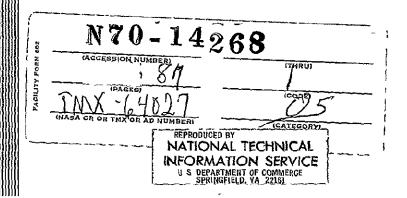


APOLLO 11
WATER SERVICING



17

### 1

#### TABLE OF CONTENTS

																										PAGE
1.	Purpose	•		•	•	•			•	•	•	•	•	•	•	•		•	•	•	•	•		•		1
11.	Scope	•	•		•	•	•	•		•	•		•	•	•	•	•	•	•	•		•	•	•	•	1
HI.	Analysis .		•	•	•	•	•	•	•					•	•	•	•	•	•	•		•	•	•	•	1
1V.	RESULTS	•	•			•	•	•	•	•	•	•	•	•	•	•		•	•	•	•	•	•	•	•	2
٧.	Discussion	•	•	•	•	•		•	•	•	•	•		•	•		•	•	•	•	•	•	•	•	•	2-4
TABLE	1	SA	MF	) L E	Ξ \	/oı	ւս։	1E \$	S 1	F 0 F	₹ ł	(5)	٠,	ANI	o l	MS	c.	•	•	•	•	•		•	•	5
APPENDIX A CHRONOLOGY OF LAUNCH COUNTBOWN WITH ANALYSIS REPORTS																										
APPEN	DIX B	CHRONOLOGY OF ALTITUDE CHAMBER TEST FOR COMMAND MODULE WITH ANALYSIS REPORTS																								
APPEN	DIX C									LT I										F	0 R					

#### APOLLO 11 WATER SERVICING

#### PURPOSE:

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 DEMINERA-LIZED WATER, GROUND SUPPORT EQUIPMENT WATER UNITS, LUNAR MODULE (LM), COM-MAND 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 CONDUCTI-VITY, LODINE 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 1. 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 SUB-SEQUENTLY 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 (AWSD) DURING APOLLO 10 WERE NON-EXISTENT DURING THIS LAUNCH. THE AWSD'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 BIOCIDE-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 BACTERI-CIDE 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 ORGAN-ISMS 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

Analysis	TEST POINT ONE FACILITY D.I.	TEST POINT TWO G.S.E. UNIT	Test Point T Drink Gun	HREE C/M HOT PORT	TEST POINT THREE L/H DESCENT TANK
ELECTRICAL CONDUCTIVITY	1 - ON SITE	1 - ON SITE	None Required	None Required	None Required
рH	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 1 - 500 ML	1 - 10 ML 1 - 500 ML	1 - 10 ML 1 - 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 Performet	1 - 500 ML DERFORMED FROM TASTE & ODOR VOLUME
Taste and Odor Turbidity Color, True Bactericide Ionic Species	None Required	2 - 2,000 ML <sup>(3)</sup>	1 - 2,000 ML <sup>(1)</sup>	1 - 1,000 mL <sup>(1</sup>	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)	

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)
WE DNE SDAY	6-25-69	1030	6906-87,88	GSE (H-S)
WEDNESDAY	6-25-69	1400	6906-93	GSE Pre-lodination 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	lodine 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	lodine 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)
SATURBAY	7-12-69	1400	6907-44,45	GAS/WATER SEPARATORS (NASA)
SATURDAY	7-12-69	0700	6907-46	Liquid Cooling Garment (H-S)

DATE	·	HOUR S	EHE LOG NO.	ANALYSIS REQUEST
SATURDAY	7-12-69		6907-42-43	PLSS No. 15 (H-S)
SATURĐAY	7-12-69	1030	6907-47	SUIT WICK WETTER WATER (NR)
SATURDAY	7-12-69	1 600	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	,	



### KSC



TWA	ENVIRONMENTAL HEALTH ENGINEERING  Analysis Report					
questor, Organization, Mail C	ode	Request Date	Jua			

Requestor, Organization, Mail Code	Request Date  June 2, 1969
C. Touey, Denoix DEN-5200	Phone 7-2477
Sample Description	Analysis Requested (Specification Required)
High Purity Water From Newly Installed Demineralized Deos	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 A S A	A P Emergency
ANALYSIS	
ELECTRICAL CONDUCTIVITY = 0.12 MICROMHOS/CO	1 、 25 <sup>0</sup> 0
pH = 6.8 25°C	
TOTAL RESIDUE = 0.6 NG/L	
This report passes the requested analysis.  cc: LS-ENG-32	
Analyst Ask sus	June 9, 1969  Date Completed
Approved by	Reference Notebook :
P. LATORRIC, Men., ENVIRONMENTAL I	



0009



Requestor, Organization, Mail Code	Request Date Juin 1, 1165					
9. 'Onuce, Day AK-85	Phone :					
Sample Description	Analysis Requested (Specification Required)					
Migh Purity Water from S 344-152 SN 1 Unit	SPIC CULTS FOR DISTILLED MATER					
Location						
Complex 30% ASS Level Inc		:				
Received by 3crect	Date 6-5-63 (0830) Log Number 6996-12					
Priority Routine AS	A P Emergency					
ANALYSIS						
PH = 7.4 * * 25°C  ELECTRICAL CONDUCTIVITY = 0.63 MICROMHOS/CM 25°C  TOTAL SOLIDS = 0.2 HG/L  MALIDES = Mone delected  Subface Tension = 72.28 dynes/cm 20°C  PARTICULATE/500 ML  125 Hicrors = 0 50-100 Micrors = 0 50-100 Micrors = 0 0 over 250 micrors = 0						
This report passes the producted analys  co: Co Whight, LS-ENG-32  NSC PREVENTIVE Modicine Div., DC-7  MSC Crew Systems Division, EC-3  MSC Launch Site Medical Ops. Branc  North American Rockwell, Downey, C	on, the					
Analyst Duck / S  Approved by LATORRE, MGR., Environmental He	Date Completed  Reference Notebook  EALTH ENGINEERING					



# K S C ENVIRONMENTAL HEALTH ENGINEERING CC 10Analysis Report



Requestor, Organization, Mail Code	Request Date June 22, 1969
JEFF ROBERTS	Phone
HAMILTON-STANDARD	36 <b>7-40</b> 09
Sample Description	Analysis Requested (Specification Required)
PLSS	SPEC-C-27 FOR TOTAL RESIDUE AND
FEED WATER LOOP	PARTICULATE
Location	
ECS Building	
Received by GUENTHER	ate 6/22/69 (1100) Log Number 6906-74
Priority Routine ASA	.P Emergency
(Due Date)	
ANALYSIS	
PARTICULATE/500 HL	Total Residue = 0.8 mg/L
	TOTAL NEGIDUS - OFO MAYE
0-160 MICRONS = UNLIMITED	
160-200 HICRONS = 2	
200-250 RICRONS = 0	
OVER 250 MICRONS = 0	
THIS REPORT PASSES THE REQUESTED ANALYSIS	
	••
·	
Analyst Guenther OB	June 24, 1969
00 111	Date Completed
P. LATORRE, IGR., ENVIRONMENTAL I	Reference Notebook
TO CHICKUTS TORRESTAL I	EALIN CHGINEENING



CC11 ·



Requestor, Organization, Mail Code	Request Date  June 22, 1969
Jeff Roberts Hamilton-Standard	Phone 86 <b>7-4</b> 9009
Sample Description	Analysis Requested (Specification Required)
PLSS Transport Water Loop	SPEC-C-27 FOR PARTICULATE
Location	
ECS BUILDING	6/22/69 (1100) 6906-75
	Date Log Number
Priority Routine AS/	A P Emergency
ANALYSIS	
PARTICULATE/500 HL	
0-160 MICRONS = UNLINITED	
160-200 HICRONS = 4	
200-250 microus = 1	
OVER 250 MICRORS = 0	
This report passes the requested analys	
Analyst GUENTHER B	Date Completed
Approved by	Reference Notebook
P. LATORRE, MGR., ENVIROUMENTAL	EALTH ENGINEERING



#### K S C ENVIRONMENTAL HEALTH ENGINEERING Analysis Report

CCL

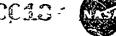


Requestor, Organization, Mail Code	Request Date  June 25, 1969
Jeff Romers	Phone
HAMILTON-STANDARD	74009
17 N = # M * m m :	d The Table State and
Sample Description	Analysis Requested (Specification Required)
HIGH PURITY WATER FROM WATER RECHARGE	MSC-C-204 FOR High Purity Water
Location	
FCS BUILDING	
Received by WRIGHT D	Pate 6/25/59 (1030) Log Number 6005-37
Priority Routine ASA (Due Date)	A P Emergency
ANALYSIS	
ANGETOTO	
ELECTRICAL CONDUCTIVITY = 0.5 HICPCMHOS/CP  P'I = 5.6 © 25°C  Non-volstile Residul = 1.8 mg/L  Halides = None detected  Surface Tension = 71.2 dynes/cm = 25°C  Silting = None detected	
Analyst Buck (1)  Approved by Approved by LATORRE, Mgp., Environmental	Date Completed June 30, 1969  Reference Notebook TENTH ENGINEERING



#### KSC ENVIRONMENTAL HEALTH ENGINEERING Analysis Report

ccas-



Requestor, Organization, Mail Code	Request Date					
Jerr Roberts	June 25, 1969					
HANILTON-STANDARD	Phone 7-4009					
Sample Description	Analysis Requested (Specification Required)					
HIGH PURITY WATER FROM GROUND SUPPORT EQUIPMENT	MSC_C_20A FOR HIGH PURITY WATER					
onthout rootsheat	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,					
Location						
ECS Building						
	6/25/69(1330) 6906~88					
Received by ANDERSON	0/25/69 (1370) Log Number 6905-88					
Priority Routine AS	A P Emergency					
(Due Oste)						
ANALYSIS						
ELECTRICAL CONDUCTIVITY = 0.3 MICROMNOS,	ích					
eH = 5.0 @ 25 <sup>0</sup> C						
Non-volatile Residue = under 0.5 hg/L						
PALIDES = None DETECTED						
Surface Tension = 72.3 Dynes/cm @ 25°C						
SILTING = Nome DEECTED.						
Analyst Buck (13)	June 30, 1969					
Analyst OC 116 -	_ Date Completed					
Approved by	Reference Notebook					
P. LATORRE, MGR., ENVIRONMENTA	L "EALTH ENGINEERING					



C014 -



Requestor, Organization, Mail Code	Request Date 幼祖 25。 19.9						
J. 51 00140 Gaec-47	Phone 7-0-70						
	<b>ξω</b> ()' ( <b>)</b> ()						
Sample Description	Analysis Requested (Specification Required)						
Apollo Potable Water Pron GSE of LMS Apollo 11	PF SPEC-1A TO TEST POINT 2						
Location SC Level, 1188							
Received by	<del>-</del>						
Priority Routine A S A	A P Emergency						
ANALYSIS	IONIC SPECIES						
FLECTRICAL CONDUCTIVITY = 0.11 micromnos	Chronium under 0.05 Me/L						
TOTAL RESIDUE = UNDER .5 mc/L	Coppen under 0.05 mg/l lagn under 0.1 mg/l						
Fixed Colour - whom C.DMC/L	LEAD UNDER 0.05 MG/L						
•	Manganese under 0.01 mo/l						
TASTE AND GOOD - None & THRESHOLD No. 3	Nercury under 0.005 mc/l Hickel under 0.03 mc/l						
function = 0.25 thirs	SILVER GOOR G.OS MG/L						
Colon, time - under 5 Units	Zine onden 0.05 HG/L						
PARTICULATES/500 HL	Magnesium umber 0.003 mg/l Todioe under 0.1 mg/l						
0-10 microus = Passes	ALUMINUM UNDER 9.5 NG/L						
10-25 mic nous = $260$	Potassion under 0.05 mg/L						
25-50 micnous = 21	Silica under 0.5 Mg/L						
50-100 microns = 7 over 100 microns = 2	Sterilitys						
PACE FOR HIGHWAYS - E							
THIS REPORT PASSES THE REQUESTED ANALYSI	TOTAL JACTERIA = 450/150 ML  COLIFORI COUNT = NEGATIVE  PRACRODIC ANALYSIS = NEGATIVE  YEAST & Holds = Negative						
cc: En Vrient, LS-ENG-32	İ						
MSC Preventive Medicine Div., OC-7							
MSC CREU SYSTEMS DIV., EC-3	. (2626)						
HSC LAUNCH SITE MEDICAL OPS. BRANCI	i, uur						
Acabet Suck	June 30, 1969						
Analyst	Date Completed						
Approved by LATORIE, MGH., ENVIROBHERTAL NEW	ALTH ENGINEERING						







