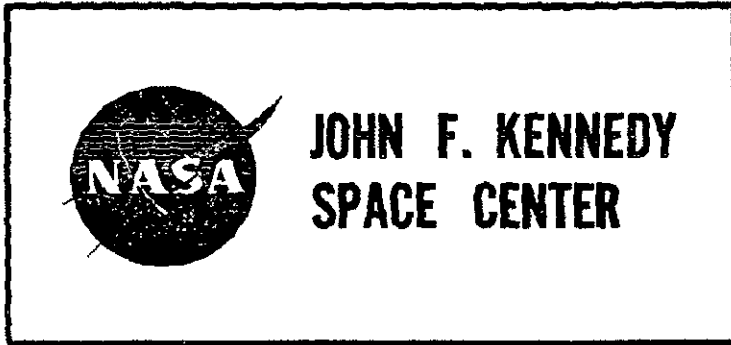


GP-779
November 10, 1969



APOLLO 11
WATER SERVICING

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APOLLO 11 WATER SERVICINGPURPOSE:

THIS REPORT IS A COMPLETE DOCUMENTATION OF THE WATER SERVICING FOR THE APOLLO 11 MISSION. INCLUDED IS A DISCUSSION OF OPERATIONAL OR HARDWARE INTERFACE PROBLEMS ENCOUNTERED DURING ALTITUDE CHAMBER TESTS AND LAUNCH COUNTDOWN ALONG WITH A COPY OF ALL PERTINENT SAMPLE REPORTS.

SCOPE:

THIS WORK COVERS A PERIOD EXTENDING FROM FEBRUARY 2, 1969 TO JULY 15, 1969.

FEBRUARY 2 TO MARCH 25, 1969 - LM-5 CHAMBER TESTS
MARCH 7 TO MARCH 26, 1969 - CM-107 CHAMBER TESTS
JUNE 25 TO JULY 15, 1969 - LM & CM LAUNCH COUNTDOWN

THE SCOPE OF WATER SERVICING INCLUDES THE VERIFICATION OF FACILITY DEMINERALIZED WATER, GROUND SUPPORT EQUIPMENT WATER UNITS, LUNAR MODULE (LM), COMMAND MODULE (CM) SPACECRAFTS, PORTABLE LIFE SUPPORT SYSTEM (PLSS), LIQUID COOLING GARMENT (LCG), SUIT WICK WETTING UNITS AND STERILIZATION OF WATER DISPENSERS (WD).

VERIFICATION OF THESE SYSTEMS REQUIRES CHEMICAL, MICROBIOLOGICAL AND PARTICULATE ANALYSIS. ALL ANALYSES WERE PERFORMED BY ENVIRONMENTAL HEALTH ENGINEERING (EHE) IN THE ENVIRONMENTAL HEALTH LABORATORY LOCATED IN THE OCCUPATIONAL HEALTH FACILITY. DUPLICATE CHEMICAL SAMPLES WERE SHIPPED TO THE MANNED SPACECRAFT CENTER FOR ANALYSIS.

ANALYSIS:

THE SPACECRAFT WATER SYSTEMS WERE ANALYZED TO PF-SPEC-1 OR THE LATEST REVISION, PF-SPEC-1A DATED FEBRUARY 28, 1969. THE PLSS AND LCG WERE VERIFIED BY MSC-C-27 AND THE SUIT WICK WETTER WATER WAS ANALYZED TO MSC-C20A FOR DISTILLED WATER. THE WATER DISPENSER WAS STERILIZED BY CLEANING PROCEDURE CSD-A-872, REVISION A.

COLLECTION OF SAMPLES WAS CARRIED OUT BY EHE PERSONNEL IN ALL INSTANCES AND RETURNED TO THE LABORATORY FOR ANALYSIS EXCEPT FOR PH, ELECTRICAL CONDUCTIVITY, IODINE AND CHLORINE DETERMINATIONS WHICH WERE PERFORMED AND REPORTED ON SITE.

SAMPLES WERE COLLECTED BY MEANS OF A COMBINATION OF EHE EQUIPMENT, CONTAINERS AND SPECIAL CONTAINERS FURNISHED BY MSC CALLED APOLLO WATER SAMPLING DEVICES (AWSD). FOR DETAILS OF TYPES OF SAMPLES COLLECTED AND SAMPLE VOLUMES SEE TABLE I. THE IONIC SPECIES DETERMINATIONS WERE PERFORMED BY ATOMIC ABSORPTION.

THE SAMPLES SENT TO MSC FOR ANALYSIS WERE TAKEN ONLY FROM THE SPACECRAFTS' POTABLE WATER SYSTEMS. THESE SAMPLES WERE COLLECTED IN THE AWSD AND SUBSEQUENTLY SPLIT IN THE LABORATORY. ONE-HALF WAS RETAINED AT KSC FOR ANALYSIS. THE SECOND HALF WAS SHIPPED VIA AIR FREIGHT TO MSC.

RESULTS:

RESULTS WERE REPORTED IMMEDIATELY IN THE CASE OF ON-SITE ANALYSES AND WITHIN TWENTY-FOUR HOURS BY PHONE ON ALL OTHERS WITH THE WRITTEN REPORT PUBLISHED AFTER THE FINAL RESULTS WERE OBTAINED ON THE BACTERIAL SAMPLES. ANY RESULTS WHICH DEVIATED FROM NORMAL WERE REPORTED TO THE APPROPRIATE TEST CONDUCTOR AND MEDICAL PERSONNEL AS SOON AS THEY WERE AVAILABLE.

DISCUSSION:

WATER SAMPLING AND ANALYSIS OF THE SPACECRAFT POTABLE WATER SUPPLY DURING LAUNCH COUNTDOWN REACHED THE HIGHEST LEVEL OF EFFICIENCY AND QUALITY YET TO BE ACHIEVED.

THIS WORK EXTENDED FROM JUNE 25 TO JULY 15, 1969, WITH BOTH THE COMMAND MODULE AND LUNAR MODULE WATER SERVICING BEGINNING SIMULTANEOUSLY ON THE EVENING OF JULY 8 AND CONTINUING THROUGH TO THE AFTERNOON OF JULY 10. THIS PARALLEL STERILIZATION OF THE SPACECRAFTS FOLLOWED BY LOADING OF THE FLIGHT WATER CREATES SOMEWHAT OF A HARDSHIP ON CERTAIN SUPPORT ITEMS SUCH AS THE SOLE FACILITY WATER DEMINERALIZER, WATER SAMPLING PERSONNEL WHO USE SOME SINGLE ITEM GEAR, AND THE ANALYZING LABORATORY. DURING A SMOOTH OPERATION SUCH AS THIS LAUNCH, THIS IS NOT MUCH OF A PROBLEM, BUT IF ANY CONTINGENCIES ARISE, THERE WOULD BE PROBLEMS IN MEETING THE SUPPORT REQUIREMENT.

EXPERIENCED AND QUALIFIED PERSONNEL IN THE AREA OF SPACECRAFT POTABLE WATER ARE DEFINITELY LIMITED IN NUMBER. POSSIBLY A SCHEDULE COULD BE ATTEMPTED TO PHASE THE TWO SERVICINGS IN A CONTINUOUS MANNER RATHER THAN THE SIMULTANEOUS SCHEDULE WHICH OCCURRED THIS LAUNCH.

THE PROBLEMS ENCOUNTERED USING THE APOLLO WATER SAMPLING DEVICE (AWS) DURING APOLLO 10 WERE NON-EXISTENT DURING THIS LAUNCH. THE AWS'S ARRIVED IN TIME FROM MSC IN EXCELLENT CONDITION, CLEAN AND READY FOR USE.

STERILIZATION OF THE COMMAND MODULE WATER SYSTEM CONSISTED OF A FOUR-HOUR MINIMUM SOAKING PERIOD WITH A SOLUTION OF HIGH PURITY WATER CONTAINING A CONCENTRATION OF 12 MG/L OF CHLORINE. AT THE CONCLUSION OF THE SOAKING PERIOD, THE CHLORINE CONCENTRATION WAS 6 MG/L FROM THE RESPECTIVE USE PORTS. ONCE THE FINAL BIOCIDES-FREE FLIGHT WATER WAS LOADED IN THE SPACECRAFT, LESS THAN 24 HOURS LATER A BACTERIA SAMPLE COLLECTED FROM THE USE PORTS REVEALED CONTAMINATION OF 15,000 COLONIES/150 ML FROM THE HOT AND 60,000 COLONIES/150 ML FROM THE DRINK DISPENSER WHICH HAD BEEN CONNECTED DURING THE STERILIZATION CYCLE. ELEVATED NICKEL CONCENTRATIONS ARE A COMMON OCCURRENCE FOR THE HOT WATER FOOD PREPARATION. THE CONCENTRATION ROSE FROM A 0.2 MG/L WHEN LOADED JULY 10 TO 0.3 MG/L ON JULY 15. THE HEATERS OF THE HOT PORT WERE NOT TURNED ON DURING THIS TIME. THE DRINK DISPENSER NICKEL CONCENTRATION REMAINED BELOW THE LIMITS OF DETECTION OF 0.03 MG/L.

THE CHEMICAL ANALYSIS OF THE COMMAND MODULE CONFORMED TO THE REQUIREMENTS OF THE SPECIFICATION EVEN THOUGH THE NICKEL WAS SLIGHTLY ELEVATED.

THE LUNAR MODULE (LM) WATER SUPPLY SYSTEM WAS STERILIZED WITH 30 MG/L OF IODINE. AFTER A FIVE-HOUR SOAK PERIOD, THE CONCENTRATION WAS 27 MG/L IN EACH OF THE ASCENT AND DESCENT TANKS. THE FINAL LOAD WATER CONTAINED 12 MG/L

AND WAS LOADED $6\frac{1}{2}$ DAYS BEFORE LAUNCH. THE T-30 HOUR SAMPLE TAKEN FIVE DAYS AFTER LOADING CONTAINED $7\frac{1}{2}$ MG/L OF IODINE. THESE TWO IODINE CONCENTRATIONS PLOTTED ON A DEPLETION CURVE REVEALS THE T-30 HOUR SAMPLE WAS A BORDERLINE VALUE FOR MEETING THE 0.5 MG/L REQUIREMENT AT THE TIME OF LAST CONSUMPTION. THIS LAUNCH WAS THE FIRST LM NOT TO HAVE HAD IODINE IN THE TANKS PREVIOUSLY. THE DEPLETION OF IODINE IN THE TANKS OF THE POTABLE WATER SYSTEM IS A CRITICAL CONSIDERATION TO THE FINAL LOAD WATER IODINE CONCENTRATION.

THERE WERE NO ABNORMALITIES IN ANY OF THE CHEMICAL OR BACTERIA SAMPLES FROM THE LM COLLECTED DURING THE LAUNCH COUNTDOWN. ONE TROUBLE AREA IN THE LM WATER SERVICING OCCURRED WHEN THE SYSTEM WAS STERILIZED WITHOUT THE WATER DISPENSER INSTALLED. THIS NECESSITATED THE FLIGHT DISPENSER BEING STERILIZED WITH IODINE SEPARATELY AND THEN INSTALLED IN THE SPACECRAFT. PREVENTION OF THIS ADDITIONAL REQUIREMENT COULD BE ACCOMPLISHED BY INSTALLATION OF THE DISPENSER PRIOR TO THE BEGINNING OF THE SPACECRAFT WATER SERVICING.

ALTITUDE CHAMBER TESTS WERE CONDUCTED DURING THE PERIOD FROM FEBRUARY 2 TO APRIL 3, 1969. THE COMMAND MODULE WATER SERVICING WENT SMOOTHLY BUT WITH SOME FAILURES OTHER THAN THE BACTERIA WHICH WAS EXPECTED DUE TO THE ABSENCE OF BACTERICIDE.

AFTER THE FIRST MANNED CHAMBER TEST IN WHICH THE FUEL CELL WATER FILLED THE POTABLE TANKS, SEVERAL CHEMICAL ITEMS FAILED. THESE ANALYSES, TOTAL SOLIDS, TURBIDITY AND PARTICULATE WERE THE RESULTS OF THE FINE YELLOW MATERIAL PREVIOUSLY IDENTIFIED AS BIS (PENTAMETHYLENE-DETHIOCARBAMATO) NI (II). THE NICKEL CONCENTRATION ROSE FROM 0.03 MG/L TO 0.4 MG/L IN THE HOT PORT. THIS IS NOT FAILING THE SPECIFICATION REQUIREMENT BUT IS A SUBSTANTIAL INCREASE FROM THE INITIAL LOAD WATER. AT THE CONCLUSION OF THE CHAMBER TESTS, THE HOT WATER PORT NICKEL HAD RISEN TO 0.9 MG/L WHILE THE DRINK GUN SHOWED A CONCENTRATION OF ONLY 0.04 MG/L. INCREASES IN NICKEL ALONG WITH SLIGHT ELEVATIONS OF IRON, COPPER AND ZINC ARE COMMON OCCURRENCES AFTER THE HOT PORT HAS HAD THE HEATERS ACTUATED. SOME OF THE INCREASES MAY BE CAUSED FROM THE CHEMICALS FOUND ONCE FUEL CELL WATER HAS ENTERED THE TANKS, BUT THE MAJOR CONTAMINATE SEEMS TO BE FROM THE HEATERS OF THE HOT WATER PORT.

LUNAR MODULE CHAMBER TEST WATER SERVICING WAS PERFORMED WITHOUT THE BACTERICIDE FOR THE FIRST TIME. OTHER THAN BACTERIA, NO ABNORMALITIES WERE FOUND DURING THE ENTIRE CHAMBER TESTS. THE EFFECTIVENESS OF THE BACTERIA FILTER AND GUN COMBINATION WAS DEMONSTRATED ON POST-FLIGHT SAMPLE. A BACTERIA SAMPLE STRAIGHT FROM THE HOSE CONTAINED 2.5 MILLION COLONIES/100 ML COMPARED TO ZERO WITH THE FILTER AND GUN COMBINATION.

NO PROBLEMS WERE ENCOUNTERED IN THE WATER SERVICING OF THE PORTABLE LIFE SUPPORT SYSTEMS OR THE LIQUID COOLING GARMENTS. THE QUALITY OF THE GROUND SUPPORT EQUIPMENT SUPPLY WATER IS SO MUCH BETTER THAN THE SPECIFICATION REQUIREMENTS THAT CONTINGENCY SAMPLES ARE VERY RARE.

STERILIZATION OF THE WATER DISPENSERS CONTINUES TO HAVE PROBLEMS MEETING THE REQUIREMENT OF STERILITY. INCREASING OF THE IODINE CONCENTRATION USED IN THE STERILIZING PROCEDURE FROM 20 MG/L TO 100 MG/L SEEMS TO HAVE SOLVED

THE PROBLEM AT THE PRESENT TIME. A RECENT STUDY CONDUCTED BY WHIRLPOOL CORPORATION, MANUFACTURERS OF THE DISPENSERS, DEMONSTRATED THAT AN ETHYLENE OXIDE GAS STERILIZATION DID AN EXCELLENT JOB IN KILLING ORGANISMS IN THE DISPENSER INCLUDING THE LUBRICANT USED INTERNALLY. SOME CONSIDERATION TO THIS PROCEDURE SHOULD BE GIVEN IN THE NEAR FUTURE FROM THE STANDPOINT OF SPEED OF PROCESSING AND RELIABILITY. THE BAGGING MATERIAL FOR THE DISPENSER HAS PROVEN TO BE INADEQUATE. THE 2-MIL ACLAR BAGS PRESENTLY USED WILL NOT KEEP A VACUUM SEAL OVER A PERIOD OF TIME WITHOUT LEAKING. OTHER SEALING MATERIALS ARE PRESENTLY BEING RESEARCHED FOR SUBSTITUTION TO SOLVE THIS TROUBLE AREA.

SAMPLE VOLUMES FOR KSC AND MSC⁽²⁾

TABLE I

<u>ANALYSIS</u>	<u>TEST POINT ONE</u>	<u>TEST POINT TWO</u>	<u>TEST POINT THREE C/M</u>		<u>TEST POINT THREE L/M</u>
	<u>FACILITY D.I.</u>	<u>G. S. E. UNIT</u>	<u>DRINK GUN</u>	<u>HOT PORT</u>	<u>DESCENT TANK</u>
ELECTRICAL CONDUCTIVITY	1 - ON SITE	1 - ON SITE	NONE REQUIRED	NONE REQUIRED	NONE REQUIRED
PH	1 - ON SITE	1 - ON SITE	PERFORM FROM TASTE & ODOR VOLUME AT LAB	PERFORM FROM TASTE & ODOR VOLUME AT LAB	PERFORM FROM TASTE & ODOR VOLUME AT LAB
STERILITY	1 - 10 ML 500 ML	1 - 10 ML 500 ML	1 - 10 ML 500 ML	1 - 10 ML 500 ML	1 - 10 ML 500 ML
PARTICULATE	NONE REQUIRED	1 - 500 ML	1 - 500 ML	NONE REQUIRED	1 - 500 ML
TOTAL RESIDUE	1 - 1,000 ML	1 - 1,000 ML PERFORMED FROM TASTE & ODOR VOLUME	1 - 500 ML PERFORMED FROM TASTE & ODOR VOLUME	NONE PERFORMED	1 - 500 ML PERFORMED FROM TASTE & ODOR VOLUME
TASTE AND ODOR TURBIDITY COLOR, TRUE BACTERICIDE IONIC SPECIES	NONE REQUIRED	2 - 2,000 ML ⁽³⁾	1 - 2,000 ML ⁽¹⁾	1 - 1,000 ML ⁽¹⁾	1 - 2,000 ML ^{(1),(4)}
TOTAL VOLUME	1,500 ML 10 ML (KSC)	2,000 ML (MSC) 3,000 ML 10 ML (KSC)	2,000 ML (KSC) 10 ML 1,000 ML (MSC)	1,000 ML (KSC) 10 ML 500 ML (MSC)	2,000 ML (KSC) 10 ML 1,000 ML (MSC)

- NOTES: 1. SAMPLE IS SPLIT FOR SHIPMENT TO MSC.
 2. ALL SAMPLES COLLECTED IN SAMPLE CONTAINERS FURNISHED BY MSC, EXCEPT THE PARTICLE SAMPLES.
 3. NO SAMPLE IS TAKEN FOR MSC ON L/M CHAMBER RUNS.
 4. IODINE CONCENTRATION MUST BE VERIFIED ON-SITE AT SAMPLING TIME.

