative approach was used to reduce bias in sample assessment.

For accurate record-keeping, detailed photographs were taken of each article alongside clear identification notes. This visual documentation served as a valuable reference point throughout the study, reducing the risk of confusion or discrepancies in recordkeeping. To facilitate the final collection photographs, a fourth individual assisted in carefully arranging the samples on designated tarps (see Figure 6).

2.3.1.4.1 Roles and Responsibilities

- **Sample Collectors:** Agency staff were responsible for pulling materials from the headworks.
- **Material Sorters:** INDA representatives sorted the materials based on appearance and comparison with samples in the Wipes Samples Binder. Agency staff supported as needed and available.
- **Recorders:** Counted the materials and documented the event, including filling out the data collection form and taking pictures and videos.
- **Observers:** Representatives from CASA, RFA and agency staff were present to observe the collection event, confer with study participants about ongoing activities, and confirm the final sample count at the end of each collection.

2.3.1.4.2 Procedure

Samples were categorized according to the following categories.

Table 3. Collection Material Categories

Code	Description
BD	AB 818 baby wipes
SCD	AB 818: bathroom cleaning wipes, toilet cleaning wipes, hard surface cleaning wipes, disinfecting wipes, general purpose cleaning wipes
HND	AB 818: Hand sanitizing wipes, antibacterial wipes
MUF	AB 818: Facial and makeup removal wipes
PCBOD	AB 818: Personal care wipes for use on the body, adult incontinence wipes, body cleansing wipes
PCFEM	AB 818: Feminine hygiene wipes
PCHEM	AB 818: Adult hygiene wipes (hemorrhoid)
MTT	Moist toilet tissue / flushable wipes
OTHER	Miscellaneous products potentially used in a bathroom setting (nail polish removal pads, magic eraser, dental floss, etc.)
PT	Paper towels / Other non-flushable paper products
AHP	Absorbent hygiene products (tampons, pantyliners, light incontinence pads, etc.)
PMW	Packaging materials/wrappers
FM	Facemasks
BMC	Bandages/medical/cotton pads
UFO	(Unidentified Flushed Object)

Participants were encouraged to handle samples with care, using proper PPE. Particles of sewage were capable of splashing into eyes, mouth, and face, and all included participants were instructed keep safety in mind. Additionally, sharp objects are sometimes found in wastewater, therefore puncture-resistant gloves were suggested. The procedure is listed below:

1. Proper PPE and equipment were to be readied and prepared for the collection event. Collection/sorting/counting areas were to be prepared.
2. Sample Collectors:
 - a. Samples were to be collected from the screening rake system at the headworks of the system.
 - i. No less than 400 samples were to be collected near each facility's peak hours for no less than one hour.
 - ii. Samples were to be pulled using the trash pickers and placed into a shallow tray with water for rinsing.
 - iii. Potable water used for rinsing was to be changed out as needed.

- b. Rinsed samples were to be transferred to a 5-gallon bucket with water to cover for transport to the sorting/counting area.

3. Material Sorters:

- a. Rinsed samples were to be emptied onto tarp.
- b. Materials were to be separated based on comparison with samples shown in Sample Wipes Binder and labeled according to agreed collection material categories as listed in Table 3.

4. Recorders:

- a. Once the collected samples were separated, findings were to be documented by taking pictures/videos and filling out the log contained in Appendix A.
 - i. A count of “1” was to be considered any material measuring one (1) inch or more in two dimensions.

5. Agency Staff:

- a. After samples were documented, samples were to be disposed of into agency-designated disposal receptacles.

2.4 Execution

2.4.1 Inland Empire Utilities Agency RP-4

Under regular operating conditions, RP-4 receives flow from two distinct regions, as illustrated in Figure 1. The “brown” region operates solely under gravity, without the assistance of pumps. In contrast, the “green” region to the south of the plant is typically pumped to RP-4 from the San Bernardino (SB) lift station. Both regions encompass approximately 47,000 service connections. For the duration of the collection study, RP-4 exclusively received gravity-fed flow from the brown region, which was delivered to the headworks via a 42-inch interceptor. This flow then entered a pair of vertical bar screens with a spacing of 1/8 inch. The peak flow during this study period occurred at 8:00 AM and reached 11 to 12 million gallons per day (MGD).

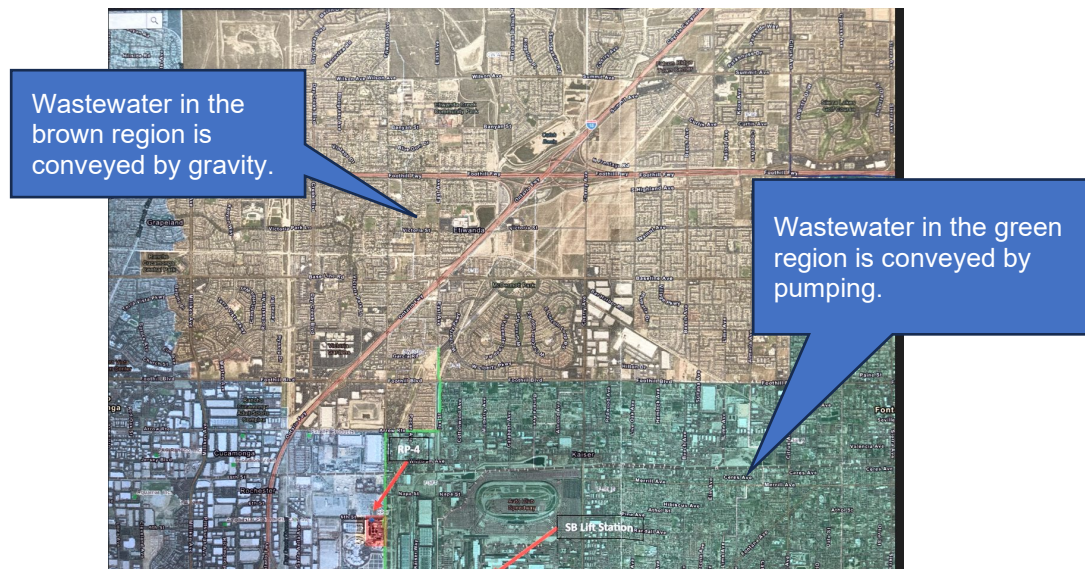


Figure 1. IEUA Sewer Shed- Interceptor Feeding RP-4 Green.

The interceptor originates North of Foothill Blvd and encompasses a subdivision of approximately 500 dwellings, including single-family homes, condominiums, and low-cost housing, all situated within a one-mile radius of RP-4. The transit times for the incoming flow, operating at rates of 2 to 3 feet per second as specified by IEUA, are likely to be less than one hour under gravity.

The screen rakes operate by gravity, directing all collected screenings through a conveyor into an auger, as depicted in Figure 2. The auger then conveys the screenings and organic matter to a washer/compactor unit, which cleans off organics and dewateres the screenings before loading the waste into a dumpster. Approximately three cubic yards of screenings are transported off-site for landfill disposal every two to three days.

Upon arriving on-site on the morning of Day 1, the INDA/CASA/RFA and IEUA team assessed the optimal methods for safely recovering screenings. They observed that the auger was causing damage to the materials entering the compactor, subsequently crushing the shredded materials into an unrecognizable material. This outcome was deemed unacceptable for the planned nighttime collection. Consequently, the team decided to abandon the nighttime collection and shift the focus to two daytime sampling collections.



Screens



Backside of screens where screenings drop onto conveyor



Auger in trough, note the wipe caught on the auger



Washer , compactor unit – note the strung out material on exit chute



Compactor removed delivering direct from auger



Material in dumpster direct from the auger without dewatering

Figure 2. Screens, screening handling at IEUA RP-4

To obtain undamaged samples, the only viable method was to collect material directly from the rakes on the front side of the screens. This process required the cessation of the automated rake operation, properly performing lockout/tag out safety procedures, opening of doors, and the removal of materials from the rakes using garbage pickers. In adherence to lockout/tag-out safety protocols, two IEUA operators performed this task, using full face shields to protect against spray droplets. They successfully accessed three full rakes, transferring the material into buckets, which were then processed by an INDA representative to clean and isolate all articles with dimensions exceeding 1 inch.

To prevent the excessive buildup of organics and screenings, which could complicate and overwhelm the cleaning operation, the rakes were run between sampling intervals. However, because the collection process required stopping the rakes, the process was not continuous. Only one screen was operational, diverting the estimated 11 MGD flow solely through the screen designated for sampling. Due to the stop-and-start nature of the rake operation that was required to obtain samples, measuring the quantity of wipes per 100,000 gallons, as achieved in smaller operations with flows around 5 MGD or less, was not feasible.



Collecting from rakes with garbage pickers



Placing screenings in tray



Rinsing screenings, removing organics, placing samples greater than 1 inch on blue tray for identification



Tray of articles for identification



Action Figure



Paper samples of unknown origin, too weak and fine to recover or identify

Figure 3. Collection, cleaning before identification

The cleaning process was consistently executed by a two-person team, with Mike Paschka leading the effort supported by Matt Koele and Matt O’Sickey (10/12 PM). Given that this team faced the highest exposure risk, they employed safety glasses, gloves, tongs, and large tweezers to handle contaminated samples. The cleaning procedure involved manipulating samples in trays and transferring all articles exceeding 1 inch into buckets for further processing at the identification station.

2.4.2 Central Contra Costa Sanitation District

With an approximate sanitary flow of 34 MGD passing through four screens, the design and layout of the screenings handling at Central San offered more accessible features than at IEUA. However, during the evening peak flow, sampling from two continuously running screens took only 10 minutes to collect six 5-gallon buckets of screenings. This yielded more than 400 articles for identification. Mike Paschka from Procter & Gamble served as the lead for collection

and cleaning at both facilities, with support from Matt O’Sickey from INDA for both collection and cleaning events at Central San.



Four (4) screens with collection chute for screenings behind and gas extraction above.



Slugs of screenings drop off a rake and flow down the chute before being captured in 5-gallon buckets with drainage holes drilled in them. Note the heavy intact organic load.



The contents were transferred to 5-gallon buckets for cleaning and sorting above the flume. Rinse water soiled with organics was returned to the flume.



The process of cleaning and collecting samples with dimensions exceeding 1 inch was a slow, arduous, and labor-intensive operation.

Figure 4. Collection

2.4.3 Identification & Recording of Sample Collection

This operation involved three individuals, each required to discern the nature of each sample. David Powling took on the responsibility at both sites for recording each article on the paper collection sheet provided by KJ. Final sign-off was obtained from a CASA representative, who was always present, as well as the participating agency representative. In cases of errors or corrections on the sheets, the incorrect entry was struck and initialed, and a new entry was filled in. All corrections underwent discussion and review with CASA, IEUA or Central San, and INDA before their sign-off on the collection sheet. Copies of the log of collected samples can be found in Appendix A.



Figure 5. Identification at IEUA Oct 12, 2023

Photographs were captured of each article on a cutting board marked with 1-inch increments and a whiteboard that identified the article number, location, and date. This photographic record was used to maintain accurate records and resolve any misidentifications. Representative photographs of collected materials are available in Appendix D.

To streamline the process of producing a final collection photograph, a third person assisted in grouping the samples on tarp according to paper, baby wipes, and other materials (e.g., other non-flushable wipes, feminine hygiene products, wrappers, etc.).

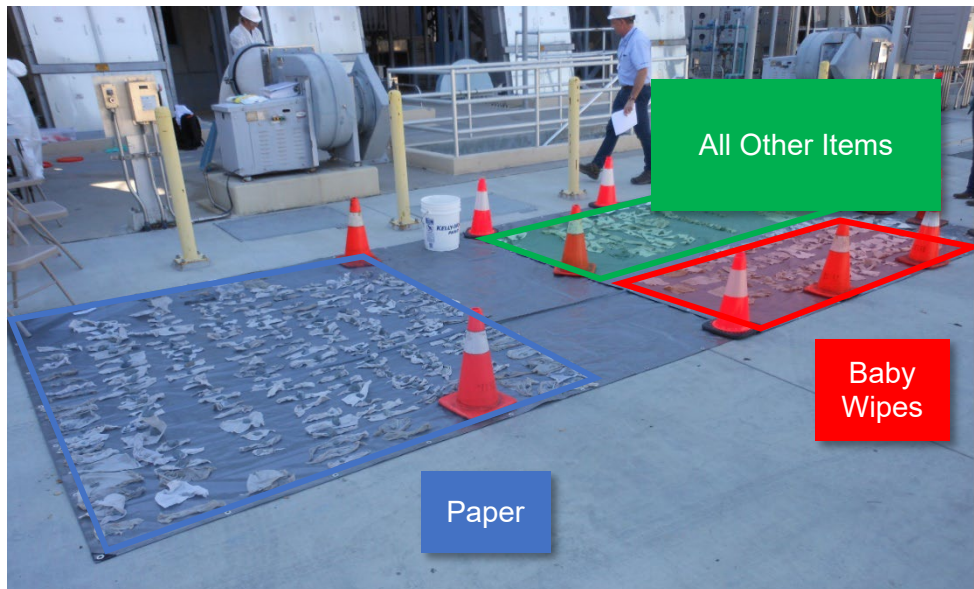


Figure 6. Tarp at the end of Central San collection 10/18/2023.

INDA assembled a sample folder of wipes readily available in California and aligned with the AB 818 category descriptions. These wipes were sourced from various outlets, including large box stores, major retailers, grocery stores, pharmacies, discount or "dollar" stores, and online retailers in California. Details regarding size, pattern, fold, and perforation of the samples can be found in Appendix C. While the identification process focused on the type of nonwoven wipe, recognizing specific brands was beyond the scope of the project and was not documented.

While no paper towels were initially included in the sample folder, a significant number of paper samples were observed early in the first collection at IEUA. Additional samples were purchased over the weekend to aid in validating identification. Paper products stand out as the cleanest category to identify; many samples were intact even though paper only exhibits low wet strength, minimal stretch, and tends to 'pop,' featuring short wood pulp fibers typically measuring 1 to 2 mm in length. Many also have distinct embossing patterns and/or printed patterns. The collection team observed paper towels – both home use and commercial type – suggesting paper towel flushing behavior is not defined by location.

Non-flushable wipes were recovered largely intact – these are the AB 818 wipes of concern. Both larger (baby wipes and disinfecting wipes – most common in recovery – and smaller non-flushables (wipes for makeup removal, acne, hemorrhoid treatment, etc.) were largely intact. While the majority of collected nonwovens were fully intact, precise identification of different nonwoven types posed challenges. The following characteristics aided in identification:

- In the folder, BD, MUF, PCBOD, and SCD samples exhibited patterns in at least 50 percent of the samples by category.
- Certain baby wipes (BD) displayed easily recognizable patterns with images, facilitating straightforward identification.
- Nearly 60 percent of the SCD samples had perforations (center-pull canister), and 40 percent of these featured dot patterns, making perforations a reliable identifier for SCD.
- BD, MUF, PCBOD, and SCD wipes all featured dot patterns.
- SCD wipes were characterized by their strength and low stretch in both directions, serving as a useful identifier.
- PCBOD wipes, being the largest, were often identified by size.
- MTT wipes were found in varying state of decomposition.
- Nonwoven wipes that had encountered a pump and became elongated or damaged were classified as UFO.

The total nonwoven wipe count, inclusive of UFOs and MTT, and the paper count should be reconciled, recognizing the potential for some discrepancies among the various categories.

Feminine hygiene products, including absorbent pads and tampons, were easily identifiable by their distinct form. These materials were recovered intact and often agglomerated with other materials.

Non-woven wipes (flushable) were not recovered intact, usually partially decomposed, with few pieces larger than 1 inch square. Toilet and facial tissue were not recoverable in pieces larger than 1 inch and were generally fully dispersed in the wastewater influent.

Section 3: Results/Conclusions

Unveiling Consumer Flushing Habits: With the identification of 1,745 articles over four days in both Northern and Southern California, this study may currently be the most comprehensive study of consumer behavior through the collection of flushed materials at wastewater treatment plants.

Comparisons and Contrasts: The Study broadly corresponds with other wipes collection studies. In comparison to the most recent Jacksonville Electric Authority (JEA) collection study in Jacksonville, Florida in 2019, the Study reveals a different distribution of materials, featuring more paper and fewer baby wipes. The presence of paper, a recurring observation in Central San, aligns with findings from the initial collection study in Moraga, California in 2010.

Meeting the Objectives: As outlined in AB 818, the Study provides the data necessary for the Program to inform the “FlushSmart” consumer education and outreach effort. Notably, one-third of all identified materials were non-woven and mandated to carry “Do Not Flush” (DNF) labels per AB 818. The DNF labelling was observed on the packaging of the reference wipe samples assembled by INDA. The next step involves linking these labels to the system impact of improper flushing, thereby educating consumers of the real-world consequences. There is an opportunity during this outreach effort to better educate consumers that in addition to wipes marked with DNF labels, feminine and adult absorbent hygiene products, paper towels and other non-toileting paper products, FOGs, and trash should not be disposed of in toilets.

Gratitude and Recognition: The successful execution of studies on this scale demands substantial planning and the commitment of time from participants. Gratitude is extended to all those who actively contributed to making this study both enjoyable and safe. Special appreciation goes to both utilities for providing secure access, operator support, demonstrating genuine interest in understanding the study and materials, and serving as exceptional hosts. Appendix A includes a list of key attendees who played integral roles in making this study possible.

The detailed count of articles on each sheet for all four collections can be found in Appendix A. A summary of the collections is presented in Table 4.

Table 4. Summary Collection Data - California Collection Studies (INDA/CASA/RFA/KJ) October 2023

Collection Material Code	IEAU – Southern California				Central San – Northern California				Summary	
	10/11/2023		10/12/2023		10/17/2023 am		10/17/2023 pm			
BD	92	18.9%	89	20.3%	69	17.0%	74	17.8%	324	18.6%
SCD	28	5.8%	29	6.6%	34	8.4%	28	6.7%	119	6.8%
HND	1	0.2%	6	1.4%	0	0.0%	1	0.2%	8	0.5%
MUF	11	2.3%	11	2.5%	2	0.5%	2	0.5%	26	1.5%
PCBOD	17	3.5%	10	2.3%	6	1.5%	9	2.2%	42	2.4%
PCFEM	3	0.6%	5	1.1%	5	1.2%	3	0.7%	16	0.9%
PCHEM	1	0.2%	5	1.1%	8	2.0%	4	1.0%	18	1.0%
MTT	0	0.0%	2	0.5%	4	1.0%	10	2.4%	16	0.9%
OTHER	27	5.6%	9	2.1%	8	2.0%	8	1.9%	52	3.0%
PT	241	49.6%	226	51.5%	218	53.8%	237	57.1%	922	52.8%
AHP	42	8.6%	29	6.6%	27	6.7%	28	6.7%	126	7.2%
PMW	9	1.9%	5	1.1%	12	3.0%	3	0.7%	29	1.7%
FM	3	0.6%	0	0.0%	1	0.2%	1	0.2%	5	0.3%
BMC	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
UFO	11	2.3%	13	3.0%	11	2.7%	7	1.7%	42	2.4%
Total Count	486	100.0%	439	100.0%	405	100.0%	415	100.0%	1,745	100.0%

Collection Materials Categories Codes and Descriptions:

BD: AB818 baby wipes

SCD: AB818: bathroom cleaning wipes, toilet cleaning wipes, hard surface cleaning wipes, disinfecting wipes, general purpose cleaning wipes

HND: AB18: Hand sanitizing wipes, antibacterial wipes

MUF: AB818: Facial and makeup removal wipes

PCBOD: AB818: Personal care wipes for use on the body, adult incontinence wipes, body cleansing wipes

PCFEM: AB818: Feminine hygiene wipes

PCHEM: AB818: Adult hygiene wipes (hemorrhoid)

MTT: Moist toilet tissue / flushable wipes

OTHER: Miscellaneous products potentially used in bathroom setting (nail polish removal pads, magic eraser, dental floss, etc.). Toys and condoms were also recorded during the study.

PT: Paper towels / Other non-flushable paper products. Shop towels were also recorded during the study.

AHP: Absorbent hygiene products (tampons, pantyliners, light incontinence pads, etc.)

PMW: Packaging materials/wrappers

FM: Facemasks. Earplugs, disposable gloves, and clothing were also recorded during the study.

BMC: Bandages/medical/cotton pads

UFO: Unidentified Flushed Object. Unrecognizable/damaged nonwoven wipes were also recorded during the study.

References

- Casey, R. 2010. Identification of Materials Entering the Moraga Pumping Station, [Master's thesis, UC Berkeley]. 23 November 2010.
- INDA. 2011. INDA /MWWCA collection study Sep 20-21 at Westbrook Pumping Station, Maine, prepared for INDA. 1 December 2011.
- INDA. 2012. INDA /MWWCA collection study Jan 10,11, 2012, at Westbrook Pumping Station, Maine, prepared for INDA. 3 May 2012.
- Kimberly-Clark Corporation. 2019. Forensic Evaluation of materials collected at McMillan Pump Station, Jacksonville, Florida – March 12-13, 2019, prepared for Jacksonville Electric Authority. 1 April 2019.

Appendix A

Data Collection Log

Appendix A-1

Data Collection Log




Inland Empire Utilities Agency

October 11, 2023 – Morning Collection

Appendix A

AB818 Wipes Collection Event Record Log

Agency Name	INLAND EMPIRE
Sampling Facility	RP-4
Sampling Location	
Date	11th October 2023
Flow	12 MGD (Start 8am)
Collection Start Time	8am
Collection End Time	2pm

Recorded Data Approval		
	Print Name	Sign
Agency	MICHAEL DIAS	
INDA	Wes Fisher	
CASA	Spencer Saks	

Articles highlighted reassigned from
 SKD to Paper. D.P. 10.12.2023

Articles highlight reassigned from Other to UFO

D. Pombo 10/12/2023

SS 10/12/23

Attendance		
Name	Affiliation (CASA, INDA, Agency)	Role
DAVID POWLINZ	INDA	SORT + COUNT
Rob Healin	INDA	" - "
Matt Kueke	INDA	" - "
Mike Paschka	INDA	" - "
Wes Fisher	INDA	" - "
MIKE DIAS	IEVA	AGENCY
SCOTT Lanning	IEVA	" "
Ryan Love	IEVA	" "
Spencer Siks	CASA	

Date: 10/11/23

Appendix A

Date: 11th October 2023 AM

Collection Event (circle one):
Day 1 AM, Day 1 PM, Day 2 AM

Wipes Category

Collection #1

	BD	SCD	HND	MUF	PCBOD	PCFEM	PCHEM	MTT	OTHER	PT	AHP	PMW	FM	BMC	UFO
1	/										/				
2											/				
3					/										
4	/														
5					/										
6											/				
7											/				
8											/				
9											/				
10											/				
11											/				
12											/				
13											/				
14	/														
15					/										
16		/													
17		X									/				
18		X									/				
19											/				
20											/				
21		/													
22		/													
23											/				
24											/				
25											/				

Notes

Cloud pattern

Recorder Initials: DP

Appendix A

Date: 11th October 2023

Collection Event (circle one):
Day 1 AM, Day 1 PM, Day 2 AM

Collector # 1

Wipes Category

Notes

	BD	SCD	HND	MUF	PCBOD	PCFEM	PCHEM	MTT	OTHER	PT	AHP	PMW	FM	BMC	UFO
26									/						
27												/			
28		DP								/					
29		DP								/					
30							/								
31	/														
32									/						
33	OP	+								/					
34	OP	+								/					
35	/														
36	/														
37									/						
38										2/					
39											/				
40									/						
41	/														
42										/					
43	/														
44										/					
45										/					
46										/					
47	/														
48	AM								x						/
49										/					
50									/						

Color Pattern Print - Paper

Pattern

1 - 1

Floors

Hand

metal box, part of other

Recorder Initials: brp

Appendix A

Date: 11th October 2013

Collection Event (circle one):
Day 1 AM, Day 1 PM, Day 2 AM

Wipes Category

Collector # 1

	BD	SCD	HND	MUF	PCBOD	PCFEM	PCHEM	MIT	OTHER	PT	AHP	PMW	FM	BMC	UFO
51														1	
52									1						
53	1														
DP 54		X							1						
DP 55									X						1
56									1						
DP 57		X							1						
58									1						
DP 59		X							1						
DP 60		X							1						
DP 61		X							1						
62									1						
DP 63		X							1						
64									1						
65									1						
66									1						
67									1						
68									1						
69	1														
70	1														
71	1														
72									1						
73									1						
74									1						
75									1						

Notes

Disposable Glen

London

Huggies 'H'

no large fibres

'Blown' ?

body square pattern common. ^{SL-5 PT?} fibre.

" - " Synthetic ?

Paper

Paper ?

Recorder Initials: AP

D.P

Oct 11th 2023

Inland Empire
Collection #1

(A)

(B)

- 401 PT
- 402 PT
- 403 PMW
- 404 PT
- 405 PT
- 406 PT
- 407 PT
- 408 PT
- 409 PT
- 410 ~~PMW~~ PT
- DP 411 Other. UFO
- 412 BD
- 413 PT
- 414 PT
- 415 Other
- 416 PT
- DP 417 Other UFO
- 418 BD
- 419 PT
- 420 PT
- 421 Other Dryer Sheet
- 422 SCD
- 423 SCD
- 424 SCD
- 425 PT
- 426 SCD
- 427 PCBOD Inco
- 428 SCD

- 429 SCD
- 430 SCD
- 431 MUF
- 432 BD
- 433 MUF
- 434 PCBOD
- 435 MUF
- 436 MUF
- 437 PCBOD
- 438 BD
- 439 SCD
- 440 SCD
- 441 BD
- 442 SCD
- DP 443 Other UFO
- 444 PCBOD (Inco?)
- 445 SCD
- 446 MUF
- 447 SCD
- 448 Other
- 449 SCD
- 450 BD
- 451 PCBOD
- 452 PCBOD (Inco?)
- 453 SCD
- 454 SCD
- 455 BD
- 456 MUF
- 457 BD
- 458 HNB
- 459 PCBOD
- 460 MUF

PT 15 Other 4 SCBS
 PMW 1 BD 2 PCBOD 1

(28)

SCD 10 BD 6 Other 2
 MUF 6 PCBOD 6 HNB 1

Appendix A

Date: 11th October 2023

Collection Event (circle one):
Day 1 AM, Day 1 PM, Day 2 AM

(4)

Collection # 1

12 total
500 → PT
me 76

Wipes Category

	BD	SCD	HND	MUF	PCBOD	PCFEM	PCEM	MIT	OTHER	PT	AHP	PMW	FM	BMC	UFO
76	/														
77										/					
78	/														
79										/					
80										/					
81										/					
82											/				
83												/			
84								/							
85												/			
86	/														
87										/					
88											/				
89								/							
90												/			
91										/					
92										/					
93											/				
94											/				
95												/			
96	/														
97										/					
98										/					
99								/							
100								m			/				

Notes

Stretched

Servation

emptying

Q-top

four wrapper.

Q-top

Recorder Initials: D. P.