Requestor, Organization, Mail Code	Request Date	Junie 25,	1,769		
J. Roeno	Phone				
G. (20 -4)7		7-6 70			
Sample Description	Analysis Requeste	d (Specification	Required)		
					:
Apollo Porable Water FROM	PF SPEC-IA	ro Test Poli	ır 2		
GSE OF LMS APOLLO 11			-		
Location	1				
X Level, NSS					
	- 0 "			ear.	
Received by ANDERSON	Date <u> </u>	1400) Lo	og Number.	1)UG	-99
Priority Routine AS	A P	Er	nergency		
(Data Data)					
ANALYSIS		IONIC SPECIA	es		
ELECTRICAL CONDUCTIVITY = 0.11 microsmo		Садинии	บนอธณ		
PH = 6.8		Conomium	UNDER		MG/L
Total Residue = under .5 mg/L		Coppen Laon	under Under		ng/L ng/L
Fixed Tesions - OHDER 0.5Mg/L		Lead		0.05	MG/L
	1	i anganese		0.01	HG/L
TASTE AND ODER - None " (Internot Die. 3		Hencory Hickel		0.0u5 0.03	ng/l
Turnieity = 0.25 Units		SELVER		ง• <i>ง</i> บ์•ง๋5	HG/L
Color, TRUE - UNDER 5 Units		Ziue	SHOCK	0.03	ng/L
Particulates/500 ml		faguesium Lodide	UNDER	0.003 0.1	MG/L
0-10 merons = Passes		aluminun		0.1 0.5	ng/r
10-25 microns = 260	1	Potassich		0.05	MG/L
25-50 microns = 21	<u> </u>	SILICA	UNDER	0.5	MG/L
50-100 nichons = 7		Concerted			
OVER 100 MICROUS = 2		STERILITYS			
THIS REPORT PASSES THE REQUESTED ANALYS	15.	TOYAL JAC: CULIVOISI (			
		faachooic			
		VEAST & Ik			
cc: En Uricht, LS-ENG-32					
MSC PREVENTIVE Medicine Div., 8C-7					
MSC CREW Systems Div., EC-3					
MSC LAUDEN SITE MEDICAL OPS. DRAGE	n, OOK				
		- <del></del>	. <b>_</b>		
Analyst Buck	_ Date Comple	eted	June	30, 1	J <b>6</b> 9
Approved by LATORRE, MGR., ENVIROUMENTAL RE	ALTHERETERN	otebook			<del></del>



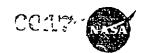
# K S C ENVIRONMENTAL HEALTH ENGINEERING Analysis Report

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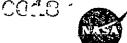
Allary	ais Reput	
Requestor, Organization, Mail Code	Request Date	June 26, 1967
Don Worner	Phone	
NS		867 <b>-</b> 5182
ZK-36 Sample Description		
Sample Description	Analysis Requested (Specificat	tion Required)
High Purity Waver from Suit Wick Wetter Unit	MSC-C-20-A FOR DISTI	llco Vater
Location	1	
4C Level, MSS, Pad 39A		
Received by WRIGHT	6/26/69 (1480) Date	Log Number 6906-98
Priority Routine AS		
ANALYSIS		
ELECTRICAL CONDUCTIVITY = .27 MICROMHOS/C	A	
PH = 6.4 √ 25°C		
Non-volatile Residue = .1 Mg/500 ML		
NALIDES = NONE DETECTED		
Surface Tension = $70.8$ Dynes/cm at $25^{\circ}$ C		
PARTICULATE/500 AL		
10-25 MICHOUS = 177 25-50 MICHOUS = 45 50-100 MICHOUS = 12 100-250 MICHOUS = 2 over 250 MICHOUS = 0		
CC 8 EO WRIGHT, LS-ENG-32		
		 z <b>3,</b> 1969
Approved by	•	- 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1
Approved by P. LATORRE, MGR., ENVIRONMENT	Reference NotebookAL HEALTH ENGINEERING	





Requestor, Organization, Mail Code	Request Date  June 26, 196)
Don Worner	Phone
NR	ስም፣ መጀመስ
ZK-86	867-5182
Sample Description	Analysis Requested (Specification Required)
High Purity Mater from Suit then Wetter Unit	MSC-C-20-A FOR DISTILLED VATER
Location	
4C Level, MSS, PAD 39A	
Received by	6/26/69 (1400) 6906-98
	O/26/69 (1400) Log Number 6906-98
Priority Routine A S A	A P Emergency
ANALYSIS	
ELECTRICAL CONDUCTIVITY = .27 MICROMNOS/CH	
PH = 6.4 ( 25°C	
Non-volatile Residue = .1 HG/500 NL	
HALIDES = None Detected	
Surface Tension = $70.8$ Dynes/cm at $25^{\circ}$ C	
PARTICULATE/500 NL	
10-25 MICRONS = 177	
25-50 niceons = 45	
50-100 nicrous = 12	
100-250 MICROUS = 2 over 250 MICROUS = 0	
oven and midnade - c	
cc: En WRIGHT, LS-ENG-32	
Виск	
Analyst	Date Completed June 3, 1969
Approved by	Reference Notebook
P. LATORRE, Mor., Environment	AL HEALTH ENGINEERING





Requestor, Organization, Mail Code	Request Date JULY 1, 1969
J. Roszers	Phone
HAMILTON-ST-MOARO	7_h109
Sample Description HIGH PURITY WATER FROM TRANSPORT LODP	Analysis Requested (Specification Required)
or PLSS Ne. 15 fee LM-5	fiSC_C_27 FOR PARTICULATE
Location	
ESS Builoina	
Received by	7/1/65 (1331) Date Log Number_6907-3
	A P Emergency
ANALYSIS	
PARTICULATE: (FARTICLES PER 500 ML)	
0-160 hicrons = passes	
160-200 HICRORS = 0	
200-250 MICRONS = 1)	,
GREATER THAN 250 HICRORS = 0	
THIS SAMPLE PASSES THE PEQUESTED ANALY	SiS.
Anderson	
Analyst OCILIA	Date Completed JULY 1, 1969
Approved by LATORRE, MGR., ENVIRONMENTAL	Reference Notebook



# KSC



K O C				
ENVIRONMENTAL	<b>HEALTH</b>	<b>ENGINEERING</b>		
Analysis Report				

Requestor, Organization, Mail Code J. ROBERTS	Request Date 7 = 7 = 69		
MAILTON-STANDARD	Phone 7-4:00 <i>9</i>		
Sample Description HIGH PURITY WATER FROM PLSSA#019	Analysis Requested (Specification Required)		
FROM FEED WATER LOOP	HSC-C-27 FOR PARTICULATE		
Location ECS Building			
Received by WRIGHT	Pate 7-7-59 (1530) Log Number 6907-15		
	A,PEmergency		
ANALYSIS			
PARTICULATE: (PARTICLES PER 500HL)			
0-160 HICRONS = PASSES			
160-200 HICROUS = 0			
200-250 HICKORS = 0			
over 250 HIGRORS = C			
THIS SAMPLE PASSES THE TEQUESTED AMALYS	₹ <del>5.</del> ⊌		
	<u>.</u>		
	:		
	t		
	•		
Analyst Suck	Pote Completed 7-7-59		
000.06	Date Completed 7-7-59		
Approved by P. LATURRE, PUR., INVERCEMENTAL I	Reference NotebookEALTH ENGINEERING		



CC20-



Requestor, Organization, Mail Code	Request Date	
J. Roberts	Phone —	
Hamilton-Stæbard	7-4009	•
Sample Description	Analysis Requested (Specific	cation Required)
High Purity Water from PLSS # 019 From 190010 Transport 100P	HSC-C-27 YOR PARTS	CHLATE
Lucha Pháinta turmstant gaat	, ₹7	• • • • • • • • • • • • • • • • • • •
Location		
ECS Building	_	<u></u>
Received by MR38HT	Date 7-7-69 (1330)	Log Number <b>6907-16</b>
Priority: Routine A	S A.P	Emergency
ANALYSIS		;
PARTICULATES (PARTICLES PER 500 ML)		
0 <u>-</u> 160 microus = Passes		7
160 <u></u> 200 HICROUS = 0		
200-250 Mecrons = 0		
over 250 microns = 0		
THE SAMPLE PASSES THE REQUESTED ANAL	¥\$15°	
Analyst Buck	Date Completed	7-69
Approved by		• ,
Approved by LATORRE, Mar., ENVIRONMENTAL	METALTH ENGINEERING	1
<del>(                                    </del>		







Requestor, Organization, Mail Code	Request Date July 8, 1969
J. Stormo - CAEC	Phone
GAEC-47	867-6070
Sample Description	Analysis Requested (Specification Required)
Bactericide in G.S.E. for IM-5 Apollo 11	Indine Concentration After Injection of Bactericide
Location	
Pad 37A, MSS, C Level	
Received byAnderson	Date July 8, 1969 (1800). Log Number 6907-23
Priority Routine ASA	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 Divi DDK, MSC Launch Site Medical Operations	sion Branch
	-~
Analyst Anderson	Date Completed July 11, 1969
Approved by	Reference Notebook
P. LaTorre, Mgr., Environmental F	ealth Engineering





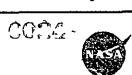
Requestor, Organization, Mail Code	Request Date	. È	rv 9, 19	- (19	
D. Women	Phone		25 29 12		
ZK-86	riione	7.	-5182		
Sample Description	Analysis Reque	sted (Specification	on Required)		
APOLLO POTABLE WATER FROM GSE PRE-CHLORINATION FOR S/C 107, APOLLO 11	PF SPEC IA TO TEST POINT 2				
Location					
Pad 307, MSS, 4C					
Received by	Date 7/9/69 (	(0830)	Log Number	6907-2	5
Priority Routine AS			Emergency_		
ANALYSIS		IONIC SPEC	IES:	<b>-</b>	
ELECTRICAL CONDUCTIVITY = 0.32 MICROMHOS  PH = 6.3 ** 25°C  TOTAL RESIDUE = .5 Mg/L  Fixed Residue = under 0.5 Mg/L  TASTE AND ODOR = HOME (**) THRESHOLD No. 3  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	_	Caentum Chromium Copper I non Lead Manganese Mencury Ni chel Silven Zinc Magnesium Chloride Aluminum Potassium Silica Sterilitys	CHOCK CHOCK	.005 0.05 0.05 0.1 0.05 0.05 0.05 0.05 0	MG/L MG/L MG/L MG/L MG/L MG/L MG/L MG/L
THIS REPORT PASSES THE REQUESTED ANALYSIS  CC: ED JRIGHT, LS-ENG-32  MSC PREVENTIVE MEDICINE DIV., DC-7  MSC CREW SYSTEMS DIV., EC-3  MSC LAUNCH SITE MEDICAL CPS. BEAUCH  NORTH AMERICAN ROCKWELL, DOWNEY, CA	i. DOK	Coliforn PMAERODI	Count = CANALYSIS D Molds =	NEGATIVE NEGATIVE NEGAT	50 ML E Tive
Analyst P, LaTorre, Hgr., Environmental Res	. Beference	Notehook	v 11, 196	;9 	