CHRONOLOGY OF APOLLO 11 WATER SERVICING
FOR LAUNCH COUNTDOWN

DATE	HOURS	EHE LOG NO.	ANALYSIS REQUEST	
SUNDAY	6-22-69	1100	6906-74,75	PLSS (H-S)
WEDNESDAY	6-25-69	1030	6906-87,88	GSE (H-S)
WEDNESDAY	6-25-69	1400	6906-93	GSE PRE-IODINATION TEST POINT Two (GAEC)
TUESDAY	7-1-69	1330	6907-2,3	PLSS No. 15
MONDAY	7-7-69	1330	6907-15,16	PLSS No. 019
TUESDAY	7-8-69	1800	6907-23	IODINE ADDITION TO GSE AND VERIFICATION (GAEC)
WEDNESDAY	7-9-69	0830	6907-25	GSE PRE-CHLORINATION TEST POINT TWO (NR)
WEDNESDAY	7-9-69	1200	6907-26	CHLORINE ADDITION TO GSE AND VERIFICATION (NR)
WEDNESDAY	7-9-69	1440	6907-27	IODINE STERILIZING SOAK IN LM-5 (GAEC)
WEDNESDAY	7-9-69	1500	6907-28	GSE POST-IODINATION TEST POINT Two (GAEC)
WEDNESDAY	7-9-69	1800	6907-29	CHLORINE STERILIZING SOAK IN CM-107 (NR)
WEDNESDAY	7-9-69	1730	6907-30	FINAL FILL FOR LM-5 TEST POINT THREE (GAEC)
THURSDAY	7-10-69	0400	6907-31	GSE POST-CHLORINATION TEST POINT TWO (NR)
THURSDAY	7-10-69	1400	6907-34	FINAL FILL FOR S/C 107 TEST POINT THREE (NR)
THURSDAY	7-10-69		6907-35	LIQUID COOLING GARMENT (H-S)
THURSDAY	7-10-69		6907-37	LIQUID COOLING GARMENT (H-S)
FRIDAY	7-11-69		6907-40,41	PLSS No. 14 (H-S)
SATURDAY	7-12-69	1400	6907-44,45	GAS/WATER SEPARATORS (NASA)
SATURDAY	7-12-69	0700	6907-46	LIQUID COOLING GARMENT (H-S)

<u>DATE</u>	<u>HOURS</u>	<u>EHE LOG NO.</u>	<u>ANALYSIS REQUEST</u>
SATURDAY	7-12-69	6907-42-43	PLSS No. 15 (H-S)
SATURDAY	7-12-69	1030 6907-47	SUIT WICK WETTER WATER (NR)
SATURDAY	7-12-69	1600 6907-48	STERILIZATION OF LM (NASA) WATER DISPENSER
SATURDAY	7-12-69	1530 6907-49	LIQUID COOLING GARMENT
SUNDAY	7-13-69	6907-50,51	PLSS No. 19 (H-S)
SUNDAY	7-13-69	6907-52,53	LIQUID COOLING GARMENT (H-S)
MONDAY	7-14-69	1500 6907-54	T-24/30 HOURS FROM DESCENT TANK OF LM-5 (GAEC)
TUESDAY	7-15-69	0300 6907-58	T-24/30 HOURS FROM POTABLE TANK OF S/C 107 (NR)
WEDNESDAY	7-16-69	LAUNCH DAY	

0000-



K S C
ENVIRONMENTAL HEALTH ENGINEERING
Analysis Report



Requestor, Organization, Mail Code C. TONEY, DENNIX DEN-5200	Request Date JUNE 2, 1969
	Phone 7-2577
Sample Description HIGH PURITY WATER FROM NEWLY INSTALLED DEMINERALIZED BEDS	Analysis Requested (Specification Required) PF SPEC 1A TO TEST POINT ONE
Location 4C LEVEL, ISS	

Received by WRIGHT Date 6-2-69 (1500) Log Number 6906-5
 Priority Routine _____ (Due Date) _____ ASAP _____ Emergency _____

ANALYSIS

ELECTRICAL CONDUCTIVITY = 0.12 MICROMHOS/CM . 25°C
 PH = 6.8 25°C
 TOTAL RESIDUE = 0.6 MG/L

THIS REPORT PASSES THE REQUESTED ANALYSIS.

cc: LS-ENG-32

Analyst ADRIUS Date Completed JUNE 9, 1969
 Approved by [Signature] Reference Notebook _____
P. LATORRE, MGR., ENVIRONMENTAL HEALTH ENGINEERING



K S C
 ENVIRONMENTAL HEALTH ENGINEERING
 Analysis Report

0009



Requestor, Organization, Mail Code D. TORRE, NAC 2K-02	Request Date JUNE 4, 1969
	Phone 7-5182
Sample Description HIGH PURITY WATER FROM S 34-152 SW 1 UNIT	Analysis Requested (Specification Required) SPEC. CALL FOR DISTILLED WATER
Location COMPLEX 30A WSS LEVEL 4C	

Received by TOBERRY Date 6-5-69 (0830) Log Number 6906-12
 Priority Routine (Due Date) ASAP Emergency _____

ANALYSIS

pH = 7.4 @ 25°C
 ELECTRICAL CONDUCTIVITY = 0.63 MICROMHOS/CM 25°C
 TOTAL SOLIDS = 0.2 MG/L
 HALIDES = NONE DETECTED
 SURFACE TENSION = 72.20 DYNES/CM 20°C
 PARTICULATE/500 ML
 1-25 MICRONS = 37
 25-50 MICRONS = 0
 50-100 MICRONS = 1
 100-250 MICRONS = 0
 OVER 250 MICRONS = 0

THIS REPORT PASSES THE REQUESTED ANALYSIS.

CC: CO WRIGHT, LS-ENG-32
 MSC PREVENTIVE MEDICINE DIV., DC-7
 MSC CREW SYSTEMS DIVISION, EC-3
 MSC LAUNCH SITE MEDICAL OPS. BRANCH, LK
 NORTH AMERICAN ROCKWELL, DONNEY, CALIFORNIA

Analyst DUCKLES Date Completed JUNE 6, 1969
 Approved by [Signature] Reference Notebook _____
 P. LATORRE, MGR., ENVIRONMENTAL HEALTH ENGINEERING



K S C
ENVIRONMENTAL HEALTH ENGINEERING
Analysis Report

CC10-



Requestor, Organization, Mail Code JEFF ROBERTS HAMILTON-STANDARD	Request Date JUNE 22, 1969
	Phone 057-4009
Sample Description PLSS FEED WATER LOOP	Analysis Requested (Specification Required) SPEC-C-27 FOR TOTAL RESIDUE AND PARTICULATE
Location ECS BUILDING	

Received by GUENTHER Date 6/22/69 (1100) Log Number 6906-74
 Priority Routine _____ (Due Date) A S A P _____ Emergency _____

ANALYSIS

PARTICULATE/500 ML **TOTAL RESIDUE = 0.8 MG/L**

0-100 MICRONS = UNLIMITED

100-200 MICRONS = 2

200-250 MICRONS = 0

OVER 250 MICRONS = 0

THIS REPORT PASSES THE REQUESTED ANALYSIS.

Analyst GUENTHER AB Date Completed JUNE 24, 1969
 Approved by P. Latorde Reference Notebook _____
P. LATORDE, MGR., ENVIRONMENTAL HEALTH ENGINEERING



K S C
ENVIRONMENTAL HEALTH ENGINEERING
Analysis Report

0011



Requestor, Organization, Mail Code JEFF ROBERTS HAMILTON-STANDARD	Request Date JUNE 22, 1969
	Phone 867-4009
Sample Description PLSS TRANSPORT WATER LOOP	Analysis Requested (Specification Required) SPEC-C-27 FOR PARTICULATE
Location ECS BUILDING	

Received by E. M. GUENTHER Date 6/22/69 (1100) Log Number 6906-75
 Priority Routine _____ (Due Date) _____ A S A P _____ Emergency _____

ANALYSIS

PARTICULATE/500 ML

0-160 MICRONS = UNLIMITED

160-200 MICRONS = 4

200-250 MICRONS = 1

OVER 250 MICRONS = 0

THIS REPORT PASSES THE REQUESTED ANALYSIS.

Analyst GUENTHER *EB* Date Completed JUNE 24, 1969
 Approved by *P. Latorre* Reference Notebook _____
P. LATORRE, MGR., ENVIRONMENTAL HEALTH ENGINEERING



K S C
ENVIRONMENTAL HEALTH ENGINEERING
Analysis Report

CC15



Requestor, Organization, Mail Code JEFF ROBERTS HAMILTON-STANDARD	Request Date JUNE 25, 1969
	Phone 7-4009
Sample Description HIGH PURITY WATER FROM WATER RECHARGE FILTER OUTLET	Analysis Requested (Specification Required) MSC-C-204 FOR HIGH PURITY WATER
Location FCS BUILDING	

Received by WRIGHT Date 6/25/69 (1030) Log Number 6906-07
 Priority Routine _____ (Due Date) _____ A S A P _____ Emergency _____

ANALYSIS

ELECTRICAL CONDUCTIVITY = 0.5 MICROMHOS/CM

pH = 5.6 @ 25°C

NON-VOLATILE RESIDUAL = 1.2 MG/L

HALIDES = NONE DETECTED

SURFACE TENSION = 71.2 DYNES/CM @ 25°C

SILTING = NONE DETECTED

Analyst BUCK Q15 Date Completed JUNE 30, 1969
 Approved by P. LaTorre Reference Notebook _____
 P. LATORRE, MGP., ENVIRONMENTAL HEALTH ENGINEERING



K S C
ENVIRONMENTAL HEALTH ENGINEERING
Analysis Report

CC13-



Requestor, Organization, Mail Code JEFF ROBERTS HAMILTON-STANDARD	Request Date JUNE 25, 1969
	Phone 7-4009
Sample Description HIGH PURITY WATER FROM GROUND SUPPORT EQUIPMENT	Analysis Requested (Specification Required) MSC-C-20A FOR HIGH PURITY WATER
Location ECS BUILDING	

Received by ANDERSON Date 6/25/69 (1370) Log Number 6906-88
 Priority Routine _____ (Due Date) _____ A S A P _____ Emergency _____

ANALYSIS

ELECTRICAL CONDUCTIVITY = 0.3 MICROMHOS/CM
 PH = 5.6 @ 25°C
 NON-VOLATILE RESIDUE = UNDER 0.5 MG/L
 HALIDES = NONE DETECTED
 SURFACE TENSION = 72.3 DYNES/CM @ 25°C
 SILTING = NONE DETECTED.

Analyst BUCK AB Date Completed JUNE 30, 1969
 Approved by P. Latorre Reference Notebook _____
 P. LATORRE, MGR., ENVIRONMENTAL HEALTH ENGINEERING



K S C
ENVIRONMENTAL HEALTH ENGINEERING
Analysis Report

0014



Requestor, Organization, Mail Code J. STORNO GSEC-47		Request Date JUNE 25, 1969
		Phone 7-0-70
Sample Description APOLLO POTABLE WATER FROM GSE OF LHS APOLLO 11	Analysis Requested (Specification Required) PF SPEC-1A TO TEST POINT 2	
Location 3C LEVEL, HSS		

Received by ANDERSON Date 6-25-69 (1969) Log Number 6006-03
 Priority Routine _____ (Due Date) _____ A S A P _____ Emergency _____

ANALYSIS

ELECTRICAL CONDUCTIVITY = 0.11 MICRONHOS/CM
 pH = 6.0
 TOTAL RESIDUE = UNDER .5 MG/L
 FIXED RESIDUE - UNDER 0.5MG/L
 TASTE AND ODOR - NONE @ THRESHOLD No. 3
 TURBIDITY = 0.25 UNITS
 COLOR, TRUE - UNDER 5 UNITS
 PARTICULATES/500 ML
 0-10 MICRONS = PASSES
 10-25 MICRONS = 260
 25-50 MICRONS = 21
 50-100 MICRONS = 7
 OVER 100 MICRONS = 2

IONIC SPECIES

CADMIUM	UNDER	0.005	MG/L
CHROMIUM	UNDER	0.05	MG/L
COPPER	UNDER	0.05	MG/L
IRON	UNDER	0.1	MG/L
LEAD	UNDER	0.05	MG/L
MANGANESE	UNDER	0.01	MG/L
MERCURY	UNDER	0.005	MG/L
NICKEL	UNDER	0.03	MG/L
SILVER	UNDER	0.05	MG/L
ZINC	UNDER	0.05	MG/L
MAGNESIUM	UNDER	0.003	MG/L
IODIDE	UNDER	0.1	MG/L
ALUMINUM	UNDER	0.5	MG/L
POTASSIUM	UNDER	0.05	MG/L
SILICA	UNDER	0.5	MG/L

STERILITY

TOTAL BACTERIA = 450/150 ML
 COLIFORM COUNT = NEGATIVE
 ANAEROBIC ANALYSIS = NEGATIVE
 YEAST & MOLDS = NEGATIVE

THIS REPORT PASSES THE REQUESTED ANALYSIS.

cc: Ed WRIGHT, LS-ENG-32
 HSC PREVENTIVE MEDICINE DIV., DC-7
 HSC CREW SYSTEMS DIV., EC-3
 HSC LAUNCH SITE MEDICAL OPS. BRANCH, DDK

Analyst BUCK Date Completed JUNE 30, 1969
 Approved by P. LATORRE, MGR., ENVIRONMENTAL HEALTH ENGINEERING Reference Notebook _____



K S C
ENVIRONMENTAL HEALTH ENGINEERING
Analysis Report

0015-



Requestor, Organization, Mail Code J. STORNO G1EC-47	Request Date JUNE 25, 1969
	Phone 7-6 70
Sample Description APOLLO POTABLE WATER FROM GSE OF LMS APOLLO 11	Analysis Requested (Specification Required) PF SPEC-10 TO TEST POINT 2
Location 3C LEVEL, NSS	

Received by ANDERSON Date 6-25-69 (1430) Log Number 5006-93
 Priority Routine _____ (Due Date) _____ A S A P _____ Emergency _____

ANALYSIS

ELECTRICAL CONDUCTIVITY = 0.11 MICROMHMS/CM
 pH = 6.8
 TOTAL RESIDUE = UNDER .5 MG/L
 FIXED RESIDUE - UNDER 0.5MG/L
 TASTE AND ODOR - NONE (THRESHOLD No. 3)
 TURBIDITY = 0.25 UNITS
 COLOR, TRUE - UNDER 5 UNITS
 PARTICULATES/500 ML
 0-10 MICRONS = PASSES
 10-25 MICRONS = 260
 25-50 MICRONS = 21
 50-100 MICRONS = 7
 OVER 100 MICRONS = 2

IONIC SPECIES

CADMIUM	UNDER	0.005	MG/L
CHROMIUM	UNDER	0.05	MG/L
COPPER	UNDER	0.15	MG/L
IRON	UNDER	0.1	MG/L
LEAD	UNDER	0.05	MG/L
MANGANESE	UNDER	0.01	MG/L
MERCURY	UNDER	0.005	MG/L
NICKEL	UNDER	0.03	MG/L
SILVER	UNDER	0.05	MG/L
ZINC	UNDER	0.03	MG/L
MAGNESIUM	UNDER	0.003	MG/L
IODIDE	UNDER	0.1	MG/L
ALUMINUM	UNDER	0.5	MG/L
POTASSIUM	UNDER	0.05	MG/L
SILICA	UNDER	0.5	MG/L

STERILITY

TOTAL BACTERIA = 450/150 ML
 COLIFORM COUNT = NEGATIVE
 PHACRODIC ANALYSIS = NEGATIVE
 YEAST & MOLDS = NEGATIVE

THIS REPORT PASSES THE REQUESTED ANALYSIS.

cc: Ed URIGHT, LS-ENG-32
 MSC PREVENTIVE MEDICINE DIV., DC-7
 MSC CREW SYSTEMS DIV., EC-3
 MSC LAUNCH SITE MEDICAL OPS. BRANCH, DUK

Analyst DUCK Date Completed JUNE 30, 1969

Approved by P. LATOURE, MGR., ENVIRONMENTAL HEALTH ENGINEERING Reference Notebook _____



K S C
ENVIRONMENTAL HEALTH ENGINEERING
Analysis Report

CCAG



Requestor, Organization, Mail Code

DON WORNER
NR
ZK-96

Request Date

JUNE 26, 1969

Phone

867-5182

Sample Description

HIGH PURITY WATER FROM SUIT WICK
WETTER UNIT

Analysis Requested (Specification Required)

MSC-C-20-A FOR DISTILLED WATER

Location

4C LEVEL, MSS, PAD 39A

Received by WRIGHT Date 6/26/69 (1400) Log Number 6906-98

Priority Routine (Due Date) ASAP Emergency

ANALYSIS

ELECTRICAL CONDUCTIVITY = .27 MICROMHOS/CM

PH = 6.4 @ 25°C

NON-VOLATILE RESIDUE = .1 MG/500 ML

HALIDES = NONE DETECTED

SURFACE TENSION = 70.8 DYNES/CM AT 25°C

PARTICULATE/500 ML

- 10-25 MICRONS = 177
- 25-50 MICRONS = 45
- 50-100 MICRONS = 12
- 100-250 MICRONS = 2
- OVER 250 MICRONS = 0

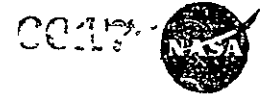
CC: Ed Wright, LS-ENC-32

Analyst BUCK Date Completed JUNE 3, 1969

Approved by P. Latorre, Agr., ENVIRONMENTAL HEALTH ENGINEERING Reference Notebook



K S C
ENVIRONMENTAL HEALTH ENGINEERING
Analysis Report



Requestor, Organization, Mail Code Don Worner NR ZK-86	Request Date JUNE 26, 1969
	Phone 867-5182
Sample Description HIGH PURITY WATER FROM SUIT WICK WETTER UNIT	Analysis Requested (Specification Required) MSC-C-20-A FOR DISTILLED WATER
Location 4C LEVEL, HSS, PAD 3JA	

Received by WRIGHT Date 6/26/69 (1400) Log Number 6906-98
 Priority Routine _____ (Due Date) _____ A S A P _____ Emergency _____

ANALYSIS

ELECTRICAL CONDUCTIVITY = .27 MICROMHOS/CM

pH = 6.4 @ 25°C

NON-VOLATILE RESIDUE = .1 MG/500 ML

HALIDES = NONE DETECTED

SURFACE TENSION = 70.8 DYNES/CM AT 25°C

PARTICULATE/500 ML

10-25 MICRONS = 177
 25-50 MICRONS = 45
 50-100 MICRONS = 12
 100-250 MICRONS = 2
 OVER 250 MICRONS = 0

cc: Ed Wright, LS-ENG-32

Analyst BUCK Date Completed JUNE 30, 1969
 Approved by P. Latorre Reference Notebook _____
P. Latorre, Mgr., ENVIRONMENTAL HEALTH ENGINEERING



K S C
ENVIRONMENTAL HEALTH ENGINEERING
Analysis Report

0018 -



Requestor, Organization, Mail Code J. ROBERTS HAMILTON-STANDARD	Request Date JULY 1, 1969
	Phone 7-4709
Sample Description HIGH PURITY WATER FROM TRANSPORT LOOP OF PLSS No. 15 FOR LM-3	Analysis Requested (Specification Required) HSC-C-27 FOR PARTICULATE
Location ECS BUILDING	

Received by BUCK Date 7/1/69 (1331) Log Number 6907-3
 Priority Routine _____ (Due Date) _____ ASAP _____ Emergency _____

ANALYSIS

PARTICULATE: (PARTICLES PER 500 ML)

0-160 MICRONS = PASSES

160-200 MICRONS = 0

200-250 MICRONS = 0

GREATER THAN 250 MICRONS = 0

THIS SAMPLE PASSES THE REQUESTED ANALYSIS.

Analyst ANDERSON Date Completed JULY 1, 1969
 Approved by [Signature] Reference Notebook _____
W.F. LATORRE, MGR., ENVIRONMENTAL HEALTH ENGINEERING



K S C
ENVIRONMENTAL HEALTH ENGINEERING
Analysis Report

CC10-



Requestor, Organization, Mail Code J. ROBERTS HAMILTON-STANDARD	Request Date <u>7-7-69</u>
	Phone <u>7-4009</u>
Sample Description HIGH PURITY WATER FROM PLSSA#019 FROM FEED WATER LOOP	Analysis Requested (Specification Required) HSC-C-27 FOR PARTICULATE
Location ECS BUILDING	

Received by WRIGHT Date 7-7-69 (1530) Log Number 6907-15
 Priority Routine _____ (Due Date) _____ A S A P _____ Emergency _____

ANALYSIS:

PARTICULATES (PARTICLES PER 500ML)

0-160 MICRONS = PASSES

160-200 MICRONS = 0

200-250 MICRONS = 0

OVER 250 MICRONS = 0

THIS SAMPLE PASSES THE REQUESTED ANALYSIS.