DP

Inland Empire
11th October
Collection II

- 461 UFO
- 462 MUF
- 463 MUF
- 464 BD
- 465 BD
- 466 BD
- 467 PCBOD
- 468 other
- 469 SCD
- 470 SCD
- 471 PCBOD
- 472 PCFEM
- 473 MUF
- 474 MUF
- 475 PCBOD
- 476 PCBOD (xfolded)
- 477 SCD
- 478 BD
- 479 PCBOD
- 480 SCD
- 481 SCD
- 482 PCFEM
- 483 PCFEM
- 484 UFO
- 485 MUF
- 486 PCBOD
- 487 BD

UFO 2

BD 45

Other 1

SCD 5

MUF 5

PCBOD 6 PCFEM 3

27

Appendix A

Date: 11th October 2023

Collection Event (circle one):
Day 1 AM, Day 1 PM, Day 2 AM

Collection #1

Wipes Category

	BD	SCD	HND	PMUF	PCBOD	PCFEM	PCHEM	MTT	OTHER	PT	AHP	PMW	FM	BMC	UFO
101										/					
102	/														
103	/														
104												/			
105											/				
106										/					
107										/					
108	/														
109										/					
110										/					
111										/					
112	/														
113										/					
114	/														
115										/					
116										/					
117	/														
118											/				
119										/					
120										/					
121										/					
122	/														
123	/														
124	/														
125	/														

Notes

Recorder Initials: D.P

Appendix A

Date: 11th October 2023

Collection Event (circle one):
Day 1 AM, Day 1 PM, Day 2 AM

Collector # 1

Wipes Category

	BD	SCD	HND	MUF	PCBOD	PCFEM	PCHEM	MTT	OTHER	PT	AHP	PMW	FM	BMC	UFO
126	/														
127										/					
128										/					
129										/					
130										/					
131	/														
132										/					
133	/														
134	/														
135										/					
136										/					
137										/					
138	/														
139										/					
140										/					
141		/													
142										/					
143										/					
144										/					
145										/					
146										/					
147	/														
148										/					
149										/					
150										/					

Notes

moon

Star.

Recorder Initials: *D.P.*

Appendix A

Date: 11th October 2023

Collection Event (circle one):
Day 1 AM, Day 1 PM, Day 2 AM

②

Collector # 1

Wipes Category

	BD	SCD	HND	MUF	PCBOD	PCFEM	PCHEM	MTT	OTHER	PT	AHP	PMW	FM	BMC	UFO
151											/				
152	/														
153										/					
154										/					
155	/														
156										/					
157										/					
158										/					
159										/					
160										/					
161										/					
162	/									/					
163										/					
164										/					
165										/					
166										/					
167										/					
168										/					
169										/					
170										/					
171									/						
172									/						
173										/					
174										/					
175										/					

Notes

Paid

Recorder Initials: D.P

Appendix A

Date: 11th October 2023

Collection Event (circle one):
 Day 1 AM, Day 1 PM, Day 2 AM

Collector # 1

Wipes Category

	BD	SCD	HND	MUF	PCBOD	PCFEM	PCHEM	MITT	OTHER	PT	AHP	PMW	FM	BMC	UFO
176										/					
177										/					
178										/					
179										/					
180										/					
181										/					
182										/					
183										/					
184										/					
185										/					
186										/					
187										/					
188										/					
189	/														
190										/					
191										/					
192										/					
193										/					
194										/					
195										/					
196	/														
197										/					
198										/					
199										/					
200										/					

Notes

Recorder Initials: B.P

Appendix A

Date: 11th October 2023

Collection Event (circle one):
Day 1 AM, Day 1 PM, Day 2 AM

Collector #1

Wipes Category

	BD	SCD	HND	MUF	PCBOD	PCFEM	PCHEM	MTT	OTHER	PT	AHP	PMW	FM	BMC	UFO
201															
202										/					
203										/					
204										/					
205															/
206										/					
207	/														
208	/														
209	/														
210										/					
211										/					
212	/														
213	.									/					
214	/														
215											/				
216										/					
217										/					
218										/					
219									/						
220										/					
221	/														
222										/					
223										/					
224										/					
225										/					

Notes

How network. Is strong?

Name.

Q+ty

Recorder Initials: DP

Appendix A

Date: 11th October 2013

Collection Event (circle one):
Day 1 AM, Day 1 PM, Day 2 AM

Collector # 1

Wipes Category

	BD	SCD	HND	MUF	PCBOD	PCFEM	PCHEM	MTT	OTHER	PT	AHP	PMW	FM	BMC	UFO
226										/					
227										/					
228										/					
229										/					
230	/														
231									/						
232										/					
233										/					
234										/					
235										/					
236										/					
237										/					
238										/					
239										/					
240										/					
241	/														
242										/					
243										/					
244										/					
245										/					
246										/					
247	/									/					
248										/					
249									X						/
250	/														

Notes

Dental pick

Been through a pump - elongated

Recorder Initials: DP

Appendix A

Date: 11th October 2023

Collection Event (circle one):
 Day 1 AM, Day 1 PM, Day 2 AM

(11)

Wipes Category

Collector #1

	BD	SCD	HND	MUF	PCBOD	PCFEM	PCHEM	MTT	OTHER	PT	AHP	PMW	FM	BMC	UFO
251	/														
252										/					
253										/					
254										/					
255										/					
256										/					
257										/					
258										/					
259										/					
260										/					
261										/					
262										/					
263										/					
264	/														
265										/					
266										/					
267										/					
268										/					
269										/					
270										/					
271										/					
272										/					
273										/					
274										/					
275										/					

Notes

Perfect. 2 sheets. Centre pull?

Color print

Recorder Initials: AP

Appendix A

Date: 11th October 2023

Collection Event (circle one):
Day 1 AM, Day 1 PM, Day 2 AM

Collection #1

Wipes Category

	BD	SCD	HND	MUF	PCBOD	PCFEM	PCHEM	MTT	OTHER	PT	AHP	PMW	FM	BMC	UFO
276										/					
277										/					
278										/					
279									/						
280									/						
281												/			
282											/				
283											/				
284											/				
285	/														
286											/				
287									/						
288	/														
289	/														
290										/					
291	/														
292											/				
293											/				
294											/				
295											/				
296											/				
297										/					
298										/					
299										/					
300											/				

Notes

Banana

2 top

2 top

Pitman shows 290 on band

Recorder Initials:

P.P



Kennedy Jenks

Appendix A

Date: 11th Oct 2023

Collection Event (circle one):
Day 1 AM, Day 1 PM, Day 2 AM

Collector # 1
Inland Empire

Wipes Category

	BD	SCD	HND	MUF	PCBOD	PCFEM	PCHEM	MITT	OTHER	PT	AHP	PMW	FM	BMC	UFO
301											/				
302										/					
303										/					
304										/					
305										/					
306	/														
307		/													
308										/					
309										/					
310										/					
311										/					
312										/					
313											/				
AP 314									X						/
315	/														
316	/														
317	/														
318	/														
319										/					
320	/														
321											/				
322											/				
323										/					
324										/					
325									/						

Notes

dots

matchstick

Recorder Initials: D.P.C.

Date: Oct 11th 2023

Collection Event (circle one):
Day 1 AM, Day 1 PM, Day 2 AM

Inland Empire
Collection #1

Wipes Category

	BD	SCD	HND	MUF	PCBOD	PCFEM	PCHEM	MITT	OTHER	PT	AHP	PMW	FM	BMC	UFO
351										/					
352										/					
353										/					
354										/					
355					/										
356	/														
357										/					
AP 358	3	1													
AP 359	11														
360											/				
361										/					
362										/					
363										/					
364										/					
365									OP OP OP						/
366	/														
367										/					
368										/					
369										/					
370										/					
371											/				
372	/														
373											/				
374										/					
375										/					

Notes

Notes section with horizontal lines for recording observations.

Stretched samples

Recorder Initials: D.P

Appendix A

Date: Oct 11th 2023

(16)

Collection Event (circle one):
Day 1 AM, Day 1 PM, Day 2 AM

Wipes Category

Inland Empire
Collector #1

Go to
revers
on sheets

	BD	SCD	HND	MUF	PCBOD	PCFEM	PCHEM	MITT	OTHER	PT	AHP	PMW	FM	BMC	UFO
376	/														
377										/					
378										/					
379	/														
380	/														
381	/														
382	/														
383										/					
384								/							
385										/					
386										/					
387										/					
388	/														
389	/														
390	/														
391										/					
392	/														
393										/					
394										/					
395										/					
396										/					
397										/					
398										/					
399										/					
400										/					

Notes

(3) + (4)
for samples
491 → 467

@ top

Perm + color.

Recorder Initials: D.P

Appendix A-2

Data Collection Log




Inland Empire Utilities Agency

October 12, 2023 – Morning Collection

Appendix A

AB818 Wipes Collection Event Record Log

Agency Name	Inland Empire
Sampling Facility	RP-4
Sampling Location	6th Street
Date	October 12th 2023
Flow	11.7 MGD
Collection Start Time	8am
Collection End Time	12:10

Recorded Data Approval		
	Print Name	Sign
Agency	MICHAEL DIAS	
INDA	Wes Fisher	
CASA	Spencer Saks	

Attendance		
Name	Affiliation (CASA, INDA, Agency)	Role
David Poulug (kc)	INDA	Sort + Count
MICHAEL DIAS	IEVA	AGENCY
Spencer S-KS	CASA	
Rob Healin	INDA	Sort & Count
Wes Fisher	INDA	Sort + Count
MATT O'SICKY	INDA	Sort & Count
Math Keck	INDA	Cleaning Wipes
Rob Lara Wyss	RFA	Photographer
Mike Paschke	INDA	Sort & Count

Date: *APR* 10/12/2023

Inland Empire Collection 2
10/12/2023
Continuation Sheet

401 BD
402 PT
403 PT.
404 BD
405 PT
406 PT
407 PT
408 PT
409 PT
410 UFO Melthloun
411 BD
412 PT
413 PT
414 PT
415 SCD
416 PT
417 PT
418 SCD
419 PT
420 PT
421 PT
422 PT
423 PT
424 PT
425 PT
426 PT
427 PC FEM
428 PT
429 PT

430 PT
431 other (fence)
432 PT
433 PT
434 PT
435 PT
436 PT
437 MUF
438 PT
439 PT

DP
10/12/2023



Wipes Category

Collection # 2

1EUA RP-4

Notes

	BD	SCD	HND	MUF	PCBOD	PCFEM	PCHEM	MTT	OTHER	PT	AHP	PMW	FM	BMC	UFO
26	/														
27										/					
28										/					
29										/					
30										/					
31										/					
32										/					
33										/					
34	/														
35	/														
36										/					
37										/					
38										/					
39											/				
40											/				
41									/						
42										/					
43										/					
44	/														
45	/														
46										/					
47										/					
48											/				
49										/					
50										/					

Fmi paper. FP?

dryer sheet?

Recorder Initials: D.P

Wipes Category

Collection #2

IEUA RP-4

Notes

	BD	SCD	HND	MUF	PCBOD	PCFEM	PCHEM	MTT	OTHER	PT	AHP	PMW	FM	BMC	UFO
51	/														
52										/					
53										/					
54											/				
55										/					
56										/					
57										/					
58										/					
59										/					
60															/
61	/														
62										/					
63		/													
64	/														
65										/					
66											/				
67	/														
68	/														
69										/					
70										/					
71	/														
72										/					
73										/					
74	/														
75										/					

No perf. Thi. Fini

Wave pattern

Recorder Initials: S.P

Appendix A

Date: 10/12/23

Collection Event (circle one):
Day 1 AM, Day 1 PM, Day 2 AM

Wipes Category

Collector #2
IEVA RP4

	BD	SCD	HND	MUF	PCBOD	PCFEM	PCHEM	MITT	OTHER	PT	AHP	PMW	FM	BMC	UFO
76	/														
77										/					
78										/					
79										/					
80										/					
81										/					
82										/					
83	/														
84										/					
85	/														
86										/					
87										/					
88										/					
89	/														
90	/														
91										/					
92										/					
93										/					
94											/				
95										/					
96										/					
97										/					
98										/					
99										/					
100										/					

Notes

None.

Recorder Initials: D.P

Appendix A

Date: 10/12/23

Collection Event (circle one):
Day 1 AM, Day 1 PM, Day 2 AM

Collector # 2

IEUA RP-4

Wipes Category

	BD	SCD	HND	MUF	PCBOD	PCFEM	PCHEM	MTT	OTHER	PT	AHP	PMW	FM	BMC	UFO
101										/					
102										/					
103										/					
104					/										
105						/									
106						/									
107															/
108									/						
109												/			
110											/				
111											/				
112											/				
113											/				
114											/				
115										/					
116											/				
117											/				
118											/				
119										/					
120	/														
121										/					
122										/					
123										/					
124	/														
125	/														

Notes

Perked Towel

6x10 Inco

Round

Round.

Paoldry?

Elastoplast

Recorder Initials: D.P.

Appendix A

Date: 10/12/2023

Collection Event (circle one):
Day 1 AM, Day 1 PM, Day 2 AM

*Collection H2
IEVA RP-4*

Wipes Category

	BD	SCD	HND	MUF	PCBOD	PCFEM	PCHEM	MTT	OTHER	PT	AHP	PMW	FM	BMC	UFO
126										/					
127															
128	/														
129	/														
130	/														
131															
132		/													
133	/														
134															
135															
136	/														
137															
138	/														
139		/													
140										/					
DP 141	X									/					
142															
143										/					
144															
145										/					
146															
147										/					
148										/					
149										/					
150										/					

Notes

Recorder Initials: DP

Wipes Category

Collector 2
IEDA RP-4

	BD	SCD	HND	MUF	PCBOD	PCFEM	PCHEM	MITT	OTHER	PT	AHP	PMW	FM	BMC	UFO
151										/					
152															/
153										/					
154										/					
155										/					
156										/					
157										/					
158										/					
159										/					
160								/							
161										/					
162									/						
163				/											
164												/			
165											/				
166										/					
167	/														
168		/													
169											/				
170					/										
171		/													
172											/				
173				/											
174		/													
175	/														

Notes

Very fine, thin, have fibers. Wipe 547

Soft, cheese holes,

Cross fold

Palmer

Recorder Initials: D.P



Kennedy Jenks

Appendix A

Date: 10/12/23

Collection Event (circle one):
Day 1 AM, Day 1 PM, Day 2 AM

Colletn 2
1EUA RP4

Wipes Category

	BD	SCD	HND	MUF	PCBOD	PCFEM	PCHEM	MTT	OTHER	PT	AHP	PMW	FM	BMC	UFO
176	/														
177											/				
178	/														
179				/											
180	/														
181				/											
182										/					
183															/
184		/													
185										/					
186	/														
187										/					
188										/					
189		/													
190														/	
191											/				
192			/												
193						/									
194		/													
195										/					
196	/														
197										/					
198										/					
199		/													
200										/					

Notes

mass of fiber - Struck

Round
Peeps.

Recorder Initials: S-P

Appendix A

Date: 10/12/23

Collection Event (circle one):
Day 1 AM, Day 1 PM, Day 2 AM

Collection 2
IEVA RPY

Wipes Category

	BD	SCD	HND	MUF	PCBOD	PCFEM	PCHEM	MITT	OTHER	PT	AHP	PMW	FM	BMC	UFO
201	/														
202	/														
203	/														
204										/					
205		/													
206															/
207		/													
208										/					
209			/												
210															/
211										/					
212				/											
213										/					
214										/					
215				/											
216										/					
217										/					
218	/														
219	/														
220										/					
221										/					
222										/					
223			/												
224										/					
225										/					

Notes

Perfend.

Matth lower layer of bugger sheet

By size.

Recorder Initials: D.P

Collection 2
IEUA RP4

Wipes Category

	BD	SCD	HND	MUF	PCBOD	PCFEM	PCHEM	MTT	OTHER	PT	AHP	PMW	FM	BMC	UFO
226	/														
227										/					
228										/					
229										/					
230										/					
231						/									
232										/					
233										/					
234					/										
235										/					
236										/					
237					/										
238										/					
239						/									
240								/							
241						/									
242											/				
243											/				
244											/				
245	/														
246				/											
247	/														
248	/														
249		/													
250										/					

Notes

Round pen
Toilet brush scrubber.
by size

Old towels and wares

Appendix A

Date: 10/12/23

Collection Event (circle one):
Day 1 AM, Day 1 PM, Day 2 AM

Collection 2
IEUA RPL

Wipes Category

	BD	SCD	HND	MUF	PCBOD	PCFEM	PCHEM	MTT	OTHER	PT	AHP	PMW	FM	BMC	UFO
251	/														
252						/									
253	/														
254	/														
255			/												
256	/														
257	/														
258	/														
259										/					
260										/					
261										/					
262														/	
263		/													
264				/											
265										/					
266								/							
267	/														
268	/														
269					/					.					
270										/					
271										/					
272		/													
273										/					
274										/					
275	/														

Notes

Methylenes. Super fan

3 ft long

Recorder Initials: D.D

Appendix A

Date: 10/12/23

Collection Event (circle one):
 Day 1 AM, Day 1 PM, Day 2 AM

*1 EPA RPL
 • Collect 2*

Wipes Category

	BD	SCD	HND	MUF	PCBOD	PCFEM	PCHEM	MTT	OTHER	PT	AHP	PMW	FM	BMC	UFO
276	/														
277															
278															
279	/														
280		/													
281															
282															
283															
284	/														
285															
286	/														
287															
288															
289															
290															
291															
292															
293															
294															
295															
296															
297															
298															
299															
300															

Notes

Recorder Initials: B.P



Appendix A

Date: 10/12/23

Collection Event (circle one):
Day 1 AM, Day 1 PM, Day 2 AM

1 EDA RPL4
Cokebin 2

Wipes Category

	BD	SCD	HND	MUF	PCBOD	PCFEM	PCHEM	MITT	OTHER	PT	AHP	PMW	FM	BMC	UFO
301	/														
302						/									
303										/					
304										/					
305						/									
306										/					
307		/													
308	/														
309										/					
310	/														
311										/					
312										/					
313	/														
314			/												
315	/														
316										/					
317										/					
318	/														
319											/				
320										/					
321										/					
322										/					
323											/				
324										/					
325	/														

Notes

Recorder Initials: DP

Appendix A

Date: 10/12/2023

Collection Event (circle one):
Day 1 AM, Day 1 PM, Day 2 AM

Collector 2
IEVA RPL4

Wipes Category

	BD	SCD	HND	MUF	PCBOD	PCFEM	PCHEM	MTT	OTHER	PT	AHP	PMW	FM	BMC	UFO
326		/													
327				/											
328										/					
329			/												
330										/					
331		/													
332										/					
333															/
334		/													
335															/
336										/					
337										/					
338										/					
339										/					
340												/			
341												/			
342										/					
343										/					
344									/						
345											/				
346										/					
347					/										
348															/
349	/														
350					/										

Notes

met with team

Recorder Initials: DP

Appendix A

Date: 10/12/23

Collection Event (circle one):
Day 1 AM, Day 1 PM, Day 2 AM

*IEUA RPU
Collection 2*

Wipes Category

	BD	SCD	HND	MUF	PCBOD	PCFEM	PCHEM	MTT	OTHER	PT	AHP	PMW	FM	BMC	UFO
351										1					
352					1										
353											1				
354		1													
355	1														
356		1													
357	1														
358	1														
359		1													
360										1					
361										1					
362										1					
363	1														
364										1					
365										1					
366										1					
367										1					
368				1											
369										1					
370										1					
371										1					
372										1					
373										1					
374										1					
375										1					

Notes

Recorder Initials: Q.P.

Appendix A

Date: 10/12/23

Collection Event (circle one):
Day 1 AM, Day 1 PM, Day 2 AM

Wipes Category

Collection 2
IEUA RP4

	BD	SCD	HND	MUF	PCBOD	PCFEM	PCHEM	MTT	OTHER	PT	AHP	PMW	FM	BMC	UFO
376										/					
377										/					
378	/														
379										/					
380	/														
381	/														
382	/														
383		/													
384	/														
385										/					
386	/														
387		/													
388										/					
389										/					
390	/														
391										/					
392										/					
393										/					
394										/					
395										/					
396										/					/
397															/
398										/					
399										/					
400										/					

Notes

dp
Thick wipe, stretched, plain

Recorder Initials: dp

Appendix A-3

Data Collection Log

Central Contra Costa Sanitary District



October 18, 2023 – Morning Collection

1

Appendix A

AB818 Wipes Collection Event Record Log

Agency Name	CCCCSD
Sampling Facility	5919 Imhoff Place
Sampling Location	Leadworks. From bar screens 1+2 of 4 "1/4"
Date	10/17/2023
Flow	
Collection Start Time	11:45 am.
Collection End Time	12:05 am

Recorded Data Approval		
	Print Name	Sign
Agency	ALAN WEER	
INDA	Matt O'Sickey	Matthew O'Sickey
CASA	Alyssa Downs	

Attendance		
Name	Affiliation (CASA, INDA, Agency)	Role
David Rowling (KC)	INDA	IO and Recording
Richard Goepel	Sellers	help
Kevin Hunter	Sellers	help
ALAN WEER	CCCSD	
Richard Paschke (P86)	INDA	Sort/Count
MATT OSICKEY	INDA	SORT/COUNT

Date: 10/18/2023

Wipes Category

CCCSD
Collection # 1

	BD	SCD	HND	MUF	PCBOD	PCFEM	PCHEM	MTT	OTHER	PT	AHP	PMW	FM	BMC	UFO
1									/						
2										/					
3													/		
4										/					
5										/					
6										/					
7										/					
8										/					
9										/					
10										/					
11	/														
12	/														
13	/														
14										/					
15										/					
16	/														
17					/										
18										/					
19	/														
20	/														
21										/					
22	/														
23										/					
24										/					
25										/					

Notes

Dental pick / cleaner.
Heavy emboss
Sock
tear off
emboss
needle punch. Wash cloth
cloud.

Recorder Initials: D.P

Date: 10/17/23

Collection Event (circle one):
Day 1 AM, Day 1 PM, Day 2 AM

Collection #1
CCCSD

Wipes Category

	BD	SCD	HND	MUF	PCBOD	PCFEM	PCHEM	MTT	OTHER	PT	AHP	PMW	FM	BMC	UFO
26										/					
27	/														
28										/					
29	/														
30										/					
31										/					
32	/														
33															/
34		/													
35										/					
36										/					
37										/					
38										/					
39										/					
40										/					
41										/					
42										/					
43										/					
44										/					
45										/					
46										/					
47										/					
48										/					
49										/					
50										/					

Notes

Blue Dry Wiper 7x12 ^{Sharp Taper}

De'lam

Color print

Recorder Initials: OP

Appendix A

Date: 10/17/23

Collection Event (circle one):
Day 1 AM, Day 1 PM, Day 2 AM

Collection #1
CCCSA

Wipes Category

	BD	SCD	HND	MUF	PCBOD	PCFEM	PCHEM	MITT	OTHER	PT	AHP	PMW	FM	BMC	UFO
51	/														
52	/														
53	/														
54										/					
55															/
56										/					
57										/					
58										/					
59										/					
60										/					
61										/					
62										/					
63										/					
64										/					
65										/					
66										/					
67										/					
68										/					
69										/					
70										/					
71										/					
72							/								
73										/					
74										/					
75							/								

Notes

Wave

2ply

Weak, soft, longer fiber

Recorder Initials: bp

Appendix A

Date: 10/17/23

Collection Event (circle one):
Day 1 AM, Day 1 PM, Day 2 AM

Collection #1
CCCSA

Wipes Category

	BD	SCD	HND	MUF	PCBOD	PCFEM	PCHEM	MTT	OTHER	PT	AHP	PMW	FM	BMC	UFO
76										/					
77										/					
78										/					
79										/					
80										/					
81										/					
82										/					
83								/							
84										/					
85										/					
86										/					
87										/					
88										/					
89										/					
90										/					
91										/					
92											/				
93										/					
94											/				
95											/				
96								/							
97	/														
98								/							
99										/		ZDP			
100										/					

Notes

Butter wrapper

MOUSE

Organ Sheet

Tamper

Tamper

Recorder Initials: OP

Appendix A

Date: 10/17/23

Collection Event (circle one):
Day 1 AM, Day 1 PM, Day 2 AM

Collection #1
CCCSO

Wipes Category

	BD	SCD	HND	MUF	PCBOD	PCFEM	PCHEM	MTT	OTHER	PT	AHP	PMW	FM	BMC	UFO
101	/														
102		/													
103										/					
104										/					
105										/					
106										/					
107											/				
108										/					
109	/														
110	/														
111										/					
112										/					
113	/														
114										/					
115	/														
116	/														
117										/					
118										/					
119											/				
120				/											
121										/					
122										/					
123										/					
124										/					
125										/					

Notes

6x12 Body

Perfed paper, fiber bag wipe?

Recorder Initials: DP

Appendix A

Date: 10/17/2023

Collection Event (circle one):
Day 1 AM, Day 1 PM, Day 2 AM

Collection # 1
CCCB

Wipes Category

	BD	SCD	HND	MUF	PCBOD	PCFEM	PCHEM	MITT	OTHER	PT	AHP	PMW	FM	BMC	UFO
126										/					
127										/					
128										/					
129										/					
130						OP	/			/					
131										/					
132						/									
133	/														
134	OP														/
135										/					OP
136															/
137											/				
138										/					
139										/					
140										/					
141										/					
142										/					
143											/				
144								/							
145	/										OP				
146								X	/						
147								X	/	OP					
148								X	/	OP					
149								X	/	OP					
150						/									

Notes

Round stretched^{OP}

VFO

OP

Paper - entry in wrong column
 Paper - " " "
 Paper - " " "
 Paper - " " "
 Round. HER

Recorder Initials: AP

Appendix A

Date: 10/17/2023

Collection Event (circle one):
Day 1 AM, Day 1 PM, Day 2 AM

Collection #1
CCSD

Wipes Category

	BD	SCD	HND	MUF	PCBOD	PCFEM	PCHEM	MITT	OTHER	PT	AHP	PMW	FM	BMC	UFO
151										/					
152												/			
153										/					
154										/					
155										/					
156										/					
157										/					
158										/					
159										/					
160						/				3 ^{DP}					
161										/					
162										/					
163										/					
164	/														
165	/														
166	/														
167	/														
168		/													
169		/													
170		/													
171															
172											/				
173											/				
174											/				
175	/														

Notes

Round Hen

Recorder Initials: D.P

Appendix A

Date: 10/17/23

Collection Event (circle one):
Day 1 AM, Day 1 PM, Day 2 AM

Collection #1
CCCCD

Wipes Category

	BD	SCD	HND	MUF	PCBOD	PCFEM	PCHEM	MITT	OTHER	PT	AHP	PMW	FM	BMC	UFO
176	/														
177	/														
178	/														
179	/														
180	/														
181	/														
182										/					
183										/					
184										/					
185	/														
186	/														
187	/														
188						/									
189										/					
190										/					
191										/					
192										/					
193										/					
194										/					
195	/														
196	/														
197										/					
198										/					
199										/					
200											/				

Notes

None

Separated.

Recorder Initials: DP

Collector #1
CCCSO

Wipes Category

	BD	SCD	HND	MUF	PCBOD	PCFEM	PCHEM	MTT	OTHER	PT	AHP	PMW	FM	BMC	UFO
201	/														
202										/					
203										/					
204										/					
205										/					
206	/														
207	/														
208										/					
209										/					
210										/					
211										/					
212										f					
213	/														
214										/					
215										/					
216										/					
217										/					
218								/							
219										/					
220										/					
221					/										
222											/				
223										/					
224											/				
225											/				

Notes

Perfect.

Perfect center pin?
Cammiter / perf.

cloud

Broken, soft.