Requestor, Organization, Mail Code	Request Date JULY 9, 1969
o. Worner, NR <b>ZK-86</b>	Phone <b>867~3793</b>
Sample Description	Analysis Requested (Specification Required)
Bactericide Concentration in GSE FOR STERILIZATION OF S/C 197 FOR APOLLO 11	CHLORINE CONCENTRATION AFTER INJECTION 1070 GSE
Location	
PAD 39A, 4C Level, MSS	
Received by ANDERSON	7/9/69 (1200) Log Number 6907-26
	A P Emergency
ANALYSIS	
CC: ED WRIGHT, LS-ENG-32 MSC PREVENTIVE MEDICINE, DC-7 MSC CREW SYSTEMS DAVISION, EC-3 MSC LAUNCH SITE MEDICAL OPS. BRANCH	, DDK
Analyst Buck ///	Date Completed JULY 10, 1969
Approved by	Reference Notebook
P. LATORRE, Mon., ENVIRONMENTAL HEA	LTH ENGINEERING





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Requestor, Organizat			Request Date	JULY 3, 1969	
gree <b>-197</b>	I I I	Ì	Phone	7-6J70	
	CONCENTRATION FROM			I (Specification Required) Concentration	
					Ì
Pap 39A, 3A					
Received by	Buck, Valent	<u> </u>	7/9/69 (144	O) Log Number	6907-27
Priority Routine .					
Thorney Routine.	(Due Date)	ASA		Emergency_	
ANALYSIS					
Concenyrati	on or toolne in Me	/L			
TIME	ASCENT TANK	Descent	TANK		
1440	27.0	27.0			
1520	27.0	27.0			
1620	wwp	27.0	(FROM DRAIN H	OSE DURING DRAIN)	
	CCRAFT'S TAUKS LOA 1 ORAIN PROCEDURE				
ASC Pri ISC Cri	ent, LS-ENG-32 Eventive Medicine ( Ev Systems Division Euch Site Medical (	o, EC-S	, dek		
ayes		<b></b>		July 10, 1969	
Analyst	Ler		Date Comple		
Approved by		····	Reference No		
P. L	Tonne, Mer., Envi	roumental H	ALTH ENGINEER	ing	



# K S C

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	KSC	
ENVIRONMENTAL	HEALTH	<b>ENGINEERING</b>
Anai	ysıs Report	

Requestor, Organization, Mail Code	Request Date	JULY 9,	, 1969		
J. Stormo G/EC-47	Phone	7-6070			
Sample Description	Analysis Reques	ted (Specification F	Required)		<u>.</u>
Apollo Potable Water Fron GSE Post Iodine Injection for LA-5 of Apollo 11	PF SPEC-1A	to Test Polic	r 2		
Location					
PAD 37A, 3/ LEVEL					
Received by Walcar, Buck	o <sub>ate</sub> 7/9/69 (1	<b>500)</b> Log	Number_	6907-28	
Priority Routine ASA	A P	Em	ergency		
ANALYSIS		TONIC SPECI	 Es:		
ELECTRICAL CONDUCTIVITY = 0.36 MICROMIO  PH = 6.6. 25°C  Total Elsique = 0.5 mg/L  Fixed Residue = 0.5 mg/L  Tastc and Odor = Hone		CADMIUM CHPOMIUM CHPOMIUM CHPOMIUM CHPOMIUM LEAD MANDAMESE MERCURY NICKEL SILVER ZINC MACHESIUM IODIDE ALUMINUM POTASSIUM SILICA	UNDER	0.05 0.1 0.05 0.01 0.05 0.03 0.03 0.05 0.1 0.5 0.05	MG/L MG/L MG/L MG/L MG/L MG/L MG/L
THIS REPORT PASSES THE REQUESTED ANALYS  CC: ED WRIGHT, LS-ENG-32  ASC PREVENTIVE MEDICINE DIV., DC-7  MSC CREW SYSTEMS DIV., EC-3  ASC LAURCH SITE MEDICAL OPS. BRANC		TOTAL BAC COLIFORN ANAEROBIC VEAST AND	Couin = 1	Negativ S = Neg	ie Sative
Analyst  Approved by  P. LATORRE, MGR., ENVIRONMENTAL RE	Date Comp Reference	Notebook	1969		



# K S C ENVIRONMENTAL HEALTH ENGINEERING Analysis Report

COZC<



Requestor, Organization	n, Mail Code	Request (	Date July 9, 1069	
d. Vomer, ZK-86	<u>rus</u>	Phone	7-3793	
Sample Description BACTERICIO S/C 107 OU APOLLO 11	DE CONCENTRATION PRINTERS STERILEZATION	RON N FOR	Requested (Specification Required)	
Location				
	C LCVCL, ISS			
Received byBuc	k, Helim Riec	Date	69 (1900) Log Number 6	997-29
Priority Routine	(Due Date)	ASAP	Emergency	
ANALYSIS				
CHLORINE C	CONCENTRATION IN MO	G/L		
Time (nes)	Doing Gui	hor Pour	Coto Port	
1920	6.0	6.0	8.0	
1950	3.0	<b>6.</b> C	7.0	
2020	6.0	6.0	6,0	
2050	6.0	6 <b>.</b> 0	6,0	
- 2120	6.0	<b>6.</b> ∪	G•0	
2150	6.0	<b>6.€</b>	6,0	
NOTE: Spac	CECRAFT LOADED WIT	IN STERILIZING SOL	UTION 7/9/69 1 1745 HOURS.	
HSC Pa	tont, LS-ENG-32 REVENTIVE MEDICINE REW SYSTEMS MIVIST AUNCH SITE MEDICAL	c Div., DC-7 ion, LC-3 L Ops. Branch, DUK		,
Analyst Buck		Date	e Completed dury 10, 1969	
Approved by P. LAT	TORRE, HOR., ENVII	Refe	erence Notebook	







	Analysis Report				
Requestor, Organization, Mail Code	Request Date	) JUL1	1 9, 196)		
J. Stormo Gaec 47	Phone	7	170		
Sample Description	Analysis Req	uested (Specificat	ion Required	i)	
APOLLO POTABLE MATER FROM DESCENT TAUR OF LM-5 FOR APOLLO 11	PF SPEC	IA TO TEST PO	нат 3		
Location					
PAO 30h, 3A LEVEL					
Received by Juck, Heliniates	Date1/3/©	(1736)	. Log Numbe	er	)
Priority Routine(Due Date)	ASAP		. Emergency.		
ANALYSIS		TONIC SPECI	ES:		
PH = 5.5 € 25°C		Caphium	UNDER	0.005	#G/L
TOTAL RESIDUE = 7.4 HC/L		Chromium Copper	under Under	0.05 0.05	MG/L MG/L
Theeshold	Open No. 11	l non	under	0.1	HG/L
Turbibly = 0.5 Units		LEAD	UNDER	0.05	MG/L
Color, TRUE = 65 Units		Manganese Mencury	under Under	0.01 0.005	ng/l ng/l
		MICKEL	EQUALS		MG/L
PAPTICULATE/500 ME		SILVER	under	0.05	HG/L
0-10 Mr Bous = PASSES			UNDER	0.03	MG/ L
16-25 microus = 44 25-50 microus = 4		Machesiun	<del>-</del>	0.015 ,1 PPM	MG/L MG/L
50-100 MICRONS = 3		1001 CE Aluminun	equals Under	<sup>7</sup> 0.5	MG/ L
100-250 nicrons = 2		Potassium	unden	0,05	NG/L
100-250 Michiga = 2		SILICA	under	0.5	MG/F
THIS REPORT PASSES THE REQUESTED	analysis.	looine	EQUALS	4.5	HO/F
1110 1111 1110000 11111 11110000111		Sterility:	20022	•	
		Torn Ba	CTERIA = 0	incom un	
•			Count = 1		
			COUN! ~ ! ANALYSIS	•	21112
CC: ED VRIGHT, LS-ENG-32		•	o Molos =		-
MSC PREVENTIVE MEDICINE DIV.	BC7	icasi an	, 10589 -	ucha i i a i	<b>-</b>
MSC CREW SYSTEMS DIVISION, E					
MSC LAUNCH SITE MODICAL OPS.					
Buck ,					
Analyst	Date C	ompleted		· •••	
Anntound by	D.f.	N-A-6			
Approved by		ce Notebook	<del> </del>		
P. LATORRE, MGR., Zuvironnen	YAL REALTH ENGIN	eruing.			







Requestor, Organization, Mail Code	Request Date		LY 10, 196°	)	
N. Artoniewski, NGR ZK-90	Phone	7.4	5182		
Sample Description	Analysis Requi	ested (Specificati	on Required)		
Apollo Potable Tater from GSE for Final Fill of S/C 197 of Apollo 11	FF SPAC	1A r <del>o</del> Tesr i	Posar Z		
Location					
PAD 30A, MSS, 4 C LEVEL					
Received by Buck	ate 7/10/09	(04/90)	Log Number	6907-31	
Priority Routine ASA	A P		Emergency		<u></u>
ANALYSIS		IONIC SPEC	 ! EC •		
ELECTRICAL COMPUCTIVITY = $0.11$ HICROMHOS, pH = $6.3 \cdot 25^{0}$ C	/сы 25 <sup>6</sup> С	CADITION CHROMIUM	under Under	0.00	HC/
TOTAL RESIDUE = UNDER 0.5 HU/L		Copeca I aun	un dep Un dep		HG/L
FIRED RESIDUE = DIDER 9.5 MG/L		LCAO	Hading	0.05	HO/L
		MAN GAMESE			136/L
TASTE AND ODOR = None Threshold No. 3		iiencury Ni <b>c</b> kel	UNDER		MG/L MG/L
Tuentaity = 0.15 Units		SILVER	UNDER	0.05	MG/L
Color, True = under 5 builts		Zinc	UNDER	0.03	MG/L
PARTICULATES/500 ML		Magnesser Cheopeul	EQUALS	0.003 0.0	MG/L MG/L
U-10 MICPONS = PASSES		ALUMIGUG	UNDER		HC/L
10-25 microns = $60$		Potassium	UNDER		HG/L
25-50 microus = 23		SILICA	under	0.5	MO/ L
57-100 microns = 5 over 100 microns = 2		STERLI.Y:			
THIS REPORT PASSES THE REQUESTED MALYSI  CC: ED VRIGHT, LS-ENG-32  NGC PREVENTIVE MEDICINE DIV., DC-7	S.,	COLIFORM (	TERIA = 10 Count = Ne Analysis : Molds = N	gati ve = Negati	
MSC CREW SYSTEMS DIV., EC-3 MSC LAUNCH SITE MEDICAL UPS. BRANCH NORTH AMERICAN ROCKWELL, DOLMEY, CA					
Analyst Buck	Date Cor	mpleted Jul	v IR, 1969		
Approved by//		e Notebook			
P LaTopor Mon Fuvingumental Hea	TH BEINEF	Hus			



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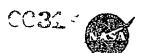
Requestor, Organization, Mail Code	Request Date	JOLY 10	), 1969		
J. Autoniewski, NAR ZK-86	Phone	7-37 53	<del></del>	,	
Sample Description	Analysis Reque	sted (Specificat	ion Required)		
APOLLO POTABLE WATER FROM S/C 107 JOING GUM, FIMAL FILL FOR APOLLO 11	PF SPEC 1A	TO TEST PO	int 3		
Location					
Pad 39A, MSS, 4C Level					
Received byAokies, WalghtD	ate 7/10/69	(1400)	Log Number	6907-34	G
Priority Routine A S A	ΑΡ		Emergency		
ANALYSIS		IONIC SPEC	IES:	<b>-</b>	
ELECTRICAL CONDUCTIVITY = 0.6 MICHOMHOS/O  PH = 6.1 \times 25°C  Total Restoue = under 1.0 mg/L  Taste and Odor = None \times Threshold Odor No  Turbidity = 0.05 Units  Color, true = under 5 Units  Particulate/500 ml  0-10 microns = passes  10-25 microns = 242  25-50 microns = 31  50-100 microns = 15  100 -250 microns = 1	) <b>.</b> 3	CABNIUM CHROMIUM COPPER IRON LEAD MANGANESE MERCURY NICKEL SILVEN ZINC MAGNESIUM CHLORIDE ^LUMINUM POTASSIUM SILICA CHLORINE	UHOER UN DER UN DER UN DER UN DER UN DER EQUALS EQUALS UN DER	0.1 0.05 0.01 0.005 0.03 0.05	HG/L HG/L HG/L HG/L
THIS REPORT FAILS THE REQUESTED ANALYSIS	FOR STERILI	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, NORTH MERICAN ROCKWELL, DOLINEY, CAI		TOTAL BAC COLIFORM ANAEROBIC	TERIA = 60 COUNT = NE ANALYSIS MOLDS = N	GATIVE = NEGATI	ML
Analyst  Approved by  P. LATORRE, NGR., ENVIRONMENTAL HEAD		npletede Notebook	y 14, 1969		