Analyst BUCK Date Completed 7-7-69
 Approved by [Signature] Reference Notebook _____
 F. LATOURNE, INC., ENVIRONMENTAL HEALTH ENGINEERING



K S C
ENVIRONMENTAL HEALTH ENGINEERING
Analysis Report

CC20-



Requestor, Organization, Mail Code J. ROBERTS HAMILTON-STANDARD	Request Date 7-7-69
	Phone 7-4009
Sample Description HIGH PURITY WATER FROM PLSS # 019 FROM LIQUID TRANSPORT LOOP	Analysis Requested (Specification Required) NSC-C-27 FOR PARTICULATE
Location ECS BUILDING	

Received by Wright Date 7-7-69 (1330) Log Number 6907-16
 Priority: Routine _____ A S A P _____ Emergency _____
 (Due Date)

ANALYSIS

PARTICULATES (PARTICLES PER 500 ML)
0-160 MICRONS = PASSES
160-200 MICRONS = 0
200-250 MICRONS = 0
OVER 250 MICRONS = 0
THIS SAMPLE PASSES THE REQUESTED ANALYSIS.

Analyst BUCK Date Completed 7-7-69
 Approved by [Signature] Reference Notebook _____
Mr. LATORRE, Mgr., ENVIRONMENTAL HEALTH ENGINEERING

35.1



K S C
ENVIRONMENTAL HEALTH ENGINEERING
Analysis Report

CC 22



Requestor, Organization, Mail Code J. Stormo - CAEC CAEC-47	Request Date July 8, 1969
	Phone 867-6070
Sample Description Bactericide in G.S.E. for IM-5 Apollo 11	Analysis Requested (Specification Required) Iodine Concentration After Injection of Bactericide
Location Pad 37A, MSS, C Level	

Received by Anderson Date July 8, 1969 (1800) Log Number 6907-23
 Priority Routine _____ (Due Date) _____ A S A P _____ Emergency _____

ANALYSIS

Iodine Concentration: 30 mg/l

cc: LS-ENG-2, Ed Wright
 DC-7, MSC Preventive Medicine Division
 EC-, Don Price - MSC Crew Systems Division
 DDK, MSC Launch Site Medical Operations Branch

Analyst Anderson Date Completed July 11, 1969
 Approved by P. LaTorre Reference Notebook _____
P. LaTorre, Mgr., Environmental Health Engineering



K S C
ENVIRONMENTAL HEALTH ENGINEERING
Analysis Report

00272



Requestor, Organization, Mail Code D. WOODER ZK-86	Request Date JULY 9, 1969
	Phone 7-5182
Sample Description APOLLO POTABLE WATER FROM GSE PRE-CHLORINATION FOR S/C 107, APOLLO 11	Analysis Requested (Specification Required) PF SPEC 1A TO TEST POINT 2
Location PAD 33F, BSS, 4C	

Received by _____ Date 7/9/69 (0830) Log Number 6907-25
 Priority Routine _____ (Due Date) _____ A S A P _____ Emergency _____

ANALYSIS

ELECTRICAL CONDUCTIVITY = 6.32 MICRONHOS/CM @ 25°C
 PH = 6.3 @ 25°C
 TOTAL RESIDUE = .5 MG/L
 FIXED RESIDUE = UNDER 0.5 MG/L
 TASTE AND ODOR = NONE @ THRESHOLD No. 3 @ 45°C
 TURBIDITY = 0.2 UNITS
 COLOR, TRUE = UNDER 5 UNITS
 PARTICULATES/500 ML:
 0-10 MICRONS = PASSES
 10-25 MICRONS = 19
 25-50 MICRONS = 14
 50-100 MICRONS = 5
 OVER 100 MICRONS = 3

IONIC SPECIES:

CADMIUM	EQUALS	.005	MG/L
CHROMIUM	UNDER	0.05	MG/L
COPPER	UNDER	0.05	MG/L
IRON	UNDER	0.1	MG/L
LEAD	UNDER	0.05	MG/L
MANGANESE	UNDER	0.01	MG/L
MERCURY	UNDER	0.005	MG/L
NICKEL	EQUALS	0.05	MG/L
SILVER	UNDER	0.05	MG/L
ZINC	UNDER	0.03	MG/L
MAGNESIUM	EQUALS	0.01	MG/L
CHLORIDE		0.0	MG/L
ALUMINUM	UNDER	0.5	MG/L
POTASSIUM	UNDER	0.05	MG/L
SILICA	UNDER	0.5	MG/L

STERILITY:

TOTAL BACTERIA = 2,850 COL/150 ML
 COLIFORM COUNT = NEGATIVE
 ANAEROBIC ANALYSIS = NEGATIVE
 YEAST AND MOLDS = NEGATIVE

THIS REPORT PASSES THE REQUESTED ANALYSIS.

CC: ED WRIGHT, LS-ENG-32
 MSC PREVENTIVE MEDICINE DIV., DC-7
 MSC CREW SYSTEMS DIV., EC-3
 MSC LAUNCH SITE MEDICAL OPS. BRANCH, DOK
 NORTH AMERICAN ROCKWELL, DOWNEY, CALIF.

Analyst Duck Date Completed JULY 11, 1969
 Approved by P. LaTorre Reference Notebook _____
P. LATORRE, MGR., ENVIRONMENTAL HEALTH ENGINEERING



K S C
ENVIRONMENTAL HEALTH ENGINEERING
Analysis Report

CC-22-



Requestor, Organization, Mail Code D. WERNER, NR ZK-86	Request Date JULY 9, 1969
	Phone 867-3793
Sample Description BACTERICIDE CONCENTRATION IN GSE FOR STERILIZATION OF S/C 107 FOR APOLLO 11	Analysis Requested (Specification Required) CHLORINE CONCENTRATION AFTER INJECTION INTO GSE
Location PAG 39A, 4C LEVEL, MSS	

Received by ANDERSON Date 7/9/69 (1200) Log Number 6907-26
 Priority Routine _____ (Due Date) _____ A S A P _____ Emergency _____

ANALYSIS

CHLORINE CONCENTRATION = 12 MG/L

- CC: Ed WRIGHT, LS-ENG-32
 MSC PREVENTIVE MEDICINE, DC-7
 MSC CREW SYSTEMS DIVISION, EC-3
 MSC LAUNCH SITE MEDICAL OPS. BRANCH, DDK

Analyst BUCK 115 Date Completed JULY 10, 1969
 Approved by [Signature] Reference Notebook _____
P. LATORRE, MGR., ENVIRONMENTAL HEALTH ENGINEERING



K S C
ENVIRONMENTAL HEALTH ENGINEERING
Analysis Report

CODE-



351

Requestor, Organization, Mail Code J. STORIO, GTEC GPEC-07	Request Date JULY 9, 1969 Phone 7-0070
Sample Description BACTERICIDE CONCENTRATION FROM UH-5 DURING STERILIZING PROCEDURE FOR APOLLO 11	Analysis Requested (Specification Required) <p style="text-align: center;">IODINE CONCENTRATION</p>
Location PAD 30A, 3A LEVEL, NSS	

Received by **BUCK, WRIGHT** Date **7/9/69 (1440)** Log Number **6907-27**
 Priority Routine _____ (Due Date) _____ A S A P _____ Emergency _____

ANALYSIS

CONCENTRATION OF IODINE IN MG/L

TIME	ASCENT TANK	DESCENT TANK
1440	27.0	27.0
1520	27.0	27.0
1620	---	27.0 (FROM DRAIN HOSE DURING DRAIN)

**NOTE: SPACECRAFT'S TANKS LOADED 7/9/69 @ 1115 HOURS.
 BEGAN DRAIN PROCEDURE 7/9/69 @ 1615 HOURS.**

**CC: ED WRIGHT, LS-ENG-32
 NSC PREVENTIVE MEDICINE DIV., DC-7
 NSC CREW SYSTEMS DIVISION, EC-5
 NSC LAUNCH SITE MEDICAL OPS. BRANCH, DEX**

Analyst *[Signature]* Date Completed **JULY 10, 1969**
 Approved by **P. LATORNE, NGR., ENVIRONMENTAL HEALTH ENGINEERING** Reference Notebook _____

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K S C
ENVIRONMENTAL HEALTH ENGINEERING
Analysis Report

0075-



Requestor, Organization, Mail Code J. STORNO GAEC-47	Request Date JULY 9, 1969
	Phone 7-6070
Sample Description APOLLO POTABLE WATER FROM GSE POST IODINE INJECTION FOR LM-5 OF APOLLO 11	Analysis Requested (Specification Required) PF SPEC-1A TO TEST POINT 2
Location PAD 37A, 3A LEVEL	

Received by WRIGHT, BUCK Date 7/9/69 (1500) Log Number 6907-28
 Priority Routine _____ (Due Date) _____ A S A P _____ Emergency _____

ANALYSIS

ELECTRICAL CONDUCTIVITY = 0.36 MICROMHOS/CM @ 25°C
 PH = 6.6 @ 25°C
 TOTAL RESIDUE = 0.5 MG/L
 FIXED RESIDUE = 0.5 MG/L
 TASTE AND ODOR = NONE - THRESHOLD No. 5
 TURBIDITY = 0.2 UNITS
 COLOR, TRUE = UNDER 5 UNITS
 PARTICULATES/500 ML
 0-10 MICRONS = PASSES
 10-25 MICRONS = 475
 25-50 MICRONS = 46
 50-100 MICRONS = 5
 OVER 100 MICRONS = 1

IONIC SPECIES:

CADMIUM	UNDER	0.005	MG/L
CHROMIUM	UNDER	0.05	MG/L
COPPER	UNDER	0.05	MG/L
IRON	UNDER	0.1	MG/L
LEAD	UNDER	0.05	MG/L
MANGANESE	UNDER	0.01	MG/L
MERCURY	UNDER	0.005	MG/L
NICKEL	EQUALS	0.05	MG/L
SILVER	UNDER	0.05	MG/L
ZINC	UNDER	0.05	MG/L
MAGNESIUM	EQUALS	0.005	MG/L
IODIDE	UNDER	0.1	MG/L
ALUMINUM	UNDER	0.5	MG/L
POTASSIUM	UNDER	0.05	MG/L
SILICA	UNDER	0.5	MG/L

STERILITY:

TOTAL BACTERIA = NEGATIVE
 COLIFORM COUNT = NEGATIVE
 ANAEROBIC ANALYSIS = NEGATIVE
 YEAST AND MOLDS = NEGATIVE

THIS REPORT PASSES THE REQUESTED ANALYSIS.

CC: ED WRIGHT, LS-ENG-32
 MSC PREVENTIVE MEDICINE DIV., DC-7
 MSC CREW SYSTEMS DIV., EC-3
 MSC LAUNCH SITE MEDICAL OPS. BRANCH, JCK

Analyst Buck *UB* Date Completed JULY 11, 1969
 Approved by *P. LaTorne* Reference Notebook _____
P. LATORNE, MGR., ENVIRONMENTAL HEALTH ENGINEERING



K S C
ENVIRONMENTAL HEALTH ENGINEERING
Analysis Report

0020<



Requestor, Organization, Mail Code D. WORMER, NR ZK-86	Request Date JULY 9, 1969
	Phone 7-3793
Sample Description BACTERICIDE CONCENTRATION FROM S/C 107 DURING STERILIZATION FOR APOLLO 11	Analysis Requested (Specification Required) CHLORINE CONCENTRATION
Location PAD 31A, 4C LEVEL, ISS	

Received by BUCK, McWALTER Date 7/9/69 (1900) Log Number 6907-29
Priority Routine (Due Date) ASAP Emergency _____

ANALYSIS

CHLORINE CONCENTRATION IN MG/L

TIME (HRS)	DRINK GUN	HOT PORT	COLD PORT
1920	6.0	6.0	8.0
1950	3.0	6.0	7.0
2020	6.0	6.0	6.0
2050	6.0	6.0	6.0
2120	6.0	6.0	6.0
2150	6.0	6.0	6.0

NOTE: SPACECRAFT LOADED WITH STERILIZING SOLUTION 7/9/69 @ 1745 HOURS.

cc: ED WRIGHT, LS-ENG-32
MSC PREVENTIVE MEDICINE DIV., DC-7
MSC CREW SYSTEMS DIVISION, LC-3
MSC LAUNCH SITE MEDICAL OPS. BRANCH, DDK

Analyst BUCK Date Completed JULY 10, 1969
Approved by [Signature] Reference Notebook _____
P. LATORRE, MGR., ENVIRONMENTAL HEALTH ENGINEERING



K S C
ENVIRONMENTAL HEALTH ENGINEERING
Analysis Report

CO37-



Requestor, Organization, Mail Code J. STORMO LAEC-47	Request Date JULY 9, 1969
	Phone 7-170
Sample Description APOLLO POTABLE WATER FROM DESCENT TANK OF LM-5 FOR APOLLO 11	Analysis Requested (Specification Required) PF SPEC 1A TO TEST POINT 3
Location PAD 300, 3A LEVEL	

Received by BUCK, HENRIETER Date 7/10 (1969) Log Number 6907-30
 Priority Routine (Due Date) ASAP Emergency

ANALYSIS

PH = 5.5 @ 25°C
 TOTAL RESIDUE = 7.4 MG/L
 TASTE AND ODOR = NONE / THRESHOLD ODOR NO. 11
 TURBIDITY = 0.4 UNITS
 COLOR, TRUE = 65 UNITS
 PARTICULATE/500 ML
 0-10 MICRONS = PASSES
 10-25 MICRONS = 44
 25-50 MICRONS = 4
 50-100 MICRONS = 3
 100-250 MICRONS = 2

THIS REPORT PASSES THE REQUESTED ANALYSIS.

IONIC SPECIES:

CADMIUM	UNDER	0.005	MG/L
CHROMIUM	UNDER	0.05	MG/L
COPPER	UNDER	0.05	MG/L
IRON	UNDER	0.1	MG/L
LEAD	UNDER	0.05	MG/L
MANGANESE	UNDER	0.01	MG/L
MERCURY	UNDER	0.005	MG/L
NICKEL	EQUALS	0.05	MG/L
SILVER	UNDER	0.05	MG/L
ZINC	UNDER	0.03	MG/L
MAGNESIUM	EQUALS	0.015	MG/L
IODIDE	EQUALS	1 PPM	MG/L
ALUMINUM	UNDER	0.5	MG/L
POTASSIUM	UNDER	0.05	MG/L
SILICA	UNDER	0.5	MG/L
IODINE	EQUALS	12	MG/L

STERILITY:

TOTAL BACTERIA = NEGATIVE
 COLIFORM COUNT = NEGATIVE
 ANAEROBIC ANALYSIS = NEGATIVE
 YEAST AND MOLDS = NEGATIVE

CC: ED WRIGHT, LS-ENG-32
 NSC PREVENTIVE MEDICINE DIV., DC-7
 NSC CREW SYSTEMS DIVISION, EC-3
 NSC LAUNCH SITE MEDICAL OPS. BRANCH, LOK

Analyst BUCK Date Completed JULY 11, 1969
 Approved by [Signature] Reference Notebook
 P. LATORRE, MGR., ENVIRONMENTAL HEALTH ENGINEERING



K S C
ENVIRONMENTAL HEALTH ENGINEERING
Analysis Report

35
0070



Requestor, Organization, Mail Code J. ANTONIEWSKI, NAR ZK-86	Request Date JULY 10, 1969 Phone 7-37 13
Sample Description APOLLO POTABLE WATER FROM S/C 107 JUNK GUN, FINAL FILL FOR APOLLO 11	Analysis Requested (Specification Required) PF SPEC 1A TO TEST POINT 3
Location PAD 39A, MSS, 4C LEVEL	

Received by AGRIUS, WRIGHT Date 7/10/69 (1400) Log Number G907-34G
 Priority Routine (Due Date) ASAP Emergency

ANALYSIS ELECTRICAL CONDUCTIVITY = 0.6 MICROMHOS/CM 25°C pH = 6.1 @ 25°C TOTAL RESIDUE = UNDER 1.0 MG/L TASTE AND ODOR = NONE @ THRESHOLD ODOR NO. 3 TURBIDITY = 0.04 UNITS COLOR, TRUE = UNDER 5 UNITS PARTICULATE/500 ML 0-10 MICRONS = PASSES 10-25 MICRONS = 242 25-50 MICRONS = 31 50-100 MICRONS = 14 100-250 MICRONS = 1	IONIC SPECIES: <table style="width: 100%; border-collapse: collapse;"> <tr><td>CADMIUM</td><td>UNDER</td><td>0.005</td><td>MG/L</td></tr> <tr><td>CHROMIUM</td><td>UNDER</td><td>0.05</td><td>MG/L</td></tr> <tr><td>COPPER</td><td>UNDER</td><td>0.05</td><td>MG/L</td></tr> <tr><td>IRON</td><td>UNDER</td><td>0.1</td><td>MG/L</td></tr> <tr><td>LEAD</td><td>UNDER</td><td>0.05</td><td>MG/L</td></tr> <tr><td>MANGANESE</td><td>UNDER</td><td>0.01</td><td>MG/L</td></tr> <tr><td>MERCURY</td><td>UNDER</td><td>0.005</td><td>MG/L</td></tr> <tr><td>NICKEL</td><td>UNDER</td><td>0.05</td><td>MG/L</td></tr> <tr><td>SILVER</td><td>UNDER</td><td>0.05</td><td>MG/L</td></tr> <tr><td>ZINC</td><td>EQUALS</td><td>0.03</td><td>MG/L</td></tr> <tr><td>MAGNESIUM</td><td>EQUALS</td><td>0.02</td><td>MG/L</td></tr> <tr><td>CHLORIDE</td><td>EQUALS</td><td>.49</td><td>MG/L</td></tr> <tr><td>ALUMINUM</td><td>UNDER</td><td>0.5</td><td>MG/L</td></tr> <tr><td>POTASSIUM</td><td>UNDER</td><td>0.05</td><td>MG/L</td></tr> <tr><td>SILICA</td><td>UNDER</td><td>0.5</td><td>MG/L</td></tr> <tr><td>CHLORINE</td><td>UNDER</td><td>0.1</td><td>MG/L</td></tr> </table>	CADMIUM	UNDER	0.005	MG/L	CHROMIUM	UNDER	0.05	MG/L	COPPER	UNDER	0.05	MG/L	IRON	UNDER	0.1	MG/L	LEAD	UNDER	0.05	MG/L	MANGANESE	UNDER	0.01	MG/L	MERCURY	UNDER	0.005	MG/L	NICKEL	UNDER	0.05	MG/L	SILVER	UNDER	0.05	MG/L	ZINC	EQUALS	0.03	MG/L	MAGNESIUM	EQUALS	0.02	MG/L	CHLORIDE	EQUALS	.49	MG/L	ALUMINUM	UNDER	0.5	MG/L	POTASSIUM	UNDER	0.05	MG/L	SILICA	UNDER	0.5	MG/L	CHLORINE	UNDER	0.1	MG/L
CADMIUM	UNDER	0.005	MG/L																																																														
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IRON	UNDER	0.1	MG/L																																																														
LEAD	UNDER	0.05	MG/L																																																														
MANGANESE	UNDER	0.01	MG/L																																																														
MERCURY	UNDER	0.005	MG/L																																																														
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SILVER	UNDER	0.05	MG/L																																																														
ZINC	EQUALS	0.03	MG/L																																																														
MAGNESIUM	EQUALS	0.02	MG/L																																																														
CHLORIDE	EQUALS	.49	MG/L																																																														
ALUMINUM	UNDER	0.5	MG/L																																																														
POTASSIUM	UNDER	0.05	MG/L																																																														
SILICA	UNDER	0.5	MG/L																																																														
CHLORINE	UNDER	0.1	MG/L																																																														

THIS REPORT FAILS THE REQUESTED ANALYSIS FOR STERILITY.

cc: Ed Wright, LS-ENG-32
 MSC PREVENTIVE MEDICINE DIV., DC-7
 MSC CREW SYSTEMS DIVISION, EC-3
 MSC LAUNCH SITE MEDICAL OPS. BRANCH, DUK
 NORTH AMERICAN ROCKWELL, DOWNEY, CALIF.