6x12

Recorder Initials: D.P

Appendix A

Date: 10/17/23

Collection Event (circle one):
Day 1 AM, Day 1 PM, Day 2 AM

Collection #1
CCCSO

Wipes Category

	BD	SCD	HND	MUF	PCBOD	PCFEM	PCHEM	MITT	OTHER	PT	AHP	PMW	FM	BMC	UFO
226											/				
227											/				
228								/							
229	/														
230		/													
231	/														
232	/														
233		/													
234		/													
235		/													
236		/													
237									/						
238	/														
239									/						
240									/						
241	/														
242					/										
243									/						
244	/														
245									/						
246	/														
247	/														
248									/						
249					/										
250									/						

Notes

Cloud

8x12 dry wipe

Flat,

Recorder Initials: D.P

Appendix A

Date: 10/17/23

Collection Event (circle one):
Day 1 AM, Day 1 PM, Day 2 AM

Collection #1
C6050

Wipes Category

	BD	SCD	HND	MUF	PCBOD	PCFEM	PCHEM	MTT	OTHER	PT	AHP	PMW	FM	BMC	UFO
251										/					
252										/					
253															/
254										/					
255										/					
256										/					
257	/														
258						/									
259											/				
260										/					
261	/														
262										/					
263										/					
264										/					
265										/					
266												/			
267					/										
268							/								
269										/					
270	/														
271											/				
272											/				
273											/				
274											/				
275											/				

Notes

Stronger Fin.

Recorder Initials: D.P

Appendix A

Date: 10/17/2023

Collection Event (circle one):
Day 1 AM, Day 1 PM, Day 2 AM

Wipes Category

Collection #1
ECCSD

	BD	SCD	HND	MUF	PCBOD	PCFEM	PCHEM	MTT	OTHER	PT	AHP	PMW	FM	BMC	UFO
276										/					
277	/														
278	/														
279										/					
280							/								
281										/					
282										/					
283										/					
284	/														
285										/					
286										/					
287										/					
288										/					
289	/														
290											/				
291										/					
292										/					
293										/					
294										/					
295										/					
296										/					
297										/					
298										/					
299										/					
300	/														

Notes

cloud - elongated

Recorder Initials: D.P

Appendix A

Date: 10/17/2023

Collection Event (circle one):
Day 1 AM, Day 1 PM, Day 2 AM

Collection #1
CCCSO

Wipes Category

	BD	SCD	HND	MUF	PCBOD	PCFEM	PCHEM	MTT	OTHER	PT	AHP	PMW	FM	BMC	UFO
301								/							
302										/					
303										/					
304	/														
305	/														
306	/														
307	/														
308	/														
309	/														
310	/														
311		/													
312		/													
313		/													
314		/													
315		/													
316		/													
317		/													
318		/													
319		/													
320								/							
321								/							
322										/					
323	/														
324										/					
325										/					

Notes

Tongue
Both phen
Navel
Big dot
Large dot
Large dot
Small dot
" - /
" - /
" - /
" - /
" - /
" - /
" - /
" - /
" - /
Rubber band
Worm

Recorder Initials: h.p

Appendix A

Date: 10/17/23

Collection Event (circle one):
Day 1 AM, Day 1 PM, Day 2 AM

Collector #1
CCCSO

Wipes Category

	BD	SCD	HND	MUF	PCBOD	PCFEM	PCHEM	MTT	OTHER	PT	AHP	PMW	FM	BMC	UFO
326										/					
327	/														
328										/					
329										/					
330															/
331	/														
332										/					
333	/														
334															/
335										/					
336						/									
337										/					
338										/					
339										/					
340										/					
341										/					
342										/					
343										/					
344					/										
345	/														
346															/
347										/					
348						/									
349										/					
350											/				

Notes

Recorder Initials: DP

Appendix A

Date: 10/17/23

Collection Event (circle one):
Day 1 AM, Day 1 PM, Day 2 AM

Collection #1
CCCB0

Wipes Category

	BD	SCD	HND	MUF	PCBOD	PCFEM	PCHEM	MTT	OTHER	PT	AHP	PMW	FM	BMC	UFO
351										/					
352															/
353	/														
354		/													
355		/													
356	/														
357				/											
358											/				
359										/					
360										/					
361										/					
362										/					
363										/					
364	/														
365	/														
366										/					
367										/					
368										/					
369	/														
370										/					
371										/					
372										/					
373										/					
374										/					
375										/					

Notes

Lounge d.et

Cloud

Recorder Initials: D.P

Appendix A

Date: 10/17/23

Collection Event (circle one):
Day 1 AM, Day 1 PM, Day 2 AM

Collection #1
CCCSB

Wipes Category

	BD	SCD	HND	MUF	PCBOD	PCFEM	PCHEM	MTT	OTHER	PT	AHP	PMW	FM	BMC	UFO
376										/					
377										/					
378										/					
379										/					
380										/					
381										/					
382														/	
383										/					
384	/														
385										/					
386											/				
387										/	STOP				
388										/					
389										/					
390										/					
391										/					
392										/					
393										/					
394	/														
395										/					
396	STOP									STOP					
397	STOP														
398														/	
399		/													
400		/													

Notes

Scott.

Tree root

401

Recorder Initials: D.P.

 Kennedy Jenks

402 PCFEM

403 BD

404 PCBOD

405 PT

Appendix A-4

Data Collection Log

Central Contra Costa Sanitary District

October 18, 2023 – Nighttime Collection

Attendance		
Name	Affiliation (CASA, INDA, Agency)	Role
DAVID FOWLER (K-C)	INDA	ID + Count
Lara Wyss	RFA	ID & Count
Kevin Hunter	Sellers	Helper
ALAN WEER	CCCSD	
Michael Paschke (PKG)	INIA	S. rt + Count
MATT OSICKEY	INDA	SOCI/COUNT

Date: 10/18/2023

Continuation Sheet

401	PT
402	UFO
403	BD
404	BD
405	BD
406	PT
407	SCD
408	BD
409	BR
410	PT
411	BPT
412	PT
413	PT
414	PT
415	PCBOT
416	SCB

Appendix A

Date: 10/18/2023

Collection Event (circle one):
Day 1 AM, Day 1 PM, Day 2 AM

CLLSD
#2

Wipes Category

Notes

	BD	SCD	HND	MUF	PCBOD	PCFEM	PCHEM	MITT	OTHER	PT	AHP	PMW	FM	BMC	UFO
1											/				
2											/				
3										/					
4										/					
5										/					
6	/														
7				/											
8										/					
9										/					
10										/					
11										/					
12									/						
13										/					
14										/					
15										/					
16															/
17	/														
18	/														
19	/														
20	/														
21										/					
22										/					
23										/					
24										/					
25										/					

Notes

Pad.

Pad.

Recorder Initials: OP

Wipes Category

CCCSD
#2

	BD	SCD	HND	MUF	PCBOD	PCFEM	PCEM	MITT	OTHER	PT	AHP	PMW	FM	BMC	UFO
26										/					
27										/					
28										/					
29									/						
30										/					
31										/					
32										/					
33										/					
34										/					
35										/					
36	/														
37			3							/					
38			1												
39										/					
40	/														
41	/														
42										/					
43										/					
44										/					
45										/					
46												/			
47										/					
48										/					
49	/														
50	/														

Notes

Printed

plami.

printed

multipanel x fold.

reorder in cabinet.

Recorder Initials: OP

Wipes Category

#2
 CCCSB

Notes

	BD	SCD	HND	MUF	PCBOD	PCFEM	PCHEM	MTT	OTHER	PT	AHP	PMW	FM	BMC	UFO
51										/					
52	/														
53	/														
54	/														
55									/						
56									/						
57										/					
58											/				
59										/					
60										/					
61										/					
62	/														
63										/					
64										/					
65										/					
66	TOP									/					
67	/														
68										/					
69										/					
70										/					
71										/					
72										/					
73										/					
74										/					
75										/					

Large change

over sheet?

Q tip

intake larger

None

Recorder Initials: D.P

Appendix A

Date: 10/18/2023

Collection Event (circle one):
 Day 1 AM, Day 1 PM, Day 2 AM

#2
 CCCSD

Wipes Category

	BD	SCD	HND	MUF	PCBOD	PCFEM	PCHEM	MTT	OTHER	PT	AHP	PMW	FM	BMC	UFO
76							/								
77										/					
78										/					
79	/														
80				/											
81	/														
82										/					
83	/														
84	/														
85	/														
86										/					
87							/								
88							/								
89							/								
90										/					
91										/					
92										/					
93										/					
94										/					
95										/					
96										/					
97										/					
98														/	
99										/					
100										/					

Notes

Round:

Weaker than paper

Weaker than paper.

Recorder Initials: D.P



Kennedy Jenks

Appendix A

Date: 10/18/23

Collection Event (circle one):
 Day 1 AM, Day 1 PM, Day 2 AM

CCCSO
#2

Wipes Category

	BD	SCD	HND	MUF	PCBOD	PCFEM	PCHEM	MTT	OTHER	PT	AHP	PMW	FM	BMC	UFO
101										/					
102					/										
103		/													
104	/														
105										/					
106											/				
107										/					
108										/					
109										/					
110	/														
111										/					
112										/					
113										/					
114	/														
115										/					
116	/														
117										/					
118										/					
119	/														
120										/					
121										/					
122										/					
123										/					
124										/					
125	/														

Notes

2 wipes attached

Recorder Initials: D.P

Date: 10/18/23

Collection Event (circle one):
Day 1 AM, Day 1 PM, Day 2 AM

Wipes Category

CCSD
#2

	BD	SCD	HND	MUF	PCBOD	PCFEM	PCHEM	MTT	OTHER	PT	AHP	PMW	FM	BMC	UFO	Notes
126										/						
127										/						
128										/						
129										/						
130										/						
131										/						
132										/						
133										/						
134										/						
135										/						
136		/														
137	/															
138	/															
139															/	
140	/															
141						/										
142		/														
143	/															
144										/						
145										/						
146										/						
147										/						
148	/															
149										/						
150	EOP									/						

Recorder Initials: O.P

Wipes Category

CCSD
#2

	BD	SCD	HND	MUF	PCBOD	PCFEM	PCHEM	MTT	OTHER	PT	AHP	PMW	FM	BMC	UFO
151										/					
152								/							
153										/					
154															/
155										/					
156										/					
157										/					
158										/					
159										/					
160										/					
161									/						
162										/					
163					/										
164	/														
165	/														
166		/													
167	/														
168		/													
169		/													
170								/							
171								/							
172										/					
173										/					
174											/				
175											/				

Notes

Soft,

7x12

Wave

Cloud (flew it)

Recorder Initials: DP

Wipes Category

#2 CCLSD

	BD	SCD	HND	MUF	PCBOD	PCFEM	PCHEM	MTT	OTHER	PT	AHP	PMW	FM	BMC	UFO	Notes
176											/					
177											/					
178										/						
179										/						
180										/						
181										/						
182										/						
183										/						
184										/						
185										/						
186										/						
187										/						
188	/															
189										/						
190										/						
191											/					
192	/															
193										/						
194										/						
195										/						
196										/						
197										/						
198										/						
199										/						
200										/						

Recorder Initials: D-P

CCCSO
#2

Wipes Category

	BD	SCD	HND	MUF	PCBOD	PCFEM	PCHEM	MTT	OTHER	PT	AHP	PMW	FM	BMC	UFO
201	/														
202										/					
203										/					
204										/					
205										/					
206										/					
207										/					
208										/					
209										/					
210										/					
211										/					
212										/					
213										/					
214										/					
215										/					
216										/					
217										/					
218										/					
219								/							
220								/	DP		/				
221								/			/				
222											/				
223	/														
224										/					
225										/					

Notes

Print

(Kem wrapper) ^{DP} Condor ^{DP}
 wrapper Condor

Recorder Initials: DP

Wipes Category

CCCCD #2

	BD	SCD	HND	MUF	PCBOD	PCFEM	PCHEM	MITT	OTHER	PT	AHP	PMW	FM	BMC	UFO
226										/					
227										/					
228										/					
229										/					
230										/					
231										/					
232						/									
233										/					
234	/														
235										/					
236	/														
237	/														
238	/														
239										/					
240										/					
241	/														
242										/					
243	/														
244										/					
245										/					
246										/					
247											/				
248	/														
249										/					
250										/					

Notes

Perf

Cloud

Wave

Recorder Initials: DP

Wipes Category

CCCSB
#2

	BD	SCD	HND	MUF	PCBOD	PCFEM	PCHEM	MTT	OTHER	PT	AHP	PMW	FM	BMC	UFO
251											/				
252										/					
253					/										
254										/					
255										/					
256											/				
257										/					
258											/				
259											/				
260										/					
261										/					
262										/					
263										/					
264										/					
265										/					
266										/					
267										/					
268										/					
269	/														
270											/				
271										/					
272	/														
273										/					
274							/								
275										/					

Notes

old mouse.

6.5 x 12.5

Recorder Initials: DP

CCCSO
#2

Wipes Category

	BD	SCD	HND	MUF	PCBOD	PCFEM	PCHEM	MTT	OTHER	PT	AHP	PMW	FM	BMC	UFO
276										/					
277											/				
278										/					
279										/					
280										/					
281										/					
282		/													
283		/													
284					/										
285		/													
286										/					
287										/					
288					/										
289										/					
290		/													
291		/													
292	/														
293	/														
294	/														
295										/					
296										/					
297										/					
298								/							
299								/							
300								/							

Notes

Scot PHI
Large, Square size

Recorder Initials: D.P

Appendix A

Date: 10/18/23

Collection Event (circle one):
 Day 1 AM, Day 1 PM, Day 2 AM

Collection #2
 CCCCSD

	Wipes Category													Notes		
	BD	SCD	HND	MUF	PCBOD	PCFEM	PCHEM	MTT	OTHER	PT	AHP	PMW	FM		BMC	UFO
326	/															
327									/							
328										/						
329	/															
330	/															
331	/															
332									/							
333	/															
334	/															
335	/															
336						/				DP						
337	/									DP						
338									/							
339	/															
340										/						
341						/										
342									/							
343	/															
344									/							
345	/															
346									/							
347	/															
348									/							
349									/							
350										/						

Round
 Mean

Recorder Initials: DP

Appendix A

Date: 10/18/2023

Collection Event (circle one):
 Day 1 AM, Day 1 PM, Day 2 AM

collected #2
CCCSN

Wipes Category

	BD	SCD	HND	MUF	PCBOD	PCFEM	PCHEM	MTT	OTHER	PT	AHP	PMW	FM	BMC	UFO
351	/														
352										/					
353										/					
354	/														
355										/					
356					/										
357		/													
358										/					
359										/					
360										/					
361									/						
362	/														
363	/														
364											/				
365										/					
366											/				
367											/				
368	/														
369											/				
370											/				
371	/														
372	/														
373	/														
374	/														
375											/				

Notes

AP
X

reclosely to SCD. Apertured cleaning

rental tool.

Recorder Initials: D.P

Appendix A

Date: 10/18/2023

Collection Event (circle one):
 Day 1 AM, Day 1 PM, Day 2 AM

*Collect #2
 CCESD.*

Wipes Category

	BD	SCD	HND	MUF	PCBOD	PCFEM	PCHEM	MTT	OTHER	PT	AHP	PMW	FM	BMC	UFO
376										/					
377										/					
378										/					
379															/
380										/					
381										/					
382										/					
383										/					
384										/					
385										/					
386															/
387										/					
388					/										
389										/					
390		/													
391		/													
392												/			
393	/														
394										/					
395	/														
396											/				
397										/					
398										/					
399	/														
400	/														

Notes

7x13'

Handkerchief 13x13

Recorder Initials: DP

Appendix B

Survey for Agencies

AB 818 Wipes Collection Study Survey

To gain understanding of consumer behavior regarding the flushing of pre-moistened non-woven disposal wipes as a key input into the design of the consumer education and outreach program, representatives from the California Association of Sanitation Agencies (CASA) and representatives from the pre-moistened non-woven disposable wipes manufacturers (INDA, Association of the Non-woven Fabrics Industry) formed an advisory group to collaborate on the wipes collection study.

Through sampling events, the study will collect data from participating wastewater collection systems related to the volume and characteristics of non-sewage materials that are being flushed into the collection system, including pre-moistened non-woven disposal wipes as well as other material (e.g. clothing, toys) and sampling conditions. The data will be collated and summarized for use in the design of the consumer education and outreach program.

To help the support the design of the collection study, please answer the following questions:

The respondent's email (**ryan.smith@watsonville.gov**) was recorded on submission of this form.

Email *

ryan.smith@watsonville.gov



1. Is your agency interested in participating in a wipes collection study? Participation requirements:

i. At least 1-2 staff available to collect, clean, separate, and sort collected materials from your facility's bar screen(s) and record information on provided forms.

ii. Participation in a training session and a series of collection events (one in the wet season and one in the dry season). Collection events are estimated to take place over 3 consecutive days of 2-4 hours each day during peak flows.

Yes

No

Name, phone number, and email address of someone we can contact for follow-up.

Ryan Smith 831-768-3175 ryan.smith@watsonville.gov

Agency Name

City of Watsonville

Treatment Facility Name

City of Watsonville Wastewater Treatment Facility

Service Area (city name, county, geographic description, etc.)

City of Watsonville, Pajaro County Sanitation District, Freedom County Sanitation District, Salsipuedes Sanitary District.

Is GIS available for your collection system?

- Yes
- No

Is your collection system

- Combined sewer/storm system
- Dedicated sewer
- Both

What is the average sanitary or dry weather flow of your treatment facility?

- Less than 1.0 MGD
- 1.1 MGD to 5.0 MGD
- 5.1 MGD to 10.0 MGD
- 10.1 MGD to 25.0 MGD
- 25.1 MGD to 50.0 MGD
- Greater than 50.0 MGD

How is sewage conveyed?

- Predominantly Gravity
- Predominantly Pumped
- Trucked in from another entity
- Connection with another Collection system(s)
- Other:

Are your pumped stations equipped with screens? Description of screens, select all that apply.

- Manually cleaned bar
- Mechanically cleaned bar
- Mechanically cleaned bar: Chain/cable driven
- Mechanically cleaned bar: Reciprocating rake
- Mechanically cleaned bar: Continuous self-cleaning
- Mechanically cleaned fine screen
- Other:

a. Are there grinders, comminutors, or other equipment installed upstream to or at the screen(s) that would tear apart or damage materials?

No.

Are your headworks equipped with screens? Description of screen(s), select all that apply.

- Manually cleaned bar
- Mechanically cleaned bar
- Mechanically cleaned bar: Chain/cable driven
- Mechanically cleaned bar: Reciprocating rake
- Mechanically cleaned bar: Continuous self-cleaning
- Mechanically cleaned fine screen
- Other: Mechanically cleaned traveling screen

a. Are there grinders, comminutors, or other equipment installed upstream to or at the screen(s) that would tear apart or damage materials?

No. _____

How many miles of collection system?

- Less than 50
- 51 to 100
- 101 to 500
- 501 to 1,000
- 1,000 to 5,000
- Greater than 5,000

How many lift stations?

- 0 to 5
- 6 to 20
- Greater than 21

How many lift stations w/solids handling pumps?

- 0 to 5
- 6 to 20
- Greater than 21

How many lift stations w/grinders/chopper pumps?

- 0 to 5
- 6 to 20
- Greater than 21

Number of total connections?

Number of Single Family connections?

Number of Multi-Family units?

Number of Hospitals, Daycares, Care Centers, etc.?

Do you track frequency of screen cleanings and screening equipment maintenance logs?

- Yes
- No

In the collection system: On average, how many ragging events do you experience per week?

- Less than 2
- 3 to 6
- 7 to 14
- Greater than 14

In the collection system: If more than 0 events per week, roughly how many labor-hours per week are used to address "ragging"?

- 1 to 2 hours
- 3 to 6 hours
- 7 to 10 hours
- 11 to 20 hours
- Greater than 20 hours

At the headworks: How many "ragging" events do you experience per week?

- Less than 2
- 3 to 6
- 7 to 14
- Greater than 14

At the headworks: If more than 0, roughly how many labor-hours/week are used to address "ragging"?

- 1 to 2 hours
- 3 to 6 hours
- 7 to 10 hours
- 11 to 20 hours
- Greater than 20 hours

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Google Forms

AB 818 Wipes Collection Study Survey

To gain understanding of consumer behavior regarding the flushing of pre-moistened non-woven disposal wipes as a key input into the design of the consumer education and outreach program, representatives from the California Association of Sanitation Agencies (CASA) and representatives from the pre-moistened non-woven disposable wipes manufacturers (INDA, Association of the Non-woven Fabrics Industry) formed an advisory group to collaborate on the wipes collection study.

Through sampling events, the study will collect data from participating wastewater collection systems related to the volume and characteristics of non-sewage materials that are being flushed into the collection system, including pre-moistened non-woven disposal wipes as well as other material (e.g. clothing, toys) and sampling conditions. The data will be collated and summarized for use in the design of the consumer education and outreach program.

To help the support the design of the collection study, please answer the following questions:

The respondent's email (emakowski@ieua.org) was recorded on submission of this form.

Email *

emakowski@ieua.org



1. Is your agency interested in participating in a wipes collection study? Participation requirements:

i. At least 1-2 staff available to collect, clean, separate, and sort collected materials from your facility's bar screen(s) and record information on provided forms.

ii. Participation in a training session and a series of collection events (one in the wet season and one in the dry season). Collection events are estimated to take place over 3 consecutive days of 2-4 hours each day during peak flows.

Yes

No

Name, phone number, and email address of someone we can contact for follow-up.

Lucia Diaz, 909-342-2365, ldiaz@ieua.org

Agency Name

Inland Empire Utilities Agency

Treatment Facility Name

RP-1, RP-4, RP-5, CCWRF

Service Area (city name, county, geographic description, etc.)

inland Empire (Fontana, Rancho Cucamonga, Ontario, Montclair, Chino, Chino Hills, Upland)

Is GIS available for your collection system?

- Yes
- No

Is your collection system

- Combined sewer/storm system
- Dedicated sewer
- Both

What is the average sanitary or dry weather flow of your treatment facility?

- Less than 1.0 MGD
- 1.1 MGD to 5.0 MGD
- 5.1 MGD to 10.0 MGD
- 10.1 MGD to 25.0 MGD
- 25.1 MGD to 50.0 MGD
- Greater than 50.0 MGD

How is sewage conveyed?

- Predominantly Gravity
- Predominantly Pumped
- Trucked in from another entity
- Connection with another Collection system(s)
- Other:

Are your pumped stations equipped with screens? Description of screens, select all that apply.

- Manually cleaned bar
- Mechanically cleaned bar
- Mechanically cleaned bar: Chain/cable driven
- Mechanically cleaned bar: Reciprocating rake
- Mechanically cleaned bar: Continuous self-cleaning
- Mechanically cleaned fine screen
- Other:

a. Are there grinders, comminutors, or other equipment installed upstream to or at the screen(s) that would tear apart or damage materials?

no

Are your headworks equipped with screens? Description of screen(s), select all that apply.

- Manually cleaned bar
- Mechanically cleaned bar
- Mechanically cleaned bar: Chain/cable driven
- Mechanically cleaned bar: Reciprocating rake
- Mechanically cleaned bar: Continuous self-cleaning
- Mechanically cleaned fine screen
- Other:

a. Are there grinders, comminutors, or other equipment installed upstream to or at the screen(s) that would tear apart or damage materials?

no

How many miles of collection system?

- Less than 50
- 51 to 100
- 101 to 500
- 501 to 1,000
- 1,000 to 5,000
- Greater than 5,000

How many lift stations?

- 0 to 5
- 6 to 20
- Greater than 21

How many lift stations w/solids handling pumps?

- 0 to 5
- 6 to 20
- Greater than 21

How many lift stations w/grinders/chopper pumps?

- 0 to 5
- 6 to 20
- Greater than 21

Number of total connections?

Number of Single Family connections?

.....

Number of Multi-Family units?

.....

Number of Hospitals, Daycares, Care Centers, etc.?

.....

Do you track frequency of screen cleanings and screening equipment maintenance logs?

Yes

No

In the collection system: On average, how many ragging events do you experience per week?

Less than 2

3 to 6

7 to 14

Greater than 14

In the collection system: If more than 0 events per week, roughly how many labor-hours per week are used to address "ragging"?

- 1 to 2 hours
- 3 to 6 hours
- 7 to 10 hours
- 11 to 20 hours
- Greater than 20 hours

At the headworks: How many "ragging" events do you experience per week?

- Less than 2
- 3 to 6
- 7 to 14
- Greater than 14

At the headworks: If more than 0, roughly how many labor-hours/week are used to address "ragging"?

- 1 to 2 hours
- 3 to 6 hours
- 7 to 10 hours
- 11 to 20 hours
- Greater than 20 hours

This content is neither created nor endorsed by Google.

Google Forms

AB 818 Wipes Collection Study Survey

To gain understanding of consumer behavior regarding the flushing of pre-moistened non-woven disposal wipes as a key input into the design of the consumer education and outreach program, representatives from the California Association of Sanitation Agencies (CASA) and representatives from the pre-moistened non-woven disposable wipes manufacturers (INDA, Association of the Non-woven Fabrics Industry) formed an advisory group to collaborate on the wipes collection study.

Through sampling events, the study will collect data from participating wastewater collection systems related to the volume and characteristics of non-sewage materials that are being flushed into the collection system, including pre-moistened non-woven disposal wipes as well as other material (e.g. clothing, toys) and sampling conditions. The data will be collated and summarized for use in the design of the consumer education and outreach program.

To help support the design of the collection study, please answer the following questions:

The respondent's email (mgonzalez@lwwd.org) was recorded on submission of this form.

Email *

mgonzalez@lwwd.org



1. Is your agency interested in participating in a wipes collection study? Participation requirements:

i. At least 1-2 staff available to collect, clean, separate, and sort collected materials from your facility's bar screen(s) and record information on provided forms.

ii. Participation in a training session and a series of collection events (one in the wet season and one in the dry season). Collection events are estimated to take place over 3 consecutive days of 2-4 hours each day during peak flows.

Yes

No

Name, phone number, and email address of someone we can contact for follow-up.

Marvin Gonzalez 760-753-0155

Agency Name

Leucadia Wastewater District

Treatment Facility Name

Encina Wastewater Authority

Service Area (city name, county, geographic description, etc.)

San Diego North County

Is GIS available for your collection system?

- Yes
- No

Is your collection system

- Combined sewer/storm system
- Dedicated sewer
- Both

What is the average sanitary or dry weather flow of your treatment facility?

- Less than 1.0 MGD
- 1.1 MGD to 5.0 MGD
- 5.1 MGD to 10.0 MGD
- 10.1 MGD to 25.0 MGD
- 25.1 MGD to 50.0 MGD
- Greater than 50.0 MGD

How is sewage conveyed?

- Predominantly Gravity
- Predominantly Pumped
- Trucked in from another entity
- Connection with another Collection system(s)
- Other:

Are your pumped stations equipped with screens? Description of screens, select all that apply.

- Manually cleaned bar
- Mechanically cleaned bar
- Mechanically cleaned bar: Chain/cable driven
- Mechanically cleaned bar: Reciprocating rake
- Mechanically cleaned bar: Continuous self-cleaning
- Mechanically cleaned fine screen
- Other:

a. Are there grinders, comminutors, or other equipment installed upstream to or at the screen(s) that would tear apart or damage materials?

yes

Are your headworks equipped with screens? Description of screen(s), select all that apply.

