

RCRA Inspection Report

1) Inspector and Author of the Report

Daryl R. Himes
Environmental Engineer
RCRA Enforcement Section
Chemical Safety and Land Enforcement Branch
Enforcement and Compliance Assurance Division
U.S. Environmental Protection Agency, Region 4
61 Forsyth Street, SW
Atlanta, Georgia 30303
(404) 562-8993

2) Facility Information

University of North Carolina at Chapel Hill (UNC)
1180 Estes Drive Extension
UNC Buildings 488 and 531
Chapel Hill, North Carolina 27599-1650
EPA ID No.: NCD982093783

3) Responsible Official

Catherine Brennan, Executive Director, Environment, Health & Safety (EHS)

4) Inspection Participants

Catherine Brennan	UNC
Sharon Myers	Environmental Specialist, EHS, UNC - Main Campus
Douglas Benjamin	Senior Hazardous Waste Specialist
Daryl Himes	US EPA Region 4
Aram Kim	NC Department of Environmental Quality

5) Date of Inspection

July 20 & 22, 2022, 9:00 a.m.

6) Applicable Regulations

North Carolina General Statutes (NCGS), 130A BOA-Article 9 (Solid Waste Management Act as amended Resource Conservation and Recovery Act (RCRA) Section 3005 and 3007 (42 U.S.C. §§ 6925 and 6927) and the North Carolina Administrative Code (NCAC) Title 15 A Chapter 13A, [40 Code of Federal Regulation (C.F.R.) Parts 260-270, 273 and 279].

7) Purpose of Inspection

The purpose of this inspection was to conduct an unannounced RCRA compliance evaluation inspection (CEI) to determine the facility's compliance with the applicable regulations.

8) Facility Description

The University of North Carolina at Chapel Hill's Main Campus generates hazardous waste at various research and teaching labs. Hazardous wastes are also generated in pharmacies and clinics operated by the various clinics located in the UNC Health Care System.

The hazardous waste generated from The University of North Carolina at Chapel Hill's Main Campus and clinics is transported (via hazardous waste manifest) to the The University of North Carolina at Chapel Hill's Hazardous Waste Materials Facility (HWMF). The HWMF is a permitted storage facility at 1080 Estes Drive Extension, Chapel Hill, North Carolina. The HWMF includes Buildings 488 and 531. The current permit for the storage facility became effective on September 26, 2016 and expires on September 26, 2026.

Building 488 has a container unloading/loading dock, a consolidation room, and a liquid waste bulking and neutralization area. Building 531 has a container unloading/loading dock, flammable storage room eight hazardous waste storage bays, and several non-hazardous waste storage areas. According to the most recent generator notification submitted to the North Carolina Department of Environmental Quality (NCDEQ), the UNC-Main Campus (the largest contributor of hazardous wastes shipped to the HWMF) is registered as a large quantity generator of hazardous waste.

9) Findings

Upon arriving at the facility, the inspectors presented their credentials to Ms. Catherine Brennan, Executive Director, Environment, Health and Safety and explained the purpose of the inspection. Facility personnel explained the operations of Building 488 and Building 531 and then proceeded to take the inspection team through each of the buildings.

Building 488

Building 488 and 531 are both within a gated chain link fence. Building 488 is approximately 50 feet long by 36 feet wide and is constructed on a concrete slab. The floors in the hazardous waste storage area have been coated with an epoxy sealer that has been determined to be compatible with the stored hazardous waste. Hazardous wastes are initially received into Building 488. Once received, hazardous wastes are inventoried, packaged for storage, or bulked/blended for storage in Building 531. Incoming wastes which are hazardous solely for corrosiveness (D002) might be treated using elementary neutralization under a hood in Building 488.

Wastes coming into Building 488 are in containers up to 30-gallons in size for hazardous wastes and 55-gallons in size for nonhazardous wastes. Upon being received, they are characterized and segregated into waste types which include water reactive, flammable corrosives, alkaline

flammable/corrosive, alkaline corrosive, oxidizing acids, acidic corrosives, organic acids, and toxic liquids.