Requestor, Organization, Mail Code	Request Dat	te	y 10. 196	io.	
W. Antoniewski - WAP	Phone		J 209 270	· · · · · · · · · · · · · · · · · · ·	
<b>ZK-</b> 96		_			
		8	67-,793		
Sample Description	Analysis Re	quested (Specif	ication Requ	red)	ĵ
Apollo Potable Water from 5/C 107	Printer As Property in the	ment is the second	Maria da		
Hot mater Port, Final Fill for Apollo 11	er arbu .	lA to Test	coint 3		
The state of the s					
Location					
Pad 39A - MSS, AC Level					
Received byAdkine/Wright	ate July 10	0 <b>, 19</b> 69 (14	00) Log Nur	mber <u>69</u>	07-34H
Priority Routine A S A	Р		Emergen	icy	
(Due Date)					
ANALYSIS		IONIC SPECI	es:		
pH: 6.3 9 25°C	(	Cadaium	Under	0.005	mg/l
	t	Chromium	Under	0.05	mg/l
Taste and Odor: None @ Thresheld Odor Wo	•	Copper	Under		mg/l
Turbidity: 0.0 Units	_	I <b>ro</b> n Lead	Under		ng/1 ng/1
		langamese			mg/l
Color. True: <5 Units	¥.	er cury	Under	1.	mg/l
		Vickel	Equals		mg/l
		Silver Cinc	Under Under	0.05 0.03	mg/l mg/l
This report fails the requested		e nesium		-	mg/1
analysis for sterility.		hloride	Squals	0.0	mg/l'
		luminum	Under		mg/1
		Potassium Bilica	under Under	•	ng/1 gmg/l
		Chlorine			ng/l
	٤	Sterility:		*	<b>(</b>
•		Total Bact	oria = 15	.000 ec	L/150 ml
		Coliforn C			,
		Anaerobic			ve
cc: Ed Wright, LS-ENG-32		Yeast and	FOTOS = IN	egative	
MSC Preventive Medicine Division, DC	<del>-</del> 7	•			
MSC Crew Systems Division - EC3	STOP	-	1		27
MSC Launch Site Medical Ops. Branch - North American Reckwell, Downey, Cal		•		-30	
, fi					
Analyst Astronomy	Date C	ompleted	July 14,	1969	
Approved by Frankey	Referer	nce Notebook _		· · · · · · · · · · · · · · · · · · ·	}
P. LaTorra Mor. Environmental Hea	th Engine	ering			





Requestor, Organization, Mail Code	Request Date	
J. Roberts	July 10, 1969 Phone	
Hamilton-Stangard	7_4009	
	, , , , , , , , , , , , , , , , , , , ,	
Sample Description	Analysis Requested (Specification Required)	
HIGH PURITY WATER FROM		
LCG S/N OE1	MSC-C-27 AS REQUESTED	
Location		
ECS Bulling		
Received by	Date 7/10/69 (1115) Log Number 6907-35	
Priority Routine AS	A P Emergency	
ANALYSIS		
111111111111111111111111111111111111111		
ELECTRICAL CONDUCTIVITY: 0.45 MICRO	ноs/си @ 25 <sup>0</sup> С	
/400		
PARTICULATE/500 ML		
0-160 nicrons = PASSES		
160-200 microns = 1		
000 070		
200-250 HICRONS = 1		
over 250 microns = 0		
THIS PASSES THE REQUESTED ANALYSIS.		
Analyst Buck DS/	Date Completed JULY 10, 1969	
1-1-a La v	- Date Combieten	
Approved by Reference Notebook		
P. LATORRE, MGR., ENVIRONMENTAL !	EALTH ENGINEERING	
The state of the s		







Requestor, Organization, Mail Code	Request Date July 10, 1969		
W. Antoniewski - NAR ZK 86	Phone		
Sample Description	Analysis Requested (Specification Required)		
High Purity Water from Waste Tank of 5/C 107 of Apollo 11 for Engineering Evaluation	PF-SPEC 1A for Particulate and Total Residue		
Location	1		
Pad 39A - 4C Level, MSS			
Received by Adkins/Wright	Date July 10, 1969 (1400) Log Number 6907-34W		
Priority Routine AS	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			
ec: Ed Wright, LS-EWC-'2			
Analyst Adkins/Veight	Date Completed July 10, 1969		
Approved by	Reference Notebook		
P. LaTorre, Mgr., Environmental Health Engineering			







Requestor, Organization, Mail Code	Request Date  July 10, 1969
W. Antoniewski - NAR ZK 86	Phone
Sample Description	Analysis Requested (Specification Required)
Figh Purity Water from Waste Tank of 3/C 107 of Apollo 11 for Engineering Evaluation	PF-SPEC 1A for Particulate and Total Residue
Location	
Pad 39A - 4C Level, MSS	
Received byAdkins/Wright	Date July 10, 1969 (1400) Log Number 6907-34W
Priority Routine ASA	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, IS-EW-'2	
Analyst Adkina/Wright	Date Completed July 10, 1969
Approved by	. Reference Notebook
P. LaTorre, Mgr., Environmental Hea	1th Engineering







Requestor, Organization, Mail Code	Request Date 7 July 10, 1969
J. Roberts	Phone
Hamilton-Standard	867-4009
Sample Description	Analysis Requested (Specification Required)
High Purity Water from	1115C-C-27 as
High Purity Water from LCQ S/N 058	Requested
Location	
ECS Bldg	
•	Date 7-10-65 (1845) Log Number 6907-37
Priority Routine ASA	A P Emergency
ANALYSIS	<del>-</del>
Electrical conductivity; 0	55 micromhos/cm @25°c.
	mercioninos permeres de acidentes
Particulate/500 ml	ץ ר
0-160 microus = 7.	a 5 5 e 5
160200 " - 0	, , , , , , , , , , , , , , , , , , ,
200-250 " - 0	* · · · · · · · · · · · · · · · · · · ·
over 250" 11 = 0	
,	
· This sample passes t	the requested analysis :
	<i>V</i> -
	•••
  x	, 
Analyst ay mer puter	Date Completed 7-10-69
Approved by	Reference Notebook
	. helefelice Notebbox

TWA

# K S C ENVIRONMENTAL HEALTH ENGINEERING





Requestor, Organization, Mail Code	Request Date JULY 11, 1969			
J. Roberts Hamilton-Standard	Phone 7-4009			
HAMILION-STANDARD	7-4003			
Sample Description	Analysis Requested (Specification Required)			
PLSS S/N #14 H <sub>2</sub> O Transport Loop	MSC-C-27 AS REQUESTED			
2	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,			
Location				
ECS Building				
Received by MAHAN	7/11/69 Log Number 6907-40			
Priority Routine ASA	A P 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	Reference Notebook			
P. LaTorre, Mgr., Environmental	····· - <u> </u>			



C03C-1

Requestor, Organization, Mail Code,  J Robert 5	Request Date 7-11-69
Hamilton-Standard	Phone
Hamilton 2 and ava	867-4009
Sample Description	Analysis Requested (Specification Required)
PLSS 5/N 14	1115C-C-27 as
High Porty Water From	Requested
Fred Water Loop	
BCS Bulding	
Received by Misight	Date 7-11-69 (1530) Log Number 6907-41
Priority Routine ASA	
ANALYSIS	
_	015 600/ 0250
Blectrical Conductivity.	0.45 mecromhis/cm@25°C
Particula be/ 500ml	
0-160 micros = Fa	3565
160-200 : = 3	3
200-250 " = 0	₹.
' > 250 " = 0	
This passes there	quested analysis.
	•
	•
	·
, ,	
Buch	
Analyst A FINCE	Date Completed
Approved by	Reference Notebook



Requestor, Organization, Mail Code	Request Date 7-12-69
J Roberts	Pnone
Hamilton-Standard	8.67-1007
Sample Description , Water from	Analysis Requested (Specification Required)
High turity waver 1000	1115C-C-27 as
PLSS#15 Transports Loop	12 pate of
	Rogerested
BCS Building.	
Received by Birck	Date 2/12/69 (0300) Log Number6907-12.
Priority Routine ASA	
(Due Date)	
ANALYSIS	11/ 12-0.
Blechical Conductivity:	0.15 mirom nos/cm @ 25 c
Particulato/soonal.	· ·
	,
0-160 microns = Passes	· ·
160-200 11 5/	
300-250 " = 0	
	^
7250 " = 0	
	, ,
This sample passes	the requested analysi's.
This sample passes	and the
	•
	- •
	1
	i i
Analyst P. J. Shirts	
	Date Completed
Approved by	Reference Notebook
1	



### KSC



ENVIRONMENTAL HEALTH ENGINEERING Requestor, Organization, Mail Code Request Date 7-12-69 T Februts Hamilton-Standard Phone 867-4-007 Sample Description Analysis Requested (Specification Required) High Parity Water from PLSS#15 Feed Water Loop 11150-0-27 05 Rognested Location ECS Building Received by Buck Date 7-12-69(0500) Log Number 6707-4-3 (Due Date) Electrical Conductivity: 0,25 micromhofm @ 25°C Particulate/soom/ 0-160 microns = Passes 160-200 200-250 7250 This sample passes the requested analysis.

<i></i>	. — — — — — — — — — — — — — — — — — — —
Analyst Qi. P. Buck	Date Completed
Approved by	Reference Notebook





J Roberts	7-12-69 .
,	Phone
Hamilton-Standard	867-4009
Sample Description	Analysis Requested (Specification Required)
High Pusing Water from LCG	MSC-C-27 as Requested
# 17 Transport Loop	<b>,</b>
Location	•
ECS Building	
Received by Back	Date 7-12-69 (0700) Log Number 6907-9-6
Priority Routine ASA	A P Emergency
ANALYSIS	
Electrical Conductivity: 0.45 mile	romhos/cm@25°C
Particulate/scom/	
0-160 microns = Pass	les
160-200 majerons = 3	
200-250 microns = 1	
>250mikms = 0	
This sample passes	the requested analysis.
Analyst A P Buch	Date Completed
Approved by	Reference Notebook



CC4C .