- Manually cleaned bar
- Mechanically cleaned bar
- Mechanically cleaned bar: Chain/cable driven
- Mechanically cleaned bar: Reciprocating rake
- Mechanically cleaned bar: Continuous self-cleaning
- Mechanically cleaned fine screen
- Other:

a. Are there grinders, comminutors, or other equipment installed upstream to or at the screen(s) that would tear apart or damage materials?

yes

How many miles of collection system?

- Less than 50
- 51 to 100
- 101 to 500
- 501 to 1,000
- 1,000 to 5,000
- Greater than 5,000

How many lift stations?

- 0 to 5
- 6 to 20
- Greater than 21

How many lift stations w/solids handling pumps?

- 0 to 5
- 6 to 20
- Greater than 21

How many lift stations w/grinders/chopper pumps?

- 0 to 5
- 6 to 20
- Greater than 21

Number of total connections?

20,700

Number of Single Family connections?

Number of Multi-Family units?

Number of Hospitals, Daycares, Care Centers, etc.?

10

Do you track frequency of screen cleanings and screening equipment maintenance logs?

- Yes
- No

In the collection system: On average, how many ragging events do you experience per week?

- Less than 2
- 3 to 6
- 7 to 14
- Greater than 14

In the collection system: If more than 0 events per week, roughly how many labor-hours per week are used to address "ragging"?

- 1 to 2 hours
- 3 to 6 hours
- 7 to 10 hours
- 11 to 20 hours
- Greater than 20 hours

At the headworks: How many "ragging" events do you experience per week?

- Less than 2
- 3 to 6
- 7 to 14
- Greater than 14

At the headworks: If more than 0, roughly how many labor-hours/week are used to address "ragging"?

- 1 to 2 hours
- 3 to 6 hours
- 7 to 10 hours
- 11 to 20 hours
- Greater than 20 hours

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Google Forms

AB 818 Wipes Collection Study Survey

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To help the support the design of the collection study, please answer the following questions:

The respondent's email (**bealls@rodeosan.org**) was recorded on submission of this form.

Email *

bealls@rodeosan.org



1. Is your agency interested in participating in a wipes collection study? Participation requirements:

i. At least 1-2 staff available to collect, clean, separate, and sort collected materials from your facility's bar screen(s) and record information on provided forms.

ii. Participation in a training session and a series of collection events (one in the wet season and one in the dry season). Collection events are estimated to take place over 3 consecutive days of 2-4 hours each day during peak flows.

Yes

No

Name, phone number, and email address of someone we can contact for follow-up.

Steve Beall, 510-799-2970 x100, bealls@rodeosan.org

Agency Name

Rodeo Sanitary District

Treatment Facility Name

Rodeo Sanitary District Water Pollution Control Plant

Service Area (city name, county, geographic description, etc.)

Rodeo

Is GIS available for your collection system?

- Yes
- No

Is your collection system

- Combined sewer/storm system
- Dedicated sewer
- Both

What is the average sanitary or dry weather flow of your treatment facility?

- Less than 1.0 MGD
- 1.1 MGD to 5.0 MGD
- 5.1 MGD to 10.0 MGD
- 10.1 MGD to 25.0 MGD
- 25.1 MGD to 50.0 MGD
- Greater than 50.0 MGD

How is sewage conveyed?

- Predominantly Gravity
- Predominantly Pumped
- Trucked in from another entity
- Connection with another Collection system(s)
- Other:

Are your pumped stations equipped with screens? Description of screens, select all that apply.

- Manually cleaned bar
- Mechanically cleaned bar
- Mechanically cleaned bar: Chain/cable driven
- Mechanically cleaned bar: Reciprocating rake
- Mechanically cleaned bar: Continuous self-cleaning
- Mechanically cleaned fine screen
- Other:

a. Are there grinders, comminutors, or other equipment installed upstream to or at the screen(s) that would tear apart or damage materials?

Grinders

Are your headworks equipped with screens? Description of screen(s), select all that apply.

- Manually cleaned bar
- Mechanically cleaned bar
- Mechanically cleaned bar: Chain/cable driven
- Mechanically cleaned bar: Reciprocating rake
- Mechanically cleaned bar: Continuous self-cleaning
- Mechanically cleaned fine screen
- Other:

a. Are there grinders, comminutors, or other equipment installed upstream to or at the screen(s) that would tear apart or damage materials?

.....

How many miles of collection system?

- Less than 50
- 51 to 100
- 101 to 500
- 501 to 1,000
- 1,000 to 5,000
- Greater than 5,000

How many lift stations?

- 0 to 5
- 6 to 20
- Greater than 21

How many lift stations w/solids handling pumps?

- 0 to 5
- 6 to 20
- Greater than 21

How many lift stations w/grinders/chopper pumps?

- 0 to 5
- 6 to 20
- Greater than 21

Number of total connections?

about 2500

Number of Single Family connections?

about 2300

Number of Multi-Family units?

about 100

Number of Hospitals, Daycares, Care Centers, etc.?

about 3

Do you track frequency of screen cleanings and screening equipment maintenance logs?

- Yes
- No

In the collection system: On average, how many ragging events do you experience per week?

- Less than 2
- 3 to 6
- 7 to 14
- Greater than 14

In the collection system: If more than 0 events per week, roughly how many labor-hours per week are used to address "ragging"?

- 1 to 2 hours
- 3 to 6 hours
- 7 to 10 hours
- 11 to 20 hours
- Greater than 20 hours

At the headworks: How many "ragging" events do you experience per week?

- Less than 2
- 3 to 6
- 7 to 14
- Greater than 14

At the headworks: If more than 0, roughly how many labor-hours/week are used to address "ragging"?

- 1 to 2 hours
- 3 to 6 hours
- 7 to 10 hours
- 11 to 20 hours
- Greater than 20 hours

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Google Forms

AB 818 Wipes Collection Study Survey

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Through sampling events, the study will collect data from participating wastewater collection systems related to the volume and characteristics of non-sewage materials that are being flushed into the collection system, including pre-moistened non-woven disposal wipes as well as other material (e.g. clothing, toys) and sampling conditions. The data will be collated and summarized for use in the design of the consumer education and outreach program.

To help the support the design of the collection study, please answer the following questions:

The respondent's email (pseitz@centralsan.org) was recorded on submission of this form.

Email *

pseitz@centralsan.org



1. Is your agency interested in participating in a wipes collection study? Participation requirements:

i. At least 1-2 staff available to collect, clean, separate, and sort collected materials from your facility's bar screen(s) and record information on provided forms.

ii. Participation in a training session and a series of collection events (one in the wet season and one in the dry season). Collection events are estimated to take place over 3 consecutive days of 2-4 hours each day during peak flows.

Yes

No

Name, phone number, and email address of someone we can contact for follow-up.

Paul Seitz, 925-335-7743, pseitz@centralsan.org

Agency Name

Central San

Treatment Facility Name

Central San

Service Area (city name, county, geographic description, etc.)

San Ramon, Danville, Alamo, Lafayette, Orinda, Moraga, Walnut Creek, Pleasant Hill, Pacheco, Clyde, Portions of Martinez, and Portions of unincorporated Contra Costa County

Is GIS available for your collection system?

- Yes
- No

Is your collection system

- Combined sewer/storm system
- Dedicated sewer
- Both

What is the average sanitary or dry weather flow of your treatment facility?

- Less than 1.0 MGD
- 1.1 MGD to 5.0 MGD
- 5.1 MGD to 10.0 MGD
- 10.1 MGD to 25.0 MGD
- 25.1 MGD to 50.0 MGD
- Greater than 50.0 MGD

How is sewage conveyed?

- Predominantly Gravity
- Predominantly Pumped
- Trucked in from another entity
- Connection with another Collection system(s)
- Other:

Are your pumped stations equipped with screens? Description of screens, select all that apply.

- Manually cleaned bar
- Mechanically cleaned bar
- Mechanically cleaned bar: Chain/cable driven
- Mechanically cleaned bar: Reciprocating rake
- Mechanically cleaned bar: Continuous self-cleaning
- Mechanically cleaned fine screen
- Other:

a. Are there grinders, comminutors, or other equipment installed upstream to or at the screen(s) that would tear apart or damage materials?

(4) Pumping Stations have grinders - San Ramon, Martinez, Lower Orinda and Moraga Pumping Stations

Are your headworks equipped with screens? Description of screen(s), select all that apply.

- Manually cleaned bar
- Mechanically cleaned bar
- Mechanically cleaned bar: Chain/cable driven
- Mechanically cleaned bar: Reciprocating rake
- Mechanically cleaned bar: Continuous self-cleaning
- Mechanically cleaned fine screen
- Other:

a. Are there grinders, comminutors, or other equipment installed upstream to or at the screen(s) that would tear apart or damage materials?

No

How many miles of collection system?

- Less than 50
- 51 to 100
- 101 to 500
- 501 to 1,000
- 1,000 to 5,000
- Greater than 5,000

How many lift stations?

- 0 to 5
- 6 to 20
- Greater than 21

How many lift stations w/solids handling pumps?

- 0 to 5
- 6 to 20
- Greater than 21

How many lift stations w/grinders/chopper pumps?

- 0 to 5
- 6 to 20
- Greater than 21

Number of total connections?

118,784

Number of Single Family connections?

98,557

Number of Multi-Family units?

40,588

Number of Hospitals, Daycares, Care Centers, etc.?

219

Do you track frequency of screen cleanings and screening equipment maintenance logs?

Yes

No

In the collection system: On average, how many ragging events do you experience per week?

Less than 2

3 to 6

7 to 14

Greater than 14

In the collection system: If more than 0 events per week, roughly how many labor-hours per week are used to address "ragging"?

- 1 to 2 hours
- 3 to 6 hours
- 7 to 10 hours
- 11 to 20 hours
- Greater than 20 hours

At the headworks: How many "ragging" events do you experience per week?

- Less than 2
- 3 to 6
- 7 to 14
- Greater than 14

At the headworks: If more than 0, roughly how many labor-hours/week are used to address "ragging"?

- 1 to 2 hours
- 3 to 6 hours
- 7 to 10 hours
- 11 to 20 hours
- Greater than 20 hours

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Google Forms

AB 818 Wipes Collection Study Survey

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To help the support the design of the collection study, please answer the following questions:

The respondent's email (**abudicin@wmwd.com**) was recorded on submission of this form.

Email *

abudicin@wmwd.com



1. Is your agency interested in participating in a wipes collection study? Participation requirements:

i. At least 1-2 staff available to collect, clean, separate, and sort collected materials from your facility's bar screen(s) and record information on provided forms.

ii. Participation in a training session and a series of collection events (one in the wet season and one in the dry season). Collection events are estimated to take place over 3 consecutive days of 2-4 hours each day during peak flows.

Yes

No

Name, phone number, and email address of someone we can contact for follow-up.

Anthony Budicin, (951) 571-7288

Agency Name

Western Riverside County Regional Wastewater Authority

Treatment Facility Name

Western Riverside County Regional Wastewater Treatment Plant

Service Area (city name, county, geographic description, etc.)

Eastvale, City of Norco, City of Corona, City of Riverside, Home Gardens - All in Riverside County

Is GIS available for your collection system?

- Yes
- No

Is your collection system

- Combined sewer/storm system
- Dedicated sewer
- Both

What is the average sanitary or dry weather flow of your treatment facility?

- Less than 1.0 MGD
- 1.1 MGD to 5.0 MGD
- 5.1 MGD to 10.0 MGD
- 10.1 MGD to 25.0 MGD
- 25.1 MGD to 50.0 MGD
- Greater than 50.0 MGD

How is sewage conveyed?

- Predominantly Gravity
- Predominantly Pumped
- Trucked in from another entity
- Connection with another Collection system(s)
- Other:

Are your pumped stations equipped with screens? Description of screens, select all that apply.

- Manually cleaned bar
- Mechanically cleaned bar
- Mechanically cleaned bar: Chain/cable driven
- Mechanically cleaned bar: Reciprocating rake
- Mechanically cleaned bar: Continuous self-cleaning
- Mechanically cleaned fine screen
- Other:

a. Are there grinders, comminutors, or other equipment installed upstream to or at the screen(s) that would tear apart or damage materials?

No

Are your headworks equipped with screens? Description of screen(s), select all that apply.

- Manually cleaned bar
- Mechanically cleaned bar
- Mechanically cleaned bar: Chain/cable driven
- Mechanically cleaned bar: Reciprocating rake
- Mechanically cleaned bar: Continuous self-cleaning
- Mechanically cleaned fine screen
- Other:

a. Are there grinders, comminutors, or other equipment installed upstream to or at the screen(s) that would tear apart or damage materials?

No

How many miles of collection system?

- Less than 50
- 51 to 100
- 101 to 500
- 501 to 1,000
- 1,000 to 5,000
- Greater than 5,000

How many lift stations?

- 0 to 5
- 6 to 20
- Greater than 21

How many lift stations w/solids handling pumps?

- 0 to 5
- 6 to 20
- Greater than 21

How many lift stations w/grinders/chopper pumps?

- 0 to 5
- 6 to 20
- Greater than 21

Number of total connections?

21,693 (minimum)

Number of Single Family connections?

21,193 (minimum)

Number of Multi-Family units?

488 (minimum)

Number of Hospitals, Daycares, Care Centers, etc.?

12 (minimum)

Do you track frequency of screen cleanings and screening equipment maintenance logs?

Yes

No

In the collection system: On average, how many ragging events do you experience per week?

Less than 2

3 to 6

7 to 14

Greater than 14

In the collection system: If more than 0 events per week, roughly how many labor-hours per week are used to address "ragging"?

- 1 to 2 hours
- 3 to 6 hours
- 7 to 10 hours
- 11 to 20 hours
- Greater than 20 hours

At the headworks: How many "ragging" events do you experience per week?

- Less than 2
- 3 to 6
- 7 to 14
- Greater than 14

At the headworks: If more than 0, roughly how many labor-hours/week are used to address "ragging"?

- 1 to 2 hours
- 3 to 6 hours
- 7 to 10 hours
- 11 to 20 hours
- Greater than 20 hours

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Google Forms

AB 818 Wipes Collection Study Survey

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To help the support the design of the collection study, please answer the following questions:

The respondent's email (jdang@oroloma.org) was recorded on submission of this form.

Email *

jdang@oroloma.org



1. Is your agency interested in participating in a wipes collection study? Participation requirements:

i. At least 1-2 staff available to collect, clean, separate, and sort collected materials from your facility's bar screen(s) and record information on provided forms.

ii. Participation in a training session and a series of collection events (one in the wet season and one in the dry season). Collection events are estimated to take place over 3 consecutive days of 2-4 hours each day during peak flows.

Yes

No

Name, phone number, and email address of someone we can contact for follow-up.

Jimmy Dang

Agency Name

Oro Loma Sanitary District

Treatment Facility Name

Oro Loma/Castro Valley Sanitary District Water Pollution Control Plant

Service Area (city name, county, geographic description, etc.)

San Lorenzo, CA

Is GIS available for your collection system?

- Yes
- No

Is your collection system

- Combined sewer/storm system
- Dedicated sewer
- Both

What is the average sanitary or dry weather flow of your treatment facility?

- Less than 1.0 MGD
- 1.1 MGD to 5.0 MGD
- 5.1 MGD to 10.0 MGD
- 10.1 MGD to 25.0 MGD
- 25.1 MGD to 50.0 MGD
- Greater than 50.0 MGD

How is sewage conveyed?

- Predominantly Gravity
- Predominantly Pumped
- Trucked in from another entity
- Connection with another Collection system(s)
- Other:

Are your pumped stations equipped with screens? Description of screens, select all that apply.

- Manually cleaned bar
- Mechanically cleaned bar
- Mechanically cleaned bar: Chain/cable driven
- Mechanically cleaned bar: Reciprocating rake
- Mechanically cleaned bar: Continuous self-cleaning
- Mechanically cleaned fine screen
- Other:

a. Are there grinders, comminutors, or other equipment installed upstream to or at the screen(s) that would tear apart or damage materials?

No.

Are your headworks equipped with screens? Description of screen(s), select all that apply.

- Manually cleaned bar
- Mechanically cleaned bar
- Mechanically cleaned bar: Chain/cable driven
- Mechanically cleaned bar: Reciprocating rake
- Mechanically cleaned bar: Continuous self-cleaning
- Mechanically cleaned fine screen
- Other:

a. Are there grinders, comminutors, or other equipment installed upstream to or at the screen(s) that would tear apart or damage materials?

No.

How many miles of collection system?

- Less than 50
- 51 to 100
- 101 to 500
- 501 to 1,000
- 1,000 to 5,000
- Greater than 5,000

How many lift stations?

- 0 to 5
- 6 to 20
- Greater than 21

How many lift stations w/solids handling pumps?

- 0 to 5
- 6 to 20
- Greater than 21

How many lift stations w/grinders/chopper pumps?

- 0 to 5
- 6 to 20
- Greater than 21

Number of total connections?

47000

Number of Single Family connections?

45000

Number of Multi-Family units?

2000

Number of Hospitals, Daycares, Care Centers, etc.?

1-10

Do you track frequency of screen cleanings and screening equipment maintenance logs?

Yes

No

In the collection system: On average, how many ragging events do you experience per week?

Less than 2

3 to 6

7 to 14

Greater than 14

In the collection system: If more than 0 events per week, roughly how many labor-hours per week are used to address "ragging"?

- 1 to 2 hours
- 3 to 6 hours
- 7 to 10 hours
- 11 to 20 hours
- Greater than 20 hours

At the headworks: How many "ragging" events do you experience per week?

- Less than 2
- 3 to 6
- 7 to 14
- Greater than 14

At the headworks: If more than 0, roughly how many labor-hours/week are used to address "ragging"?

- 1 to 2 hours
- 3 to 6 hours
- 7 to 10 hours
- 11 to 20 hours
- Greater than 20 hours

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Google Forms

AB 818 Wipes Collection Study Survey

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To help the support the design of the collection study, please answer the following questions:

The respondent's email (aflesse@santabarbaraca.gov) was recorded on submission of this form.

Email *

aflesse@santabarbaraca.gov



1. Is your agency interested in participating in a wipes collection study? Participation requirements:

i. At least 1-2 staff available to collect, clean, separate, and sort collected materials from your facility's bar screen(s) and record information on provided forms.

ii. Participation in a training session and a series of collection events (one in the wet season and one in the dry season). Collection events are estimated to take place over 3 consecutive days of 2-4 hours each day during peak flows.

Yes

No

Name, phone number, and email address of someone we can contact for follow-up.

Amanda Flesse, 805-564-5412, aflesse@santabarbaraca.gov

Agency Name

City of Santa Barbara

Treatment Facility Name

El Estero Water Resource Center

Service Area (city name, county, geographic description, etc.)

City of Santa Barbara, Santa Barbara County

Is GIS available for your collection system?

- Yes
- No

Is your collection system

- Combined sewer/storm system
- Dedicated sewer
- Both

What is the average sanitary or dry weather flow of your treatment facility?

- Less than 1.0 MGD
- 1.1 MGD to 5.0 MGD
- 5.1 MGD to 10.0 MGD
- 10.1 MGD to 25.0 MGD
- 25.1 MGD to 50.0 MGD
- Greater than 50.0 MGD

How is sewage conveyed?

- Predominantly Gravity
- Predominantly Pumped
- Trucked in from another entity
- Connection with another Collection system(s)
- Other:

Are your pumped stations equipped with screens? Description of screens, select all that apply.

- Manually cleaned bar
- Mechanically cleaned bar
- Mechanically cleaned bar: Chain/cable driven
- Mechanically cleaned bar: Reciprocating rake
- Mechanically cleaned bar: Continuous self-cleaning
- Mechanically cleaned fine screen
- Other:

a. Are there grinders, comminutors, or other equipment installed upstream to or at the screen(s) that would tear apart or damage materials?

No

Are your headworks equipped with screens? Description of screen(s), select all that apply.

- Manually cleaned bar
- Mechanically cleaned bar
- Mechanically cleaned bar: Chain/cable driven
- Mechanically cleaned bar: Reciprocating rake
- Mechanically cleaned bar: Continuous self-cleaning
- Mechanically cleaned fine screen
- Other:

a. Are there grinders, comminutors, or other equipment installed upstream to or at the screen(s) that would tear apart or damage materials?

No, just the lift stations

How many miles of collection system?

- Less than 50
- 51 to 100
- 101 to 500
- 501 to 1,000
- 1,000 to 5,000
- Greater than 5,000

How many lift stations?

- 0 to 5
- 6 to 20
- Greater than 21

How many lift stations w/solids handling pumps?

- 0 to 5
- 6 to 20
- Greater than 21

How many lift stations w/grinders/chopper pumps?

- 0 to 5
- 6 to 20
- Greater than 21

Number of total connections?

27,000

Number of Single Family connections?

Number of Multi-Family units?

Number of Hospitals, Daycares, Care Centers, etc.?

Do you track frequency of screen cleanings and screening equipment maintenance logs?

Yes

No

In the collection system: On average, how many ragging events do you experience per week?

Less than 2

3 to 6

7 to 14

Greater than 14

In the collection system: If more than 0 events per week, roughly how many labor-hours per week are used to address "ragging"?

- 1 to 2 hours
- 3 to 6 hours
- 7 to 10 hours
- 11 to 20 hours
- Greater than 20 hours

At the headworks: How many "ragging" events do you experience per week?

- Less than 2
- 3 to 6
- 7 to 14
- Greater than 14

At the headworks: If more than 0, roughly how many labor-hours/week are used to address "ragging"?

- 1 to 2 hours
- 3 to 6 hours
- 7 to 10 hours
- 11 to 20 hours
- Greater than 20 hours

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AB 818 Wipes Collection Study Survey

To gain understanding of consumer behavior regarding the flushing of pre-moistened non-woven disposal wipes as a key input into the design of the consumer education and outreach program, representatives from the California Association of Sanitation Agencies (CASA) and representatives from the pre-moistened non-woven disposable wipes manufacturers (INDA, Association of the Non-woven Fabrics Industry) formed an advisory group to collaborate on the wipes collection study.

Through sampling events, the study will collect data from participating wastewater collection systems related to the volume and characteristics of non-sewage materials that are being flushed into the collection system, including pre-moistened non-woven disposal wipes as well as other material (e.g. clothing, toys) and sampling conditions. The data will be collated and summarized for use in the design of the consumer education and outreach program.

To help the support the design of the collection study, please answer the following questions:

The respondent's email (joser@unionsanitary.ca.gov) was recorded on submission of this form.

Email *

joser@unionsanitary.ca.gov



1. Is your agency interested in participating in a wipes collection study? Participation requirements:

i. At least 1-2 staff available to collect, clean, separate, and sort collected materials from your facility's bar screen(s) and record information on provided forms.

ii. Participation in a training session and a series of collection events (one in the wet season and one in the dry season). Collection events are estimated to take place over 3 consecutive days of 2-4 hours each day during peak flows.

Yes

No

Name, phone number, and email address of someone we can contact for follow-up.

Jose Rodrigues, 510-477-7542, Joser@unionsanitary.ca.gov

Agency Name

Union Sanitary District

Treatment Facility Name

Raymond A Boege Alvarado WWTP

Service Area (city name, county, geographic description, etc.)

Fremont, Newark, Union City (Alameda County)

Is GIS available for your collection system?

- Yes
- No

Is your collection system

- Combined sewer/storm system
- Dedicated sewer
- Both

What is the average sanitary or dry weather flow of your treatment facility?

- Less than 1.0 MGD
- 1.1 MGD to 5.0 MGD
- 5.1 MGD to 10.0 MGD
- 10.1 MGD to 25.0 MGD
- 25.1 MGD to 50.0 MGD
- Greater than 50.0 MGD

How is sewage conveyed?

- Predominantly Gravity
- Predominantly Pumped
- Trucked in from another entity
- Connection with another Collection system(s)
- Other:

Are your pumped stations equipped with screens? Description of screens, select all that apply.

- Manually cleaned bar
- Mechanically cleaned bar
- Mechanically cleaned bar: Chain/cable driven
- Mechanically cleaned bar: Reciprocating rake
- Mechanically cleaned bar: Continuous self-cleaning
- Mechanically cleaned fine screen
- Other:

a. Are there grinders, comminutors, or other equipment installed upstream to or at the screen(s) that would tear apart or damage materials?

No

Are your headworks equipped with screens? Description of screen(s), select all that apply.

- Manually cleaned bar
- Mechanically cleaned bar
- Mechanically cleaned bar: Chain/cable driven
- Mechanically cleaned bar: Reciprocating rake
- Mechanically cleaned bar: Continuous self-cleaning
- Mechanically cleaned fine screen
- Other:

a. Are there grinders, comminutors, or other equipment installed upstream to or at the screen(s) that would tear apart or damage materials?

No

How many miles of collection system?

- Less than 50
- 51 to 100
- 101 to 500
- 501 to 1,000
- 1,000 to 5,000
- Greater than 5,000

How many lift stations?

- 0 to 5
- 6 to 20
- Greater than 21

How many lift stations w/solids handling pumps?

- 0 to 5
- 6 to 20
- Greater than 21

How many lift stations w/grinders/chopper pumps?

- 0 to 5
- 6 to 20
- Greater than 21

Number of total connections?

118,973

Number of Single Family connections?

69,927

Number of Multi-Family units?

47,178

Number of Hospitals, Daycares, Care Centers, etc.?

501 - this includes schools

Do you track frequency of screen cleanings and screening equipment maintenance logs?

- Yes
- No

In the collection system: On average, how many ragging events do you experience per week?

- Less than 2
- 3 to 6
- 7 to 14
- Greater than 14

In the collection system: If more than 0 events per week, roughly how many labor-hours per week are used to address "ragging"?

- 1 to 2 hours
- 3 to 6 hours
- 7 to 10 hours
- 11 to 20 hours
- Greater than 20 hours

At the headworks: How many "ragging" events do you experience per week?

- Less than 2
- 3 to 6
- 7 to 14
- Greater than 14

At the headworks: If more than 0, roughly how many labor-hours/week are used to address "ragging"?

- 1 to 2 hours
- 3 to 6 hours
- 7 to 10 hours
- 11 to 20 hours
- Greater than 20 hours

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AB 818 Wipes Collection Study Survey

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Through sampling events, the study will collect data from participating wastewater collection systems related to the volume and characteristics of non-sewage materials that are being flushed into the collection system, including pre-moistened non-woven disposal wipes as well as other material (e.g. clothing, toys) and sampling conditions. The data will be collated and summarized for use in the design of the consumer education and outreach program.

To help the support the design of the collection study, please answer the following questions:

The respondent's email (mmorton@vallejowastewater.org) was recorded on submission of this form.

Email *

mmorton@vallejowastewater.org



1. Is your agency interested in participating in a wipes collection study? Participation requirements:

i. At least 1-2 staff available to collect, clean, separate, and sort collected materials from your facility's bar screen(s) and record information on provided forms.

ii. Participation in a training session and a series of collection events (one in the wet season and one in the dry season). Collection events are estimated to take place over 3 consecutive days of 2-4 hours each day during peak flows.

Yes

No

Name, phone number, and email address of someone we can contact for follow-up.

.....

Agency Name

Vallejo Flood and Wastewater District
.....

Treatment Facility Name

N/A
.....

Service Area (city name, county, geographic description, etc.)

City of Vallejo, SF Bay Area
.....

Is GIS available for your collection system?

- Yes
- No

Is your collection system

- Combined sewer/storm system
- Dedicated sewer
- Both

What is the average sanitary or dry weather flow of your treatment facility?