STERILITY:

TOTAL BACTERIA = 60,000 COL/150 ML
 COLIFORM COUNT = NEGATIVE
 ANAEROBIC ANALYSIS = NEGATIVE
 YEAST AND MOLDS = NEGATIVE

Analyst BUCK Date Completed JULY 14, 1969
 Approved by [Signature] Reference Notebook
P. LATORRE, MGR., ENVIRONMENTAL HEALTH ENGINEERING



K S C
ENVIRONMENTAL HEALTH ENGINEERING
 Analysis Report

0030-



Requestor, Organization, Mail Code W. Antoniewski - NAP ZK-96	Request Date <p style="text-align: center;">July 10, 1969</p> Phone <p style="text-align: center;">867-1793</p>
Sample Description Apollo Potable Water from S/C 107 Hot Water Port, Final Fill for Apollo 11	Analysis Requested (Specification Required) PF SPEC 1A to Test Point 3
Location Pad 39A - NSS, 4C Level	

Received by Adkins/Wright Date July 10, 1969 (1100) Log Number 6907-34H
 Priority Routine _____ (Due Date) _____ A S A P _____ Emergency _____

ANALYSIS

IONIC SPECIES:

pH: 6.3 @ 25°C
 Taste and Odor: None @ Threshold Odor No. 5
 Turbidity: 0.0 Units
 Color, True: <5 Units

Cadmium	Under	0.005	mg/l
Chromium	Under	0.05	mg/l
Copper	Under	0.05	mg/l
Iron	Under	0.1	mg/l
Lead	Under	0.05	mg/l
Manganese	Under	0.01	mg/l
Mercury	Under	1.	mg/l
Nickel	Equals	0.2	mg/l
Silver	Under	0.05	mg/l
Zinc	Under	0.05	mg/l
Magnesium	Equals	0.015	mg/l
Chloride	Equals	0.0	mg/l
Aluminum	Under	0.5	mg/l
Potassium	Under	0.05	mg/l
Silica	Under	0.05	mg/l
Chlorine	Under	0.1	mg/l

This report fails the requested analysis for sterility.

Sterility:

Total Bacteria = 15,000 ccf/150 ml
 Coliforma Count = Negative
 Anaerobic Analysis = Negative
 Yeast and Molds = Negative

cc: Ed Wright, LS-ENG-32
 MSC Preventive Medicine Division, DC-7
 MSC Crew Systems Division - EC3
 MSC Launch Site Medical Ops. Branch - EDR
 North American Rockwell, Downey, California

Analyst Adkins Date Completed July 14, 1969
 Approved by [Signature] Reference Notebook _____

P. LaTours, Mgr., Environmental Health Engineering



K S C
ENVIRONMENTAL HEALTH ENGINEERING
Analysis Report

CC32



Requestor, Organization, Mail Code J. ROBERTS HAMILTON-STANDARD	Request Date JULY 10, 1969
	Phone 7-4009
Sample Description HIGH PURITY WATER FROM LCG S/N 081	Analysis Requested (Specification Required) MSC-C-27 AS REQUESTED
Location ECS BUILDING	

Received by MAHAN Date 7/10/69 (1115) Log Number 6907-35
 Priority Routine _____ (Due Date) _____ A S A P _____ Emergency _____

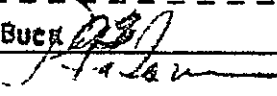
ANALYSIS

ELECTRICAL CONDUCTIVITY: 0.45 MICROMHOS/CM @ 25°C

PARTICULATE/500 ML

- 0-160 MICRONS = PASSES
- 160-200 MICRONS = 1
- 200-250 MICRONS = 1
- OVER 250 MICRONS = 0

THIS PASSES THE REQUESTED ANALYSIS.

Analyst Buch  Date Completed JULY 10, 1969
 Approved by _____ Reference Notebook _____
 P. LATORRE, MGR., ENVIRONMENTAL HEALTH ENGINEERING



K S C
ENVIRONMENTAL HEALTH ENGINEERING
Analysis Report

CC32-



Requestor, Organization, Mail Code W. Antoniewski - NAR ZK 86	Request Date July 10, 1969
	Phone
Sample Description High Purity Water from Waste Tank of S/C 107 of Apollo 11 for Engineering Evaluation	Analysis Requested (Specification Required) PF-SPEC 1A for Particulate and Total Residue
Location Pad 39A - 4C Level, MSS	

Received by Adkins/Wright Date July 10, 1969 (1400) Log Number 6907-14W
 Priority Routine _____ (Due Date) _____ A S A P _____ Emergency _____

ANALYSIS

Total Solids = .8 mg/liter

0 - 10 Microns = Passes

10 - 25 Microns = 84

25 - 50 Microns = 11

50 - 100 Microns = 4

Over 100 Microns = 0

cc: Ed Wright, LS-ENG-12

 Analyst Adkins/Wright Date Completed July 10, 1969
 Approved by P. LaTorre Reference Notebook _____
P. LaTorre, Mgr., Environmental Health Engineering



K S C
ENVIRONMENTAL HEALTH ENGINEERING
Analysis Report

0033



Requestor, Organization, Mail Code W. Antoniewski - NAR ZK 86	Request Date July 10, 1969
Sample Description High Purity Water from Waste Tank of S/C 107 of Apollo 11 for Engineering Evaluation	Phone
Location Pad 39A - 4C Level, MSS	Analysis Requested (Specification Required) PF-SPEC 1A for Particulate and Total Residue

Received by Adkins/Wright Date July 10, 1969 (1400) Log Number 6907-4W
 Priority Routine _____ (Due Date) _____ A S A P _____ Emergency _____

ANALYSIS

Total Solids = .8 mg/liter

0 - 10 Microns = Passes

10 - 25 Microns = 84

25 - 50 Microns = 11

50 -100 Microns = 4

Over 100 Microns = 0

cc: Ed Wright, LS-ENG-2

Analyst Adkins/Wright Date Completed July 10, 1969
 Approved by P. LaTorre Reference Notebook _____
P. LaTorre, Mgr., Environmental Health Engineering



K S C
ENVIRONMENTAL HEALTH ENGINEERING
Analysis Report

0035



Requestor, Organization, Mail Code <i>J. Roberts Hamilton-Standard</i>	Request Date <input checked="" type="checkbox"/> <i>July 10, 1969</i> Phone <i>867-4009</i>
Sample Description <i>High Purity Water from LEQ S/N 058</i>	Analysis Requested (Specification Required) <i>115C-C-27 as Requested</i>
Location <i>ECS Bldg</i>	

Received by *Jay McWhirter* Date *7-10-69 (1845)* Log Number *6907-37*
 Priority Routine _____ (Due Date) _____ ASAP _____ Emergency _____

ANALYSIS

Electrical conductivity: 0.55 micromhos/cm @ 25°C

Particulate / 500 ml

<i>0-160 microns =</i>	<i>Passes</i>
<i>160-200 " =</i>	<i>0</i>
<i>200-250 " =</i>	<i>0</i>
<i>over 250" " =</i>	<i>0</i>

This sample passes the requested analysis

Analyst *Jay McWhirter* Date Completed *7-10-69*
 Approved by _____ Reference Notebook _____



K S C
ENVIRONMENTAL HEALTH ENGINEERING
 Analysis Report

0035



Requestor, Organization, Mail Code J. ROBERTS HAMILTON-STANDARD	Request Date <p style="text-align: center;">JULY 11, 1969</p> Phone <p style="text-align: center;">7-4009</p>
Sample Description PLSS S/N #14 H ₂ O TRANSPORT LOOP	Analysis Requested (Specification Required) <p style="text-align: center;">MSC-C-27 AS REQUESTED</p>
Location ECS BUILDING	

Received by MAHAN Date 7/11/69 Log Number 6907-40
 Priority Routine _____ (Due Date) _____ ASAP _____ Emergency _____

ANALYSIS

CONDUCTIVITY = 0.2 MICROMHOS/CM

PARTICULATE/500 ML

0-160 MICRONS = PASSES

160-200 MICRONS = 1

200-250 MICRONS = 0

OVER 250 MICRONS = 0

THIS SAMPLE PASSES THE REQUESTED ANALYSIS.

Analyst BUCK Date Completed JULY 11, 1969
 Approved by *P. LaTorre* Reference Notebook _____
 P. LATORRE, MGR., ENVIRONMENTAL HEALTH ENGINEERING



K S C
 ENVIRONMENTAL HEALTH ENGINEERING
 Analysis Report

0036



Requestor, Organization, Mail Code, <i>J Roberts Hamilton-Standard</i>	Request Date <i>7-11-69</i>
	Phone <i>867-4009</i>
Sample Description <i>PLSS S/N 14 High Purity Water from Feed Water Loop</i>	Analysis Requested (Specification Required) <i>115C-C-27 as Requested</i>
Location <i>BCS Building</i>	

Received by *Wright* Date *7-11-69 (1530)* Log Number *6907-41*
 Priority Routine _____ (Due Date) _____ A S A P _____ Emergency _____

ANALYSIS

Electrical Conductivity: 0.45 micromhos/cm @ 25°C
Particulate/500ml
0-160 micras = Passes
160-200 " = 3
200-250 " = 0
> 250 " = 0

This passes the requested analysis.

Analyst *A P Buch* Date Completed _____
 Approved by _____ Reference Notebook _____



K S C
ENVIRONMENTAL HEALTH ENGINEERING
Analysis Report

CC 37



Requestor, Organization, Mail Code <i>J Roberts Hamilton-Standard</i>	Request Date <i>7-12-69</i> Phone <i>867-4009</i>
Sample Description <i>High Purity Water from PLSS #15 Transport Loop</i>	Analysis Requested (Specification Required) <i>115C-C-27 as Requested</i>
Location <i>BCS Building</i>	

Received by *Buck* Date *7/12/69 (0300)* Log Number *6907-12*
 Priority Routine _____ (Due Date) _____ ASAP _____ Emergency _____

ANALYSIS

*Electrical Conductivity: 0.15 micromhos/cm @ 25°C
Particulate/500ml*

- 0-160 microns = Passes*
- 160-200 " = 1*
- 200-250 " = 0*
- > 250 " = 0*

This sample passes the requested analysis.

Analyst *P. J. Buck* Date Completed _____
 Approved by _____ Reference Notebook _____



K S C
 ENVIRONMENTAL HEALTH ENGINEERING
 Analysis Report

0000



Requestor, Organization, Mail Code

J Roberts
 Hamilton-Standard

Request Date

7-12-69

Phone

867-4009

Sample Description

High Purity Water from
 PLSS #15 Feed Water Loop

Analysis Requested (Specification Required)

115C-C-27 as
 Requested

Location

ECS Building

Received by Buck

Date 7-12-69 (0500)

Log Number 6907-43

Priority Routine

(Due Date)

ASAP

Emergency

ANALYSIS

Electrical Conductivity: 0.25 micromho/cm @ 25°C

Particulate / 500ml

0-160 microns = Passes

160-200 " = 2

200-250 " = 1

> 250 = 0

This sample passes the requested analysis.

Analyst

A. P. Buck

Date Completed

Approved by

Reference Notebook



K S C
ENVIRONMENTAL HEALTH ENGINEERING
Analysis Report



02.2

Requestor, Organization, Mail Code <i>J Roberts</i> <i>Hamilton - Standards</i>	Request Date <i>7-12-69</i> Phone <i>867-4009</i>
Sample Description <i>High Purity Water from LCG # 77 Transport Loop</i>	Analysis Requested (Specification Required) <i>MSC-C-27 as Requested</i>
Location <i>ECS Building</i>	

Received by *Buch* Date *7-12-69 (0700)* Log Number *6907-46*
 Priority Routine _____ (Due Date) _____ A S A P _____ Emergency _____

ANALYSIS

Electrical Conductivity: 0.45 micromhos/cm @ 25°C

Particulate / 500ml

- 0-160 microns = Passes*
- 160-200 microns = 3*
- 200-250 microns = 1*
- >250 microns = 0*

This sample passes the requested analysis.

Analyst *A P Buch* Date Completed _____
 Approved by _____ Reference Notebook _____

35.1



K S C
ENVIRONMENTAL HEALTH ENGINEERING
Analysis Report

0040



Requestor, Organization, Mail Code W. Antoniewski - NAR ZK 86	Request Date July 12, 1969
	Phone 667-5182
Sample Description High Purity Water from Salt Wick Water 152 Unit	Analysis Requested (Specification Required) MSC SPEC - C-20A for Distilled Water
Location Pad 39A - MSS, 4C Level	

Received by Buek Date July 12, 1969 (10:30) Log Number 6907-17
 Priority Routine _____ (Due Date) _____ A.S.A.P. _____ Emergency _____

ANALYSIS

Electrical Conductivity: 0.15 micromhos/cm @ 25°C
 pH: 6.3 @ 25°C
 Nonvolatile Residue: < 1.0 mg/l
 Halides: < 0.1 ppm
 Surface Tension: 72.3 dynes/cm @ 20°C

Particulate/500 ml
 10 - 25 Microns = 240
 25 - 50 Microns = 9
 50 - 100 Microns = 7
 100 - 250 Microns = 1
 > 250 Microns = 0
 Silting = 0

--- cc: Ed Wright, IS-ENG-32 ---
 Analyst Buek RB Date Completed July 14, 1969
 Approved by [Signature] Reference Notebook _____
 P. LaTorre, Mgr., Environmental Health Engineering



K S C
 ENVIRONMENTAL HEALTH ENGINEERING
 Analysis Report

CC42



Requestor, Organization, Mail Code <i>J. Roberts</i> <i>Hamilton - Standard</i>	Request Date <i>7-12-69</i>
Sample Description, <i>High Purity Water from LCG</i> <i>No 79 Transport Loop.</i>	Phone <i>867-4009</i>
Location <i>ECS Building</i>	Analysis Requested (Specification Required) <i>MSC-C-27 as Requested</i>

Received by *Buck* Date *7-12-69 (1530)* Log Number *6907-49*
 Priority Routine _____ (Due Date) _____ A S A P _____ Emergency _____

ANALYSIS

Electrical Conductivity: 0.5 micromhos/cm @ 25°C

Particulate/500ml

- 0-160 microns = Passes*
- 160-200 microns = 4*
- 200-250 microns = 1*
- >250 microns = 0*

This sample passes the requested analysis.

Analyst *A.P. Buck* Date Completed *7-12-69*
 Approved by _____ Reference Notebook _____



K S C
 ENVIRONMENTAL HEALTH ENGINEERING
 Analysis Report

0043-



Requestor, Organization, Mail Code <i>J Roberts</i> <i>Hamilton - Standards</i>	Request Date <i>7-13-69</i>
	Phone <i>867-4009</i>
Sample Description <i>High Purity Water from</i> <i>PLSS #19</i>	Analysis Requested (Specification Required) <i>MSC-C-27 as Requested</i>
Location <i>ECS Building</i>	

Received by _____ Date *7-13-69 (0400)* Log Number *6907-50*
 Priority Routine _____ (Due Date) _____ A.S.A.P. _____ Emergency _____

ANALYSIS

Electrical
Conductivity: 0.15 micromhos/cm @ 25°C

Particulate/500ml
0-160 microns = Passes
160-200 microns = 2
200-250 microns = 1
>250 microns = 0

This sample passes the requested analysis.

Analyst *A P Buck* Date Completed *7-13-69*
 Approved by _____ Reference Notebook _____



K S C
ENVIRONMENTAL HEALTH ENGINEERING
Analysis Report

CC-13



Requestor, Organization, Mail Code J. ROBERTS HAMILTON-STANDARD	Request Date
	Phone 7-4009
Sample Description HIGH PURITY WATER FROM PLSS #19 FEED WATER LOOP	Analysis Requested (Specification Required) MSC-C-27 AS REQUESTED
Location ECS BUILDING	

Received by Buck Date 7/15/69 (0500) Log Number 6907-51
 Priority Routine (Due Date) A S A P Emergency _____

ANALYSIS

ELECTRICAL CONDUCTIVITY = 0.25 MICROMHOS/CM @ 25°C

PARTICULATE/500 ML

- 0-160 MICRONS = PASSES
- 160-200 MICRONS = 0
- 200-250 MICRONS = 0
- OVER 250 MICRONS = 0

TOTAL SOLIDS = UNDER 1.0 MG/L

THIS SAMPLE PASSES THE REQUESTED ANALYSIS.

Analyst Buck AB Date Completed JULY 16, 1969
 Approved by R. P. Latopre Reference Notebook _____
 P. LATOPRE, MGR., ENVIRONMENTAL HEALTH ENGINEERING



K S C
 ENVIRONMENTAL HEALTH ENGINEERING
 Analysis Report

CC-12



Requestor, Organization, Mail Code <i>J Roberts</i> <i>Hamilton - Standard</i>	Request Date <i>7-13-69</i>
Sample Description <i>High Purity Water from</i> <i>LCG No 77</i>	Phone <i>867-4009</i>
Location <i>ECS Building</i>	Analysis Requested (Specification Required) <i>MSC-C-27 as Requested</i>

Received by *Buck* Date *7/13/69 (0730)* Log Number *6907-52*
 Priority Routine _____ (Due Date) _____ ASAP _____ Emergency _____

ANALYSIS

Electrical Conductivity: 0.35 micromhos/cm @ 25°C

Particulate/500ml

- 0-160 microns = Passes*
- 160-200 microns = 0*
- 200-250 microns = 0*
- >250 microns = 0*

This sample passes the requested analysis.

Analyst *A.P. Buch* Date Completed _____
 Approved by _____ Reference Notebook _____



K S C
 ENVIRONMENTAL HEALTH ENGINEERING
 Analysis Report

CC 15-



Requestor, Organization, Mail Code <i>J Roberts Hamilton - Standard</i>	Request Date <i>7-13-69</i>
	Phone <i>867-4009</i>
Sample Description	Analysis Requested (Specification Required) <i>MSC-C-27 as Requested</i>
Location <i>ECS Building</i>	

Received by _____ Date _____ Log Number *6907-53*
 Priority Routine _____ (Due Date) _____ ASAP _____ Emergency _____

ANALYSIS

*Electrical
 Conductivity = 0.34 micromhos/cm @ 25°C*

Particulate / 500ml

- 0-160 microns = Passes*
- 160-200 microns = 0*
- 200-250 microns = 0*
- >250 microns = 0*

This sample passes the requested analysis.