The segregated wastes up to one gallon are then placed into plastic secondary containment pans on storage shelves. These pans are capable of accommodating six to twelve 4-liter bottles, depending on the size of the pan. Individual containers are then placed into plastic lab pack drums located in front of the shelving units until full. Wastes in the lab packing area are consolidated in 2-gallon, 5-gallon, 15-gallon, 30-gallon or 55-gallon lab pack containers (Photo 1).

At the time of the inspection, 55 and 5-gallon containers were being used to manage hazardous wastes which had been characterized and subsequently lab packed into one of these containers. Each of the containers was closed, labeled with the words “Hazardous Waste” and marked with an accumulation start date of less than one year. The oldest date observed on a container in this area was October 5, 2021.

A room for universal wastes was also located in Building 488. The room measured approximately 15 feet by 18 feet. At the time of the inspection, each of the containers were closed, labeled with appropriate universal waste language and marked with accumulation start dates of less than one year.

Loading Dock

No hazardous wastes were observed on the loading dock area to Buildings 488 and 531 at the time of the inspection. A box truck is used to transport hazardous wastes to the facility from the various campuses.

Building 531

The storage area within Building 531 is segregated by three-foot concrete block walls (Photos 2, 3 & 4). Nine separate bays were identified and one bulking area. All containers in this area were labeled with the words “Hazardous Waste” and were closed and marked with an accumulation start date of less than one year unless noted otherwise. Below is a visual inventory of containers observed in this area at the time of the inspection.

Bay 1 had just been painted recently and was empty at the time of the inspection and no wastes were observed in the bay (Photo 2).

Bay 2 had just been painted recently and was empty at the time of the inspection and no wastes were observed in the bay (Photo 2).

At the time of the CEI, inspectors observed that Bay 3 contained nine 55-gallon and two 30-gallon containers of hazardous waste flammables in this area. One of the 55-gallon containers in this bay was not marked with an accumulation start date at the time of the inspection.

Pursuant to Part VI (Land Disposal Restrictions) Section A (General Restrictions) of the State of North Carolina Division of Waste Management Hazardous Waste Management Permit Number NCD980093783, the Permittee is required to maintain compliance with the

requirements of 40 CFR 268 as adopted in 15A NCAC 13A .0112. [40 CFR § 268.50(a)(2)(i)(D)] requires that owners and operators of treatment, storage and disposal facilities, mark each container with the date each period of accumulation begins.

Bay 4 contained four 55-gallon containers of toxic hazardous wastes and two 55-gallon containers of nonhazardous waste.

Bay 5 contained seven 55-gallon containers of hazardous waste corrosives.

Bay 6 contained two 55-gallon and one 30-gallon containers of universal waste batteries each was labeled with proper universal waste labeling and accumulation start dates of less than one year.

Bay 7 contained various radioactive mixed wastes awaiting a reduction in radiation which will allow for their shipment to an off-site treatment, storage, or disposal facility. Mixed wastes by definition are hazardous wastes, characteristic or listed, which contain one or more radionuclides. These generally licensed radiation sources (radionuclides) are authorized at the University under the auspices of the Division of Radiation Protection of NCDEQ. Long-lived mixed wastes are stored at the HWMF until they have decayed below regulated levels. Short-lived mixed waste radionuclides are allowed to decay, then the waste is handled as a hazardous waste. Following radioactive decay to below regulated levels, these wastes are shipped to an off-site hazardous waste disposal facility.

Bay 8 contained six 55-gallon, one 15-gallon and four 5-gallon containers of toxic organic hazardous wastes.

Bay 9 contained fifteen 55-gallon containers of hazardous waste corrosives and one 55-gallon container of used oil labeled as “Used Oil.”

In an aisle outside of Bay 9, five universal waste batteries were observed on a low flatbed cart. Only one of the batteries was labeled with universal waste language at the time of the inspection.

Pursuant to 15A NCAC 13A .0119 [40 C.F.R. § 273.14(a)], a SQHUW must label or mark each Universal Waste battery or container or tank in which the batteries are contained clearly with one of the following phrases: “Universal Waste - Battery(ies),” or “Waste Battery(ies),” or “Used Battery(ies).”

An intrinsically safe room was also used by the facility to store fifteen 55-gallon containers of ignitable hazardous wastes. One of the containers was not labeled with and accumulation start date at the time of the inspection (Photo 5). The container was subsequently labeled with a start date of 06/10/2022.