- Less than 1.0 MGD
- 1.1 MGD to 5.0 MGD
- 5.1 MGD to 10.0 MGD
- 10.1 MGD to 25.0 MGD
- 25.1 MGD to 50.0 MGD
- Greater than 50.0 MGD

How is sewage conveyed?

- Predominantly Gravity
- Predominantly Pumped
- Trucked in from another entity
- Connection with another Collection system(s)
- Other:

Are your pumped stations equipped with screens? Description of screens, select all that apply.

- Manually cleaned bar
- Mechanically cleaned bar
- Mechanically cleaned bar: Chain/cable driven
- Mechanically cleaned bar: Reciprocating rake
- Mechanically cleaned bar: Continuous self-cleaning
- Mechanically cleaned fine screen
- Other: None

a. Are there grinders, comminutors, or other equipment installed upstream to or at the screen(s) that would tear apart or damage materials?

No

Are your headworks equipped with screens? Description of screen(s), select all that apply.

- Manually cleaned bar
- Mechanically cleaned bar
- Mechanically cleaned bar: Chain/cable driven
- Mechanically cleaned bar: Reciprocating rake
- Mechanically cleaned bar: Continuous self-cleaning
- Mechanically cleaned fine screen
- Other:

a. Are there grinders, comminutors, or other equipment installed upstream to or at the screen(s) that would tear apart or damage materials?

No

How many miles of collection system?

- Less than 50
- 51 to 100
- 101 to 500
- 501 to 1,000
- 1,000 to 5,000
- Greater than 5,000

How many lift stations?

- 0 to 5
- 6 to 20
- Greater than 21

How many lift stations w/solids handling pumps?

- 0 to 5
- 6 to 20
- Greater than 21

How many lift stations w/grinders/chopper pumps?

- 0 to 5
- 6 to 20
- Greater than 21

Number of total connections?

37,773

Number of Single Family connections?

34,332

Number of Multi-Family units?

2057

Number of Hospitals, Daycares, Care Centers, etc.?

1195 Commercial, 189 Government - 2 hospitals

Do you track frequency of screen cleanings and screening equipment maintenance logs?

Yes

No

In the collection system: On average, how many ragging events do you experience per week?

Less than 2

3 to 6

7 to 14

Greater than 14

In the collection system: If more than 0 events per week, roughly how many labor-hours per week are used to address "ragging"?

- 1 to 2 hours
- 3 to 6 hours
- 7 to 10 hours
- 11 to 20 hours
- Greater than 20 hours

At the headworks: How many "ragging" events do you experience per week?

- Less than 2
- 3 to 6
- 7 to 14
- Greater than 14

At the headworks: If more than 0, roughly how many labor-hours/week are used to address "ragging"?

- 1 to 2 hours
- 3 to 6 hours
- 7 to 10 hours
- 11 to 20 hours
- Greater than 20 hours

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Google Forms

AB 818 Wipes Collection Study Survey

To gain understanding of consumer behavior regarding the flushing of pre-moistened non-woven disposal wipes as a key input into the design of the consumer education and outreach program, representatives from the California Association of Sanitation Agencies (CASA) and representatives from the pre-moistened non-woven disposable wipes manufacturers (INDA, Association of the Non-woven Fabrics Industry) formed an advisory group to collaborate on the wipes collection study.

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To help the support the design of the collection study, please answer the following questions:

The respondent's email (mbrooks@lakearrowheadcsd.com) was recorded on submission of this form.

Email *

mbrooks@lakearrowheadcsd.com



1. Is your agency interested in participating in a wipes collection study? Participation requirements:

i. At least 1-2 staff available to collect, clean, separate, and sort collected materials from your facility's bar screen(s) and record information on provided forms.

ii. Participation in a training session and a series of collection events (one in the wet season and one in the dry season). Collection events are estimated to take place over 3 consecutive days of 2-4 hours each day during peak flows.

Yes

No

Name, phone number, and email address of someone we can contact for follow-up.

Matt O'Kelly, (909) 336-7152, mokelly@lakearrowheadcsd.com

Agency Name

Lake Arrowhead Community Services District

Treatment Facility Name

Grass Valley WWTP

Service Area (city name, county, geographic description, etc.)

Lake Arrowhead, San Bernardino County

Is GIS available for your collection system?

- Yes
- No

Is your collection system

- Combined sewer/storm system
- Dedicated sewer
- Both

What is the average sanitary or dry weather flow of your treatment facility?

- Less than 1.0 MGD
- 1.1 MGD to 5.0 MGD
- 5.1 MGD to 10.0 MGD
- 10.1 MGD to 25.0 MGD
- 25.1 MGD to 50.0 MGD
- Greater than 50.0 MGD

How is sewage conveyed?

- Predominantly Gravity
- Predominantly Pumped
- Trucked in from another entity
- Connection with another Collection system(s)
- Other:

Are your pumped stations equipped with screens? Description of screens, select all that apply.

- Manually cleaned bar
- Mechanically cleaned bar
- Mechanically cleaned bar: Chain/cable driven
- Mechanically cleaned bar: Reciprocating rake
- Mechanically cleaned bar: Continuous self-cleaning
- Mechanically cleaned fine screen
- Other: No our pump stations do not have screening

a. Are there grinders, comminutors, or other equipment installed upstream to or at the screen(s) that would tear apart or damage materials?

No, grinders are downstream.

Are your headworks equipped with screens? Description of screen(s), select all that apply.

- Manually cleaned bar
- Mechanically cleaned bar
- Mechanically cleaned bar: Chain/cable driven
- Mechanically cleaned bar: Reciprocating rake
- Mechanically cleaned bar: Continuous self-cleaning
- Mechanically cleaned fine screen
- Other: Mechanically cleaned step-screen

a. Are there grinders, comminutors, or other equipment installed upstream to or at the screen(s) that would tear apart or damage materials?

No, grinders are downstream.

How many miles of collection system?

- Less than 50
- 51 to 100
- 101 to 500
- 501 to 1,000
- 1,000 to 5,000
- Greater than 5,000

How many lift stations?

- 0 to 5
- 6 to 20
- Greater than 21

How many lift stations w/solids handling pumps?

- 0 to 5
- 6 to 20
- Greater than 21

How many lift stations w/grinders/chopper pumps?

- 0 to 5
- 6 to 20
- Greater than 21

Number of total connections?

10,718

Number of Single Family connections?

10,320

Number of Multi-Family units?

137

Number of Hospitals, Daycares, Care Centers, etc.?

2

Do you track frequency of screen cleanings and screening equipment maintenance logs?

Yes

No

In the collection system: On average, how many ragging events do you experience per week?

Less than 2

3 to 6

7 to 14

Greater than 14

In the collection system: If more than 0 events per week, roughly how many labor-hours per week are used to address "ragging"?

- 1 to 2 hours
- 3 to 6 hours
- 7 to 10 hours
- 11 to 20 hours
- Greater than 20 hours

At the headworks: How many "ragging" events do you experience per week?

- Less than 2
- 3 to 6
- 7 to 14
- Greater than 14

At the headworks: If more than 0, roughly how many labor-hours/week are used to address "ragging"?

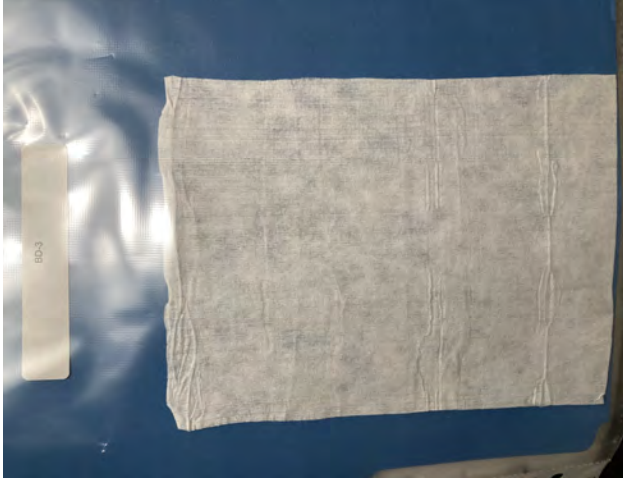
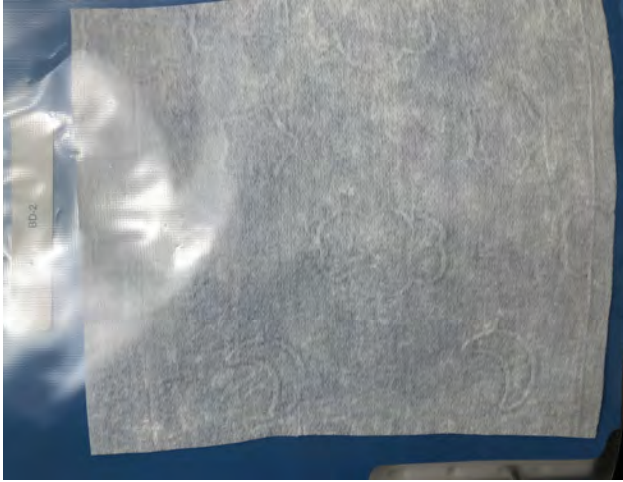
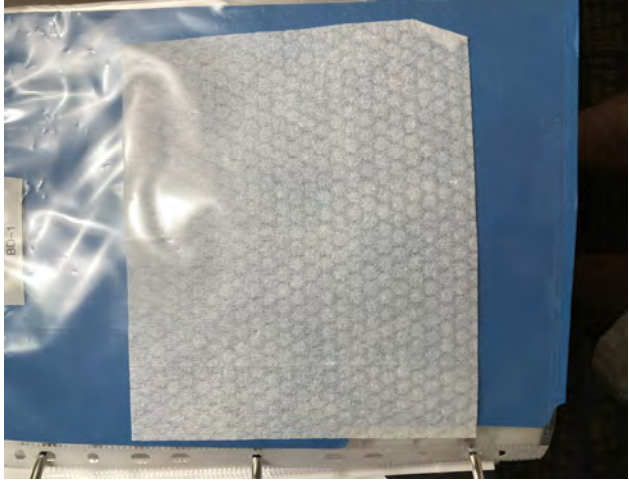
- 1 to 2 hours
- 3 to 6 hours
- 7 to 10 hours
- 11 to 20 hours
- Greater than 20 hours

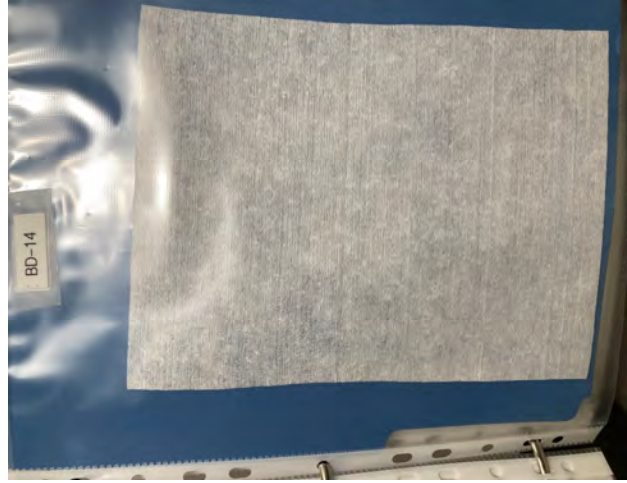
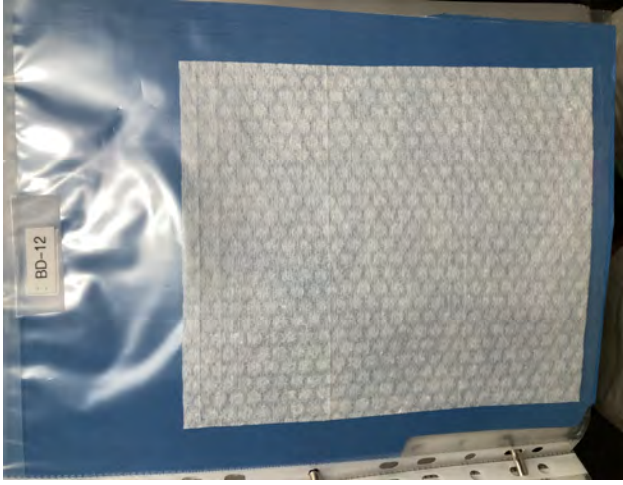
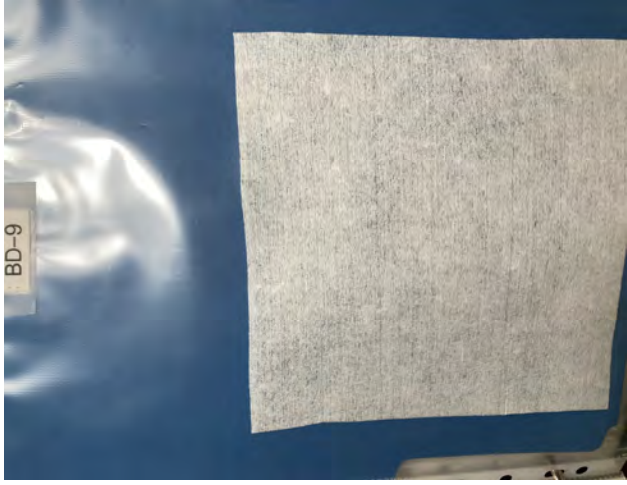
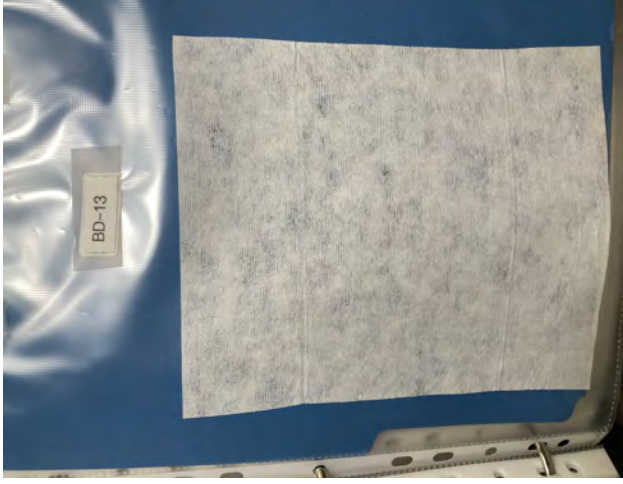
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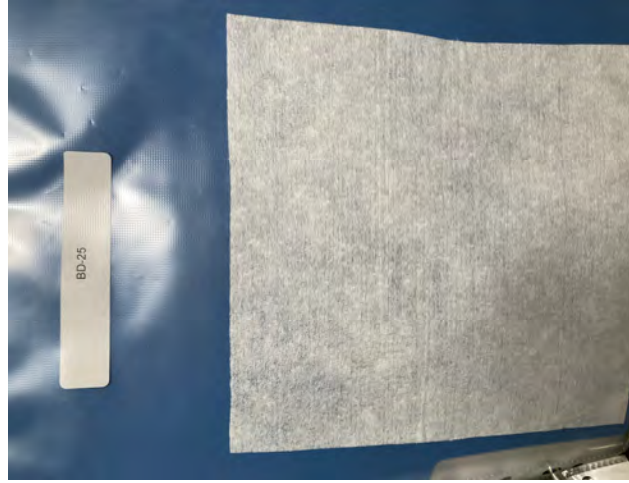
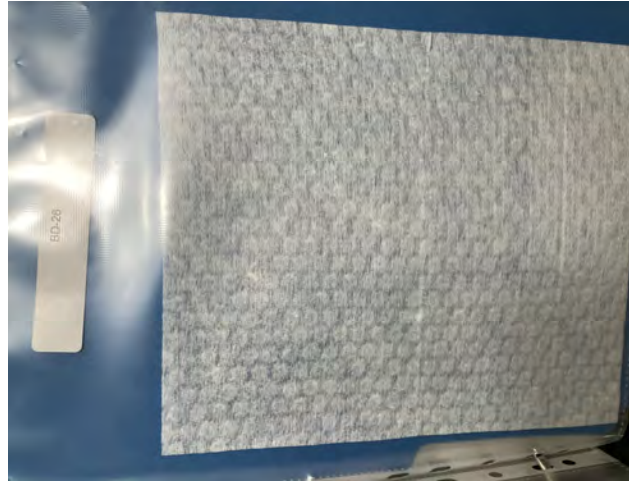
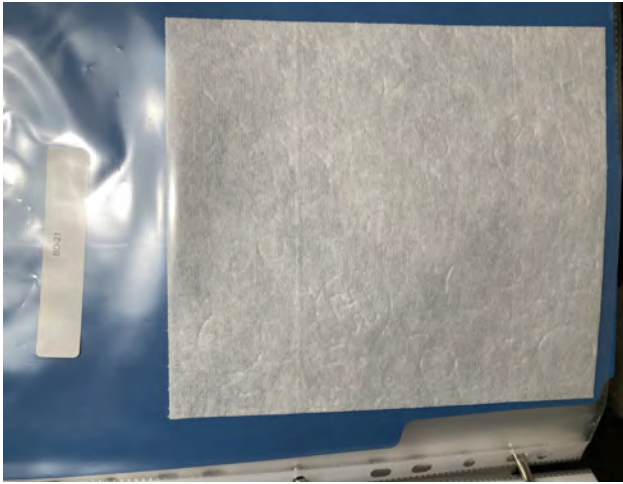
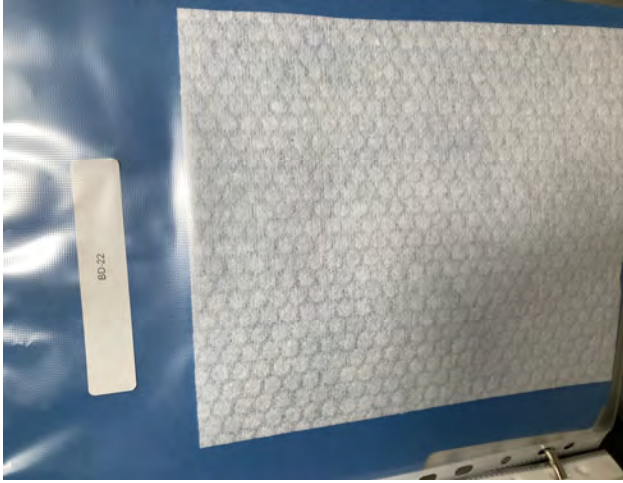
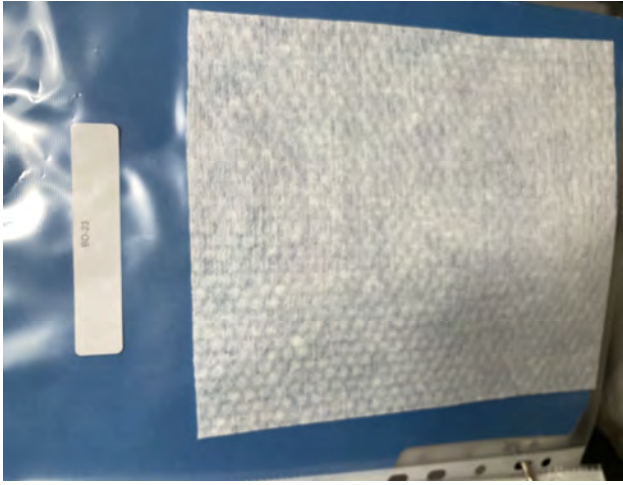
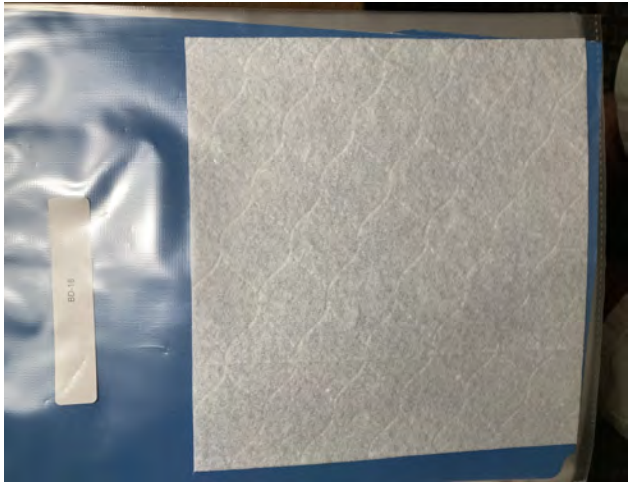
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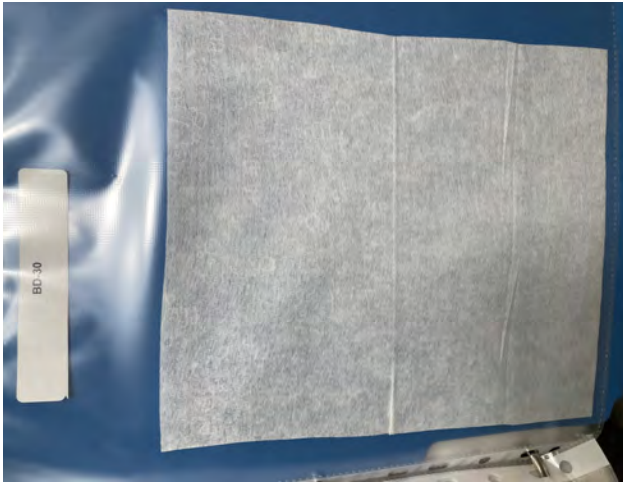
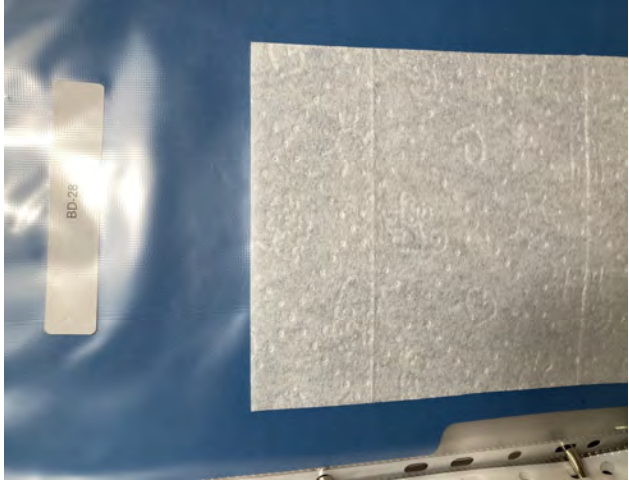
Appendix C

