

5.23 SWMU 33: BUILDING 536 (CAMDS SALT STORAGE)

5.23.1 Site Description and Waste Generation

Building 536 is operating under interim status. TEAD has submitted a RCRA Part B hazardous waste storage permit application. It is a RCRA-permitted facility located in the north central part of TEAD-S, immediately east of SWMU 19 (Figures 5.0-1 and 5.23-1) (NUS 1987). The building covers an area approximately 175 by 50 ft (NUS 1987). The floor of the building is gravelly and no spill containment structures are present. Reportedly, this building was formerly a storage area for vehicles and vehicle parts although the source of this information is unclear.

NUS (1987) stated that Building 536 was being used as a storage facility for approximately 1,470 drums of "dried organic salts" that are byproducts of operations at CAMDS. This term was coined because these salts potentially contain residual agent. The drums consisted of 55-gallon metal, cardboard, or cardboard overpacks. The stored salts were a byproduct of treatment processes being evaluated at CAMDS and exhibited EP toxicity for lead and cadmium. These salts were removed from SWMU 33 prior to the RFI-Phase I and were taken to an off-site USPCI hazardous waste landfill. Salts were stored in Building 536 from approximately 1983 to 1988. No additional salts are planned to be stored at SWMU 33, as they are now taken directly from CAMDS to an off-site hazardous waste landfill.

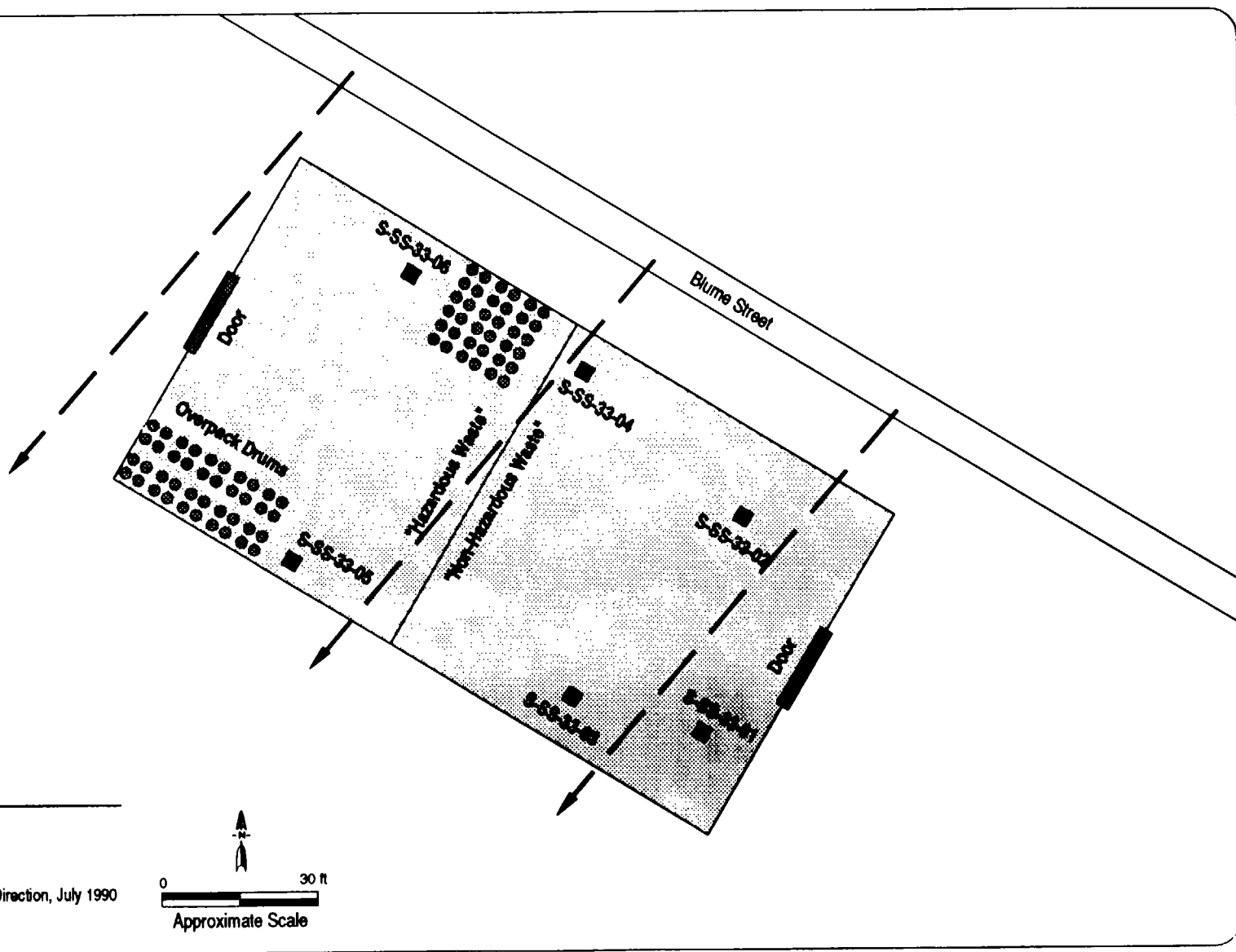
During the interim sampling program in June 1992, it was noted that Building 536 contained various 3X materials. Items observed included wooden crates, drums, metal bands, and M55 rocket stands. It was also noted that the building was segregated with a chain approximately in the middle of the building with a sign that designated the western position of the building as containing "hazardous waste."