Pursuant to Part VI (Land Disposal Restrictions) Section A (General Restrictions) of the State of North Carolina Division of Waste Management Hazardous Waste Management Permit Number NCD980093783, the Permittee is required to maintain compliance with the requirements of 40 CFR 268 as adopted in 15A NCAC 13A .0112. [40 CFR § 268.50(a)(2)(i)(D)] requires that owners and operators of treatment, storage and disposal facilities, mark each container with the date each period of accumulation begins.

No evidence of spills was observed in Building 531 and aisle space was maintained. The building was equipped with an eye wash station, spill kits and fire extinguishers. The flooring of the building appeared to be free of cracks or gaps during the inspection.

Records Review:

After the walk-through inspection of the facility, a review of the facility's records included a review of hazardous waste manifests for the past two years, the past years hazardous waste training records, weekly inspection logs for the past year and the facility's hazardous waste contingency plan.

During a review of the facility's hazardous waste manifests, it was determined that manifests for numerous shipments of incoming hazardous waste from The University of North Carolina at Chapel Hill (NCD980515308) Main Campus, an off-site large quantity generator, were not being signed upon receipt by the University of North Carolina at Chapel Hill's HWMF (NCD982093783) hazardous waste treatment and storage facility. Attachment B identifies manifests which were not signed upon receipt, the date the shipments left the main campus and the date they were signed as received by the hazardous waste treatment and storage facility. Note that numerous shipments for which the manifest was signed the business day following receipt are not included in this attachment.

Pursuant to Part I Section H.1 (Manifest System) of the State of North Carolina Division of Waste Management Hazardous Waste Management Permit Number NCD980093783, "the Permittee is required to comply with the manifest system when receiving hazardous waste from off-site in accordance with 40 CFR § 264.71 as adopted in 15A NCAC 13A .0101 unless the Permittee submits and unmanifest waste report in accordance with 40 CFR § 264.76 as adopted in 15 A NCAD 13A .0109."

Pursuant to 15A NCAC 13A .0109 [40 C.F.R. § 264.71], if a facility receives hazardous waste accompanied by a manifest in accordance with paragraph (a)(1), the owner, operator or his/her agent must sign and date the manifest as indicated in accordance with paragraph (a)(2)(i) to certify that the hazardous waste covered by the manifest was received, that the hazardous waste was received except as noted in the discrepancy space of the manifest, or that the hazardous waste was rejected as noted in the manifest discrepancy space.

Closing Conference

The inspection team conducted an exit meeting at the end of the walk-through inspection and review of the facility's hazardous waste records with Catherine Brennan and Sharon Myers of UNC. During this meeting, the inspectors discussed their preliminary findings made during the inspection.

10) **Signed**

DARYL HIMES Digitally signed by DARYL HIMES
Date: 2022.08.16 10:33:38 -04'00'

Daryl R. Himes
Inspector

Date

11) **Concurrence**

ARACELI CHAVEZ Digitally signed by ARACELI
CHAVEZ
Date: 2022.08.16 17:18:38 -04'00'

Araceli B. Chavez
Chief
RCRA Enforcement Section

Date

ATTACHMENT A

University of North Carolina at Chapel Hill

Chapel Hill, North Carolina

COMPLIANCE EVALUATION INSPECTION

NCD982093783

July 20 & 22, 2022

Photos taken by Daryl R. Himes

Photos taken with Canon Power Shot Elph 360 HS



Photo 1 – Building 488 Incoming Hazardous Waste Receiving Area



Photo 2 – Building 531 (Bays 1 & 2 on left)