	Analysı	is Report	
Requestor, Organization, Mail Code		Request Date	
W. Antoniovski - NAR	1	Phone 3	uly 12, 1969
ZE 86		Hong	867-5182
Sample Description		Analysis Requested (Spec	-f-action Daniswadl
High Purity Water from Sait Wick		Analysis negligated topic	Affication nequired/
Wetter 152 Undt		MSC SPEC - C-20A	for Distilled Water
Location			
Pad 39A - MSS, &C Level			
Received by Parelin		mlsr 12. 1969 (	7030 - Alimber 6007-17
			<del>-</del>
(Due Date)	***************************************	\r	Emergency
ANALYSIS			
Electrical Conductivity:		•	
pit :	6.3 @ 25°C		
	<1.0 mg/l		
	<0.1 ppm		
Surface Tension:	72.3 dynae	a/ca @ 20°C	
Particulate/500 ml			
10 - 25 Mierons - 240			
25 - 50 Hierons = '9			
50 -100 Hierons = 7			
100 =250 Ktorons = 1 250 Ktorons = 0			
Silting = 0			
_		ı	
cor Ed Wright, IS-EEC-32.			
Analyst Smek 7/3		. Date Completed	July 14 : 1969
Approved by		. Reference Notebook	
P. LaTorra, Mor., Envis	ronmontal He		





Requestor, Organization, Mail Code	Request Date 7-12-69
J. Roberts	Phone
Hamilton-Standard	867-4009
Sample Description,	Analysis Requested (Specification Required)
Sample Description, High Purity Water from LCG	MSC'-C-27 as Requested
No 79 Transport LOOP.	
·	
Location	
ECS Building	,
Received by Buck	Date 2-12-69 (1530) Log Number 6907-49
Priority, Routine ASA	A P Emergency
ANALYSIS	
Flactrical	1 1 2 2 6 2
Electrical Conductivity: 0.5 mil	cromhos/mm 23 C
Particulate/som	
0-160 microns = Pass	es
160-200 MAICYONS = 4	
500-250 MICYONS =	
>250m:10.0005 = 0	
,	
This sample passes	the requester analysis.
Analyst O. P. Buch	
Approved by	Reference Notebook
	Motorollog Motobook





Requestor, Organization, Mail Code	Request Date 7-13-69
J Roberts	Phone
Hamilton-Standard .	867-4009
Sample Description	Analysis Requested (Specification Required)
High Perity Water from	MSC-C-27 as Requested
PLSS #19	
Location	
ECS Building	
Received by [	Date 7-13-69 (0400) Log Number 6907-50
Priority Routine A,S A	A P Emergency
ANALYSIS	
Flectrical	1 1 2 200
Electrical Conductivity: 0.15 mile	cromhos/cm @ 23 C
Particulate/soom/	
	. <
0-160 microns = Passe	· 9
160-200 MAICTONS = 2	
200-250 microns = 1	
>250micsons = 0	_ ^
	•
This sample passes	the requester analysis.
	-
Analyst a P Buch	Date Completed 7-13-69
	Date Completed.
Approved by	Reference Notebook



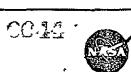
# KSC



ENVIRONMENTAL HEALTH ENGINEERING Analysis Report

Requestor, Organization, Mail Code	Request Date			
	nequest Date	-		
J. Roberts Hamilton-Standard	Phone 7-4009			
Sample Description	Analysis Requested (Specification Required)			
High Purity Water Prom. PLSS #19 Feed Water Loop	MSC-C-27 AS REQUESTED			
Location ECS Suitoing				
Received by Bucz	7/15/69 (0500)	Log Number690	7-51	
·			_	
Priority Routine AS			, I	
ELECTRICAL COMPUCTIVITY = 0.25 MICROMHOS  PARTICULATE/500 ML  0-160 MICRORS = PASSES 160-200 MICRORS = 0 200-250 MICRORS = 0 OVER 250 MICRORS = 0  TOTAL SOLIDS = UNDER 1.0 MG/L  THIS SAMPLE PASSES THE REQUESTED ANALYSIS	! S.			
Analyst	Date Completed	LY 14, 1969		
Approved by	Reference Notebook	*	<del></del>	
P. LATOPRE, MGR., ENVIRONMENTAL HE	ALTH ENGINEERING		•	





Requestor, Organization, Mail Code	Request Date 7 - 13 - 69
I Roberts	Phone
Hamilton-Standard	867-4009
Sample Description High turity Water from LCG No 77	Analysis Requested (Specification Required)
High Turity Course	MSC-C-27 as Requested
1CG No 77	
- ECS Building	
	Date 7/13/19 (0730) Log Number 6907-55
Priority Routine A.S.	
(Due Date)	
ANALYSIS	
Electrical Conductivity: 0.35 mi	cromhos/cim@25°C
Particulate/sooml	1 .
0-160 microns = Passi	25
160-200 MILCONS = 0	-
SOD-250 MICTONS = 0	
>250micsons = 0	•
	·
This sample passes	the requested analysis.
	•
•	
Analyst A P. Bush	Date Completed
Approved by	Reference Notebook



CC 15:

Requestor, Organization, Mail Code	Request Date 7-13-69	
J Roberts	Phone	
Hamilton-Standard	867-4009	<b>Y</b>
Sample Description	Analysis Requested (Specification Required)	, ./
	MSC'-C-27 as Ragu	ester
Location	1	
ECS Building		
Received by	Date Log Numbers	6907-53.
Priority Routine AS	A P Emergency	í
(Due Date)		- *
ANALYSIS		
Electrical, 1 and	1 1 20100	
Electrical Conductivity: 0,34 mi	cromnos/cmp@25 C	
1	•	•
Particulate/soom		
0-160 microns = Pass		
160-200 MAICrons = 0		
200-250 microns = 0		
700-750		
>250micmis = 0		
		/ -> **
This sample passes	the requested and	1/5/5%
This sample prose		19 C S 1 C S 1
,		'
Analyst & ME Jan	5-7-7-	
Analyst 4 1160 Cure	Date Completed [5]	1969
Approved by	Reference Notebook	
		* *



# K S C ENVIRONMENTAL HEALTH ENGINEERING Analysis Report

CC 1C-



Requestor, Organization, Mail Code	Request Date	JULY.	14, 1 117		
	Phone		•		
ી. જેઇ: તાલ		7.00.1	**		
INECUL7		·			
Sample Description	Analysis Requ	ested (Specifica	tion Required	)	
Med for Mollo 11, 122 Hours	rf spec 1	re (cs <b>r</b> ⊬o	int 3		
Location	1				
Pan 3.1°, 1SS, 5% Level					
Received by AMDENSON [	Date 1/1-4/47	(15%)	. Log Numbe	r_ (3)1-7-5	513
(Due Date)			_ Emergency_		
ANALYSIS		TRAIC SEC	ies <sub>x</sub>		
PH = 4.8 250E		Caemini	บทอดล	6.09	M6/6
TOTAL ESIDUE = J. HG/L		CHE COLLOR	nabes	85 <u>, C.</u> 5	NG/ E
		i oppe	683E,	ひ。むら	no/e
Tiste and open = home Tisteshold ison was	. 5 · 5°C	ែខ	un dep	tto I	
To Sierry = 4.25 Units		LEAS an ar	UN DE '	J.P.	HC/t
Color, Truc = 7 Julys		imicantst ikreory	antes anarn	9,44 9,905	116/1
5027 9 176E 5 7 7011		ELCALL	HIDER	1).115	MG/L AG/L
		SHULL	3980	9,05	HG/L
		301	Julet.	0.13	110/1
		Mach 21Ptd		t, nes	MC/E
		lenene	-	<b>3</b>	113/1
THIS HERD IT PASSES THE PEQUESTED AUMITYSIS.		'LUH! IOM	ONDCP	9.5	716/1
		Po assion	BBBCP	0.95	116/2
		SELICA	unost	1.5	NG/ L
		\$00s0L	cqual s	7.15	MG/L
		Stelle 1743			
cc: Ed Maight, ES-EMF-32  MSC PRIVINGIVE Medicine Division, XC  MSC CARD Systems Sivision, FC-3  MSC Launen Site Medical Mis. Maden,		1400 17 (G)	CTCIA = ! COUDT = ? L ANALA 1: E BL JOH O	Jegative S = Olgai	
Analyst Buck / / / Approved by P. LATORGE, FLORE, THE ROTHER AL		mpleted	LY 24, 196		



CF7



Analy	sis Report			
Requestor, Organization, Mail Code	Request Date Jut	y 14, 1969		
J. Stormo Grec 4:7	Phone 7-0	5070		
Sample Description	Analysis Requested (Specification Required)			
APOLLO POTABLE WATER FROM ASCENT TANK, LM-5 FOR APOLLO 11	loding Concents	RATI ON		
PAD JOA, MSS, JA LEVEL				
Received by Anoenson	Date 7/14/67 (1503)	Log Number 6907-55		
Priority Routine A S	A P	Emergency		
ANALYSIS				
THIS SAMPLE WAS NOT COLLECTED.				
		~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~		
Analyst Buck	Date Completed	JULY 25, 1969		
Approved by Mark Salk Environmental	Reference NotebookHEALTH ENGINEERING			



Requestor, Organization, Mail Code	Request Date	JULY I	5, 1969		
l. Autonieuski, nak ZK-86	Phone	7-5132	<u> </u>		
Sample Description	Analysis Requ	ested (Specificati	on Required	)	
Apollo Putable Water from Not Port of S/C 107, Apollo 11 T-25 to 30 HR SAMPLE	PF SPIC 14	TO ILST PO	187 S		
Location					
Pad 300, 'SS, 4C Level					
Received by NUERSON, NCIMIATER	oate 7/15/69	(0300)	Log Numbe	r 6907-5	50H
Priority Routine ASA			Emergency.		<del></del>
ANALYSIS		IU.IIC SPEC	IES:		
PH = 6.8 25°C  TASTE AND COOP = NOBE THRESHOLD COOR NO.  TURDIDITY, = 0.90 Units  COLOR, TRUE = UNDER 5 Units  This report fails the Leguested analysis of sterility.  CC: ED Walder, LS-LUC-12  MSC PREVENTIVE REDICING DIVISION, LC-3  MSC LAUNCH SITE REDICAL UPS. GRANCH, MORTH AMERICAN BOCKWELL, DOWNEY, CAL	700 Já.	CADMIUM CUPOMIUM COPPER I CON LCAD I MO GAMESI MERCULY MICKEL SILVE ZINC MACHESIUM CULOMIBL CUBMIUM POTASSIUM SILICA CULOLICA CUL	ONDER	0.01 1 0.05 0.05 0.04 0.02 0.02 0.05 0.05	MG/L MG/L MG/L MG/L MG/L MG/L MG/L MG/L
		Colifori Phaenodi	COUNT = COUNT = C /WALYSI D NOLDS =	15) HL NLOATER S = NEC	UC DATIVE
Analyst		mpleted	LV 20, 10	69	



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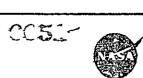
Requestor, Organization, Mail Code	Request Date JULY 15, 1960				
V. Antohicuski ZK-86	Phone 7-5182				
STAGG		7-210	12 1		
Sample Description	Analysis Requ	uested (Specifica	tion Require	d)	<del>-</del>
APOLLO POTABLE MATER PROM BEINK GUD					
or S/C 107 or Apollo 11, T-25 to 30 Hours sample	pe e	PEC 1/1 vo Yo	ener Sterre	<b>¥</b>	
HOURS SMITEE	११ छ।	rte in te le	ST PUINT	5	
Location					
PAD 30A, MSS, 4C LEVEL					
		(0300)			
Priority Routine ASA (Due Date)	Р		_ Emergency	·	
ANALYSIS		TOTIC SPECI			
pil = 6.4 25°C		151111 01 501			
		Capmiun	ONDER	0.005	ng/L
TOTAL RESIDUE = 5.8 MG/L		Cucomun	under		MC/L
TASTE AND ODOR = NONE THRESHOLD GOOD NO.	3 45 <sup>0</sup> C	COPPER	audes		ng/t
		ខេចព			MG/L
Turning = 1.46 dairs		LEAD	ONDE!	-	MG/L
Colon, lave = under 5 Units		MADUAHESE	ONDER		HC/L
		HERCURY	UNDE	0.005 0.03	MG/L
		SILVER	under Under	C.05	MG/L MG/L
THIS REPORT FAILS THE REQUESTED AUALYSIS F	ON	Zinc	EQUALS		MG/E
STERILITY.		MAGNESIUM	-		NG/ L
		CHLORISE	LOCALO	U"II	HG/L
		HURINUA	UNDER	0.5	nc/L
cc: En Victory, LS-ENG-32		r OTASSIUM	บถอยล	0.05	NG/L
MSE PREVENTIVE MEDICING DIV., DC-/		SILICA		0.5	mo/L
MSC CREW Systems DIV., EC-3		CHLOP INE		O. T	HG/L
ISC LAUNCH SITE NEUTCAL UPS. DEAUCH, Do th American Rockhell, Donney, Call	OOK	STEPILITY:			
not in tarritom modurates country out !	ro ana	TOTAL "AC	TERIA = 4	85,000 c	oL/
			1	150 ML	
		Colinoin			
		fiaenod 10			
		YEAST AUG	Horns =	NEGAL IVI	<u>.</u>
Analyst Buck	-		JULY 2	<b>4, 1</b> 969	
Approved by		ce Notebook			
". LATORPE, MGR., ENVIRONMENTAL NE				<del>17</del>	