Analyst *E. M. Edman* Date Completed *13 July 1969*
 Approved by _____ Reference Notebook _____

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K S C
ENVIRONMENTAL HEALTH ENGINEERING
Analysis Report

CC 17



Requestor, Organization, Mail Code J. STORMO GAEC-47	Request Date JULY 14, 1969
	Phone 7-6070
Sample Description APOLLO POTABLE WATER FROM ASCENT TANK, LM-5 FOR APOLLO 11	Analysis Requested (Specification Required) IODINE CONCENTRATION
Location PAD 30A, MSS, 3A LEVEL	

Received by ANDERSON Date 7/14/69 (1503) Log Number 6907-55
 Priority Routine _____ (Due Date) _____ A S A P _____ Emergency _____

ANALYSIS

THIS SAMPLE WAS NOT COLLECTED.

Analyst Buck AB Date Completed JULY 25, 1969
 Approved by [Signature] Reference Notebook _____
 P. LATORRE, Mgr., ENVIRONMENTAL HEALTH ENGINEERING

3511

00 10-



K S C
ENVIRONMENTAL HEALTH ENGINEERING
Analysis Report



Requestor, Organization, Mail Code W. ANTONIEWSKI, NAR ZK-86	Request Date JULY 15, 1969
	Phone 7-5132
Sample Description APOLLO PLTABLE WATER FROM HOT PORT OF S/C 107, APOLLO 11 T-24 TO 30 HR SAMPLE	Analysis Requested (Specification Required) PF SPEC TO TO ILST POINT 3
Location PAD 30A, ISS, 4C LEVEL	

Received by ANDERSON, McWINTER Date 7/15/69 (1301) Log Number 6907-50H
 Priority Routine _____ (Due Date) _____ ASAP _____ Emergency _____

ANALYSIS

IONIC SPECIES:

PH = 6.8 25°C
 TASTE AND ODOR = NONE THRESHOLD COOR No. 3 45°C
 TURBIDITY = 0.00 UNITS
 COLOR, YPC = UNDER 5 UNITS

CADMIUM	UNDER	0.005	MG/L
CHROMIUM	UNDER	0.05	MG/L
COPPER	UNDER	0.05	MG/L
IRON	UNDER	0.1	MG/L
LEAD	UNDER	0.05	MG/L
MANGANESE	UNDER	0.01	MG/L
MERCURY	UNDET	1	MG/L
NICKEL	EQUALS	1.5	MG/L
SILVER	UNDER	0.05	MG/L
ZINC	EQUALS	0.05	MG/L
MAGNESIUM	EQUALS	0.02	MG/L
CHLORIDE		9.0	MG/L
ALUMINUM	UNDET	0.5	MG/L
POTASSIUM	UNDET	0.05	MG/L
SILICA	UNDET	0.5	MG/L
CHLORINE	UNDET	0.1	MG/L

THIS REPORT FAILS THE REQUESTED ANALYSIS FOR STERILITY.

CC: ED WRIGHT, LS-LUG-02
 MSC PREVENTIVE MEDICINE DIVISION, C-7
 MSC CREW SYSTEMS DIVISION, EC-5
 MSC LAUNCH SITE MEDICAL OPS. BRANCH, J1
 NORTH AMERICAN ROCKWELL, DOWNEY, CALIFORNIA

STERILITY:

TOTAL BACTERIA = 210,000 COL/
 15) ML
 COLIFORM COUNT = NEGATIVE
 ANAEROBIC ANALYSIS = NEGATIVE
 YEAST AND MOLDS = NEGATIVE

Analyst BUCK Date Completed JULY 28, 1969
 Approved by [Signature] Reference Notebook _____
 W. LATOURE, MGR., ENVIRONMENTAL HEALTH ENGINEERING



751

K S C
ENVIRONMENTAL HEALTH ENGINEERING

CC 19



Analysis Report

Requestor, Organization, Mail Code W. ANTONIEWSKI ZK-86	Request Date <p style="text-align: center;">JULY 15, 1960</p> <hr/> Phone <p style="text-align: center;">7-5182</p>
Sample Description APOLLO POTABLE WATER FROM DRINK CUP OF S/C 107 OF APOLLO 11, T-26 TO 30 HOURS SAMPLE	Analysis Requested (Specification Required) <p style="text-align: center;">PF SPEC 1A TO TEST POINT 3</p>
Location PAD 30A, MSS, 4C LEVEL	

Received by ANDERSON, NEUMAYER Date 7/15/60 (0300) Log Number 6907-580

Priority Routine _____ (Due Date) _____ A S A P _____ Emergency _____

ANALYSIS

pH = 6.4 25°C

TOTAL RESIDUE = 5.8 MG/L

TASTE AND ODOR = NONE THRESHOLD ODOR NO. 3 45°C

TURBIDITY = 1.46 UNITS

COLOR, TRUE = UNDER 5 UNITS

THIS REPORT FAILS THE REQUESTED ANALYSIS FOR STERILITY.

CC: ED WRIGHT, LS-ENG-32
 NSC PREVENTIVE MEDICINE DIV., EC-1
 NSC CREW SYSTEMS DIV., EC-3
 NSC LAUNCH SITE MEDICAL OPS. BRANCH, JOK
 NORTH AMERICAN ROCKWELL, DOWNY, CALIFORNIA

IONIC SPECIES:

CADMIUM	UNDER	0.005	MG/L
CHROMIUM	UNDER	0.05	MG/L
COPPER	UNDER	0.05	MG/L
IRON	UNDER	0.1	MG/L
LEAD	UNDER	0.05	MG/L
MANGANESE	UNDER	0.01	MG/L
MERCURY	UNDER	0.005	MG/L
NICKEL	UNDER	0.05	MG/L
SILVER	UNDER	0.05	MG/L
ZINC	EQUALS	0.1	MG/L
MAGNESIUM	EQUALS	0.02	MG/L
CHLORIDE		0.1	MG/L
ALUMINUM	UNDER	0.5	MG/L
POTASSIUM	UNDER	0.05	MG/L
SILICA	UNDER	0.5	MG/L
CHLORINE	UNDER	0.1	MG/L

STERILITY:

TOTAL BACTERIA = 45,000 COL/
150 ML

COLIFORM COUNT = NEGATIVE

FUNGICIDIC ANALYSIS = NEGATIVE

YEAST AND MOLDS = NEGATIVE

Analyst BUCK Date Completed JULY 24, 1960

Approved by [Signature] Reference Notebook _____

P. LATORPE, MGR., ENVIRONMENTAL HEALTH ENGINEERING

CHRONOLOGY OF APOLLO 11 CHAMBER RUN

COMMAND MODULE S/C 107

<u>DATE</u>	<u>HOUR</u>	<u>EHE LOG. NO.</u>	<u>ANALYSIS REQUESTED</u>
TUESDAY	3-11-69	SEA LEVEL	SIMULATED TEST No. 1 (PRIME CREW)
TUESDAY	3-11-69	1100	6903-37 GSE FOR TEST POINE 3
WEDNESDAY	3-12-69	SEA LEVEL	SIMULATED TEST No. 2 (BACK-UP CREW)
THURSDAY	3-13-69	1200	6903-42 POTABLE TANK, FINAL FILL
FRIDAY	3-14-69	1500	6903-43 SUITWICK WATER
FRIDAY	3-14-69	UNMANNED ALTITUDE CHAMBER TEST	
MONDAY	3-17-69	1230	6903-47 POTABLE TANK, T-24 HOURS
TUESDAY	3-18-69	ALTITUDE CHAMBER TEST (PRIME CREW)	
WEDNESDAY	3-19-69	1500	6903-60 STERILIZED DRINK GUN 003
SUNDAY	3-23-69	1900	6903-72 POTABLE TANK, T-24 HOURS
MONDAY	3-24-69	ALTITUDE CHAMBER TEST (BACK-UP CREW)	
TUESDAY	3-25-69	1300	6903-84 STERILIZED DRINK GUN 003
WEDNESDAY	3-26-69	1400	6903-89 POTABLE TANK, T-24 HOURS
THURSDAY	3-27-69	ALTITUDE CHAMBER TEST (BACK-UP SUPPORT CREW)	
FRIDAY	3-28-69	0500	6903-92 POTABLE TANK, POST-FLIGHT
THURSDAY	4-3-69	0930	6904-3 STERILIZED DRINK GUN 003



K S C
ENVIRONMENTAL HEALTH ENGINEERING
Analysis Report

0051-



Requestor, Organization, Mail Code J. McNEELY ZK-24	Request Date 7 MARCH 1969 Phone 867-4507
Sample Description APOLLO POTABLE WATER CSN 107, APOLLO 11	Analysis Requested (Specification Required) PF SPEC-1 TO TEST POINT 1
Location MSCB, CHAMBER R	

Received by DEMERY - WRIGHT Date 3/7/69 (1000) Log Number 6903-22
 Priority Routine _____ (Due Date) _____ A S A P _____ Emergency _____

ANALYSIS

pH = 6.5 @ 25°C
ELECTRICAL CONDUCTIVITY = 0.06 MICROMHO/CM @ 25°C
TOTAL SOLIDS = NONE DETECTED

PARTICULATE/500 ML	<u>TEST POINT 1</u>	<u>EXIT GSE</u> <u>.22 MICRON FILTER</u>
0-10 MICRONS =	PASSES	PASSES
10-25 MICRONS =	377	784
25-50 MICRONS =	57	120
50-100 MICRONS =	9	19
OVER 100 MICRONS =	11	14

STERILITY:
TOTAL BACTERIA = 1300 COLONIES/100 ML
COLIFORM COUNT = NEGATIVE
ANAEROBIC ANALYSIS = NEGATIVE
YEAST AND MOLDS = NEGATIVE

THIS REPORT PASSES THE REQUESTED ANALYSIS.

CC: ED WRIGHT, LS-ENG-32
PREVENTIVE MEDICINE DIVISION (EC-7)
MSC CREW SYSTEMS DIVISION (EC311)
MSC LAUNCH SITE MEDICAL OPS. BRANCH (DDK)
NORTH AMERICAN ROCKWELL, DOWNEY, CALIF.

Analyst DEMERY *ipd* Date Completed 11 MARCH 1969
 Approved by *P. Latorre* Reference Notebook _____
P. LATORRE, MGR., ENVIRONMENTAL HEALTH ENGINEERING



K S C
ENVIRONMENTAL HEALTH ENGINEERING
Analysis Report

050



Requestor, Organization, Mail Code J. McNEELY, NAR ZK-24	Request Date 11 MARCH 1969 Phone 867-4507
Sample Description APOLLO POTABLE WATER CSM 107 DOWNSTREAM OF GSE FILL FILTERS	Analysis Requested (Specification Required) PF SPEC-1 TO TP 3 PARTICULATE ONLY
Location CHAMBER L, NSOB	

Received by JENERY Date 3/11/69 (1230) Log Number 6903-30
 Priority Routine (Due Date) ASAP Emergency _____

ANALYSIS

PARTICULATE/500 ML

0-10 MICRONS = PASSES
 10-25 MICRONS = 480
 25-50 MICRONS = 22
 50-100 MICRONS = 3
 OVER 100 MICRONS = 0

THIS REPORT PASSES THE REQUESTED ANALYSIS.

CC: Ed WRIGHT, LS-ENG-32
 PREVENTIVE MEDICINE DIVISION (DC-7)
 NSC CREW SYSTEMS DIVISION (EC311)
 NSC LAUNCH SITE MEDICAL OPS. BRANCH (DDK)
 NORTH AMERICAN ROCKWELL, DOWNEY, CALIFORNIA

Analyst JENERY Date Completed 12 MARCH 1969
 Approved by P. La Torre Reference Notebook _____
P. LATORRE, MGR., ENVIRONMENTAL HEALTH ENGINEERING



K S C
ENVIRONMENTAL HEALTH ENGINEERING
Analysis Report

CC53-



Requestor, Organization, Mail Code D. WARNER ZK-86	Request Date 3/12/69 <hr/> Phone 857-4507
Sample Description APOLLO POTABLE WATER CA 107, APOLLO 11	Analysis Requested (Specification Required) PF SPEC-1 TO TEST POINT 5 PRELIMINARY REPORT FINAL REPORT TO FOLLOW
Location CHAMBER L, MSOB	

Received by DEMERY Date 3-12-69 Log Number 6903-37
 Priority Routine _____ (Due Date) _____ A S A P _____ Emergency _____

ANALYSIS

PH = 6.7 @ 25°C

ELECTRICAL CONDUCTIVITY = .35 MICROMHO/CM @ 25°C

TOTAL SOLIDS = 0.4 MG/L

PARTICULATE/500 ML

- 0-10 MICRONS = PASSES**
- 10-25 MICRONS = 298**
- 25-50 MICRONS = 21**
- 50-100 MICRONS = 1**
- OVER 100 MICRONS = 0**

THIS REPORT PASSES THE REQUESTED PRELIMINARY ANALYSIS.

cc: Ed Wright, LS-ENG-32
PREVENTIVE MEDICINE DIVISION (DC-7)
MSC CREW SYSTEMS DIVISION (EC511)
MSC LAUNCH SITE MEDICAL OPS. BRANCH (DDK)
NORTH AMERICAN ROCKWELL, DOWNEY, CALIFORNIA

Analyst DEMERY Date Completed 14 MARCH 1969
 Approved by *[Signature]* Reference Notebook _____
P. LATORRE, MGR., ENVIRONMENTAL HEALTH ENGINEERING



K S C
ENVIRONMENTAL HEALTH ENGINEERING
Analysis Report

0054



Requestor, Organization, Mail Code D. WARNER, NAR ZR-86	Request Date 3/12/69 Phone 867-5182
Sample Description APOLLO POTABLE WATER CM 107, APOLLO 11	Analysis Requested (Specification Required) PF SPEC-1 TO TEST POINT 3 FINAL REPORT
Location CHAMBER L, MS08	

Received by DEMERY Date 3/12/69 Log Number 8905-37
 Priority Routine _____ (Due Date) _____ A S A P _____ Emergency _____

ANALYSIS

pH = 6.7 @ 25°C
 ELECTRICAL CONDUCTIVITY = 0.35 MICROMHO/CM @ 25°C
 TOTAL SOLIDS = 0.4 MG/L
 NON-VOLATILE SOLIDS = 0.4 MG/L
 TOTAL FILTERABLE SOLIDS = NONE DETECTED
 TASTE & ODOR = NONE @ THRESHOLD #3 @ 45°C
 TURBIDITY = 0.2 UNITS
 COLOR, TRUE = UNDER 5 UNITS
 PARTICULATE/500 ML
 0-10 MICRONS = PASSES
 10-25 MICRONS = 298
 25-50 MICRONS = 21
 50-100 MICRONS = 1
 OVER 100 MICRONS = 0

IONIC SPECIES:

CADMIUM	UNDER	0.01	MG/L
CHROMIUM	UNDER	0.05	MG/L
COPPER	UNDER	0.05	MG/L
IRON	UNDER	0.1	MG/L
LEAD	UNDER	0.05	MG/L
MANGANESE	UNDER	0.03	MG/L
MERCURY	UNDER	0.008	MG/L
NICKEL	UNDER	0.03	MG/L
SILVER	UNDER	0.05	MG/L
ZINC	UNDER	0.03	MG/L

STERILITY:

TOTAL BACTERIA = 20,000 COLONIES/
100 ML
 COLIFORM COUNT = NEGATIVE
 ANAEROBIC ANALYSIS = NEGATIVE
 YEAST & MOLDS = NEGATIVE

THIS REPORT FAILS THE REQUESTED ANALYSIS FOR STERILITY.

cc: ED WRIGHT, LS-ENG-32
 PREVENTIVE MEDICINE DIV. DC-7
 MSC CREW SYSTEMS DIVISION (EC311)
 MSC LAUNCH SITE MEDICAL OPS. BRANCH (10K)
 NORTH AMERICAN ROCKWELL, DOWNEY, CALIFORNIA

Analyst DEMERY *[Signature]* Date Completed MARCH 18, 1969
 Approved by _____ Reference Notebook _____
P. LATORRE, MGR., ENVIRONMENTAL HEALTH ENGINEERING



K S C
ENVIRONMENTAL HEALTH ENGINEERING
Analysis Report

0050-



Requestor, Organization, Mail Code W. ANTONIENSKI ZK-86	Request Date 3/13/69 <hr/> Phone 867-5182
Sample Description APOLLO POTABLE WATER CM 107 - APOLLO 11 (FINAL LOAD) HOT PORT	Analysis Requested (Specification Required) PF SPEC-1 TO TEST POINT 4
Location CHAMBER L, NS08	

Received by DEMERY, WRIGHT Date 3-13-69 (1200) Log Number 6903-42
 Priority Routine _____ (Due Date) _____ A S A P _____ Emergency _____

ANALYSIS

pH = 6.4 @ 25°C
TOTAL SOLIDS = 0.9 mg/L
TASTE AND ODOR = NONE AT THRESHOLD #3 @ 45°C
TURBIDITY = 0.2 UNITS
COLOR = UNDER 5 UNITS

IONIC SPECIES:

CADMIUM	UNDER	0.01	MG/L
CADMIUM	UNDER	0.05	MG/L
COPPER	UNDER	0.05	MG/L
IRON	UNDER	1.0	MG/L
LEAD	UNDER	0.05	MG/L
MANGANESE	UNDER	0.03	MG/L
MERCURY	UNDER	0.008	MG/L
NICKEL	EQUALS	0.04	MG/L
SILVER	UNDER	0.05	MG/L
ZINC	EQUALS	0.04	MG/L

STERILITY:

**TOTAL BACTERIA = 8,600 COLONIES/
100 ML**

COLIFORM COUNT = NEGATIVE
ANAEROBIC ANALYSIS = NEGATIVE
YEAST AND MOLDS = NEGATIVE

**THIS REPORT FAILS THE REQUESTED
ANALYSIS FOR STERILITY.**

**NOTE: WATER FROM THIS SAMPLE PORT
WAS HOT WHEN SAMPLE WAS TAKEN.**

cc: **ED WRIGHT, LS-ENG-92**
PREVENTIVE MEDICINE DIV. (EC-7)
NSC CREW SYSTEMS DIVISION (EC311)
NSC LAUNCH SITE MEDICAL OPS. BRANCH (DOK)
NORTH AMERICAN ROCKWELL, DOWNY, CALIF.