Photo 3 – Building 531



Photo 4 – Building 531

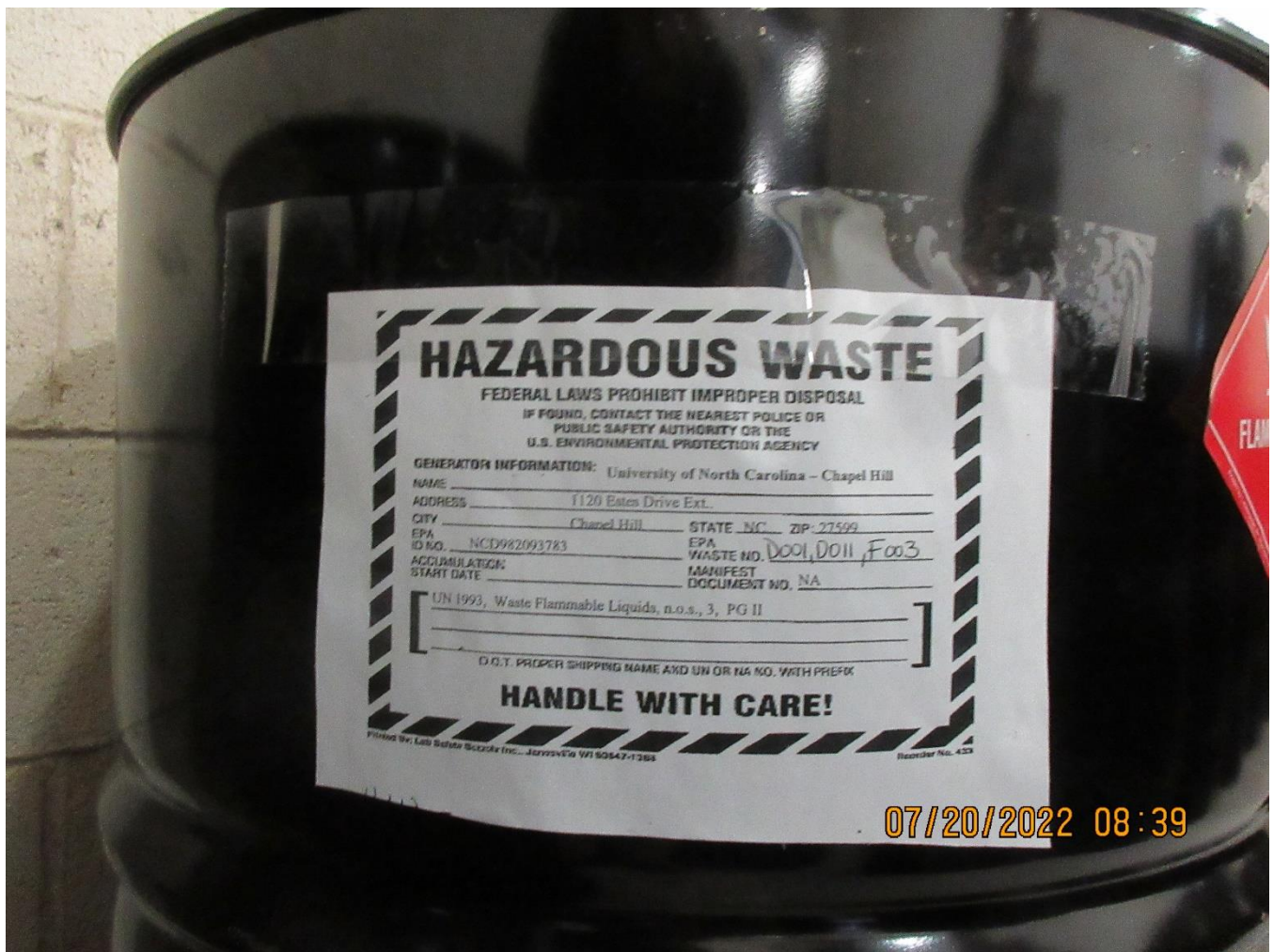


Photo 5 – Building 531 - Container in Intrinsically Safe Room without accumulation start date