#### CHRONOLOGY OF APOLLO 11 CHAMBER RUN

### COMMAND MODULE S/C 107

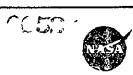
DATE		HOUR	EHE LOG. NO.	ANALYSIS REQUESTED
TUESDAY	3-11-69	SEA LEVEL	SIMULATED TEST No	. 1 (PRIME CREW)
TUESDAY	3-11-69	1100	6903 - 37	GSE FOR TEST POINE 3
WEDNESDAY	3-12-69	SEA LEVEL	SIMULATED TEST NO	. 2 (Back-up Crew)
THURSDAY	3-13-69	1200	6903_42	POTABLE TANK, FINAL FILL
FRIDAY	3-14-69	1500	6903 -43	SUITWICK WATER
FRIDAY	3-14-69	UNMANNED A	LTITUDE CHAMBER T	EST
MONDAY	3-17-69	1230	6903-47	POTABLE TANK, T-24 HOURS
TUESDAY	3-18-69	ALTITUDE C	HAMBER TEST (PRIM	e 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 C	HAMBER 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 C	HAMBER 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





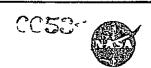
Requestor, Organization, Mail Code	Request Date 7 Harch 1969
j. Komeely ZK-24	Phone 867-4507
Sample Description	Analysis Requested (Specification Required)
Apollo potable water CSM 107, Apollo 11	PF SPEC-1 TO TEST POINT 1
Location	
MSDB, Chamber R	
Received by EMERY - WRIGHT	3/7/69 (1000) 6903-22 Log Number
Priority Routine A.S.	A P Emergency
(Due Date)	
ANALYSIS	
O-10 MICROMS = PASSES PASSES 10-25 MICROMS = 377 784 25-50 MICROMS = 57 120 50-100 MICROMS = 9 19 OVER 100 MICROMS = 11 14  STERILITY: TOTAL BACTERIA = 1300 COLONIES/100 ML COLIFORM COUNT = NEGATIVE AMAEROMIC AMALYSIS = NEGATIVE VEAST AND MOLDS = NEGATIVE	GSE MICROD FILTER
This Repost Passes the Requested Analysi cc: ED Weight, LS-EMG-32 PREVENTIVE MEDICINE DIVISION (EC-7) MSC CREW SYSTEMS DIVISION (EC311) MSC LAUTCH SITE MEDICAL OFF. BRANCH NORTH AMERICAN ROCKWELL, DOWNEY, CA	ı ( DDK )
Analyst Demeny	Date Completed 11 MARCH 1969
Approved by law	Reference Notebook
P. Latorre, Mgr., Edutromental Nea	rin coelbefatae





Requestor, Organization, Mail Code	Request Date	11 March 1969
J. Honeely, NAR ZK-24	Phone &	36 <b>7-45</b> 07
Sample Description	Analysis Requested (Specific	ication Required)
APOLLO POTABLE WATER CSN 107	PF SPEC-1 TO TP 3 PARTICULATE ONLY	
DOWNSTREAM OF GSE FILL FILTERS		
Location		
CHAMBER L, NSOB		
Received by	Date 3/11/69 (1230)	6903 <b>-30</b> Log Number
Priority Routine AS		
(Due Date)		
ANALYSIS		
PARTICULATE/500 ML		
O-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)	•	
MSC CREW SYSTEMS DIVISION (EC311)  MSC LAUBEN SITE MEDICAL OPS. BRANCH  NORTH AMERICAN ROCKWELL, DOWNEY, CAL	•	
Analyst DEMERY	Date Completed	12 March 1969
Approved by	Reference Notebook	
P. LATORRE, Nor., ENVIRONMENTAL HEAL		
		······································





Requestor, Or	ganization, Mail Code	Request Date	3/12/69	
d. v Z=3	arwer 6	Phone	857-4507	
Sample Descri	ption	Analysis Requested (Spec	ification Required)	
CA 1	LO POTABLE WATER 07, Apollo 11	PF SPEC-1 TO TEST POINT 3 PRELIMINARY REPORT FINAL REPORT TO FOLLOW		
Location		THE SEPONS	ia safeam	
Chan	BER L, MSOB			
Received by _	DENERY	)ate <b>3-12-69</b>	Log Number <b>5903-37</b>	
Priority Ro	Outine A S A	A P	Emergency	
ANALYSIS		<del> </del>	~ <b></b>	
pH =	6.7 № 25 <sup>0</sup> C			
Erec	TRICAL COMESCRIVITY = .35 MICCOMM	s∕en @ 25 <sup>8</sup> C		
Total	L Solids = 0.4 mg/L			
PART	eculate/500 &L			
•	0-10 Miceode = Passes 10-25 Miceobe = 298 25-50 Miceobe = 21 50-100 Miceobe = 1 9VEB 100 Miceobe = 0			
Tais	Report passes the requested preli	minaba vrvtasie"		
CC8	EO WRIGHT, LS-ENG-32 PREVENTIVE ARDICINE DIVISION (SC- MSC CREW SYSTEMS DIVISION (ECSII) MSC LAUNCH SITE MEDICAL OPS. BRAN MORTH AMERICAN ROCKWELL, DOWNEY,	ech (DBK)		
	Demera			
	St. St. St.			
Approved by .	P. LATORRE, MGR., ENVIROUMENTAL A	Reference Notebook		
	. D value of coop agencies at	CATIN CARINESKINS		



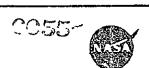
1054- A



Analysis Report Requestor, Organization, Mail Code Request Date 3/12/69 D. WARNER, NAR Phone 867-5182 ZK-86 Sample Description Analysis Requested (Specification Required) PF SPEC-1 TO TEST POINT 3 APOLLO POTABLE WATER FINAL REPORT CM 107, Apollo 11 Location CHAMBER L. MSOB 6905-37 DESCRIPTION \_\_\_\_\_ Date \_\_ Priority Routine \_\_\_\_\_ \_\_\_\_\_ ASAP \_\_\_\_\_ \_\_\_\_\_ Emergency\_\_\_ (Due Date) IONIC SPECIES ANALYSIS CADMIUM UNGER 0.01 MG/L PH = 6.7 € 250€ UMDER 0.05 MG/L Ceronium ELECTRICAL CONDUCTIVITY = 0.35 MICROMIO/CH @ 250C Coppen ขพอธล 0.05 MG/L MG/L 808 UBDER 0.1 TOTAL SOLIDS = 0.4 Mg/L Lgap vanea 0.05 MG/L Non-volatile Solins = 0.4 Mg/L under 0.03 Manganese FEG/L Meacury URDER 0.008 MG/L TOTAL FILTERABLE SOLIDS = NOME DETECTED UMBER 0.05 MG/L NICKEL TASTE & Ocon = Nome @ Threshold #3 @ 450C under 0.05 SELVER MG/L Zinc 999E8 0.03 MG/L Tuestoury = 0.2 units COLOR, TRUE = UNDER 5 UNITS STERRLATYS PARTICULATE/500 ML TOTAL BACTERIA = 20,000 COLONIES/ 0-10 MICROMS = PASSES COLIFORM COURT = NEGATIVE 10-25 MICRONS = 298ARAERODIC ABALYSIS = NEGATIVE 25-50 MICROSS = 21YEASY & MOLDS = NEGATIVE 50-100 MICROSS = 1 over 100 miceous = 0 THIS REPORT PAILS THE BEQUESTED AMALYSIS FOR STERILITY. ce: ED WRIGHT, LS-EMG-52 PREVENTIVE MEDICINE DIV. DC-7 MSC CREW SYSTEMS DIVISION (ECSII) MSC LAUNCH SITE MEDICAL COS. BRANCH (DEK) NORTH AMERICAN ROCKWELL, DOSNEY, CALIFORNIA Analyst DEMERY Date Completed Nancti 18, 1969 Reference Notebook \_\_\_\_\_

P. LATORRE, MOR., ENVIRONMENTAL HEALTH ENGINEERING





Requestor, Organization, Mail Code	Request Date 3/13/69				
W. Aetoniewski ZK-86	Phone 867-5182				
Sample Description	Analysis Requested (Specification Required)				
Apollo potable water CA 107 - Apollo 11 (Fieal Load) Drink Gun	PF SPEC-1 TO TEST POINT &				
Location					
Chamber L, MSDB					
Received by	Date 3-13-69 (1200) Log Number 6903-42				
Priority Routine A S A	A P Emergency				
ANALYSIS	IONIC SPECIES:				
PM = 6.4 © 25°C  Total Solids = 0.9 mg/l  Mon-Volatile Solids = 0.0 mg/l  Total Filtenable Solids = Nome devected  Tasve and Odor = Nome at Threshold #3 © 1  Turdidity = 0.2 units  Color = under 5 units  Particulate/500 ml  0-10 microns = passes 10-25 microns = 116% 25-50 microns = 126 50-100 microns = 78	Mickel under 0.03 mg/l Silver under 0.05 mg/l Zinc equals 0.05 mg/l Sperility:  Total Bacteria = 11,200 colonies/ 100 kl Coliform Count = Negative Amaerodic Amalysis = Negative				
over 100 micross = 7  cc: Ed Wright, LS-EMG-32  Preventive Middicine Division (EC-7)  MSC Crew Systems Division (EC311)  NSC Launch Site Medical Opg. Branch  Morth American Rosmuell, Dommey, Can					
Analyst DEMERY J.  Approved by	Date Completed MARCH 18, 1969  Reference Notebook				







Requestor, Organization, Mail Code	Request Date <b>3/13/69</b>
V. Autoniewski ZK-86	Phone <b>367-5182</b>
Sample Description  APOLLO POYABLE WATER  CM 107 - APOLLO 11 (FIWAL LOAD)  HOT PORT	Analysis Requested (Specification Required)  PF SPEC-1 TO TEST POINT 4
Location	
Received by DEMERY, WALGET	Date 3-15-69 (1200) Log Number 6903-42
Priority Routine ASA	
ANALYSIS	IONIC SPECIES:
PH = 6.4 @ 25°C  Total Solies = 0.9 mg/l  Taste and Odor = Mone at Threshold #3 () 4  Turbidity = 0.2 whits  Color = under 5 units	Lead under 0.05 mg/l Margarese under 0.03 mg/l Mercury under 0.008 mg/l Nickel equals 0.04 mg/l Silver under 0.05 mg/l Ziec equals 0.04 mg/l
	Sterility: Total Bacyeria = 8,600 colonies/
ec: Ed Waicht, LS_ENG_92	100 ml Coliform Count = Negative Amaerobic Amalysis = Negative Yeast and Nolds = Negative
Preventive Medicine Div. (ML-7) NSC Crew Systems Division (EC311) MSC Lauwen Site Medical Ops. Branch	This report fails the requested aralysis for sterility.
Morth American Rockwell, Downey, Car	
Analyst SIMERY	Date Completed MARCH 18, 1969
Approved by P. LATORRE, MGR., ENVIRONMENTAL HEA	Reference Notebook







An	alysis Report			
equestor, Organization, Mail Code	Request Date 14 H	JARCH 1969		
D. Jolly, Mar ZK-86	Phone 867-5162			
mple Description	Analysis Requested (Specific	ication Required)		
HIGH PURITY WATER FROM 152 UNIT	MSC C-20A FOR DISTILLED WATER (AS REQUESTED)			
CHANGER L, ASOB				
eceived by	3/14/69 (1500)	6903-43 Log Number		
iority Routine(Due Date)				
ELECTRICAL CONSUCTIVITY = 0.43 MICRO PH = 6.2 @ 25°C	·			
PH = 6.2 @ 25°C  Non-volatile Residue = 0.02 mg/100 p  Halibes = 0.05 ppm  Surface Tension = 72.7 dynes/em @ 20  Particulate/500 pl	\$ <b>L</b>			
pH = 6.2 @ 25°C  Non-volatile Residue = 0.02 mg/100 p  Halibes = 0.05 ppm  Surface Tension = 72.7 dynes/cm @ 20	\$ <b>L</b>			
PH = 6.2 @ 25°C  Non-volatile Residue = 0.02 mg/100 p  Halides = 0.05 ppm  Surface Tension = 72.7 dynes/cm @ 20  Particulate/500 ml  10-25 microns = 484 25-50 microns = 63 50-100 microns = 11 100-250 microns = 0	\$ <b>L</b>			
PH = 6.2 @ 25°C  Non-volatile Residue = 0.02 mg/100 m  Nalides = 0.05 ppm  Surface Temsion = 72.7 dynes/em @ 20  Particulate/500 ml  10-25 microms = 484 25-50 microms = 63 50-100 microms = 11 100-250 microms = 0 over 250 microms = 0	sr.	17 March 1969		