5.23.2 Site Hydrogeology

SWMU 33 is located on a slight southwest-sloping topographic surface at approximately 5,225 ft above msl, in the north central part of TEAD-S. The site is underlain by Quaternary alluvial deposits. Because no samples were collected from the site, subsurface lithologic descriptions are limited to the uppermost 3 ft of sediments, extrapolated from soil samples collected from nearby SWMU 19.

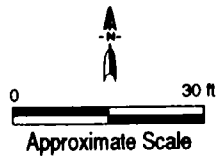
Surficial sediment down to approximately 1 ft is composed of light grayish brown, silty gravel with minor sand and a trace of clay (GM). From 1 to 3 ft, the sediment is composed of slightly moist, brown to dark grayish brown, silty and gravelly clay with minor sand (CL).

The depth to groundwater in July 1990 is estimated to be 145 ft below ground surface. Groundwater occurs at an approximate elevation of 5,080 ft msl, and may flow to the southwest; however, there are no monitoring wells near SWMU 33 to confirm this flow direction.



Legend

- Drum
- Soil Sample
- Area of SWMU
- ← - - Groundwater Flow Direction, July 1990
- ==== Road



Source:
 EBASCO Field Measurement
 Basic Information Maps 1985

Figure 5.23-1
Site Map
SWMU 33 - Building S-536 (CAMDS Salt Storage)

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5.23.3 Previous Sampling and RFI-Phase I Sampling Results

During the June 1992 interim sampling program, six surface soil samples (0 to 6 inches deep) were collected from the dirt floor inside the building. These samples were analyzed for agent breakdown products and metals. Figures 5.23-2 and 5.23-3 and Table 5.23-1 show the locations and analytical results of these samples.