Analyst DEMERY Date Completed MARCH 18, 1969
 Approved by _____ Reference Notebook _____
P. LATORRE, MGR., ENVIRONMENTAL HEALTH ENGINEERING



K S C
ENVIRONMENTAL HEALTH ENGINEERING
 Analysis Report

0007



Requestor, Organization, Mail Code D. JOLLY, NAR ZK-86	Request Date 14 MARCH 1969 <hr/> Phone 867-5182
Sample Description HIGH PURITY WATER FROM 152 UNIT	Analysis Requested (Specification Required) MSC C-20A FOR DISTILLED WATER (AS REQUESTED)
Location CHANDER L, MSOB	

Received by _____ Date 3/14/69 (1500) Log Number 6903-43
 Priority Routine _____ (Due Date) _____ A S A P _____ Emergency _____

ANALYSIS

ELECTRICAL CONDUCTIVITY = 0.43 MICRONHO/CM @ 25°C
PH = 6.2 @ 25°C
NON-VOLATILE RESIDUE = 0.02 MG/100 ML
HALIDES = 0.05 PPM
SURFACE TENSION = 72.7 DYNES/CM @ 20°C
PARTICULATE/500 ML

- 10-25 MICRONS = 494
- 25-50 MICRONS = 63
- 50-100 MICRONS = 11
- 100-250 MICRONS = 0
- OVER 250 MICRONS = 0

cc: ED WRIGHT, LS-ENG-32

Analyst GUENTHER *[Signature]* Date Completed **17 MARCH 1969**
 Approved by *[Signature]* Reference Notebook _____
P. LATORRC, MGR., ENVIRONMENTAL HEALTH ENGINEERING



K S C
ENVIRONMENTAL HEALTH ENGINEERING
Analysis Report



Requestor, Organization, Mail Code W. ANTONIENSKI, MAR ZK-86	Request Date MARCH 17, 1969 Phone 867-5182
Sample Description APOLLO POTABLE WATER CN 107, APOLLO 11 (7-24 HR SAMPLE) HOT PORT	Analysis Requested (Specification Required) PF SPEC-1 TO TEST POINT 4
Location CHAMBER L, MS08	

Received by WRIGHT, DEMERY Date 3-17-69 (1230) Log Number 6903-47
 Priority Routine _____ (Due Date) _____ A S A P _____ Emergency _____

ANALYSIS PH = 6.4 @ 25°C TOTAL SOLIDS = 1.2 MG/L TASTE AND ODOR = NONE AT THRESHOLD #3 @ 45°C TURBIDITY = 2.6 UNITS COLOR = UNDER 5 UNITS	IONIC SPECIES: <table style="width: 100%; border-collapse: collapse;"> <tr><td>CADMIUM</td><td>UNDER</td><td>0.01</td><td>MG/L</td></tr> <tr><td>CHROMIUM</td><td>UNDER</td><td>0.05</td><td>MG/L</td></tr> <tr><td>COPPER</td><td>UNDER</td><td>0.05</td><td>MG/L</td></tr> <tr><td>IRON</td><td>UNDER</td><td>0.1</td><td>MG/L</td></tr> <tr><td>LEAD</td><td>UNDER</td><td>0.05</td><td>MG/L</td></tr> <tr><td>MANGANESE</td><td>UNDER</td><td>0.03</td><td>MG/L</td></tr> <tr><td>MERCURY</td><td>UNDER</td><td>0.008</td><td>MG/L</td></tr> <tr><td>NICKEL</td><td>EQUALS</td><td>0.03</td><td>MG/L</td></tr> <tr><td>SILVER</td><td>UNDER</td><td>0.05</td><td>MG/L</td></tr> <tr><td>ZINC</td><td>EQUALS</td><td>0.1</td><td>MG/L</td></tr> </table> STERILITY: TOTAL BACTERIA = 2,000,000 COLONIES/100 ML COLIFORM COUNT = NEGATIVE ANAEROBIC ANALYSIS = NEGATIVE YEAST AND MOLDS = NEGATIVE THIS REPORT FAILS THE REQUESTED ANALYSIS FOR STERILITY.	CADMIUM	UNDER	0.01	MG/L	CHROMIUM	UNDER	0.05	MG/L	COPPER	UNDER	0.05	MG/L	IRON	UNDER	0.1	MG/L	LEAD	UNDER	0.05	MG/L	MANGANESE	UNDER	0.03	MG/L	MERCURY	UNDER	0.008	MG/L	NICKEL	EQUALS	0.03	MG/L	SILVER	UNDER	0.05	MG/L	ZINC	EQUALS	0.1	MG/L
CADMIUM	UNDER	0.01	MG/L																																						
CHROMIUM	UNDER	0.05	MG/L																																						
COPPER	UNDER	0.05	MG/L																																						
IRON	UNDER	0.1	MG/L																																						
LEAD	UNDER	0.05	MG/L																																						
MANGANESE	UNDER	0.03	MG/L																																						
MERCURY	UNDER	0.008	MG/L																																						
NICKEL	EQUALS	0.03	MG/L																																						
SILVER	UNDER	0.05	MG/L																																						
ZINC	EQUALS	0.1	MG/L																																						

cc: ED WRIGHT, LS-ENG-32
 PREVENTIVE MEDICINE DIVISION (DC-7)
 MSC CREW SYSTEMS DIVISION (EC311)
 MSC LAUNCH SITE MEDICAL OPS, BRANCH (DK)
 NORTH AMERICAN ROCKWELL, DOWNEY, CALIFORNIA

Analyst DEMERY *UD* Date Completed MARCH 19, 1969
 Approved by P. LATORNE, MGR., ENVIRONMENTAL HEALTH ENGINEERING Reference Notebook _____



K S C
 ENVIRONMENTAL HEALTH ENGINEERING
 Analysis Report

0060-



Requestor, Organization, Mail Code D. JOLLY ZK-86	Request Date MARCH 19, 1969
	Phone 867-5182
Sample Description L/M DRINK DISPENSER S/N 003	Analysis Requested (Specification Required) CSD-A-872A
Location ENVIRONMENTAL HEALTH LABORATORY	

Received by BUCK Date 3-19-69 (1500) Log Number 6903 -60
 Priority Routine _____ (Due Date) _____ A S A P _____ Emergency _____

ANALYSIS

STERILITY:

PORT A = NEGATIVE

PORT B = NEGATIVE

PORT C = NEGATIVE

PORT A-GN₂ = NEGATIVE

CC: ED WRIGHT, LS-ENG-32
 DON PRICE, MSC CREW SYSTEMS DIV. (EC-3)
 PREVENTIVE MEDICINE DIVISION (DC-7)
 MSC LAUNCH SITE MEDICAL OPERATIONS BRANCH (DDK)
 JOE JOHNSON (ECK-11)

Analyst TA ANDERSON Date Completed MARCH 24, 1969
 Approved by P. Latorre Reference Notebook _____
 P. LATORRE, MGR., ENVIRONMENTAL HEALTH ENGINEERING



K S C
ENVIRONMENTAL HEALTH ENGINEERING
 Analysis Report

0062



Requestor, Organization, Mail Code W. ANTONIEWSKI, NAR ZK-86	Request Date MARCH 23, 1969 <hr/> Phone 867-5182
Sample Description APOLLO POTABLE WATER CSM 107, APOLLO 11 (T-24 HR SAMPLE) HOT PORT	Analysis Requested* (Specification Required) PF SPEC 1 TO TEST POINT 4
Location CHAMBER L, MSOB	

Received by BUCK, DEMERY Date 3-23-69 (1900) Log Number 6903-72
 Priority Routine _____ (Due Date) _____ ASAP _____ Emergency _____

ANALYSIS

pH = 7.2
 TOTAL SOLIDS = 7.2 MG/L
 TASTE AND ODOR = NONE AT THRESHOLD #3 @ 45°C
 TURBIDITY = 20 UNITS
 COLOR, TRUE = UNDER 5 UNITS

IONIC SPECIES:

CADMIUM	UNDER	0.01	MG/L
CHROMIUM	UNDER	0.05	MG/L
COPPER	EQUALS	0.05	MG/L
IRON	UNDER	0.1	MG/L
LEAD	UNDER	0.05	MG/L
MANGANESE	UNDER	0.01	MG/L
MERCURY	UNDER	0.008	MG/L
NICKEL	EQUALS	0.4	MG/L
SILVER	UNDER	0.05	MG/L
ZINC	EQUALS	0.05	MG/L

cc: ED WRIGHT, LS-ENG-32
 PREVENTIVE MEDICINE DIV. (DC-7)
 MSC CREW SYSTEMS DIV. (EC-3)
 MSC LAUNCH SITE MEDICAL OPS. BRANCH (DDK)
 NORTH AMERICAN ROCKWELL, DOWNEY, CALIF.

STERILITY:

TOTAL BACTERIA = GREATER THAN 3,000,000 COLONIES PER 100 ML
 COLIFORM COUNT = NEGATIVE
 ANAEROBIC ANALYSIS = NEGATIVE
 YEAST & MOLDS = NEGATIVE

THIS REPORT FAILS THE REQUESTED ANALYSIS, STERILITY.

Analyst DEMERY Date Completed MARCH 26, 1969
 Approved by *P. LaTorre* Reference Notebook _____
 P. LATORRE, MGR., ENVIRONMENTAL HEALTH ENGINEERING



K S C
 ENVIRONMENTAL HEALTH ENGINEERING
 Analysis Report

0062-



Requestor, Organization, Mail Code W. ANTONIENSKI, MAR ZK-86	Request Date MARCH 23, 1969
	Phone 867-5182
Sample Description APOLLO POTABLE WATER CS# 107 APOLLO 11 (T-24 HR SAMPLE) DRINK GUN	Analysis Requested (Specification Required) PF SPEC-1 TO TEST POINT 4
Location CHAMBER L, NSDB	

Received by **BUCK, DENERY** Date **3-23-69 (1900)** Log Number **6903-72**
 Priority Routine (Due Date) ASAP Emergency _____

ANALYSIS

pH = 7.1
TOTAL SOLIDS = 20.4 mg/L
NON-VOLATILE SOLIDS = 18.0 mg/L
TOTAL FILTERABLE SOLIDS = 2.4 mg/L
TASTE AND ODOR = NONE AT THRESHOLD #3 @ 45°C
TURBIDITY = 5.8 UNITS
COLOR, TRUE = UNDER 5 UNITS
PARTICULATE/500 ML
 0-10 MICRONS =
 10-25 MICRONS = FILTER OBTURED
 25-50 MICRONS = WITH FINE YELLOW
 50-100 MICRONS =
 OVER 100 MICRONS = MATERIAL

IONIC SPECIES:

CADMIUM	UNDER	0.01	MG/L
CHROMIUM	UNDER	0.05	MG/L
COPPER	UNDER	0.03	MG/L
IRON	UNDER	0.1	MG/L
LEAD	UNDER	0.05	MG/L
MANGANESE	EQUALS	0.01	MG/L
MERCURY	UNDER	0.008	MG/L
NICKEL	EQUALS	0.06	MG/L
SILVER	UNDER	0.05	MG/L
ZINC	EQUALS	0.3	MG/L

STERILITY:

**TOTAL BACTERIA = GREATER THAN
 3,000,000 COLONIES PER 100 ML**
COLIFORM COUNT = NEGATIVE
ANAEROBIC ANALYSIS = NEGATIVE
YEAST & MOLES = NEGATIVE

**THIS REPORT FAILS THE REQUESTED
 ANALYSIS FOR STERILITY, TOTAL
 SOLIDS, AND TURBIDITY.**

CC: ED WRIGHT, LS-ENG-32
 PREVENTIVE MEDICINE DIV. (DC-7)
 NSC CREW SYSTEMS DIV. (EC-3)
 NSC LAUNCH SITE MEDICAL OPS. BRANCH (DM)
 NORTH AMERICAN ROCKWELL, DORNEY, CALIF.

Analyst **DENERY** Date Completed **MARCH 26, 1969**
 Approved by *[Signature]* Reference Notebook _____
P. LATOURE, MGR., ENVIRONMENTAL HEALTH ENGINEERING



K S C
ENVIRONMENTAL HEALTH ENGINEERING
Analysis Report

0063-



Requestor, Organization, Mail Code D. JOLLY, NAR ZK-86	Request Date MARCH 25, 1969
	Phone 867-5182
Sample Description L/M DRINK DISPENSER S/N 005	Analysis Requested (Specification Required) CSD-A-872-A
Location ENVIRONMENTAL HEALTH ENGINEERING LAB	

Received by BUCK Date 3-25-69 (1300) Log Number 6903-84
 Priority Routine (Due Date) A S A P Emergency

ANALYSIS

STERILITY:

PORT A = NEGATIVE

PORT B = 2 COLONIES

PORT C = 4 COLONIES

cc: ED WRIGHT, LS-ENG-32
 DON PRICE, MSC CREW SYSTEMS DIVISION (EC-3)
 PREVENTIVE MEDICINE DIVISION (DC-7)
 MSC LAUNCH SITE MEDICAL OPERATIONS BRANCH (DDK)
 JOE JOHNSON (ECK-11)
 JOHN NEWBROUGH, FLIGHT CREW SYSTEMS ENGR. (ZK-99)

 Analyst ANDERSON Date Completed MARCH 28, 1969
 Approved by P. Latorre Reference Notebook _____
 P. LATORRE, MGR., ENVIRONMENTAL HEALTH ENGINEERING



K S C
ENVIRONMENTAL HEALTH ENGINEERING

Analysis Report

CC-2



Requestor, Organization, Mail Code W. ANTONIEWSKI, NAR ZK-8b	Request Date MARCH 25, 1969 <hr/> Phone 867-5182
Sample Description APOLLO POTABLE WATER CM 107, APOLLO 11 DRINK GUN (T-24 HRS)	Analysis Requested (Specification Required) PF SPEC-1 TO TEST POINT 4 (AS REQUESTED)
Location CHANDLER L, MSDB	

Received by **DEMERY, MAHAN** Date **3-26-69 (1400)** Log Number **6903-89**
 Priority Routine _____ (Due Date) _____ A S A P _____ Emergency _____

ANALYSIS

pH = 7.1 @ 25°C
TOTAL SOLIDS = 14.2 mg/L
NON-VOLATILE SOLIDS = 13.2 mg/L
TOTAL FILTERABLE SOLIDS = 1.0 mg/L
TASTE AND ODOR = NONE AT THRESHOLD #3 @ 45°C
TURBIDITY = 5.5 UNITS
COLOR, TRUE = UNDER 5 UNITS
PARTICULATE/500 ML
 0-10 MICRONS =
 10-25 MICRONS =
 25-50 MICRONS = FILTER OBTURED BY
 50-100 MICRONS = FINE GOLD PARTICU-
 OVER 100 MICRONS = LATE MATERIAL

IONIC SPECIES:

CADMIUM	EQUALS	0.005	MG/L
CHROMIUM	UNDER	0.05	MG/L
COPPER	UNDER	0.05	MG/L
IRON	UNDER	0.1	MG/L
LEAD	UNDER	0.05	MG/L
MANGANESE	EQUALS	0.01	MG/L
MERCURY	UNDER	0.008	MG/L
NICKEL	EQUALS	0.06	MG/L
SILVER	UNDER	0.05	MG/L
ZINC	EQUALS	0.4	MG/L

STERILITY:

TOTAL BACTERIA = GREATER THAN
3,000,000 COLONIES/
100 ML
COLIFORM COUNT = NEGATIVE
ANAEROBIC ANALYSIS = NEGATIVE
YEAST & MOLES = NEGATIVE

CC: Ed Wright, LS-ENG-32
PREVENTIVE MEDICINE DIV. (DC-7)
MSC CREW SYSTEMS DIV. (EC-3)
MSC LAUNCH SITE NEB. OPS. BRANCH (DDK)
NORTH AMERICAN ROCKWELL, DOWNEY, CALIF.

THIS REPORT FAILS THE REQUESTED
ANALYSIS FOR TOTAL SOLIDS, TURBIDITY
AND STERILITY.

Analyst **DEMERY** Date Completed **APRIL 2, 1969**
 Approved by *[Signature]* Reference Notebook _____
P. LATORRE, MGR., ENVIRONMENTAL HEALTH ENGINEERING



K S C
ENVIRONMENTAL HEALTH ENGINEERING
Analysis Report

0005



Requestor, Organization, Mail Code W. ANTONIEWSKI, NAR ZK-8C	Request Date MARCH 26, 1969 Phone 867-5182
Sample Description APOLLO POTABLE WATER CM 107, APOLLO 11 DRINK GUN POST FLIGHT	Analysis Requested (Specification Required) PF SPEC-1 TO TEST POINT 4. SAMPLES TAKEN AS REQUESTED BECAUSE OF INSUFFI- CIENT POST-FLIGHT WATER RESIDUAL.
Location CHAMBER L, MS0B	

Received by DENEHY, MCCRAY Date 3-27-69 (0500) Log Number 6903-92
 Priority Routine _____ (Due Date) _____ A S A P _____ Emergency _____

ANALYSIS

pH = 7.2 25°C
TOTAL SOLIDS = 15.4 MG/L
TASTE AND ODOR = NONE THRESHOLD #3 45°C
TURBIDITY = 4.0 UNITS
COLOR, TRUE = UNDER 5 UNITS

IONIC SPECIES:

CADMIUM	EQUALS	0.01	MG/L
CHROMIUM	UNDER	0.05	MG/L
COPPER	UNDER	0.05	MG/L
IRON	UNDER	0.1	MG/L
LEAD	UNDER	0.05	MG/L
MANGANESE	EQUALS	0.02	MG/L
MERCURY	UNDER	0.008	MG/L
NICKEL	EQUALS	0.04	MG/L
SILVER	UNDER	0.05	MG/L
ZINC	EQUALS	0.4	MG/L

STERILITY:

**TOTAL BACTERIA = 7,000 COLONIES/
100 ML**
COLIFORM COUNT = NEGATIVE
ANAEROBIC ANALYSIS = NEGATIVE
YEAST & MOLDS = NEGATIVE

**CC: D V R I G H T, LS-ENG-32
 PREVENTIVE MEDICINE DIV. (DC-7)
 MSC CREW SYSTEMS DIV. (EC-3)
 MSC LAUNCH SITE MEDICAL OPS. BRANCH (DDK)
 NORTH AMERICAN ROCKWELL, DOWNEY, CALIF.**

**THIS REPORT FAILS THE REQUESTED
ANALYSIS FOR TOTAL SOLIDS.**

Analyst DENEHY Date Completed 2 APRIL 1969
 Approved by J. LATORRE, MGR., ENVIRONMENTAL HEALTH ENGINEERING Reference Notebook _____



K S C
 ENVIRONMENTAL HEALTH ENGINEERING
 Analysis Report

0000-



Requestor, Organization, Mail Code W. APTORIEWSKI, NAR ZK-86	Request Date MARCH 26, 1969
	Phone 867-5182
Sample Description APOLLO POTABLE WATER CM 107, APOLLO 11 WASTE TANK POST FLIGHT	Analysis Requested (Specification Required) PF SPEC-1 TO TEST POINT 4 (FOR ENGINEERING EVALUATION)
Location CHAMBER R, MS08	

Received by DEREY, McCRAY Date 3-27-69 (0500) Log Number 6903-92
 Priority Routine _____ (Due Date) _____ A S A P _____ Emergency _____