Requestor, Organization, Mail Code	Request D	MARCH 17,	1969		
W. ANTONIEWSKI, MAR	Phone				
ZX -86	Phone	867-5182			
		007-5152			
Sample Description	Analysis R	equested (Specificati	on Required)		
APOLLO POTABLE MATER					
CN 107, Apollo 11 (T-24 HR SAMPLE)					
Onier Gue	PF SPEC	-1 TO TEST POIN	4 4		i
m is a code					
Location					
Charber L, NSDB					
Received by UENERY	5-17	-69 (12 <b>5</b> 0)	Log Number.	6903-4	7
•					
Priority Routine A	SAP		Emergency		
ANALYSIS		IONIC SPECIE	 Se	<del>-</del>	
PN = 6.4 ○ 25 <sup>6</sup> C				0.01	MG/L
PN = 6.4 (- 25 C		Caemium Chronium	under Under	0.01 0.05	MG/L
TOTAL SOLIDS = 1.4 MG/L		Copper	UMBER		MG/L
Non-Volatile Solids = 1.4 mg/L		RON	UNDER	0.1	MG/L
		LEAD	UNDER	0.05	MG/L
TOTAL FILTEBABLE SOLIDS = None DETECT	_	Mangarese	under	0.03	
Tabre and Odor = Home U Threshold #3 (	⊃ 45°C	Mercuay	uw ber	0.008	1
TURRIOITY = 1.3 UNITS		HICKEL	equals		MG/F
		20 Lyer	under		MG/L
Colon = unden 5 untra		ZINC	equals	0.1	H6/L
Particulate/500 ML		STERILITY:			
A 26				nan nan	
0-10 MICRONS = PASSES		I DYAL DACT	reria = 1,	lories/i	(Diffs and
10-25 MICRONS = 696		COLLEGON I	COURT = NC		OU ME
25-50 MER CAS = 78			Amalysis:		1.567
50-100 MICRONS = 17 OVER 100 MICRONS = 3			Molos = H		***
Sess 100 Micsells - 2					
•		This report Analysis for		· ·	ED
ccs Co Walgar, LS-ENG-32				• •	
PREVENTIVE MEDICIDE DIVISION (DC	<b>-7</b> )				
MSC CREW Systems Division (EC311)					
MSC LANDON SITE MEDICAL OPS. BRAI	wen (DIK)				
North American Rockvell, Downey,	California				
TEMERY //		Mass	н 19, 196		
Analyst	Date	Completed	- TJ 130	<i>-</i>	
Approved by		rence Notebook			
P. Latorre, Mgr., Environmental	mealth engi	Heer ing			i





Requestor, Organization, Mail Code	Request D	ate MARCH	17, 198	)	
u, automieuski, mar ZK-86	Phone	867-5	182		
Sample Description	Analysis R	equested (Specific	cation Requ	ıred)	
Apollo potable water CN,107, Apollo 11 (T-24 Mr Sample) Not Port	PF S	PEC-1 to Tes	T Pelat I	<del>'</del>	
Location					
CHAMBER L, MSOS	2 2 2	CO (1270)			07 hg
Received by WRIGHT, DEMERY	ate	69 (1230)	Log Nu	mber	03-47
Priority Routine A S A	\ P	<del></del>	Emerger	ncy	· · · · · · · · · · · · · · · · · · ·
ANALYSIS		IONIC SPECI	ES:	· <del></del>	
eH = 6,4 @ 25 <sup>6</sup> C		CASMIUM	UNDER	0.01	ag/r
TOTAL SOLIDS = 1.2 mg/L		_	UNDER		%G/L %G/L
TASTE AND ODOR = NONE AT THRESHOLD #3 @	45°C	-	um cer		MG/L
Tuestoity = 2.6 cuits			UNCER	-	
Color = under 5 units		Manganese Mercury	umber Umber		MG/L
		Nickel	equals	0.03	MG/L
		Strver Zinc	umber E <b>quals</b>	0.05 0.1	MG/L MG/L
			CANAGO	<b>.</b>	1107 6
		STERILITY:			
		TOTAL BAC		2,000,00 COLONIES	
		Coliform ( Anaerobic Yeast and	Count = 1 Aralysi:	iegative 3 = Dega	TIVE
cc: Ed Wient, LS-ENG-32 PREVERTIVE MEDICINE DIVISION (DC-7) MSC CREW SYSTEMS DIVISION (EC311) MSC LAUNCH SITE MEDICAL OPS, DRANCE NORTH AMERICAN ROCKWELL, DOWNEY, C	a (DEK)	This report analysis for		=	STED
Analyst Demon UPP	 - Date	Completed	а <b>ксн 19</b> ,	1969	
P. LATORNE, MGR., ENVIRONMENTAL HE	alth Engi	ence Notebook	<del></del>		

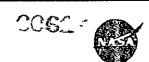


CC69 :



Requestor, Organization, Mail Code	Request Date MARCH 19, 1969
D. JOLLY ZK-86	Phone 867-5182
Sample Description	Analysis Requested (Specification Required)
L/M DRINK DISPENSER S/N 003	
Location	CSD-A-872A
ENVIRONMENTAL HEALTH LABORATORY	7 10 60 (1500) 6007 60
Received by Buck	
Priority Routine A S A	A P Emergency
ANALYSIS	
STERILITY:	
PORT A = NEGATIVE	
PORT B = NEGATIVE	
PORT C = NEGATIVE	
Port A-GN <sub>2</sub> = Negative	
cc: Ed Wright, LS-ENG-32  Don Price, MSC Crew Systems Div.  Preventive Medicine Division (DC  MSC Launch Site Medical Operatio  Joe Johnson (ECK-11)	( <del>-</del> 7)
Analyst Anderson	Date Completed MARCH 24, 1969
Approved by P. LATORRE, MGR., ENVIRONMENTAL	Reference Notebook





Requestor, Organization, Mail Code	Reque	est Date	MA	ARCH 23,	1969	
W. Antoniewski, NAR ZK-86	Phone 867-5182					
Sample Description	Analysis Requested (Specification Required)					
Apollo potable water CSM 107, Apollo 11 (T-24 hr sample) Hot Port	PF	SPEC 1	TO TEST	Point 4		
Location						
Chamber L, MSOB						
Received by Buck, DEMERY D	Date	5-23-69	(1900)	Log N	lumber 690	03 - 72
Priority Routine A S A	4Ρ	·				
ANALYSIS		IONIC	 SPECIES	 :		
pH = 7.2		CADMIU	м 1	UNDER	0.01	MG/L
Total Solids = 7.2 mg/L		CHROMI		UNDER	0.05	MG/L
Taste and Odor = None at Threshold #3 @ 49	5 <sup>0</sup> C	COPPER I RON		EQUALS	0.05 0.1	MG/L
	.5 C	LEAD		UNDER Under	0.05	MG/L MG/L
Turbidity = 2 0 units		MANGAN		UNDER	0.01	MG/L
Color, TRUE = UNDER 5 UNITS		MERCUR		UNDER	0.008	MG/L
		NICKEL		EQUALS		MG/L
		SILVER	1	UNDER	0.05	MG/L
		ZINC	ı	EQUALS	0.05	MG/L
cc: Eo Wright, LS-ENG-32		STERIL	ITY:			
Preventive Medicine Div. (DC-7)		Тота	L BACTE			AN 3,000,00
MSC CREW SYSTEMS DIV. (EC-3) MSC LAUNCH SITE MEDICAL OPS. BRANCH NORTH AMERICAN ROCKWELL, DOWNEY, CAL		Anae	ROBIC A	<b>אט = N</b> E	GATIVE = NEGATI	er 100 ml
			EPORT F		REQUEST	ED
Analyst DEMERY	<del></del>	 Date Comp	eted	March	26, 1969	
Approved by James		Reference i				
P. LATORRE, MGR., ENVIRONMENT	AL HE	ALTH ENG	INEERIN	G		





0063-

Requestor, Organization, Mail Code	Request D	ate <b>Manc</b> H	23, 1969		
V. Autoni essai, Har	Phone				
ZX-86	967-5182				
Sample Description	Analysis R	equested (Specifi	cation Require	ed)	
Apollo poyable water CSM 107 Apollo 11 (T-24 nn Sample) Deink Gue	PF	SPEC-1 TO T	EST POINT	4	
Location					
Chamber L. MSOB					
Received by EUCK, SEMERY	)ate	69 (1900)	Log Numl	<b>6903</b> -	72
Priority Routine ASA	AP		Emergency	y <del></del>	
ANALYSIS		IONIC SPECI	 ESs		
PH = 7.1		Caessum	88 55 B	0.01	MG/L
Total Solids = 20.4 mc/l		Chronium Copped	under Under		MG/L
New-volatile Solids = 18.0 mg/L		lace	umder		He/F
Total Filterable Solids = 2.4 mg/L		Lead	under	0.05	MG/L
Tabre and Code = Mode at Threemold #5 @ 4	30°C	Mascanege Mascanege	urser Eghals		mg/l mg/l
Turnity = 5.8 units	•	Mecher	equals	0.06	MG/L
		Silver Zibe	e <b>c</b> jals Urber		MG/F MG/F
Color, True = under 5 units Particulate/500 pl		2146	<i>ದ ಗೆ</i> ಶಾ ಬ <i>ರ್</i> ಶ	0.5	MUD E
_		STER IL ITTS			
0-10 MICHOMS = 10-25 MICHOMS = 25-50 MICHOMS = 50-100 MICHOMS = 0VER 100 MICHOMS =		5,000 Coliforn Aliaerodic	Teria = G2 ,000 colos Ceunt = Ne Amalysis : Olos = Nec	ies per Gative = Negati	100 触
		This Report Amalysis fo Solids, And	r syerilit	y, Total	
CC: ED WRIGHT, LS-ENG-32 PREVENTIVE MEDICINE DIV. (DC-7) NSC CREW SVEYEME DIV. (EC-5) NSC LAUBEN SITE MEDICAL OPS. BRANCH ( BORTH AMERICAN ROCKWELL, DOWNEY, CAL					
Analyst Design . U. A.	Date	Completed	Макси 26	, 1969	
Approved by		ence Notebook	<del>"</del>		
P. Latolbe. Nor. : Environmental Healt	ru Eugswe	EDING			

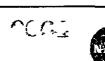


0063-



Requestor, Organization, Mail Code	Request Date March 25, 1969
D. JOLLY, NAR ZK-86	Phone 867-5182
Sample Description	Analysis Requested (Specification Required)
L/M Drink Dispenser S/N 005	CSD-A-872-A
Location	
ENVIRONMENTAL HEALTH ENGINEERING LAB	
Received by Buck	Pate 3-25-69 (1300) Log Number 6903-84
Priority Routine ASA	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 PREVENTIVE MEDICINE DIVISION (DC-7)  MSC Launch Site Medical Operations B  JOE JOHNSON (ECK-11)  JOHN NEWBROUGH, FLIGHT CREW SYSTEMS	RANCH (ĐĐK)
Analyst ANDERSON	Date Completed MARCH 28, 1969
P. LATORRE, MGR., ENVIRONMENTAL	Reference Notebook