Attachment B

Manifest Number	Gen Date Signed	TSD Date Signed	# of Days before signed
100039506	9/2/2020	9/8/2020	6
100044170	10/15/2020	10/21/2020	6
100044672	11/3/2020	11/10/2020	7
100046010	11/4/2020	11/10/2020	6
100044675	11/4/2020	11/10/2020	6
100047175	11/30/2020	12/4/2020	4
100047287	12/1/2020	12/4/2020	3
100047349	12/3/2020	12/14/2020	11
100047728	12/9/2020	12/14/2020	5
100048389	12/21/2020	1/12/2021	22
100048703	1/6/2021	1/12/2021	6
100049346	1/7/2021	1/11/2021	4
100050093	1/14/2021	1/19/2021	5
100049848	1/19/2021	1/25/2021	6
100050872	1/20/2021	2/9/2021	20
100050892	1/20/2021	1/25/2021	5
100051056	1/25/2021	2/9/2021	15
100051676	2/4/2021	2/9/2021	5
100069937	2/11/2021	2/22/2021	11
100052152	2/11/2021	2/16/2021	5
100052117	2/11/2021	2/16/2021	5
100052373	2/16/2021	2/23/2021	7
100052354	2/18/2021	2/23/2021	5
100052792	2/24/2021	3/10/2021	14
100052793	2/24/2021	3/1/2021	7
100052872	2/25/2021	3/1/2021	6
100052559	2/25/2021	3/1/2021	6
100052695	3/1/2021	3/10/2021	9
100053312	3/3/2021	3/8/2021	5
100053393	3/4/2021	3/8/2021	7
100053534	3/10/2021	3/17/2021	7
100053772	3/11/2021	3/17/2021	6
100053773	3/11/2021	3/15/2021	4
100053973	3/17/2021	3/24/2021	7
100053674	3/18/2021	3/24/2021	6

Manifest Number	Gen Date Signed	TSD Date Signed	# of Days before signed
100054552	3/25/2021	3/30/2021	5
100054734	3/30/2021	4/6/2021	7
100054454	3/31/2021	4/6/2021	6
100054872	4/1/2021	4/6/2021	5
100054624	4/1/2021	4/6/2021	5
100054813	4/1/2021	4/7/2021	6
100055592	4/8/2021	4/13/2021	5
100056452	4/20/2021	5/3/2021	13
100056815	4/21/2021	5/3/2021	12
100056815	4/21/2021	5/3/2021	12
100057016	4/27/2021	5/3/2021	6
100057172	4/29/2021	5/3/2021	4
100057147	4/29/2021	5/3/2021	4
100057152	5/3/2021	5/13/2021	10
100057077	5/3/2021	5/13/2021	10
100057533	5/5/2021	5/10/2021	5
100057412	5/6/2021	5/13/2021	7
100057716	5/11/2021	5/20/2021	9
100057474	5/11/2021	5/17/2021	6
100057693	5/12/2021	5/20/2021	8
100057635	5/12/2021	5/20/2021	8
100058033	5/20/2021	5/27/2021	7
100058173	5/26/2021	6/1/2021	6
100058955	6/15/2021	6/25/2021	10
100059197	6/18/2021	6/25/2021	7
100059081	6/21/2021	6/25/2021	4
100059198	6/21/2021	7/14/2021	23
100059268	6/21/2021	7/14/2021	23
100059619	6/28/2021	7/14/2021	16
100059716	6/29/2021	7/14/2021	15
100059284	6/29/2021	7/14/2021	15
100059741	6/30/2021	7/14/2021	14
100059776	6/30/2021	7/14/2021	14
100059477	7/1/2021	7/14/2021	13
100059777	7/1/2021	7/14/2021	13
100059816	7/1/2021	7/14/2021	13
100059875	7/2/2021	7/14/2021	12
100059948	7/7/2021	7/14/2021	7
100059940	7/7/2021	7/19/2021	12
100059989	7/7/2021	7/19/2021	12
100059945	7/7/2021	7/14/2021	7