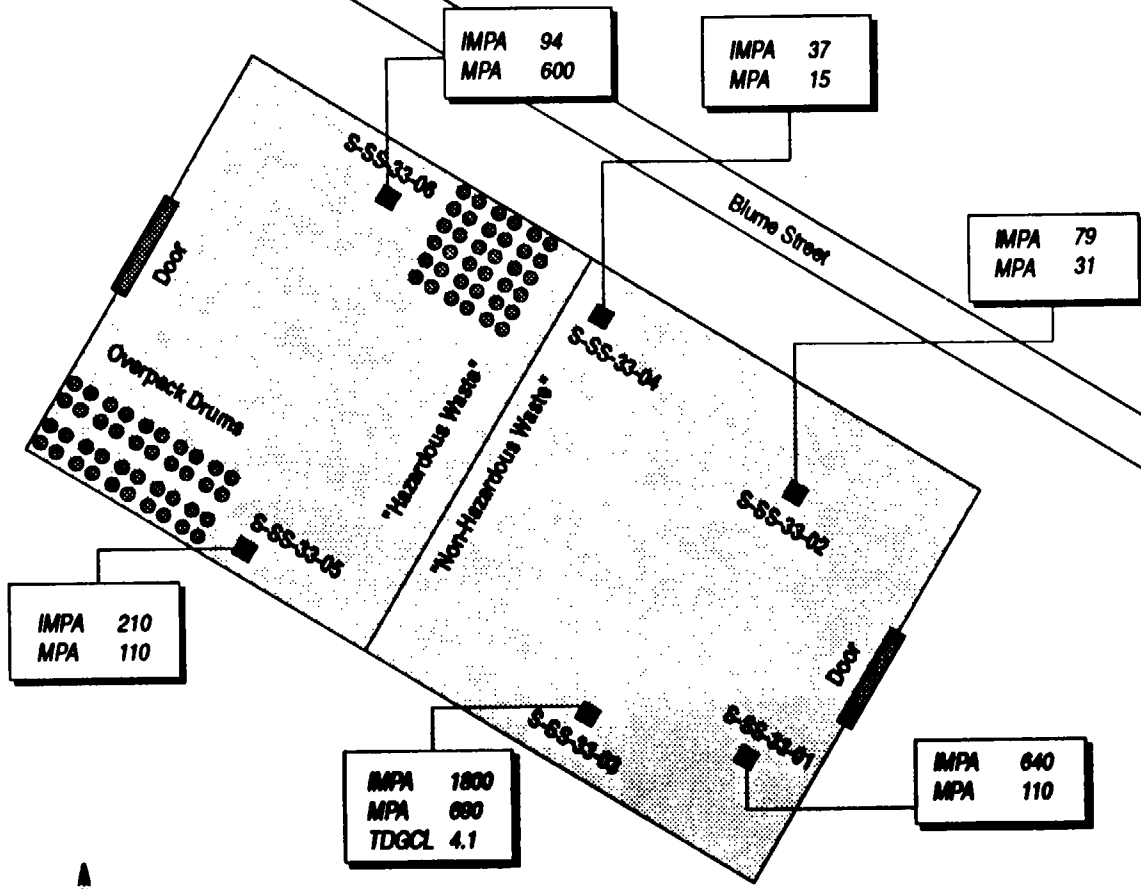
5.23.4 Contamination Assessment

The agent breakdown products isopropylmethyl phosphonic acid and methylphosphonic acid were detected in all six surficial soil samples collected from the Building 521 floor. The agent breakdown product thiodiglycol was also detected in one sample. These detections are most likely due to the storage of CAMDS salts in the building.

The metals detected at concentrations elevated above background concentrations included chromium, lead, zinc, and sodium. Most of these elevated metals were detected on the side of the building designated for storage of "nonhazardous waste." The presence of elevated lead may be the result of storage of the salts since they were known to exhibit EP toxicity for lead and cadmium; however, cadmium was not detected in any of the samples above the certified reporting limit. The sources of the elevated sodium and chromium are not known.

5.23.5 Recommendations

A grid of 22 soil borings is proposed at SWMU 33 to determine the lateral and vertical extent of agent breakdown products and metal contamination inside the building and between the building and road at SWMU 33 (Figure 5.23-4). All of these locations will be sampled from the 0- to 6-inch interval. Ten of these borings should also be sampled from the 0- to 6-inch, 6- to 12-inch, and 12- to 18-inch intervals. The soil samples should be analyzed for agent breakdown products and metals. A risk assessment should also be conducted to determine the hazards associated with this SWMU.



Legend

■ Soil Sample (results in µg/g)

1992 results are italicized



Figure 5.23-2
SWMU 33 - Building S-536 (CAMDS Salt Storage)
Agent Breakdown Products