<p>ANALYSIS</p> <p>PH = 7.1 @ 25°C</p> <p>TOTAL SOLIDS = 5.4 MG/L</p> <p>TASTE AND ODOR = NONE @ THRESHOLD #3 @ 45°C</p> <p>TURBIDITY = 5.5 UNITS</p> <p>COLOR, TRUE = UNDER 5 UNITS</p> <p>PARTICULATE/500 ML</p> <p> 0-10 MICRONS =</p> <p> 10-25 MICRONS = FILTER OBSCURED</p> <p> 25-50 MICRONS = BY FINE GOLD PARTI-</p> <p> 50-100 MICRONS = CULATE MATERIAL</p> <p> OVER 100 MICRONS =</p>	<p>IONIC SPECIES:</p> <table border="0"> <tr><td>CADMIUM</td><td>UNDER</td><td>0.005</td><td>MG/L</td></tr> <tr><td>CHROMIUM</td><td>UNDER</td><td>0.05</td><td>MG/L</td></tr> <tr><td>COPPER</td><td>UNDER</td><td>0.05</td><td>MG/L</td></tr> <tr><td>IRON</td><td>UNDER</td><td>0.1</td><td>MG/L</td></tr> <tr><td>LEAD</td><td>UNDER</td><td>0.05</td><td>MG/L</td></tr> <tr><td>MANGANESE</td><td>EQUALS</td><td>0.01</td><td>MG/L</td></tr> <tr><td>MERCURY</td><td>UNDER</td><td>0.008</td><td>MG/L</td></tr> <tr><td>NICKEL</td><td>EQUALS</td><td>0.2</td><td>MG/L</td></tr> <tr><td>SILVER</td><td>UNDER</td><td>0.05</td><td>MG/L</td></tr> <tr><td>ZINC</td><td>EQUALS</td><td>0.6</td><td>MG/L</td></tr> </table> <p>THIS REPORT FAILS THE REQUESTED ANALYSIS FOR TURBIDITY AND PARTICULATE.</p>	CADMIUM	UNDER	0.005	MG/L	CHROMIUM	UNDER	0.05	MG/L	COPPER	UNDER	0.05	MG/L	IRON	UNDER	0.1	MG/L	LEAD	UNDER	0.05	MG/L	MANGANESE	EQUALS	0.01	MG/L	MERCURY	UNDER	0.008	MG/L	NICKEL	EQUALS	0.2	MG/L	SILVER	UNDER	0.05	MG/L	ZINC	EQUALS	0.6	MG/L
CADMIUM	UNDER	0.005	MG/L																																						
CHROMIUM	UNDER	0.05	MG/L																																						
COPPER	UNDER	0.05	MG/L																																						
IRON	UNDER	0.1	MG/L																																						
LEAD	UNDER	0.05	MG/L																																						
MANGANESE	EQUALS	0.01	MG/L																																						
MERCURY	UNDER	0.008	MG/L																																						
NICKEL	EQUALS	0.2	MG/L																																						
SILVER	UNDER	0.05	MG/L																																						
ZINC	EQUALS	0.6	MG/L																																						

cc: Ed Wright, LS-ENG-32
 Preventive Medicine Div. (DC-7)
 MSC Crew Systems Div. (EC-3)
 MSC Launch Site Medical Ops. Branch (DDK)
 North American Rockwell, Downey, California

Analyst DEREY Date Completed APRIL 3, 1969
 Approved by [Signature] Reference Notebook _____
P. LATORRE, Mgr., ENVIRONMENTAL HEALTH ENGINEERING



K S C
ENVIRONMENTAL HEALTH ENGINEERING
Analysis Report

0007



Requestor, Organization, Mail Code W. ANTONIEWSKI, NAR ZK-86	Request Date MARCH 26, 1969 Phone 867-5182
Sample Description APOLLO POTABLE WATER CM 107, APOLLO 11 HOT WATER PORT POST FLIGHT	Analysis Requested (Specification Required) PF SPEC-1 TO TEST POINT 4 SAMPLE TAKEN AS REQUESTED BECAUSE OF INSUFFICIENT POST-FLIGHT WATER RESIDUAL
Location CHAMBER R, MSC08	

Received by DEBERRY, McCRAY Date 3-27-69 (0500) Log Number 6903-92
 Priority Routine _____ A S A P _____ Emergency _____
(Due Date)

ANALYSIS

PH = 7.1 @ 25°C
 TOTAL SOLIDS = 16.2 MG/L
 TASTE AND OBOR = NONE @ THRESHOLD #5 @ 45°C
 TURBIDITY = 6.1 UNITS
 COLOR, TRUE = UNDER 5 UNITS

IONIC SPECIES:

CADMIUM	UNDER	0.005	MG/L
CHROMIUM	UNDER	0.05	MG/L
COPPER	EQUALS	0.1	MG/L
IRON	UNDER	0.1	MG/L
LEAD	UNDER	0.05	MG/L
MANGANESE	EQUALS	0.01	MG/L
MERCURY	UNDER	0.008	MG/L
NICKEL	EQUALS	0.9	MG/L
SILVER	UNDER	0.05	MG/L
ZINC	EQUALS	0.1	MG/L

THIS REPORT FAILS THE REQUESTED ANALYSIS FOR TOTAL SOLIDS AND TURBIDITY.

CC: ED WRIGHT, LS-ENG-92
 PREVENTIVE MEDICINE DIVISION (DC-7)
 KSC CREW SYSTEMS DIVISION (EC-3)
 MSC LAUNCH SITE MEDICAL OPS. BRANCH (DDK)
 NORTH AMERICAN ROCKWELL, DOWNEY, CALIF.

Analyst DEBERRY *WPD* Date Completed April 3, 1969
 Approved by *P. La Torre* Reference Notebook _____

P. LATORRE, NGR., ENVIRONMENTAL HEALTH ENGINEERING



K S C
ENVIRONMENTAL HEALTH ENGINEERING
Analysis Report

0000



Requestor, Organization, Mail Code D. JOLLY, NAR ZK-86	Request Date APRIL 3, 1969 <hr/> Phone <p style="text-align: center;">867-5182</p>
Sample Description L/A DRINK DISPENSER S/N 003 GUN S/N 3459, FILTER S/N 102	Analysis Requested (Specification Required) CSD-A-872-A & TPS /SC-107-FCS004
Location <p style="text-align: center;">ENVIRONMENTAL HEALTH ENGINEERING LAB</p>	

Received by BUCK Date 4/3/69 (0930) Log Number 6904-3

Priority Routine _____ (Due Date) _____ A S A P _____ Emergency _____

ANALYSIS

FINAL RESULTS FOLLOWING STERILIZATION:

PORT A = NEGATIVE

PORT B = 17 COLONIES

PORT C = 10 COLONIES

PORT A-GN₂ = NEGATIVE

CC: ED WRIGHT (LS-ENG-32)
DON PRICE, MSC CREW SYSTEMS DIVISION (EC-3)
PREVENTIVE MEDICINE DIVISION (DC-7)
MSC LAUNCH SITE MEDICAL OPERATIONS BRANCH (ODK)
JOE JOHNSON (ECK-11)
JOHN NEWBROUGH, FLIGHT CREW SYSTEMS ENGR. (ZK-99)

Analyst ANDERSON Date Completed APRIL 7, 1969

Approved by *[Signature]* Reference Notebook _____

P. LATORRE, MGR., ENVIRONMENTAL HEALTH ENGINEERING

CHRONOLOGY OF APOLLO 11 CHAMBER RUN

LUNAR MODULE LM-5

<u>DATE</u>	<u>HR</u>	<u>EHE LOG NO.</u>	<u>ANALYSIS REQUESTED</u>	
TUESDAY	2-4-69	6902-10	GSE FOR TEST POINT 3	
FRIDAY	2-21-69	1400	6902-72	DESCENT TANK, FINAL LOAD
FRIDAY	2-21-69	1400	6902-73	ASCENT TANK, FINAL LOAD
WEDNESDAY	3-5-69	1600	6903-6	PARTICULATE FROM ASCENT AND DESCENT TANK
FRIDAY	3-7-69	1830	6903-21	ASCENT & DESCENT TANK, T-24 HOURS
SATURDAY	3-8-69	SEA LEVEL SIMULATED TEST No. 1 (PRIME CREW)		
MONDAY	3-10-69	SEA LEVEL SIMULATED TEST No. 2 (BACK-UP CREW)		
FRIDAY	3-14-69	6903-45	STERILIZED DRINK GUN 0003	
MONDAY	3-17-69	6903-46	STERILIZED DRINK GUN 0002	
MONDAY	3-17-69	UNMANNED ALTITUDE CHAMBER TEST		
WEDNESDAY	3-19-69	ALTITUDE CHAMBER TEST (BACK-UP CREW)		
THURSDAY	3-20-69	ALTITUDE CHAMBER TEST (RE-RUN BACK-UP CREW)		
FRIDAY	3-21-69	6903-70	STERILIZED DRINK GUN 0003	
	3-21-69	ALTITUDE CHAMBER TEST (PRIME CREW)		
MONDAY	3-24-69	6903-75	STERILIZED DRINK GUN 0003	
TUESDAY	3-25-69	6903-76	STERILIZED DRINK GUN 0002	
MONDAY	3-24-69	6903-77	STERILIZED DRINK GUN 3455	
TUESDAY	3-25-69	ALTITUDE CHAMBER TEST (PARTIAL RE-RUN SUPPORT BACK-UP CREW)		
TUESDAY	3-25-69	0700	6903-87	DESCENT TANK, POST-FLIGHT
FRIDAY	3-28-69	0800	6903-94	STERILIZED DRINK GUN 0002
TUESDAY	4-1-69	1100	6904-2	STERILIZED DRINK GUN 3455



K S C
ENVIRONMENTAL HEALTH ENGINEERING
Analysis Report

181
0070 -



Requestor, Organization, Mail Code B. DANBERT GPEC ECS WJ 41 GRUMMAN MSOB	Request Date FEBRUARY 3, 1969 Phone 867-2445
Sample Description APOLLO POTABLE WATER FROM C.S.E. LMS, APOLLO 11	Analysis Requested (Specification Required) PF SPEC-1 TO TEST POINT 3
Location ALTITUDE CHAMBER R, MSO	

Received by WRIGHT Date 2-4-69 Log Number 6902-10
 Priority Routine _____ (Due Date) _____ A S A P _____ Emergency _____

<p>ANALYSIS</p> <p>ELECTRICAL CONDUCTIVITY = 0.11 MICROMHOS/CM 25°C</p> <p>PH = 6.2 25°C</p> <p>SURFACE TENSION = 70.9 DYNES/CM AT 20°C</p> <p>TOTAL SOLIDS = 1.2 MG/L</p> <p>NON-VOLATILE SOLIDS = 1.2 MG/L</p> <p>TOTAL FILTERABLE SOLIDS = NONE DETECTED</p> <p>TASTE AND ODOR = NONE AT THRESHOLD 5 - 45°C</p> <p>TURBIDITY = 0.5 UNITS</p> <p>COLOR = UNDER 5 UNITS</p> <p>PARTICULATE/500 ML</p> <p style="padding-left: 20px;">0-10 MICRONS = PASSES</p> <p style="padding-left: 20px;">10-25 MICRONS = 314</p> <p style="padding-left: 20px;">25-50 MICRONS = 72</p> <p style="padding-left: 20px;">50-100 MICRONS = 43</p>	<p>IONIC SPECIES:</p> <table style="width: 100%; border-collapse: collapse;"> <tr><td>CADMIUM</td><td>UNDER</td><td>0.01</td><td>MG/L</td></tr> <tr><td>CHROMIUM</td><td>UNDER</td><td>0.05</td><td>MG/L</td></tr> <tr><td>COPPER</td><td>UNDER</td><td>1.0</td><td>MG/L</td></tr> <tr><td>IRON</td><td>UNDER</td><td>0.3</td><td>MG/L</td></tr> <tr><td>LEAD</td><td>UNDER</td><td>0.05</td><td>MG/L</td></tr> <tr><td>MANGANESE</td><td>UNDER</td><td>0.05</td><td>MG/L</td></tr> <tr><td>MERCURY</td><td>UNDER</td><td>0.013</td><td>MG/L</td></tr> <tr><td>NICKEL</td><td>UNDER</td><td>0.05</td><td>MG/L</td></tr> <tr><td>SILVER</td><td>UNDER</td><td>0.05</td><td>MG/L</td></tr> <tr><td>ZINC</td><td>UNDER</td><td>5.0</td><td>MG/L</td></tr> </table> <p>STERILITY:</p> <p>TOTAL BACTERIA = TOO NUMEROUS TO COUNT</p> <p>COLIFORM COUNT = NEGATIVE</p> <p>ANAEROBIC ANALYSIS = NEGATIVE</p> <p>YEAST AND MOLDS = NEGATIVE</p> <p>THIS REPORT FAILS THE REQUESTED ANALYSIS FOR SURFACE TENSION.</p>	CADMIUM	UNDER	0.01	MG/L	CHROMIUM	UNDER	0.05	MG/L	COPPER	UNDER	1.0	MG/L	IRON	UNDER	0.3	MG/L	LEAD	UNDER	0.05	MG/L	MANGANESE	UNDER	0.05	MG/L	MERCURY	UNDER	0.013	MG/L	NICKEL	UNDER	0.05	MG/L	SILVER	UNDER	0.05	MG/L	ZINC	UNDER	5.0	MG/L
CADMIUM	UNDER	0.01	MG/L																																						
CHROMIUM	UNDER	0.05	MG/L																																						
COPPER	UNDER	1.0	MG/L																																						
IRON	UNDER	0.3	MG/L																																						
LEAD	UNDER	0.05	MG/L																																						
MANGANESE	UNDER	0.05	MG/L																																						
MERCURY	UNDER	0.013	MG/L																																						
NICKEL	UNDER	0.05	MG/L																																						
SILVER	UNDER	0.05	MG/L																																						
ZINC	UNDER	5.0	MG/L																																						

CC: ED WRIGHT, LS-ENG-32
 MSC BIOMEDICAL SPECIALTIES BRANCH (DB3)
 MSC CREW SYSTEMS DIVISION (EC311)
 MSC LAUNCH SITE MEDICAL OPS. BRANCH (U2K)
 NORTH AMERICAN ROCKWELL, DONNEY, CALIFORNIA

Analyst W. P. DEMERY (WPA) Date Completed FEBRUARY 6, 1969
 Approved by P. Latorre Reference Notebook _____
P. LATORRE, MGR., ENVIRONMENTAL HEALTH ENGINEERING



K S C
 ENVIRONMENTAL HEALTH ENGINEERING
 Analysis Report

0071<



Requestor, Organization, Mail Code

B. DANBERT EIS, GAEC
 GAEC 41

Request Date

FEBRUARY 3, 1969

Phone

667-2995

Sample Description

APOLLO POTABLE WATER FROM GSE LM-5
 APOLLO 11

Analysis Requested (Specification Required)

PF SPEC-1 TO TEST POINT 3
 CORRECTIONS TO PREVIOUS REPORT 6902-10

Location

ALTITUDE CHAMBER R
 NSOB

Received by WRIGHT Date 2-4-69 Log Number 6902-10
 Priority Routine _____ A S A P _____ Emergency _____
 (Due Date)

ANALYSIS

THE FOLLOWING ANALYSES WERE ERRONEOUSLY REPORTED IN THE ANALYSIS REPORT OF 6 FEBRUARY, 1969, AND SHOULD BE CHANGED AS SHOWN:

ORIGINAL:

TOTAL SOLIDS = 1.2 MG/L
 NON-VOLATILE SOLIDS - 1.2 MG/L
 TOTAL FILTERABLE SOLIDS = NONE DETECTED
 PARTICULATE/500 ML =
 OVER 100 MICRONS = (OMITTED)

CHANGE TO:

0.4 MG/L
 0.4 MG/L
 NONE DETECTED
 PARTICULATE/500 ML =
 OVER 100 MICRONS = 0

cc: Ed Wright, LS-ENG-32
 NSC BIOMEDICAL SPECIALTIES BRANCH (B35)
 NSC CREW SYSTEMS DIVISION (EC311)
 NSC LARREN SITE MEDICAL OPS. BRANCH (DM)

Analyst Bock Date Completed 13 February 1969
 Approved by P. LaTorge Reference Notebook _____
 P. LATORGE, JR., ENVIRONMENTAL HEALTH ENGINEERING



K S C
 ENVIRONMENTAL HEALTH ENGINEERING
 Analysis Report

0072



Requestor, Organization, Mail Code J. PASSARANTE, GAEC	Request Date 21 FEBRUARY 1969
	Phone 867-2945
Sample Description APOLLO POTABLE WATER LMS, APOLLO 11	Analysis Requested (Specification Required) PF SPEC-1 TO TEST POINT 4 DESCENT TANK
Location ALTITUDE CHAMBER R	

Received by WRIGHT, EVANS Date 2/21/69 (1400) Log Number 6902-72
 Priority Routine _____ (Due Date) _____ A S A P _____ Emergency _____

ANALYSIS

PH = 6.0 @ 25°C
TOTAL SOLIDS = 0.4 MG/L
TASTE AND ODOR = NONE AT THRESHOLD #3 @ 45°C
TURBIDITY = 0.15 UNITS
COLOR = UNDER 5 UNITS
PARTICULATE/500 ML
 0-10 MICRONS = PASSES
 10-25 MICRONS = 1064
 25-50 MICRONS = 60
 50-100 MICRONS = 20
 OVER 100 MICRONS = 9

IONIC SPECIES:

CADMIUM	UNDER	0.01	MG/L
CHROMIUM	UNDER	0.05	MG/L
COPPER	UNDER	0.05	MG/L
IRON	UNDER	0.05	MG/L
LEAD	UNDER	0.05	MG/L
MANGANESE	UNDER	0.05	MG/L
MERCURY	UNDER	0.008	MG/L
NICKEL	UNDER	0.02	MG/L
SILVER	UNDER	0.05	MG/L
ZINC	UNDER	0.1	MG/L

STERILITY:

TOTAL BACTERIA = NEGATIVE
COLIFORM COUNT = NEGATIVE
ANAEROBIC ANALYSIS = NEGATIVE
YEAST AND MOLDS = NEGATIVE

THIS REPORT PASSES THE REQUESTED ANALYSIS.

cc: ED WRIGHT, LS-ENG-32
 MSC BIOMEDICAL SPECIALTIES BRANCH (DB3)
 MSC CREW SYSTEMS DIVISION (EC311)
 MSC LAUNCH SITE MEDICAL OPS. BRANCH (DKK)

Analyst DENNEY Date Completed 25 FEBRUARY 1969
 Approved by P. LaFOREE Reference Notebook _____
P. LaFOREE, MGR., ENVIRONMENTAL HEALTH ENGINEERING



K S C
 ENVIRONMENTAL HEALTH ENGINEERING
 Analysis Report

0073-

Requestor, Organization, Mail Code J. PASSAMONTE, CAEC	Request Date 21 FEBRUARY 1969
	Phone 867-2945
Sample Description APOLLO POTABLE WATER LIS, APOLLO 11	Analysis Requested (Specification Required) PF SPEC-1 TO TEST POINT 4 ASCENT TANK
Location ALTITUDE CHAMBER R	

Received by WRIGHT, EVANS Date 21 FEB. 69 (1400) Log Number 6902-73
 Priority Routine _____ (Due Date) _____ A S A P _____ Emergency _____

ANALYSIS

pH = 6.0 @ 25°C
TOTAL SOLIDS = 0.4 MG/L
TASTE AND ODOR = NONE AT THRESHOLD #3 @ 45°C
TURBIDITY = 0.35 UNITS
COLOR = UNDER 5 UNITS
PARTICULATE/500 ML
 0-10 MICRONS = PASSES
 10-25 MICRONS = 846
 25-50 MICRONS = 71
 50-100 MICRONS = 3
 OVER 100 MICRONS = 2

IONIC SPECIES:

CADMIUM	UNDER	0.01	MG/L
CHROMIUM	UNDER	0.05	MG/L
COPPER	UNDER	0.05	MG/L
IRON	UNDER	0.05	MG/L
LEAD	UNDER	0.05	MG/L
MANGANESE	UNDER	0.05	MG/L
MERCURY	UNDER	0.008	MG/L
NICKEL	UNDER	0.02	MG/L
SILVER	UNDER	0.05	MG/L
ZINC	UNDER	0.1	MG/L

STERILITY:
TOTAL BACTERIA = NEGATIVE
COLIFORM COUNT = NEGATIVE
ANAEROBIC ANALYSIS = NEGATIVE
YEAST AND MOLES = NEGATIVE

THIS REPORT PASSES THE REQUESTED ANALYSIS.

cc: Ed Wright, LS-ENG-32
 MSC BIOMEDICAL SPECIALTIES BRANCH (DB3)
 MSC CREW SYSTEMS DIVISION (EC311)
 MSC LAUNCH SITE MEDICAL OPS. BRANCH (DDK)