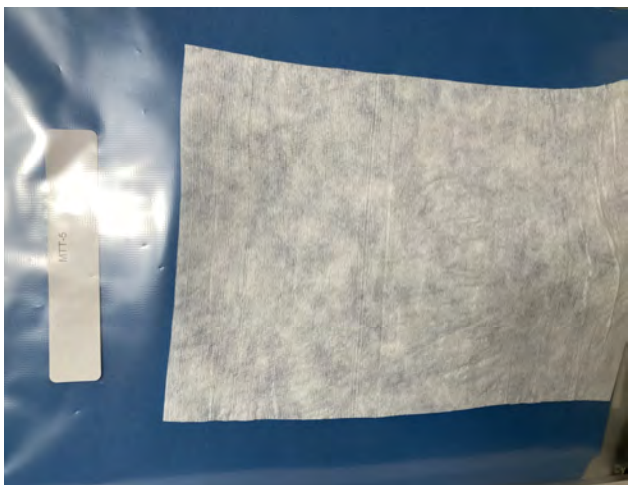
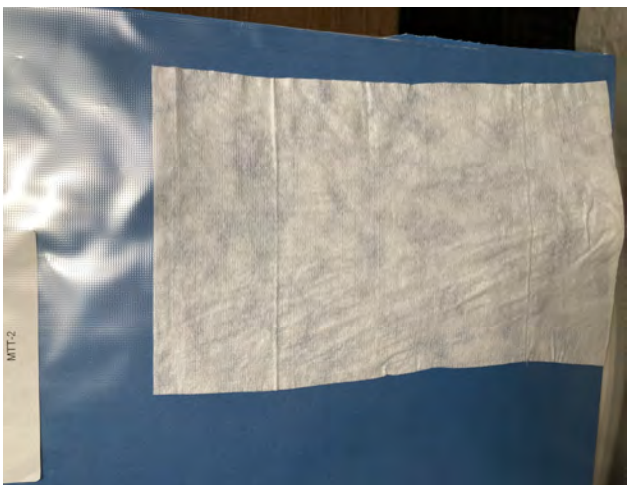
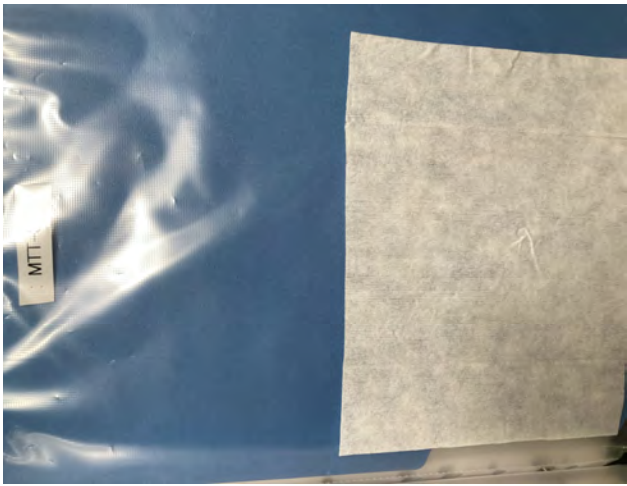
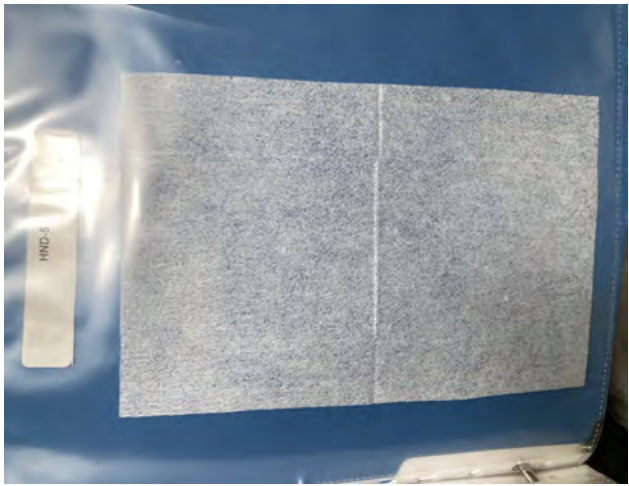
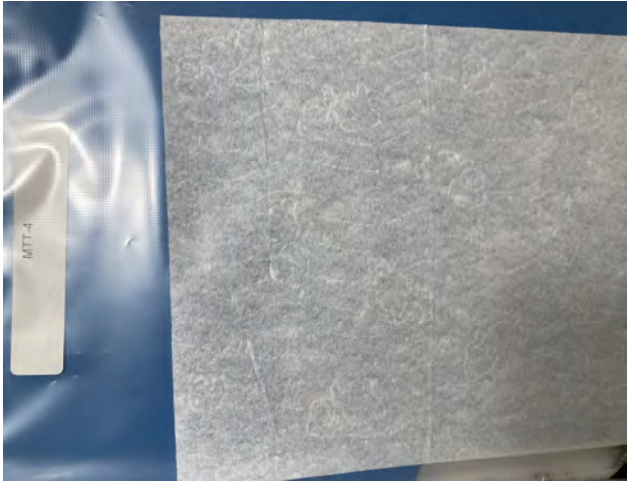
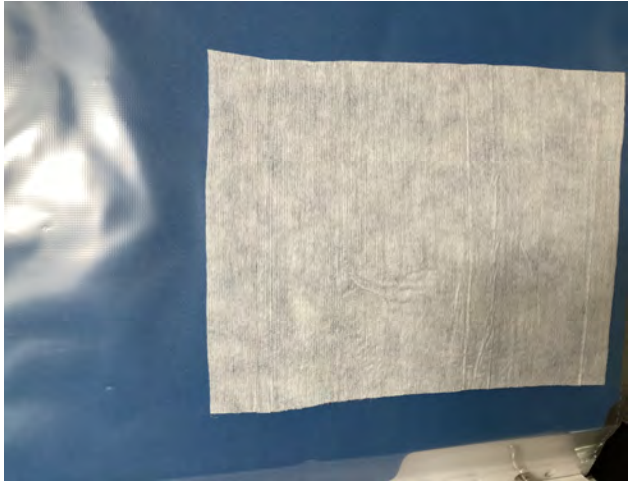
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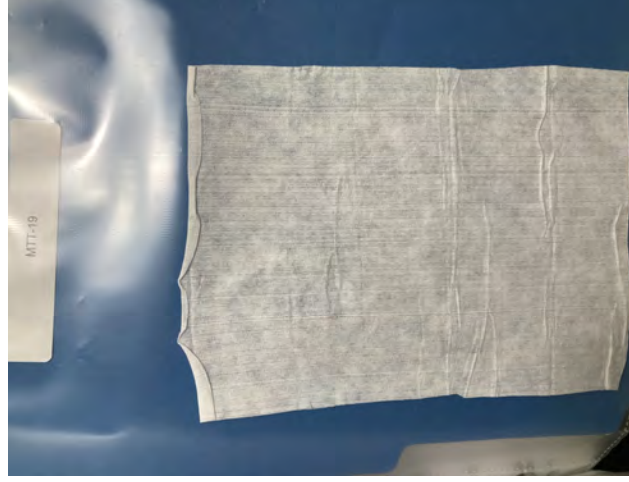
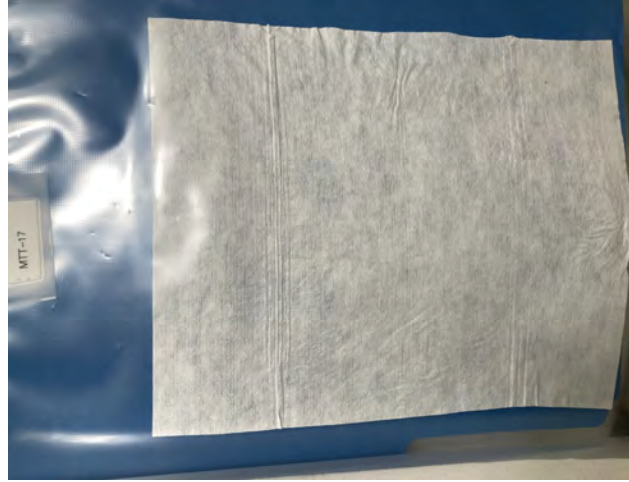
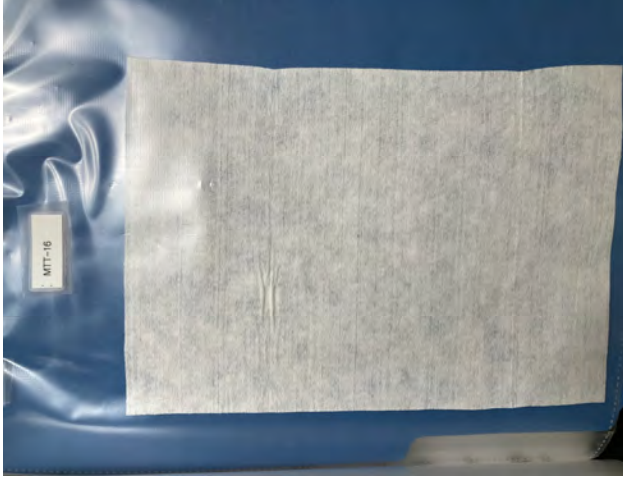
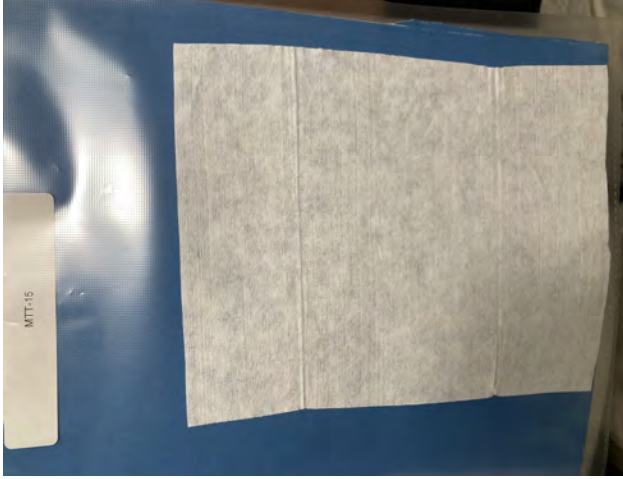
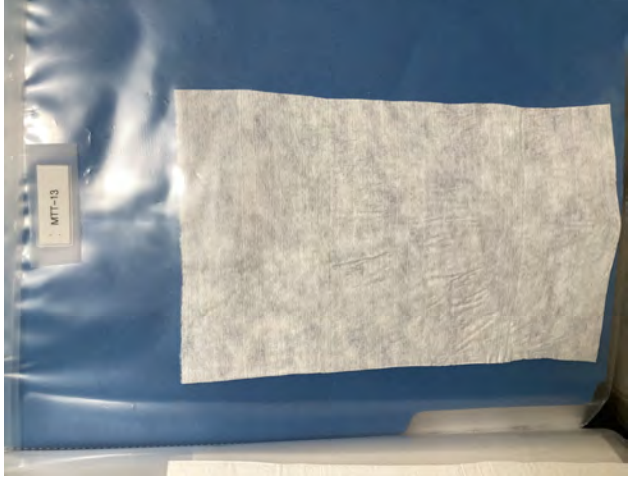
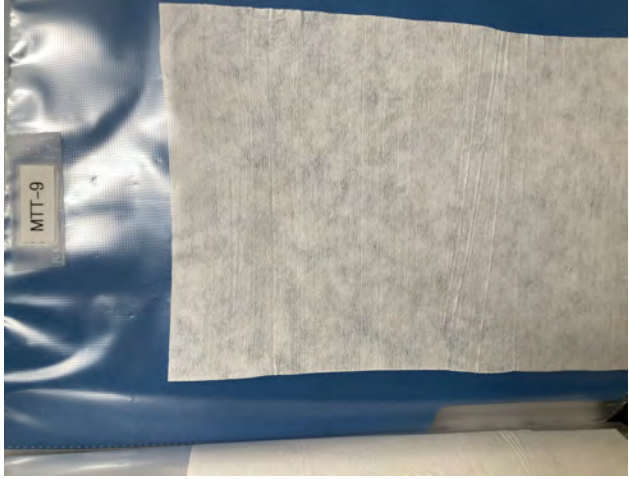
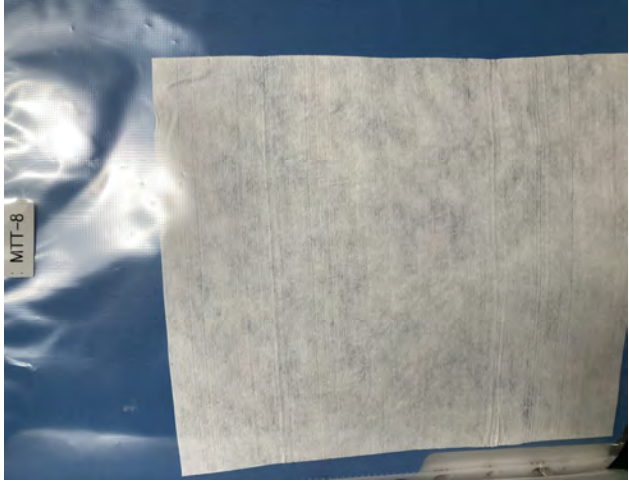


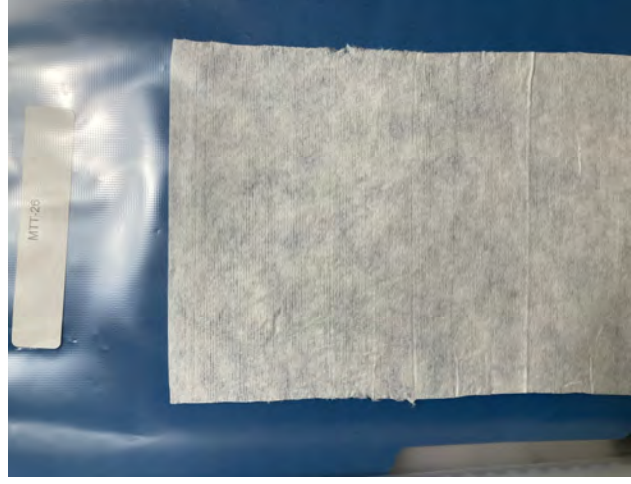
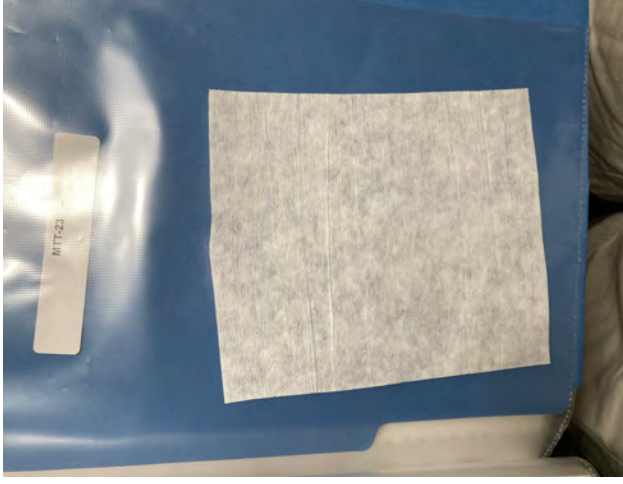
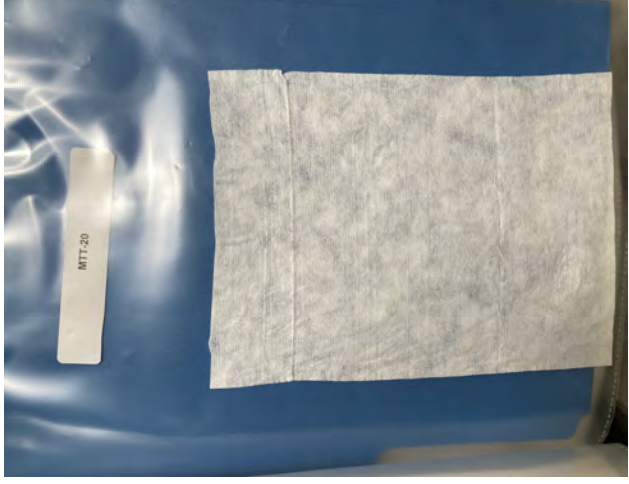
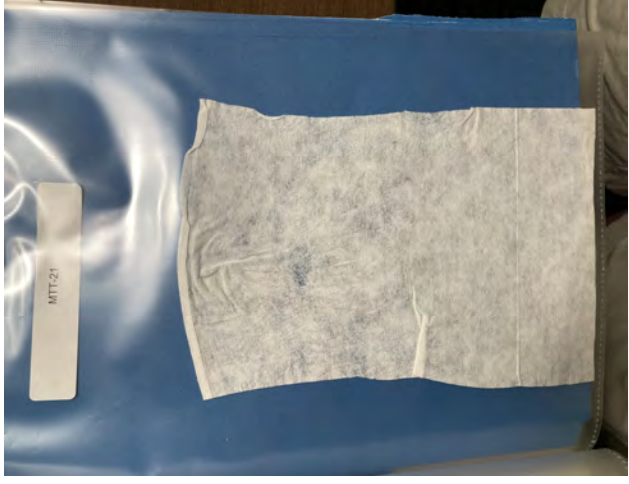
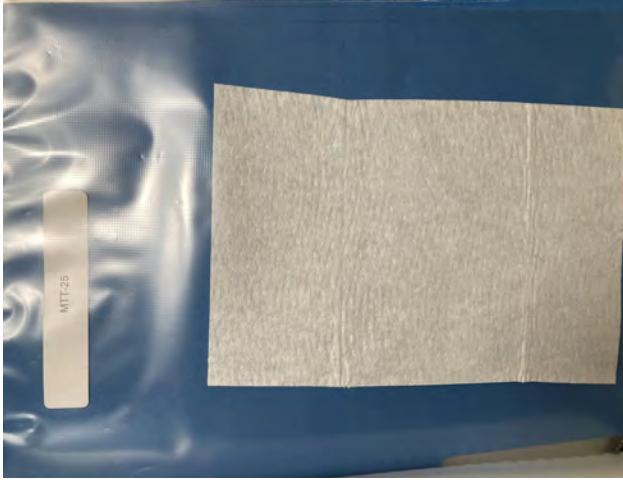
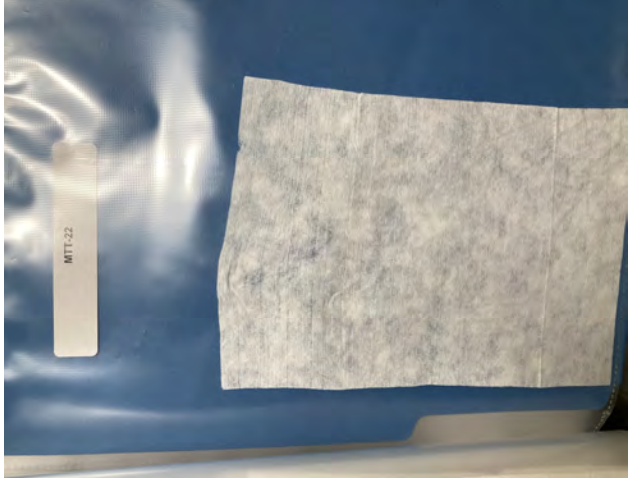


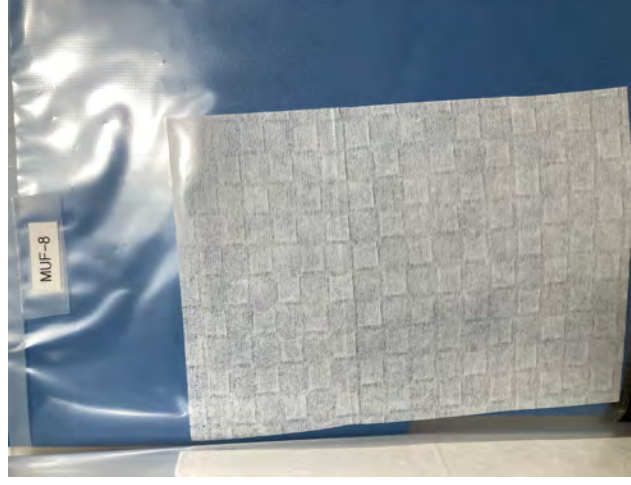
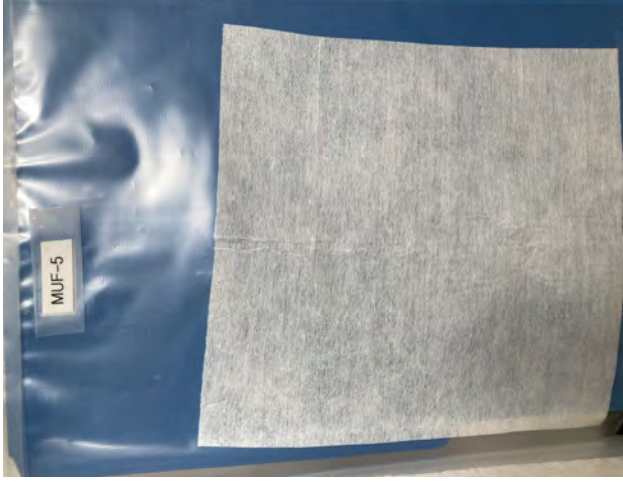
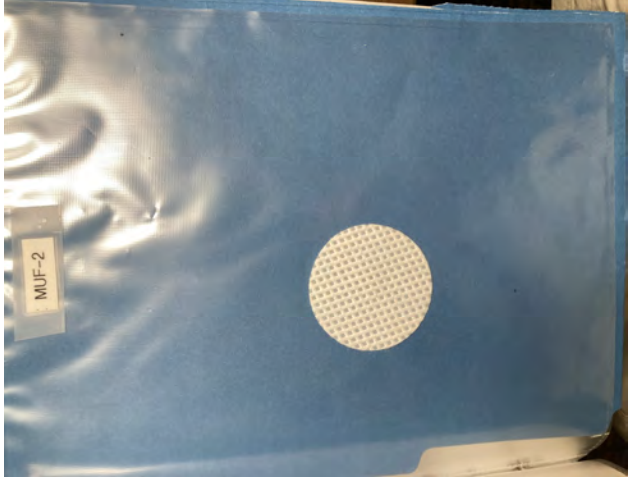
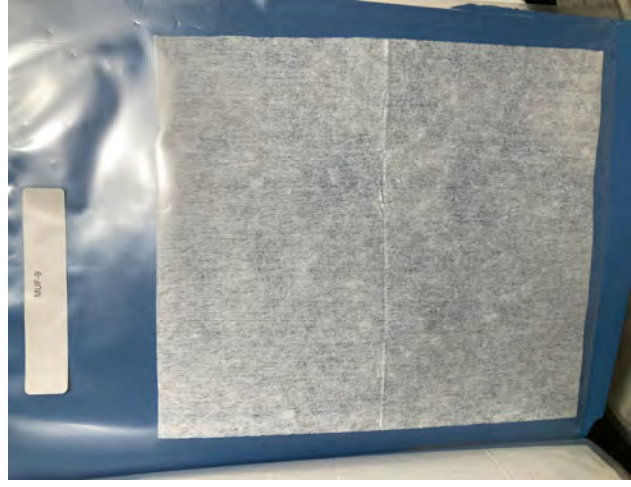
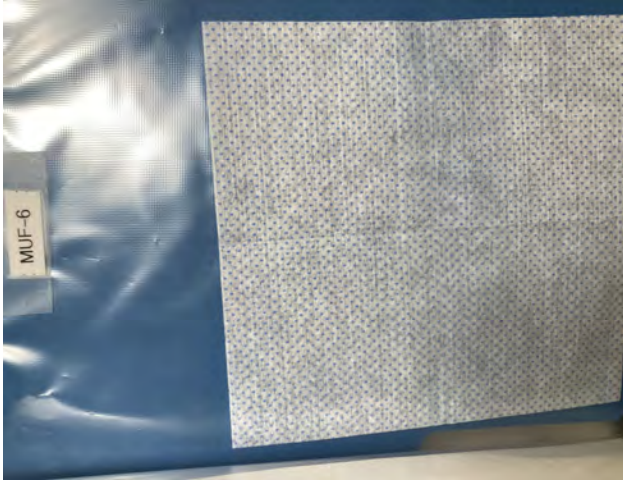
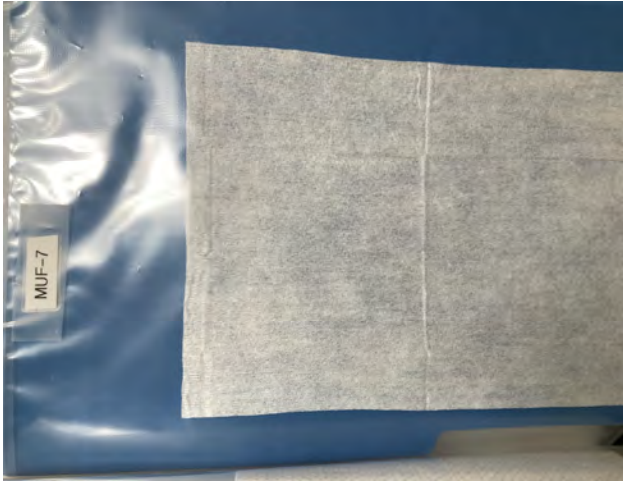


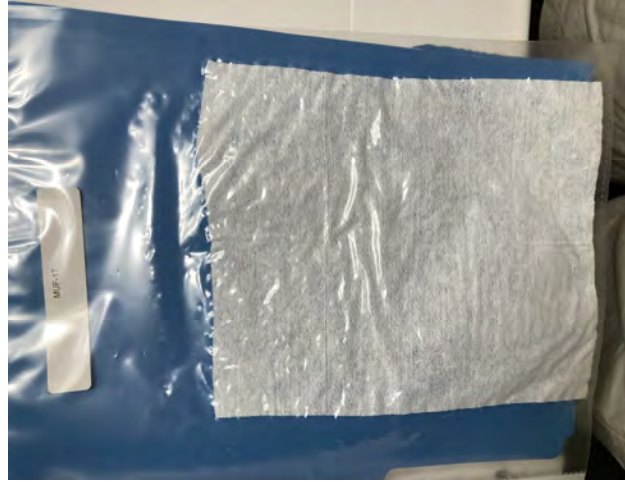
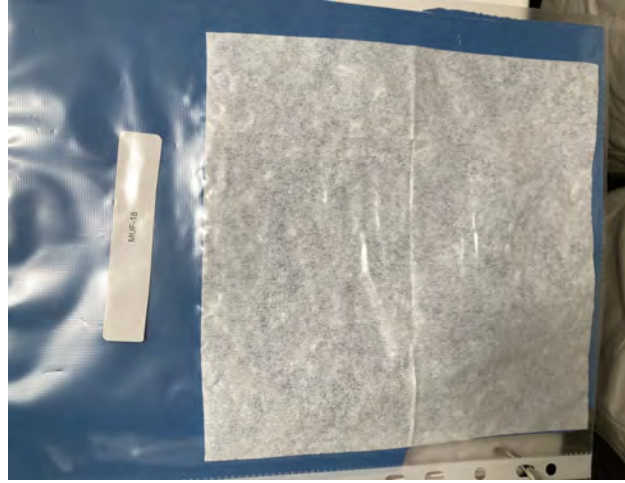
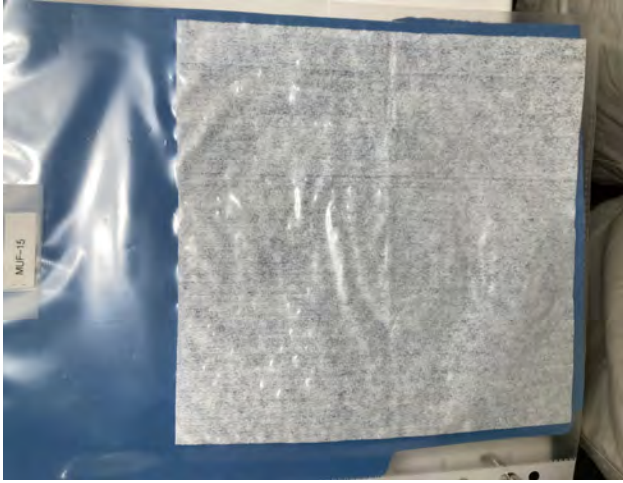
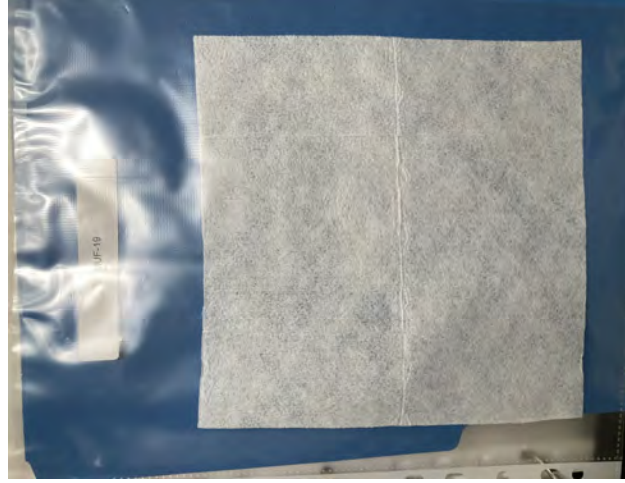
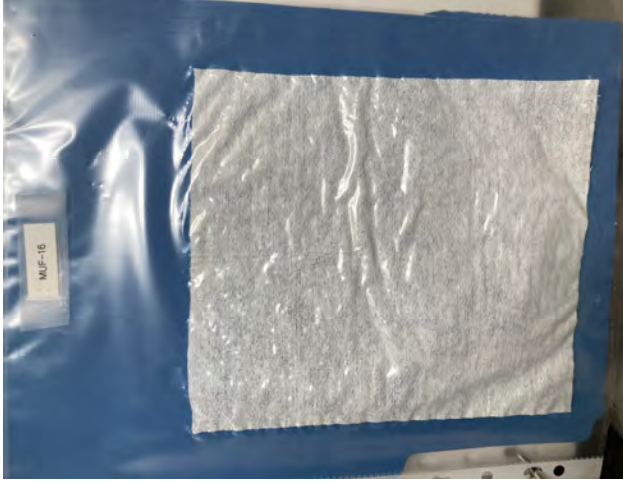