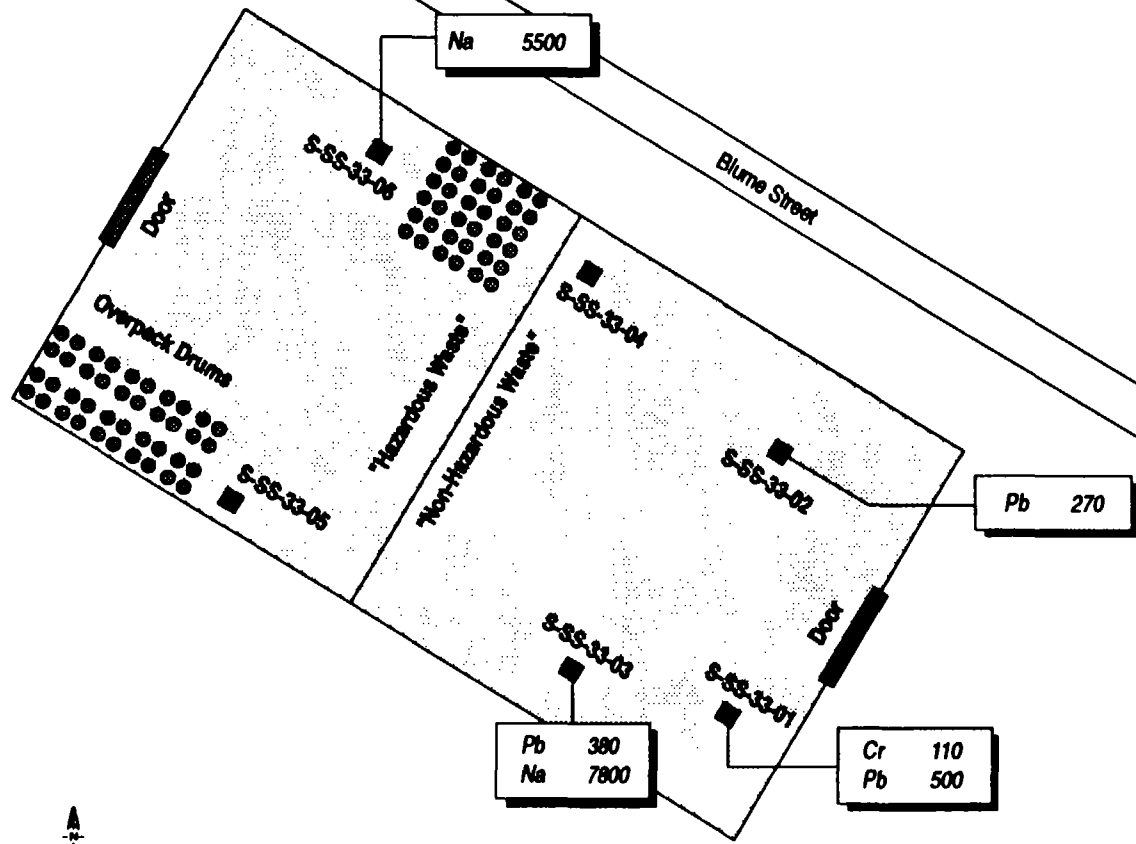
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Sitewide Upper Boundaries* for Soil Background Concentrations

Metal	Upper Bound / ppm
Ag	1.9
As	41
Ba	0.45
Cd	21
Cr	62
Cu	61
Hg	0.32
Mn	3400
Ni	2.7
Pb	250
Sb	20
Se	5.8
Tl	34
Zn	240

ND = No detections
 * Upper bound soil background concentration determined statistically for all soil background samples



Legend

■ Soil Sample (results in µg/g)

1992 results are italicized

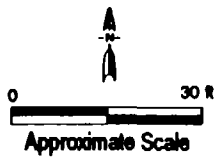


Figure 5.23-3
SWMU 33 - Building S-536 (CAMDS Salt Storage)
Metals

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SOIL ($\mu\text{g/g}$)

ADDITIONAL SAMPLING JUNE 1992

Analytical Groups and Analytes Detected	S-SS-33-01 0 - 0.5 ft	S-SS-33-02 0 - 0.5 ft	S-SS-33-03 0 - 0.5 ft	S-SS-33-04 0 - 0.5 ft	S-SS-33-05 0 - 0.5 ft	S-SS-33-06 0 - 0.5 ft
Agent Breakdown Products:						
Isopropylmethyl phosphonic acid (IMPA)	640	79	1800	37	210	94
Methylphosphonic acid (MPA)	110	31	690	15	110	600
Thiodiglycol (TDGCL)	LT 3.9	LT 3.9	4.1	LT 3.9	LT 3.9	LT 3.9
Metals:						
Arsenic (As)	12	13	11	19	10	11
Chromium (Cr)	110	44	55	LT 39	LT 39	LT 39
Copper (Cu)	33	33	26	25	LT 20	LT 20
Lead (Pb)	500	270	380	160	94	36
Mercury (Hg)	0.093	0.074	0.062	0.051	0.056	LT 0.026
Silver (Ag)	0.40	0.35	0.30	0.29	0.20	0.082
Sodium (Na)	1500	790	7800	1700	2200	5500
Zinc (Zn)	140	140	200	LT 80	LT 80	LT 80