Manifest Number	Gen Date Signed	TSD Date Signed	# of Days before signed
100059946	7/8/2021	7/14/2021	6
100059990	7/8/2021	7/14/2021	6
100060142	7/9/2021	7/14/2021	5
100060361	7/14/2021	7/19/2021	5
100060426	7/15/2021	7/21/2021	6
100060618	7/21/2021	7/28/2021	7
100061317	8/4/2021	8/10/2021	6
100061168	8/5/2021	8/10/2021	5
100061356	8/5/2021	8/10/2021	5
100061596	8/10/2021	8/18/2021	8
100061532	8/10/2021	8/18/2021	8
100061616	8/11/2021	8/18/2021	7
100061655	8/11/2021	8/18/2021	7
100061666	8/12/2021	8/18/2021	6
100061718	8/13/2021	8/18/2021	5
100061928	8/18/2021	8/27/2021	9
100062055	8/19/2021	8/27/2021	8
100063376	9/15/2021	9/22/2021	7
100063435	9/16/2021	9/22/2021	6
100063756	9/22/2021	9/27/2021	5
100063795	9/23/2021	9/30/2021	7
100063839	9/24/2021	9/30/2021	6
100064437	10/6/2021	10/12/2021	6
100064890	10/18/2021	10/27/2021	9
100065156	10/19/2021	10/26/2021	7
100065072	10/19/2021	10/26/2021	7
100065215	10/20/2021	10/26/2021	6
100065304	10/21/2021	11/3/2021	13
100065303	10/21/2021	10/26/2021	5
100065171	10/21/2021	10/26/2021	5
100065940	11/3/2021	11/9/2021	6
100066278	11/10/2021	11/17/2021	7
100066298	11/11/2021	11/17/2021	6
100066538	11/17/2021	11/29/2021	12
100066481	11/17/2021	11/29/2021	12
100066424	11/19/2021	11/29/2021	10
100066700	11/22/2021	11/30/2021	8
100066753	11/23/2021	11/30/2021	7
100066754	11/23/2021	11/30/2021	7
100066816	11/24/2021	11/30/2021	6
100067038	12/2/2021	12/8/2021	6

Manifest Number	Gen Date Signed	TSD Date Signed	# of Days before signed
100067221	12/7/2021	12/14/2021	7
100067319	12/8/2021	12/14/2021	6
100067317	12/9/2021	12/14/2021	5
100067597	12/14/2021	12/20/2021	6
100067554	12/15/2021	12/22/2021	7
100067640	12/15/2021	12/22/2021	7
100067639	12/15/2021	12/20/2021	5
100067876	12/22/2021	1/4/2022	13
100067758	12/22/2021	1/5/2022	14
100067915	12/23/2021	1/5/2022	13
100068278	1/5/2022	1/10/2022	5
100068335	1/6/2022	1/10/2022	4
100068239	1/6/2022	1/13/2022	7
100068580	1/10/2022	1/28/2022	18
100068698	1/12/2022	1/25/2022	13
100068740	1/13/2022	1/28/2022	15
100068710	1/14/2022	1/19/2022	5
100068956	1/19/2022	1/28/2022	9
100068977	1/20/2022	1/27/2022	7
100069256	1/28/2022	2/11/2022	14
100069338	1/31/2022	2/11/2022	11
100069383	2/2/2022	2/11/2022	9
100069419	2/2/2022	2/11/2022	9
100069425	2/3/2022	2/7/2022	4
100069680	2/8/2022	2/22/2022	14
100069736	2/9/2022	2/22/2022	13
100070617	3/1/2022	3/14/2022	13
100070697	3/3/2022	3/14/2022	11
100070278	3/4/2022	3/14/2022	10
100070735	3/4/2022	3/14/2022	10
100070839	3/8/2022	3/14/2022	6
100070807	3/9/2022	3/15/2022	6
100070915	3/9/2022	3/14/2022	5
100070927	3/10/2022	3/14/2022	4
100070984	3/10/2022	3/14/2022	4
100070976	3/10/2022	3/14/2022	3
100070987	3/11/2022	3/14/2022	3
100071015	3/11/2022	3/15/2022	4
100070978	3/11/2022	3/15/2022	4
100071157	3/15/2022	3/23/2022	8

Manifest Number	Gen Date Signed	TSD Date Signed	# of Days before signed
100071198	3/16/2022	3/23/2022	7
100071237	3/17/2022	3/23/2022	6
100071171	3/17/2022	3/23/2022	6
100071409	3/25/2022	3/31/2022	6
100072000	4/12/2022	4/18/2022	6
100072938	5/16/2022	5/19/2022	3
100072998	5/18/2022	5/20/2022	2
100072960	5/17/2022	5/19/2022	2
100073146	5/25/2022	6/3/2022	9
100073215	6/1/2022	6/3/2022	2
100073309	6/2/2022	6/9/2022	7
100073447	6/6/2022	6/9/2022	3
100073556	6/10/2022	6/13/2022	3
100073713	6/16/2022	6/20/2022	4
100073877	6/27/2022	6/30/2022	4
100073025	7/1/2022	7/5/2022	4