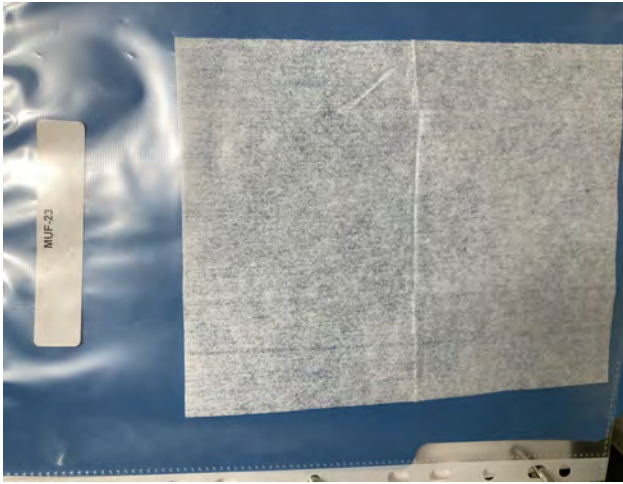
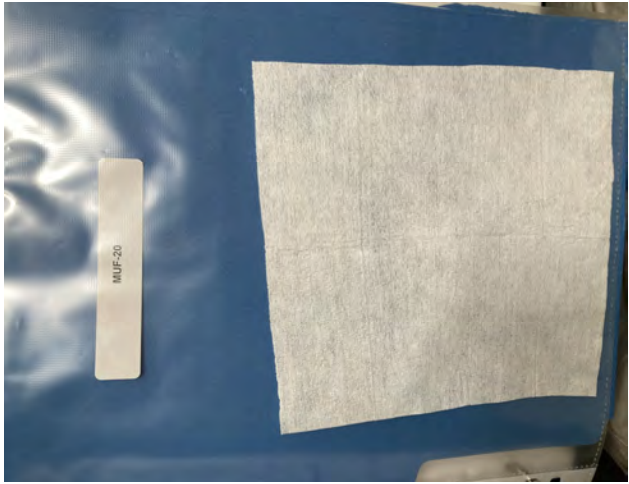
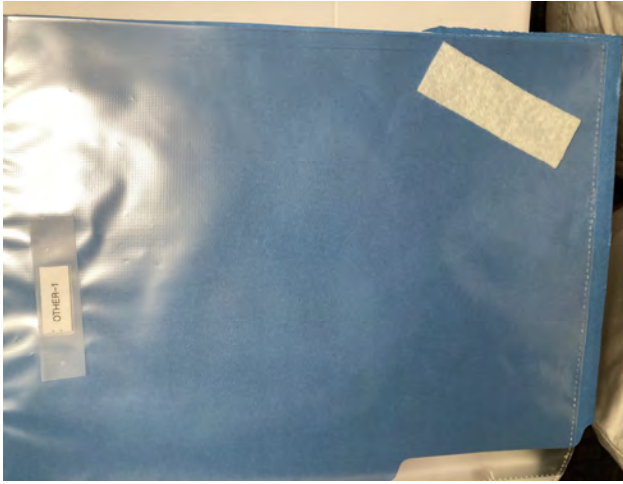
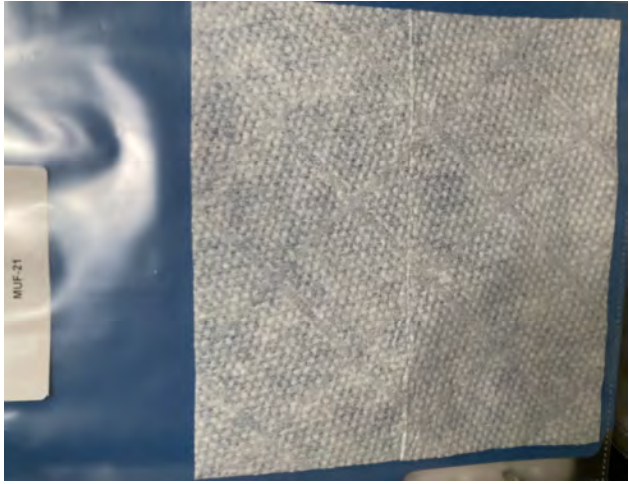
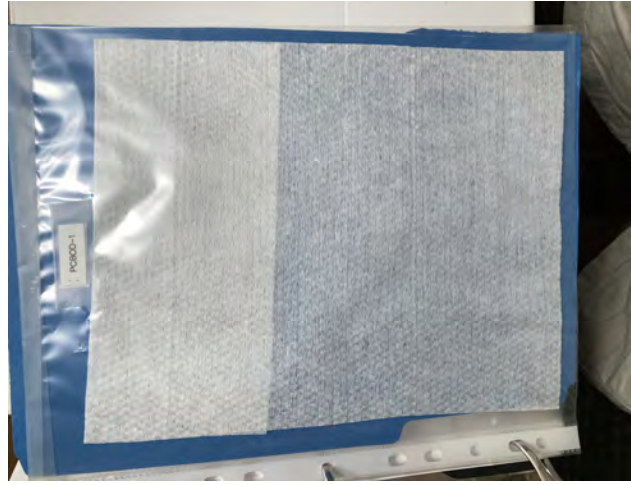
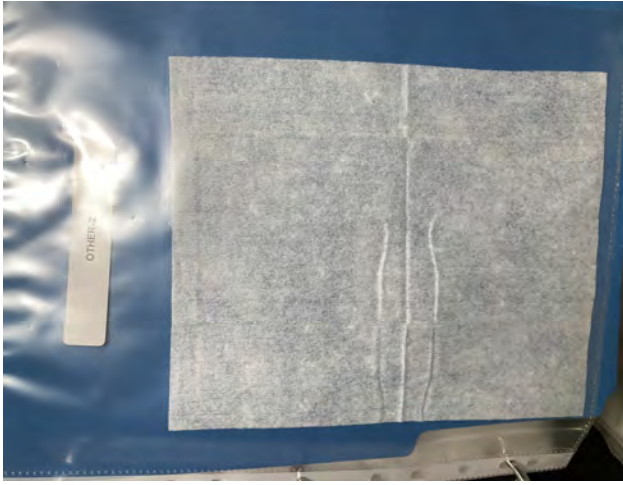


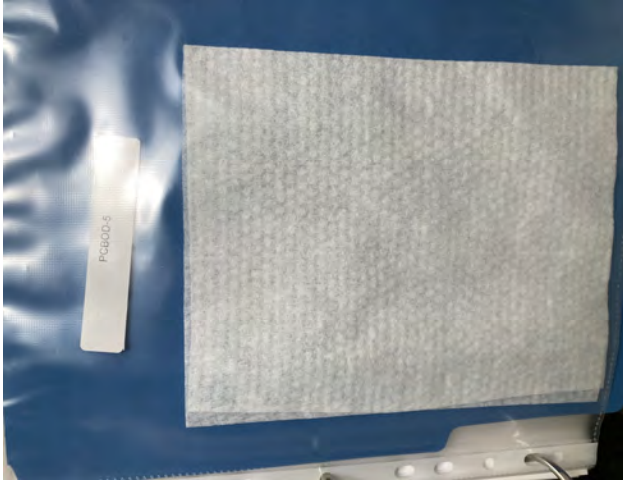
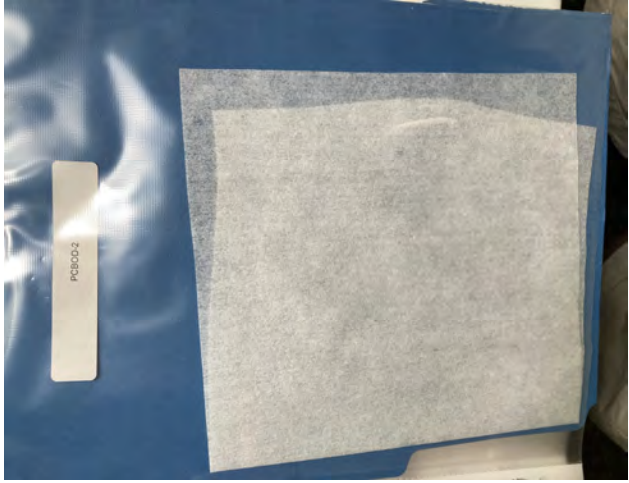
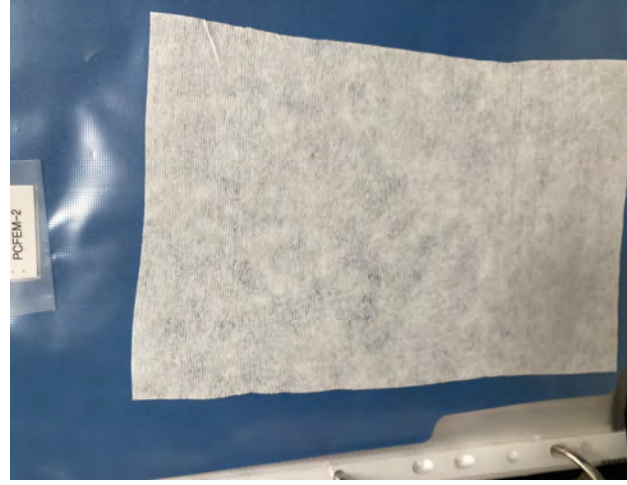
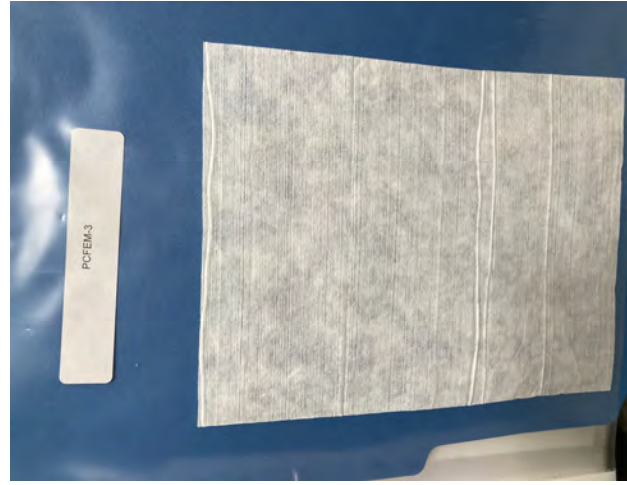
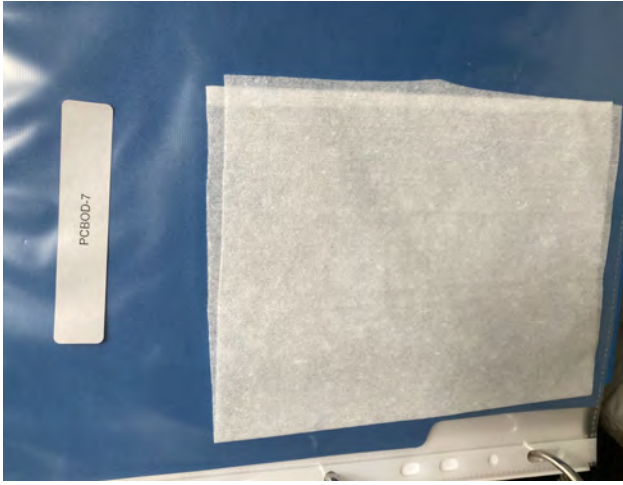


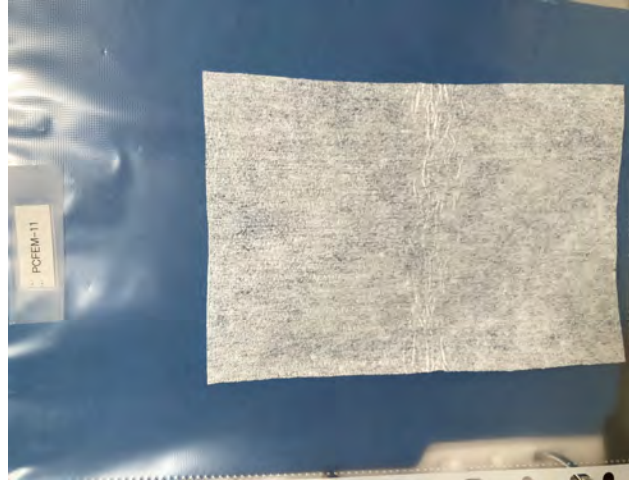
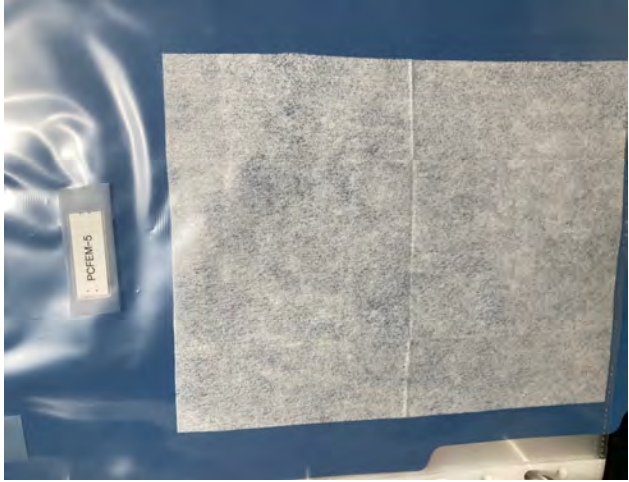
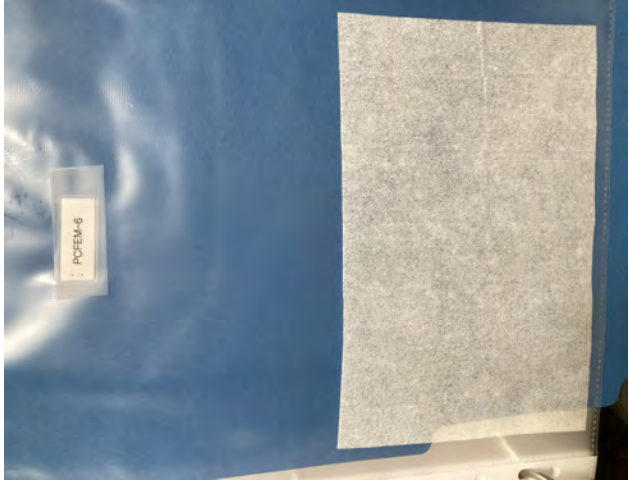
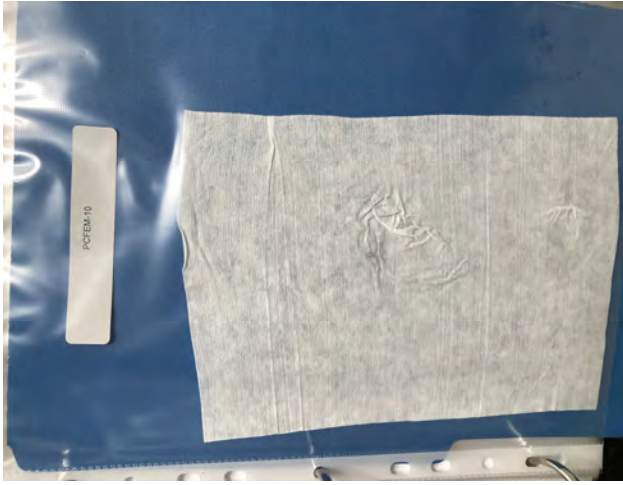


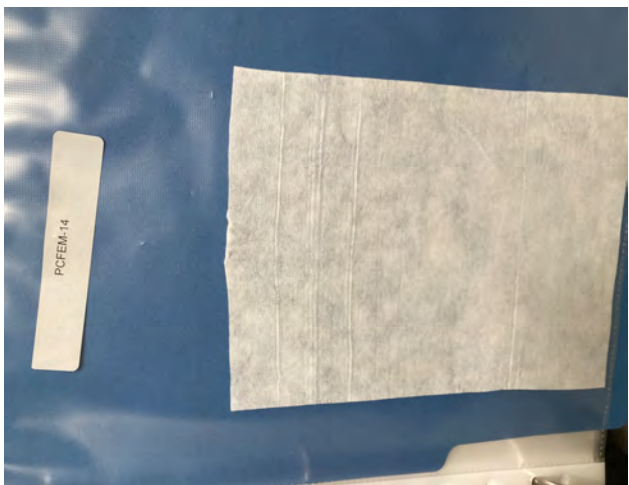
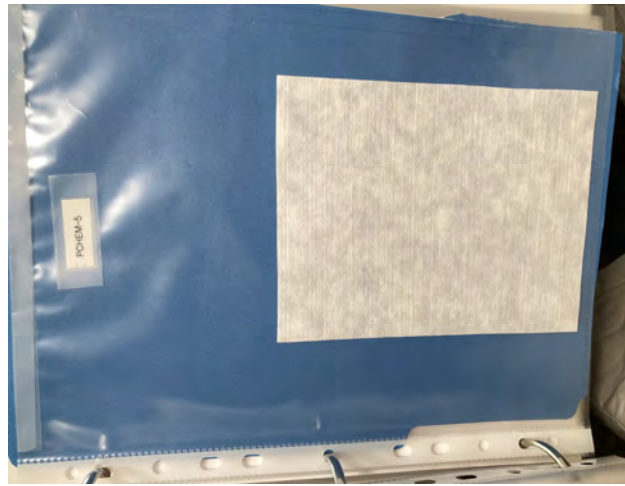
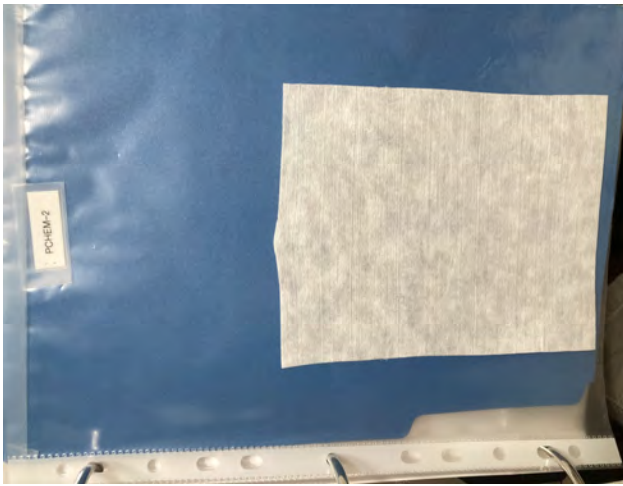
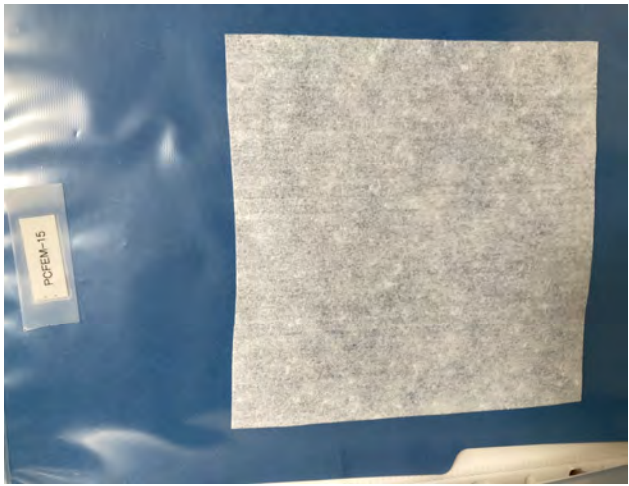
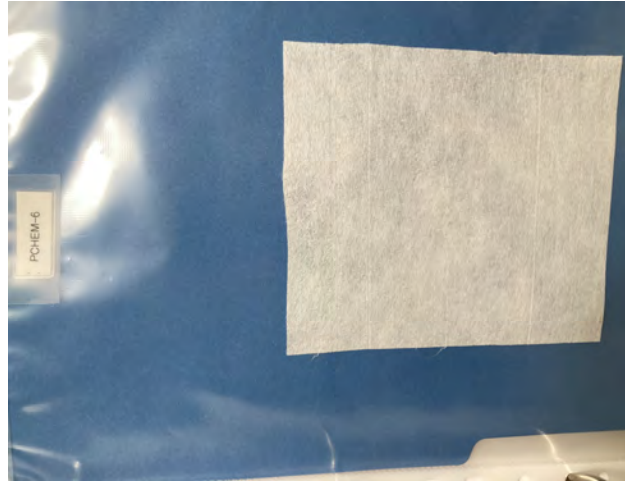
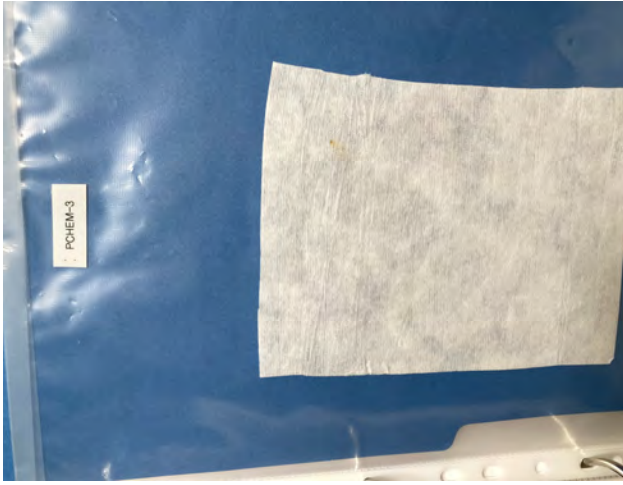
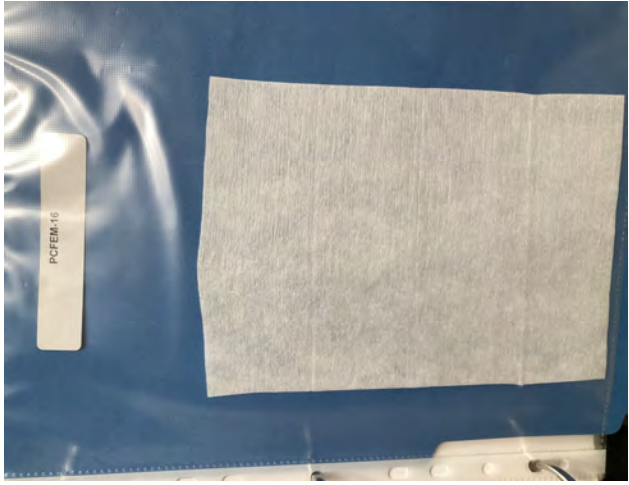


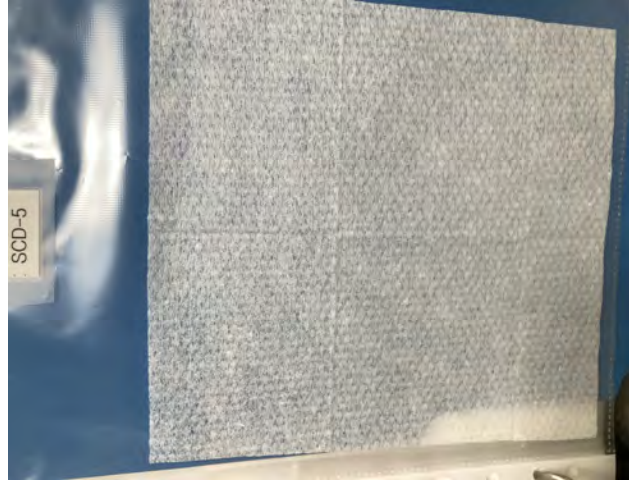
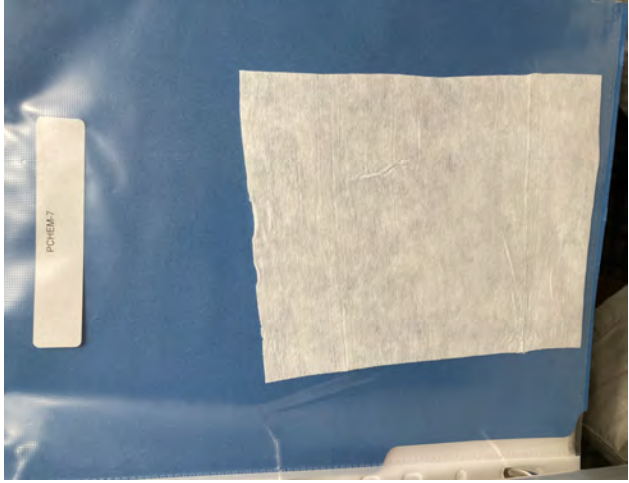
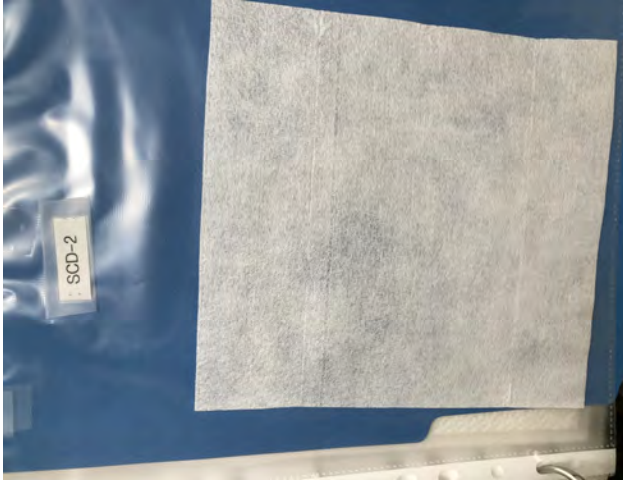
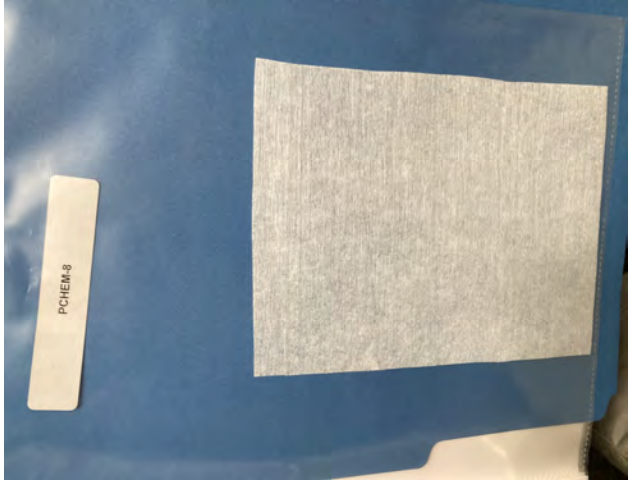
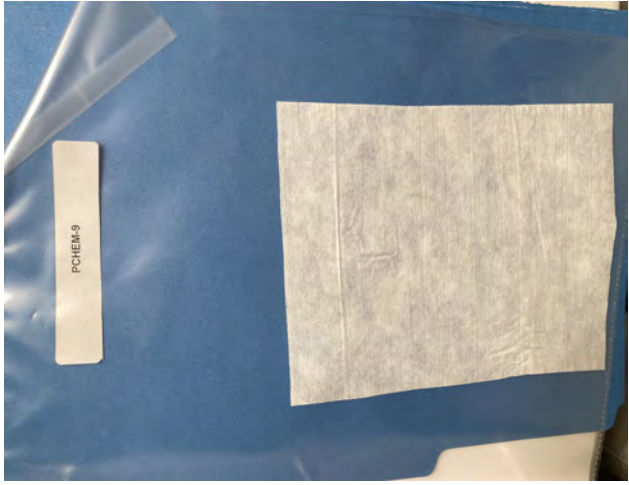


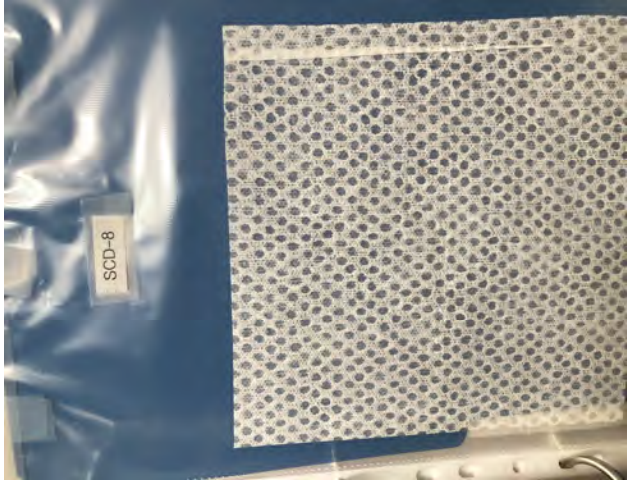
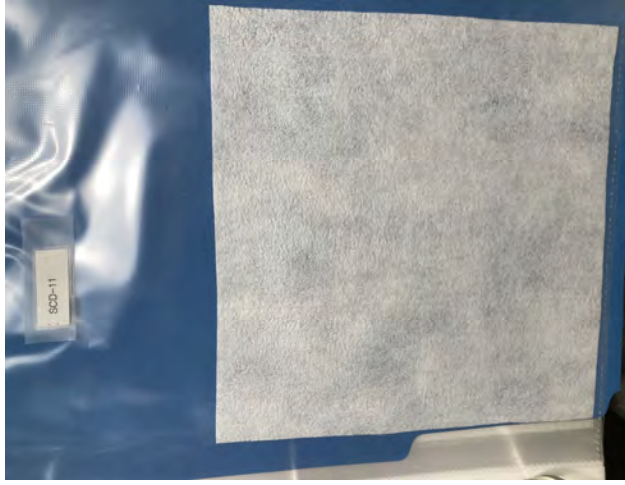
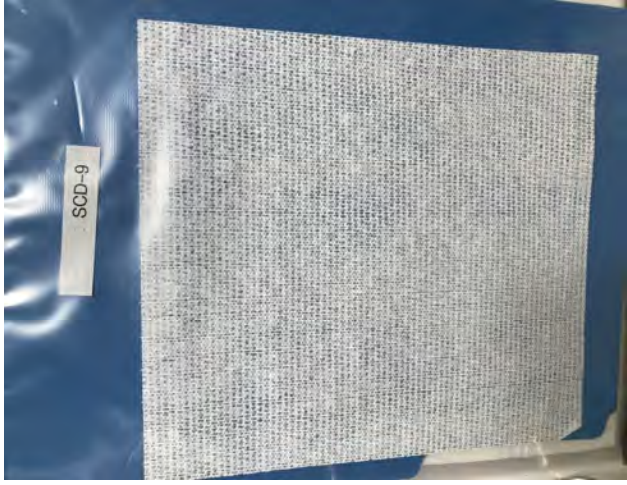
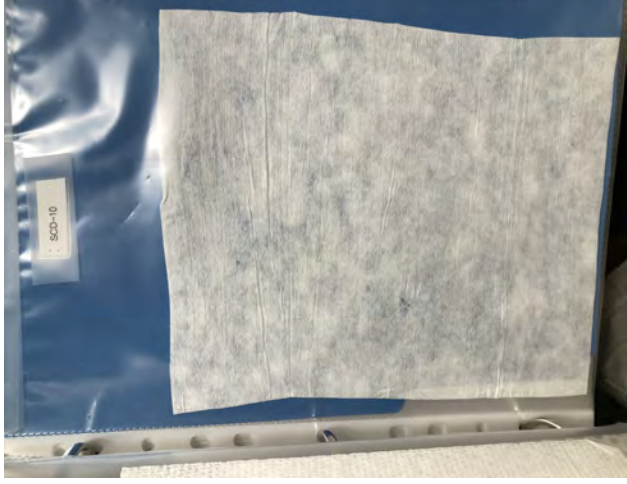