Analyst DENRY *[Signature]* Date Completed 25 FEBRUARY 1969
 Approved by *[Signature]* Reference Notebook _____
P. LATORRE, MGR., ENVIRONMENTAL HEALTH ENGINEERING



K S C
ENVIRONMENTAL HEALTH ENGINEERING
Analysis Report

0075



Requestor, Organization, Mail Code J. PASSAMONTE CAEC	Request Date 5 MARCH 1969 Phone _____
Sample Description APOLLO POTABLE WATER FROM LM-5 ASCENT AND DESCENT	Analysis Requested (Specification Required) PARTICULATE ANALYSIS TO PF SPEC-1
Location ALTITUDE CHAMBER R, MS06	

Received by WRIGHT Date 5 MARCH 69 (1600) Log Number 6903-6
 Priority Routine _____ (Due Date) _____ A S A P _____ Emergency _____

ANALYSIS

ASCENT TANK

1. PARTICULATE/500 ML
 - 0-10 MICRONS = PASSES
 - 10-25 MICRONS = 127
 - 25-50 MICRONS = 40
 - 50-100 MICRONS = 10
 - OVER 100 MICRONS = 1

2.
 - 0-10 MICRONS = PASSES
 - 10-15 MICRONS = 94
 - 25-50 MICRONS = 36
 - 50-100 MICRONS = 8
 - OVER 100 MICRONS = 2

DESCENT TANK

1. PARTICULATE/500 ML
 - 0-10 MICRONS = PASSES
 - 10-25 MICRONS = 392
 - 25-50 MICRONS = 150
 - 50-100 MICRONS = 21
 - OVER 100 MICRONS = 9

2.
 - 0-10 MICRONS = PASSES
 - 10-25 MICRONS = 182
 - 25-50 MICRONS = 68
 - 50-100 MICRONS = 12
 - OVER 100 MICRONS = 6

NOTE: 500 ML WERE FLUSHED BEFORE COLLECTION OF SAMPLE FROM EACH TANK.

cc: Ed Wright, LS-ENG-32
Don Price EC-311

Analyst BUCK Date Completed 6 MARCH 1969
 Approved by [Signature] Reference Notebook _____
P. LATORRE, MGR., ENVIRONMENTAL HEALTH ENGINEERING



K S C
ENVIRONMENTAL HEALTH ENGINEERING
Analysis Report

0075



Requestor, Organization, Mail Code J. PASSANONTE GAEC	Request Date MARCH 7, 1969 Phone 867-2945
Sample Description APOLLO POTABLE WATER UA-5, APOLLO 11	Analysis Requested (Specification Required) PF SPEC-1 TO TEST POINT 4 DESCENT
Location MSCB CHAMBER	

Received by Demery Date 3/7/69 (1030) Log Number 6903-21
 Priority Routine _____ A S A P _____ Emergency _____
 (Due Date)

ANALYSIS

PH = 6.0 @ 25°C
 TOTAL SOLIDS = UNDER 0.5 MG/L
 NON-VOLATILE SOLIDS = UNDER 0.5 MG/L
 TOTAL FILTERABLE SOLIDS = UNDER 0.5 MG/L
 TASTE AND ODOR = NONE @ THRESHOLD #3 @ 45°C
 TURBIDITY = 0.43 UNITS
 COLOR = UNDER 5 UNITS
 PARTICULATE/500 ML

0-10 MICRONS = PASSES
 10-25 MICRONS = 127
 25-50 MICRONS = 24
 50-100 MICRONS = 2
 OVER 100 MICRONS = 0

IONIC SPECIES:

CADMIUM	UNDER	0.01	MG/L
CHROMIUM	UNDER	0.05	MG/L
COPPER	UNDER	0.05	MG/L
IRON	UNDER	1.0	MG/L
LEAD	UNDER	0.05	MG/L
MANGANESE	UNDER	0.05	MG/L
MERCURY	UNDER	0.008	MG/L
NICKEL	UNDER	0.05	MG/L
SILVER	UNDER	0.05	MG/L
ZINC	UNDER	0.05	MG/L

STERILITY:

TOTAL BACTERIA = 1,840,000 COLONIES/
100 ML
 COLIFORM COUNT = NEGATIVE
 ANAEROBIC ANALYSIS = NEGATIVE
 YEAST AND MOLDS = NEGATIVE

cc: Ed Wright, LS-ENG-32
 PREVENTIVE MEDICINE DIV. (DC-7)
 MSC CREW SYSTEMS DIVISION (EC511)
 MSC LAUNCH SITE MEDICAL OPS. BRANCH (DMK)
 NORTH AMERICAN ROCKWELL, DOWNEY, CALIF.

THIS REPORT FAILS THE REQUESTED
ANALYSIS FOR STERILITY.

Analyst Demery Date Completed 10 March 1969
 Approved by P. LATORE, MGR., ENVIRONMENTAL HEALTH ENGINEERING Reference Notebook _____



K S C
ENVIRONMENTAL HEALTH ENGINEERING
Analysis Report



Requestor, Organization, Mail Code J. PASSAMONTE GAEC	Request Date 7 MARCH 1969 <hr/> Phone 867-2945
Sample Description APOLLO POTABLE WATER LM5, APOLLO 11	Analysis Requested (Specification Required) PF SPEC-1 TO TEST POINT 4 ASCENT
Location MSOB, CHAMBER L	

Received by DEMERY Date 3/7/69 (1830) Log Number 6903-21
 Priority Routine _____ (Due Date) _____ ASAP _____ Emergency _____

ANALYSIS

pH = 6.0 @ 25°C
 TOTAL SOLIDS = UNDER 0.5 MG/L
 NON-VOLATILE SOLIDS = UNDER 0.5 MG/L
 TOTAL FILTERABLE SOLIDS = UNDER 0.5 MG/L
 TASTE AND ODOR = NONE AT THRESHOLD #3 @ 45°C
 TURBIDITY = 0.23 UNITS
 COLOR = UNDER 5 UNITS
 PARTICULATE/500 ML

0-10 MICRONS = PASSES
 10-25 MICRONS = 106
 25-50 MICRONS = 16
 50-100 MICRONS = 2
 OVER 100 MICRONS = 2

IODINE = NONE DETECTED

cc: Ed Wright, LS-ENG-32
 PREVENTIVE MEDICINE DIVISION (DC-7)
 MSC CREW SYSTEMS DIVISION (EC-311)
 MSC LAUNCH SITE MEDICAL OPS. BRANCH (DDK)
 NORTH AMERICAN ROCKWELL, DOWNEY, CALIF.

IONIC SPECIES:

CADMIUM	UNDER	0.01	MG/L
CHROMIUM	UNDER	0.05	MG/L
COPPER	UNDER	0.05	MG/L
IRON	UNDER	1.0	MG/L
LEAD	UNDER	0.05	MG/L
MANGANESE	UNDER	0.05	MG/L
MERCURY	UNDER	0.008	MG/L
NICKEL	UNDER	0.05	MG/L
SILVER	UNDER	0.05	MG/L
ZINC	UNDER	0.05	MG/L

STERILITY:

TOTAL BACTERIA = 750,000 COLONIES/
 100 ML
 COLIFORM COUNT = NEGATIVE
 ANAEROBIC ANALYSIS = NEGATIVE
 YEAST AND MOLDS = NEGATIVE

THIS REPORT FAILS THE REQUESTED
 ANALYSIS FOR STERILITY AND
 PARTICULATE.

Analyst DEMERY Date Completed MARCH 10, 1969
 Approved by Reference Notebook _____
 P. LATORRE, MGR., ENVIRONMENTAL HEALTH ENGINEERING



K S C
ENVIRONMENTAL HEALTH ENGINEERING
Analysis Report

06777



Requestor, Organization, Mail Code R. Day CAEC 41 NSOD	Request Date MARCH 14, 1969 Phone 867-3576
Sample Description L/M DRINK DISPENSER S/N 0003	Analysis Requested (Specification Required) CSD-A-872A
Location ENVIRONMENTAL HEALTH LABORATORY	

Received by BUCK Date 3-14-69 (1200) Log Number 6903-45
 Priority Routine _____ (Due Date) _____ A S A P _____ Emergency _____

ANALYSIS

STERILITY:

PORT A = NEGATIVE

PORT B = NEGATIVE

PORT C = NEGATIVE

cc: Ed Wright, LS-BIG-32
Don Price, MSC CREW SYSTEMS DIV. (EC-3)
PREVENTATIVE MEDICINE DIVISION (DC-7)
MSC LAUNCH SITE MEDICAL OPERATIONS BRANCH (DEK)
Joe Johnson (ECK-11)

Analyst ANDERSON Date Completed MARCH 20, 1969
 Approved by *P. Latorre* Reference Notebook _____
P. LATORRE, NCP., ENVIRONMENTAL HEALTH ENGINEERING



K S C
 ENVIRONMENTAL HEALTH ENGINEERING
 Analysis Report



Requestor, Organization, Mail Code R. BAY CAEC #1 MSOB	Request Date March 17, 1969
	Phone 867-3576
Sample Description L/M DRINK DISPENSER S/N 0002	Analysis Requested (Specification Required) CSD-A-872A
Location ENVIRONMENTAL HEALTH LAB	

Received by **BUCK** Date **3-17-69 (0730)** Log Number **6903-46**
 Priority Routine _____ A S A P _____ Emergency _____
 (Due Date)

ANALYSIS

STERILITY:

PORT A - NEGATIVE

PORT B - NEGATIVE

PORT C - NEGATIVE

cc: EO WRIGHT, LS-ENG-32
DOE PRICE, MSC CREW SYSTEMS DIV. (EC-3)
PREVENTIVE MEDICINE DIVISION (DE-7)
MSC LAUNCH SITE MEDICAL OPS. BRANCH (DMK)
JOE JOHNSON (ECC-11)

Analyst **ANDERSON** Date Completed **MARCH 20, 1969**
 Approved by *[Signature]* Reference Notebook _____
P. LATOURE, JR., ENVIRONMENTAL HEALTH ENGINEERING



K S C
ENVIRONMENTAL HEALTH ENGINEERING
Analysis Report

CC70



Requestor, Organization, Mail Code R. Bay GAEC 41 MSOB	Request Date MARCH 21, 1969 Phone 867-3976
Sample Description L/M DRINK DISPENSER S/N 0005 G/S #S/N 3462 FILTER #S/N 106	Analysis Requested (Specification Required) CSD-A-872-A
Location ENVIRONMENTAL HEALTH ENGINEERING LAB	

Received by DICK Date 3-21-69 (0800) Log Number 6903-70
 Priority Routine _____ (Due Date) _____ A S A P _____ Emergency _____

ANALYSIS

SERIALITY:

- PORT A = NEGATIVE
- PORT B = 2 COLONIES
- PORT C = 16 COLONIES
- PORT A-CO₂ = NEGATIVE

cc: Ed Wright (LS-ENG-32)
 Don Price, MSC Crew Systems Division (EC-3)
 Preventive Medicine Division (DC-7)
 MSC LAUNCH SITE MEDICAL OPERATIONS BRANCH (DIX)
 Joe Johnson (EOK-11)

NOTE: THIS ASSEMBLY WAS RETURNED TO ENVIRONMENTAL HEALTH LABS FOR RESTERILIZATION ON MARCH 24, 1969, PER REPORT #6903-75.

Analyst ANDERSON Date Completed MARCH 26, 1969
 Approved by *[Signature]* Reference Notebook _____
P. LATORNE, MGR., ENVIRONMENTAL HEALTH ENGINEERING



K S C
 ENVIRONMENTAL HEALTH ENGINEERING
 Analysis Report

0080<



Requestor, Organization, Mail Code E. Bay 62EC 41 MSDB	Request Date March 24, 1969
	Phone 667-3576
Sample Description L/M DRINK DISPENSER S/M COCS CUB #S/M 2462 FILTER #S/M 106	Analysis Requested (Specification Required) CSD-A-872-A
Location ENVIRONMENTAL HEALTH ENGINEERING LAB	

Received by Buck Date 3-24-69 (1200) Log Number 6903-75
 Priority Routine _____ (Due Date) _____ A S A P _____ Emergency _____

ANALYSIS

STERILITY:

- PORT A = NEGATIVE
- PORT B = 4 COLONIES
- PORT C = NEGATIVE

CC: ED WRIGHT (LS-ENG-32)
 BOB PRICE, KSC CREW SYSTEMS DIVISION (EC-3)
 PREVENTIVE MEDICINE DIVISION (DC-7)
 KSC LANSCH SITE MEDICAL OPERATIONS BRANCH (DEK)
 JOE JOHNSON (ECK-11)

Analyst Anderson Date Completed March 24, 1969
 Approved by [Signature] Reference Notebook _____
 P. LATOURE, MGR., ENVIRONMENTAL HEALTH ENGINEERING



K S C
 ENVIRONMENTAL HEALTH ENGINEERING
 Analysis Report

0081<



Requestor, Organization, Mail Code R. BAY CAEC 41 MSOB	Request Date MARCH 24, 1969
	Phone 867-3576
Sample Description L/M DRINK DISPENSER S/N 0302 GUN #S/N 2461 FILTER #S/N 103	Analysis Requested (Specification Required) CSD-A-872-A
Location ENVIRONMENTAL HEALTH ENGINEERING LAB	

Received by BUCK Date 3-25-69 (0800) Log Number 6903-76
 Priority Routine _____ (Due Date) _____ A S A P _____ Emergency _____

ANALYSIS

Sterility

PORT A = NEGATIVE

PORT B = NEGATIVE

PORT C = NEGATIVE

cc: ED WRIGHT (LS-ENG-32)
 DON PRICE, MSC CREW SYSTEMS DIVISION (EC-3)
 PREVENTIVE MEDICINE DIVISION (DC-7)
 MSC LAUNCH SITE MEDICAL OPERATIONS BRANCH (DDK)
 JOE JOHNSON (ECK-11)

Analyst ANDERSON Date Completed MARCH 25, 1969
 Approved by [Signature] Reference Notebook _____
P. LATORRE, MGR., ENVIRONMENTAL HEALTH ENGINEERING



K S C
ENVIRONMENTAL HEALTH ENGINEERING
Analysis Report

6-878-



Requestor, Organization, Mail Code R. BAY GAEC 41 NSOD	Request Date MARCH 24, 1969 <hr/> Phone 867-5576
Sample Description L/M DRINK DISPENSER S/N N/A GUN #S/N 3455 FILTER #S/N N/A	Analysis Requested (Specification Required) CSD-A-872-A
Location ENVIRONMENTAL HEALTH ENGINEERING LAB	

Received by BUCK Date 3-24-69 (0800) Log Number 6903-77
 Priority Routine _____ (Due Date) _____ A S A P _____ Emergency _____

ANALYSIS

STERILITY:

PORT A = NEGATIVE

PORT B = NEGATIVE

PORT C = NEGATIVE

PORT A-GI₂ = NEGATIVE

**cc: Ed Wright (LS-ENG-32)
Don Price, MSC CREW SYSTEMS DIVISION (EC-3)
PREVENTIVE MEDICINE DIVISION (DC-7)
MSC LAUNCH SITE MEDICAL OPERATIONS BRANCH (DMK)
JOE JOHNSON (ECK-11)**

 Analyst ANDERSON Date Completed MARCH 24, 1969
 Approved by *[Signature]* Reference Notebook _____
P. LATORRE, MGR., ENVIRONMENTAL HEALTH ENGINEERING



K S C
 ENVIRONMENTAL HEALTH ENGINEERING
 Analysis Report

0083<



Requestor, Organization, Mail Code J. PASSANONTE, GAEC	Request Date MARCH 25, 1969
	Phone 867-2945
Sample Description APOLLO POTABLE WATER LM-5, APOLLO 11 DESCENT TANK POST FLIGHT	Analysis Requested (Specification Required) PF SPEC-1 TO TEST POINT 4 (AS REQUESTED)
Location CHANDLER R, MSCB	

Received by WRIGHT Date 3-25-69 (0700) Log Number 6903-87
 Priority Routine _____ (Due Date) _____ A S A P _____ Emergency _____

ANALYSIS

PH = 6.4 @ 25°C
 TOTAL SOLIDS = 1.8 MG/L
 TASTE AND ODOR = NONE AT THRESHOLD #3 @ 45°C
 TURBIDITY = 0.2 UNITS
 COLOR, TRUE = UNDER 5 UNITS

IONIC SPECIES:

CADMIUM	UNDER	0.01	MG/L
CHROMIUM	UNDER	0.05	MG/L
COPPER	UNDER	0.05	MG/L
IRON	UNDER	0.1	MG/L
LEAD	UNDER	0.05	MG/L
MANGANESE	UNDER	0.01	MG/L
MERCURY	UNDER	0.008	MG/L
NICKEL	UNDER	0.03	MG/L
SILVER	UNDER	0.05	MG/L
ZINC	UNDER	0.03	MG/L

STERILITY:

SAMPLE TAKEN WITH DRINK GUN AND
 FILTER INSTALLED:

TOTAL BACTERIA = NEGATIVE
 COLIFORM COUNT = NEGATIVE
 ANAEROBIC ANALYSIS = NEGATIVE
 YEAST & MOLDS = NEGATIVE

STERILITY:

SAMPLE TAKEN THROUGH NOSE ONLY:

TOTAL BACTERIA = 2,500,000 COLONIES/
 100 ML
 COLIFORM COUNT = NEGATIVE
 ANAEROBIC ANALYSIS = NEGATIVE
 YEAST & MOLDS = NEGATIVE

THIS REPORT FAILS THE REQUESTED
 ANALYSIS FOR STERILITY.

CC: ED WRIGHT, LS-ENG-32
 PREVENTIVE MEDICINE DIV. (DC-7)
 MSC CREW SYSTEMS DIVISION (EC-5)
 MSC LAUNCH SITE MEDICAL OPS. BRANCH (DX)

Analyst DENERY *[Signature]* Date Completed APRIL 2, 1969
 Approved by P. Latorre *[Signature]* Reference Notebook _____
P. LATORRE, MGR., ENVIRONMENTAL HEALTH ENGINEERING



K S C -
ENVIRONMENTAL HEALTH ENGINEERING
 Analysis Report

0085-



Requestor, Organization, Mail Code R. BAY GAEC 41 MSOB	Request Date APRIL 1, 1969
	Phone 367-3576
Sample Description L/M DRINK DISPENSER GUN S/N 3455	Analysis Requested (Specification Required) CSD-A-87C-A AND TPS-CSD-LMS-35-17
Location ENVIRONMENTAL HEALTH ENGINEERING LAB	

Received by ANDERSON Date 4/1/69 (1100) Log Number 6904-2
 Priority Routine _____ A S A P _____ Emergency _____
 (Due Date)

ANALYSIS

FINAL RESULTS FOLLOWING STERILIZATION:

PORT A = NEGATIVE

PORT B = NEGATIVE

PORT C = NEGATIVE

CC: Ed WRIGHT (LS-ENC-32)
 Jon PRICE, NSC CREW SYSTEMS DIVISION (EC-3)
 PREVENTIVE MEDICINE DIVISION (DC-7)
 NSC LAUNCH SITE MEDICAL OPERATIONS BRANCH (DEK)
 JOE JOHNSON (ECK-11)

 Analyst ANDERSON Date Completed APRIL 7, 1969
 Approved by [Signature] Reference Notebook _____
P. LATORRE, MGR., ENVIRONMENTAL HEALTH ENGINEERING

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