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LT Less than
 $\mu\text{g/g}$ Microgram per gram

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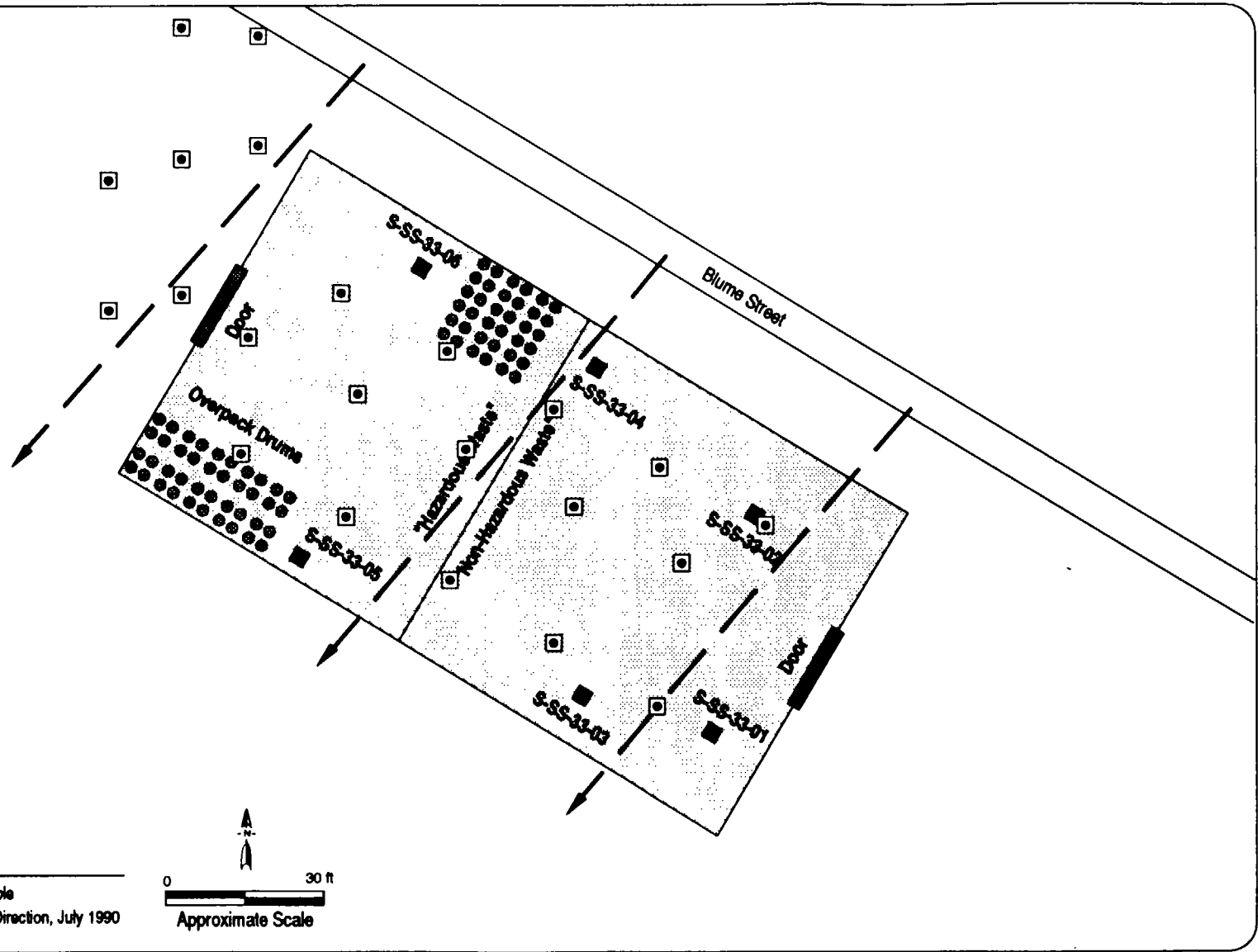


Figure 5.23-4
SWMU 33 - Building S-536 (CAMDS Salt Storage)
Proposed Sampling Locations

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