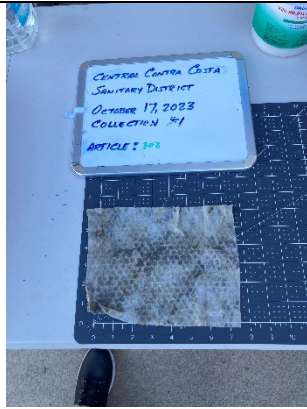




Appendix D

Photographs of Representative Recovered Materials

BD Wipes (Baby Diapering)



BD Wipes (Baby Diapering)



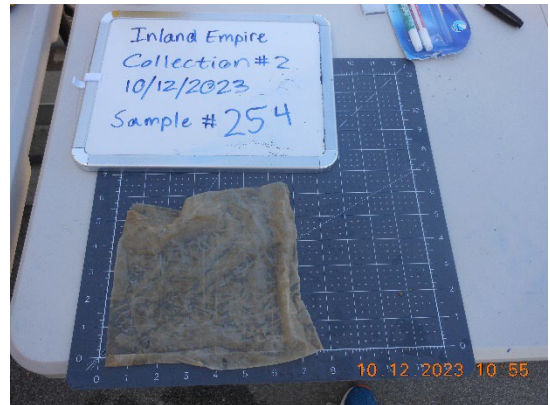
BD Wipes (Baby Diapering)



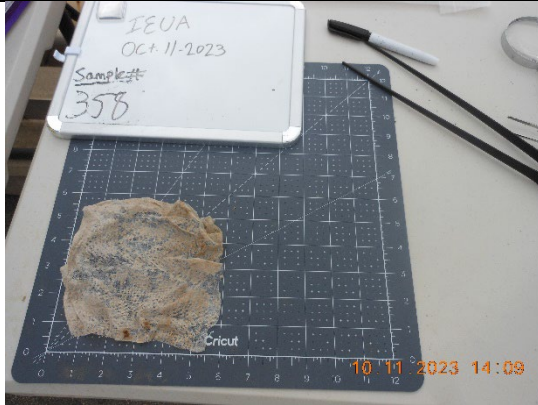
BD Wipes (Baby Diapering)



BD Wipes (Baby Diapering)



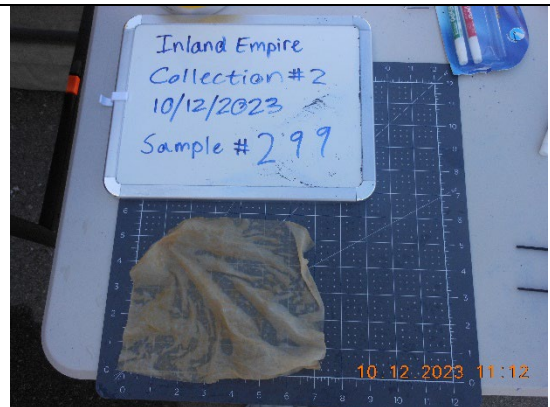
SCD Wipes (Surface Cleaning and Disinfecting Wipes)



SCD Wipes (Surface Cleaning and Disinfecting Wipes)



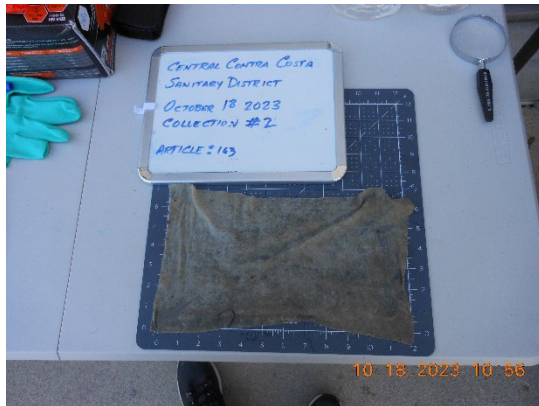
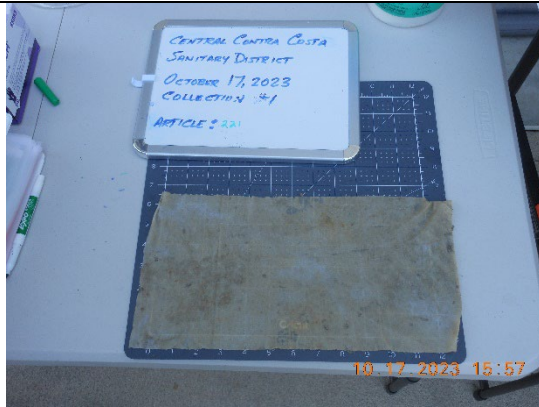
HND Wipes (Hand Sanitizing Wipes)



MUF Wipes (Make Up Removal or Facial Wipes)



PCBOD Wipes (Personal Care Body Cleaning Wipes)



PCBOD Wipes (Personal Care Body Cleaning Wipes)



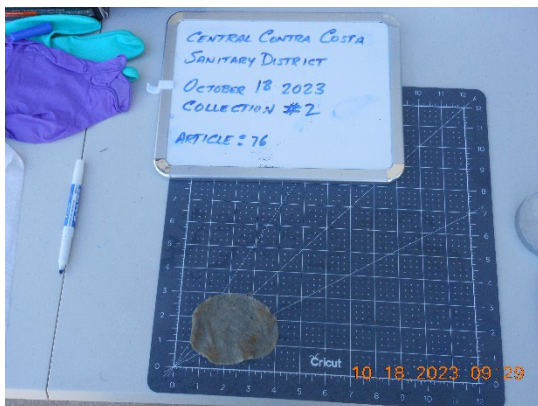
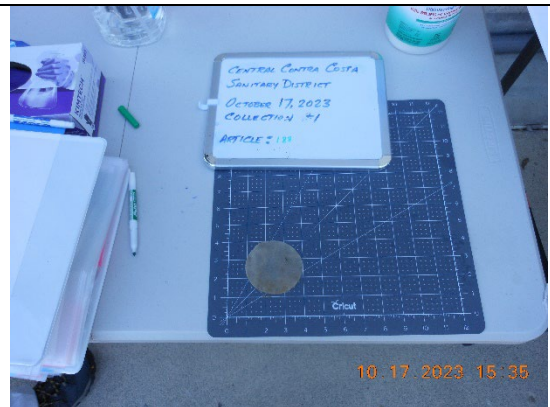
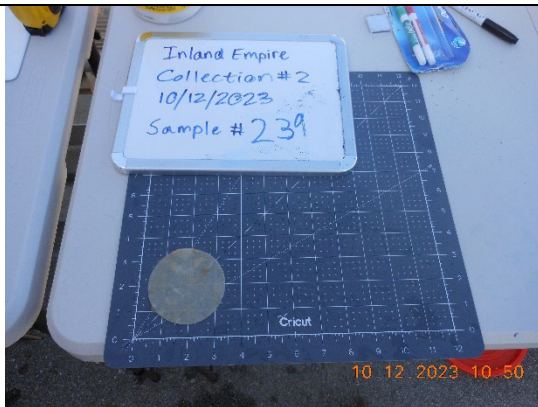
PCFEM Wipes (Personal Care Feminine Hygiene Wipes)



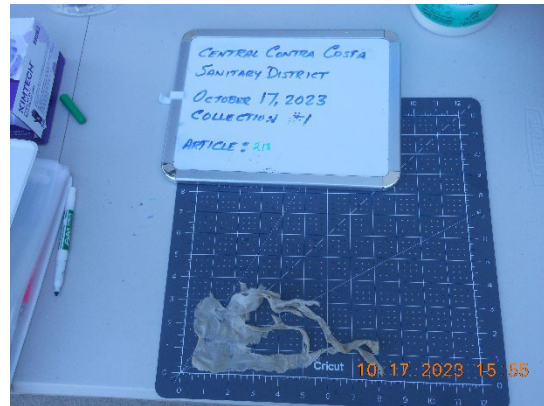
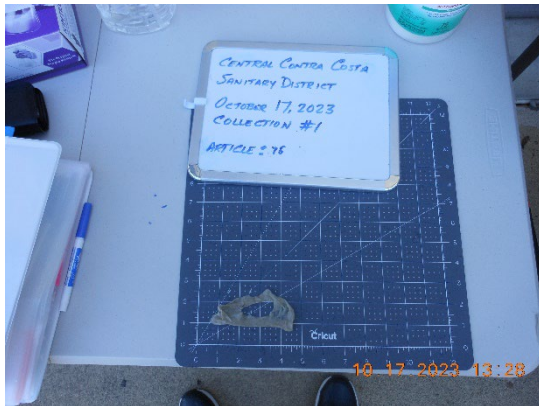
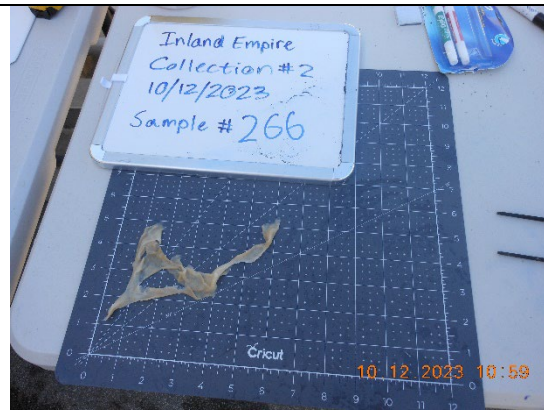
PCFEM Wipes (Personal Care Feminine Hygiene Wipes)



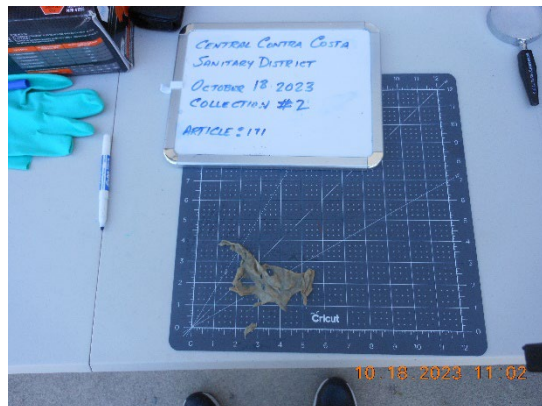
PCHEM Wipes (Personal Care Adult Hygiene / Hemorrhoid Wipes)



MTT Wipes (Moist Toilet Paper / Flushable Wipes)



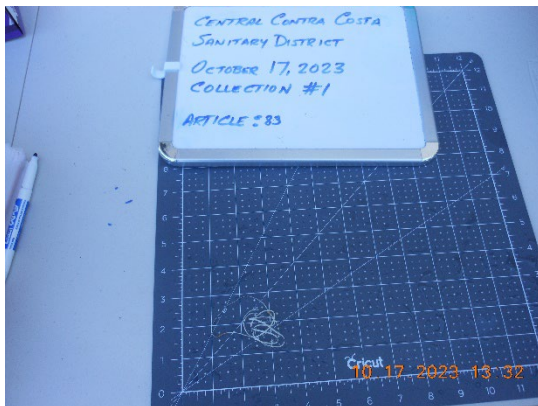
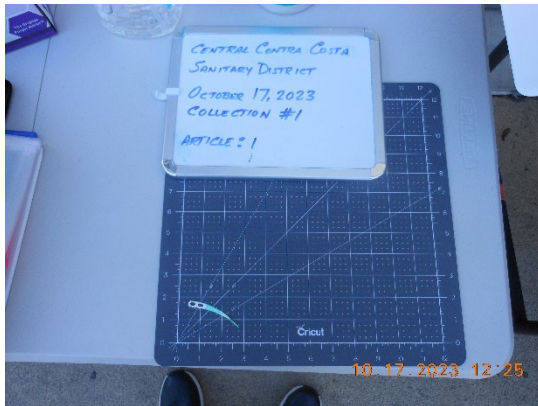
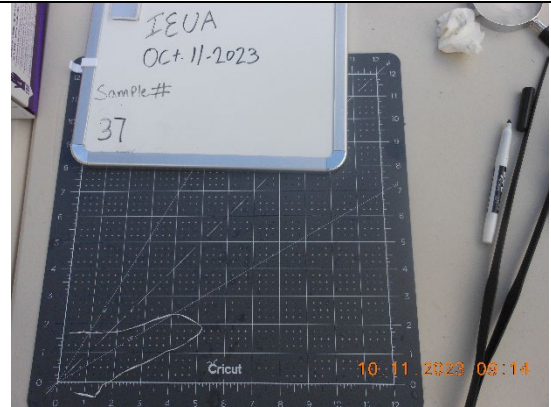
MTT Wipes (Moist Toilet Paper / Flushable Wipes)



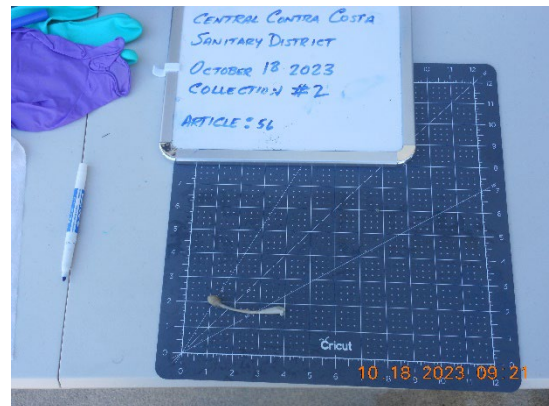
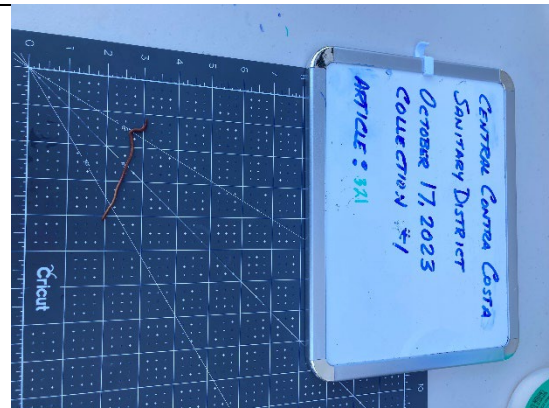
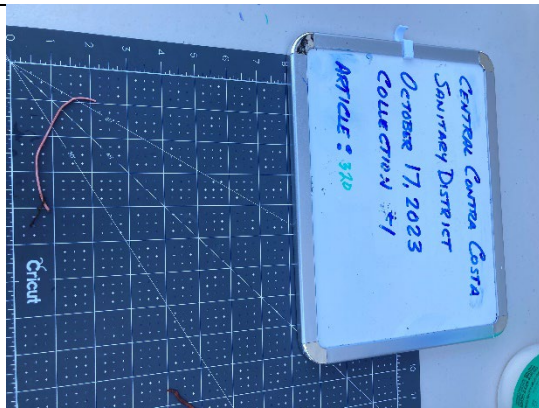
MTT Wipes (Moist Toilet Paper / Flushable Wipes)



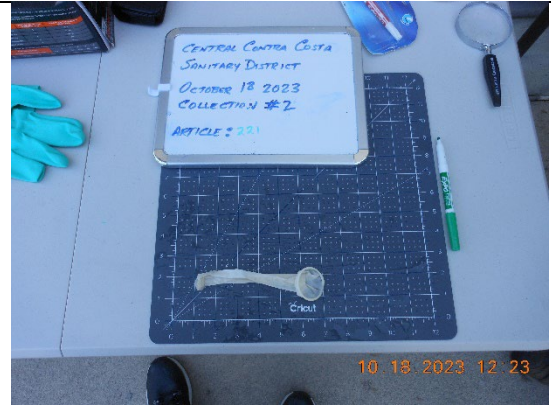
OTHER (Misc. Products Used in Bathrooms e.g. nail polish removers, dental floss, etc)



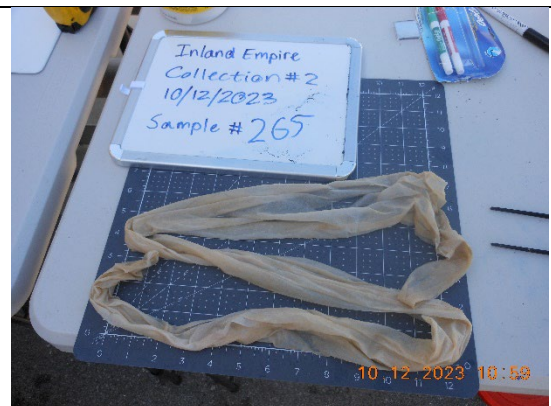
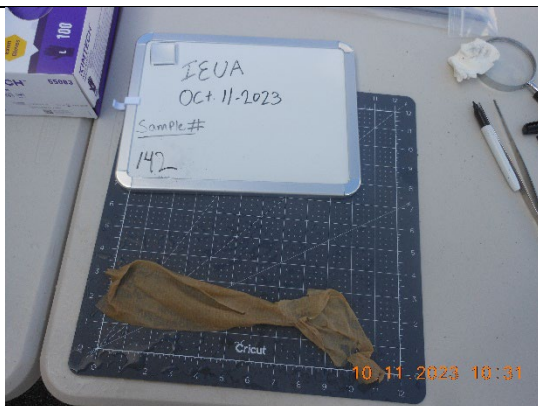
OTHER (Misc. Products Used in Bathrooms e.g. nail polish removers, dental floss, etc)



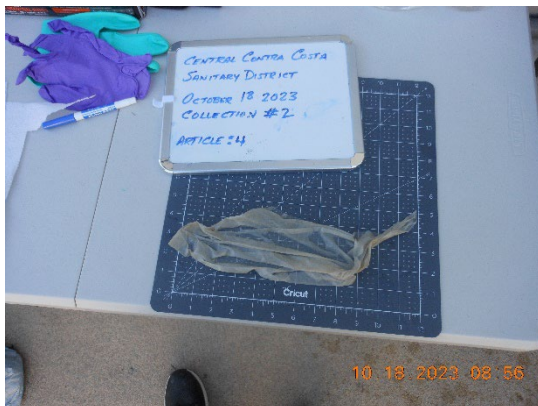
OTHER (Misc. Products Used in Bathrooms e.g. nail polish removers, dental floss, etc)



PT (Paper Towels and Non-Flushable Paper)



PT (Paper Towels and Non-Flushable Paper)



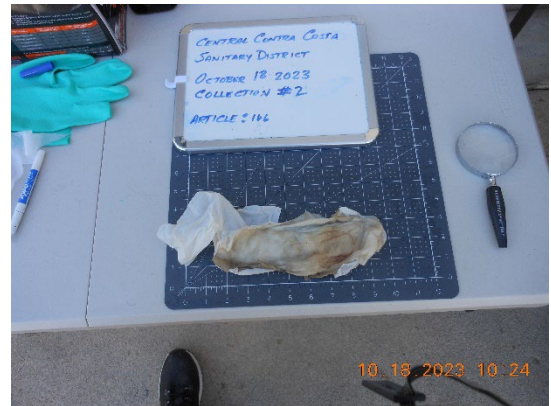
PT (Paper Towels and Non-Flushable Paper)



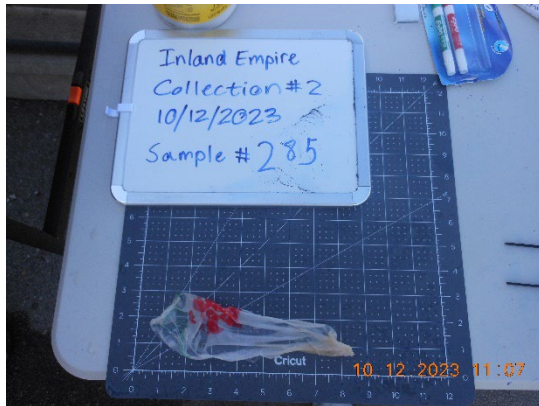
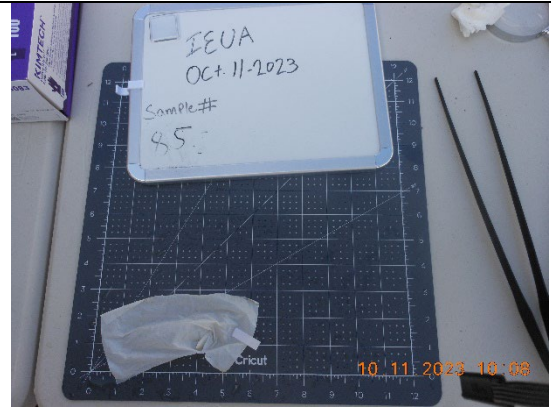
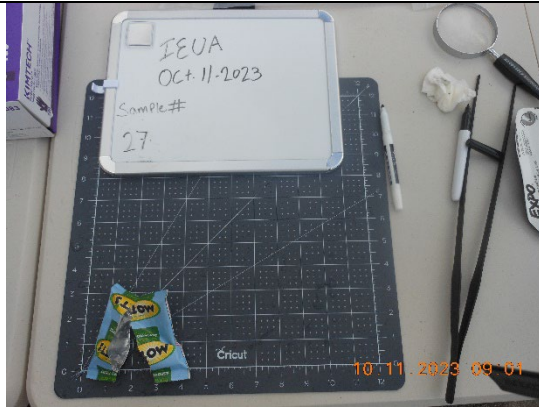
PT (Paper Towels and Non-Flushable Paper)



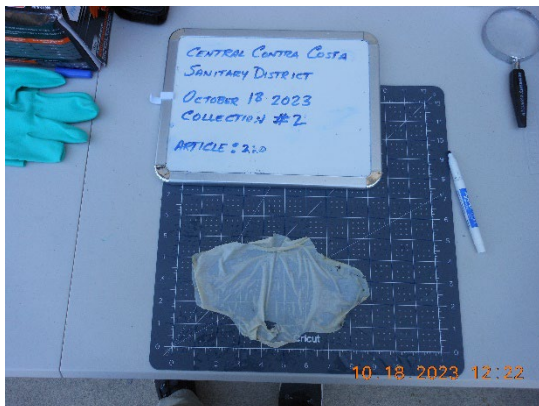
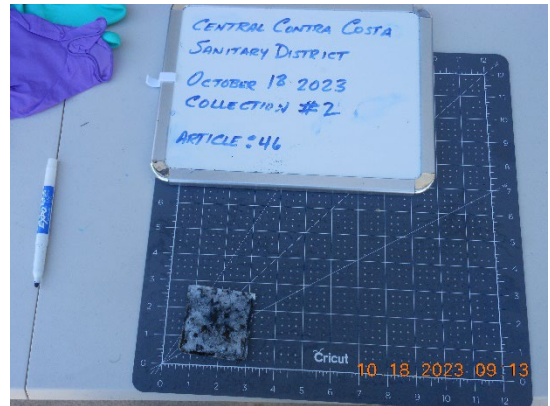
AHP (Absorbent Hygiene Products – tampons, panty liners, light incontinence pads)



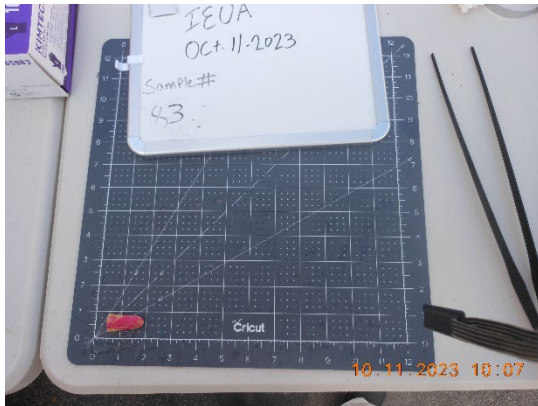
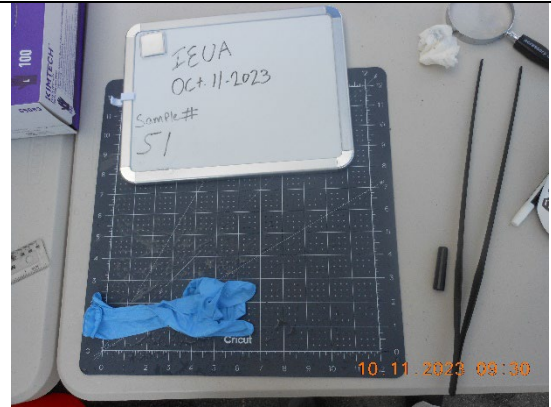
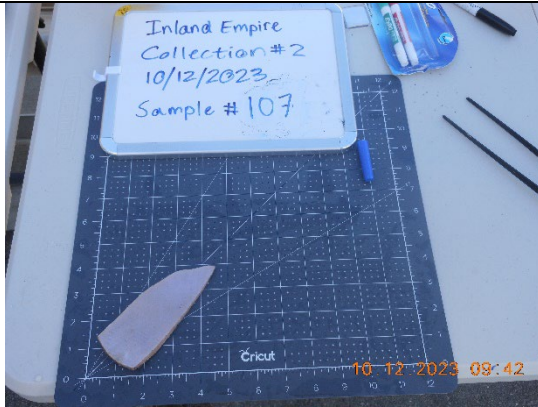
PMW (packaging materials)



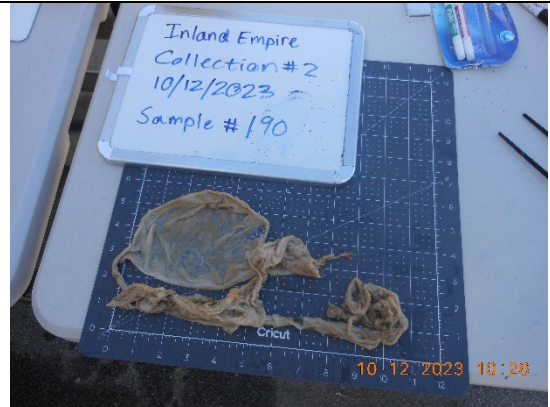
PMW (packaging materials)



FM (Facemasks, Shoulder Pads, Gloves, Hair Scrunchies, Woven Towels, etc)



UFOs (Unidentifiable Do Not Flush Wipes)



UFOs (Unidentifiable Do Not Flush Wipes)



Trash