Requestor, Organization, Mail Code	Request Date Nancii 25, 1969
W. Automieuski, NAR ZK-80	Phone 867-5182
Sample Description	Analysis Requested (Specification Required)
APOLIC POTABLE DATER CM 107, APOLLO 11 DRINK GUN (T-20 HRS)	PF SPEC-1 TO TEST POINT 4 (AS REQUESTED)
Location	
CMAMBER L, MSDB	
Received by DEMERY, MAHAN	Date 5-26-69 (1400) Log Number 6903-89
Priority Routine A S	A P Emergency
ANALYSIS	IONIC SPECIES:
PH = 7.1 © 25°C  TOTAL SOLIDS = 14.2 MG/L  MOU-VOLATILE SOLIDS = 13.2 MG/L  TOTAL FILTERABLE SOLIDS = 1.0 MG/L  TASTE AND ODOR = NOME AT THRESHOLD #3 °C  TURNINITY = 5.5 UNITS  COLOR, TRUE = UNBER 5 UNITS  PARTICULATE/SOO ML  0-10 MICRONS = FILTER OBSCURE  10-25 MICRONS = FIME GOLD PART  50-100 MICRONS = LATE MATERIAL  CCS ED URIGHT, LS-EMG-32  PREVENTIVE MEDICINE DIV. (EC-3)  MSC LAUNCH SITE MED. OPS. DRANCH NORTH AMERICAN ROCKWELL, DOWNEY,	SILVER UNDER 0.05 MG/L  ZINC EQUALS 0.4 MG/L  STERILITY:  TOTAL BACTERIA = GREATER THAN  3,000,000 COLONIES/  B BY  100 ML  COLIFORM COUNT = NEGATIVE  AMAEROBIC ANALYSIS = NEGATIVE  VEAST & MOLDS = NEGATIVE  THIS REPORT FAILS THE REQUESTED  ANALYSIS FOR TOTAL SOLIDS, TURBIDITY  AND STERILITY.  (DDK)
	Date CompletedAPRIL 2, 1969
P. LATORRE, Men., ENVIRONMENTAL H	Reference Notebook
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CCG5-

Requestor, Organization, Mail Code	Reques	t Date	March 26,	1969		
W. Automieuski, NAR ZK-80	Phone	Phone 867-5182				
Sample Description	Analys	s Requested (Spec	ification Requ	ured)	<del></del>	
APOLLO POTABLE WATER	ا عادر ا	SPEC-1 TO TES	T POINT 4.	SAMPLE	:5	
CM 107, APOLLO 11	TAK	N AS REQUEST	ED DECAUSE	OF INSU		
Daink Gun Post Flight	CIE	IT POST-FLIGH	T WATCH PE	SIBUAL		
Location	7					
Chamber L. MSUB						
Received by DEMENY, MCCRAY	. Date 💆	27-09 (0500)	Log Nu	ımber <u>6903</u>	1-92	
Priority Routine A	SAP		Emerge	ncy		
ANALYSIS $PH = 1.2  5^{\circ}C$		IGNIC SPECI	ES:	<u>-</u>	· <del>-</del>	
Total Solids = 15.4 MG/L		CARMIUM	EQUALS	0.01	AC/L	
	0	Снаомвим		_	Mu/e	
TASTE AND LONE NOME THRESHOLD #3	45 <sup>6</sup> C	Copper	UMDER UMDER		HG/L HG/L	
Tunginity = 4.0 units		LEAD	UNGEL			
COLOR, THUL = BREEP 5 UNITS		MANGANESE			HS/L	
		Mercury h i ckel	UHDER		NG/L	
		SILVER	CQUA <b>LS</b> Under		MG/L	
		Zinc	EQUALS		HG/L	
		STERILITYS				
		TOTAL BAC	TELLA = 7,	UUC COLO	HIES/	
		ANAEROBIC	Count = No /NALYSIS  OLDS = NEC	GATIVE = NEGATI	VE	
CC: "B ) RIGHT, LS-ENG-32 PREVENTIVE MEDICINE DIV. (DC-7) MSC CREW SYSTEMS DIV. (EC-3)		THIS REPORT			ED	
ASC LAUNCH SITE MEDICAL GPS. BRAI NORTH "MERICAN ROCKUELL, DOWNEY,	-	•				
Analyst JEMERY		ate Completed	2 APRIL 1	9 <b>69</b>		
Approved by LATORRE, HOR., ENVIRONMENTAL		eference Notebook	k			



CCGC-



Requestor, Organization, Mail Code	Request Date KARCI	26, 1969			
V. Aitobieuski, NAR ZK-86	Phone <b>867</b> -	182			
Sample Description  APOLLO POTABLE MATER  CM 107, APOLLO 11  'JASTE TAUK POST FLIGHT  Location	Analysis Requested (Specifical PF SPEC-1 TO TEST PO (FOR ENGINEERING EVA	197 4			
Chamber R, MSOB					
Received by CRAY D		•			
ANALYSIS	IONIC SPECIA	ES <sub>8</sub>			
PH = 7.1 © 25°C  TOTAL SOLIOS = 5.4 MG/L  TASTE AND ODOR = NOME © THRESHOLD #3 © 45  TURBIBITY = 5.5 UNITS  COLOR, TRUE = UNDER 5 UNITS  PARTICULATE/500 ML  0-10 MICRONS = FILTER OBSCURED  25-50 MICRONS = BY FINE GOLD PAR  50-100 MICRONS = CULATE MATERIAL  OVER 100 MICRONS =  CC: ED WRIGHT, LS-ENG-32  PREVENTIVE MEDICINE DIV. (DC-7)  MSC CREW SYSTEMS DIV. (EC-3)  MSC LAUNCH SITE MEDICAL OPS. BRANCH  WORTH AMERICAN ROCKWELL, DOWNEY, CAN	Lead Mangamese Mercury Nicrel Silver Zinc This report Analysis for Particulate. (DDK)	UMDER EQUALS UMDER EQUALS UMDER EQUALS FAILS THE	0.05 0.1 0.05 0.01 0.008 0.2 0.05 0.6	MG/L MG/L MG/L MG/L MG/L MG/L MG/L	
Analyst DEMERY III Approved by LATORNE, Mos., Emuliable Haller	Reference Notebook	RIL 3, 1969			







	1 6					
Requestor, Organization, Mail Code	Hequ	est Date	March 2	6, 1969		
W. Automiewski, HAR ZK-86	Phone 867-5182					
Sample Description  APOLLO POTABLE WATER CM 107, APOLLO 11  Mat Water Port Post Flight  Location	PF S	Analysis Requested (Specification Required) PF SPEC-1 TO TEST POINT 4 SAMPLE TAKEN AS REQUESTED BECAUSE OF INSUFFICIENT POST-FLIGHT WATER RESIDUAL				
Chamber R, MSCH						
•	Date _	-27-69 (0500	Log	Number 6	903-92	
Priority Routine A S /	A P		Eme	ergency		
ANALYSIS		10%IC SPECI	ES:			
PH = 7.1 (*) 25°C  Total Sclibs = 16.2 mg/l  Taste and Odor = None @ Threshold #3 @ 45  Turbidity = 6.1 units  Color, True = under 5 units	,°c	CARMIUM CHROMIUM COPPER IROM LEAD MANGAMESE MERCURY RICKEL SILVER ZINC THIS REPORT ANALYSIS FOR	EQUALS UNDER EQUALS UNDER EQUALS UNDER EQUALS UNDER EQUALS	0.05 0.1 0.1 0.05 0.01 0.008 0.9 0.05 0.1	MG/L MG/L MG/L MG/L MG/L MG/L	
CC: ED WRIGHT, LS-ENG-32 PREVENTIVE MEDICINE DIVISION (DC-7) FSC CREW SYSTEMS DIVISION (EC-3) MSC LAUMCH SITE MEDICAL OPS. BRANCH NORTH AMERICAN ROCKWELL, DOWNEY, CAL	-					
Analyst December 1	 - -	Date Completed. Reference Noteb	•	1969		





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Requestor, Organization, Mail Code	Request Date April 3, 1969
D. JOLLY, NAR	Phone
<b>ZK-8</b> 6	867-5182
Sample Description	Analysis Requested (Specification Required)
UM Drink Dispensen	CSD_A_872_A
S/N 003 Gun S/N 3459, Filter S/N 102	& TPS #SC-107-FCS004
ENVIRONMENTAL HEALTH ENGINEERING LAS	
Received by	Date Log Number
Priority Routine AS/	A P Emergency
ANALYSIS	
Final Results Following Sterilizations  Port A = Negative  Port B = 17 colories  Port C = 10 colories  Port A-GN <sub>2</sub> = Negative	
CC: ED URIGHT (LS-ENG-32)  DOM PRICE, MSC CHEU SYSTEMS DIVISI  PREVENTIVE MEDICINE DIVISION (DC-7  MSC LAUNCH SITE MEDICAL OPERATIONS  JOE JOHNSON (EK-11)  JOHN NEWSROUGH, FLIGHT CREW SYSTEM	) Bradch (ODK)
Analyst	APRIL 7, 1969  Date Completed
Approved by	Reference Notebook
P. Latorne, Mon., Environmental He	ALTH EUGINEERING

#### CHRONOLOGY OF APOLLO 11 CHAMBER RUN

### LUNAR MODULE LM-5

DATE		HOUR	EHE LOG NO.	ANALYSIS REQUESTED
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	1 600	6903-6	PARTICULATE FROM ASCENT AND DESCENT TANK
FRIDAY	3-7-69	1830	6903-21	Assent & 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 A	ALTITUDE CHAMBER T	EST
WEDNESDAY	3-19-69	ALTITUDE C	HAMBER TEST (BACK	-UP CREW)
THURSDAY	3-20-69	ALTITIDE C	HAMBER TEST (RE⊸A	RUN BACK-UP CREW)
FRIDAY	3-21-69		6903-70	STERILIZED DRINK GUN 0003
	3-21-69	ALTITUDE C	HAMBER TEST (PRIM	e 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 C BACK-UP CE	•	IAL RE-RUN SUPPORT
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

18.1

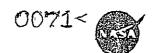


### K S C ENVIRONMENTAL HEALTH ENGINEERING



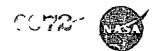
	<del></del>				
Requestor, Organization, Mail Code	Request Date	FEDRUAR	v 3, 1969		
B. DANBERT GAEC ECS	Phone				
MU 41 Gauman 4503		867-254	5		
Sample Description	Analysis Requi	ested (Specificat	on Required	)	
APOLLO POTABLE WATER					
FROM C.S.E. LMS, APOLLO 11	PF SPEC-I	TO TEST PO	E T#1		
Location					
ALTITUDE CHAMBER R, MSO		r			
Received by LRICHT	2 <b>-4-</b> 69		Log Numbe	6902 <b>-</b> 1	3
Priority Routine A S A	AP		Emergency_		
(Due Date)					
ANALYSIS	_	TOMIC SPEC	ES:		
ELECTRICAL CONDUCTIVITY = $0.11$ micrommos/c $pH = 6.2   25^{\circ}C$	:м 25°С	C ^DMIUM CHI OMIUM	ONDER		NG/L NG/L
^		COPPER	under		HG/L
SUMPACE TENSION = 70.9 DYNES/CH AT 20°C		iron Lead	ua der Va jer		MG/L MG/L
TOTAL SOLIDS = 1.2 Mg/L		Han Ganesl	UNDER		MG/L
Non-volatile Solids = 1.2 mg/L		HERCURY	under		iiG/L
TOTAL FILICRABLE SOLIDS = None DETECTED		Nickel Silver	under Under		MG/L MG/L
TASTE AND UDOR = None AT THRESHOLD 3 - 45	o <sup>o</sup> c	71NC	ONDER	5.0	MC/L
TURBIDITY = 05 UNITS		STEPPLITYS			
Colon = unben 5 units		TOYAL WA	CTERIA =	TOO HUNE	Rous
PARTICULATE/500 ML		Correspon	Count = 1	TO COUNT	
0-10 HICRONS = PASSES			COURT = 1		
10-25 microns = 314		YEAST AD	o toros =	NEGATIV	E
25-50 Nicrous = 72 50-199 Nicrous = 43			ORT FAILS FOR SURF		-
CC: ID WINGHT, LS-ENG-32  MSC BIOMEDICAL SPECIALTIES BRANCH (DE MSC CREW SYSTEMS DIVISION (EC311)  MSC LAUBEN SITE MEDICAL OPS. BRANCH (NOPTH MERICAN POCKUELL, COMMEY, CALI	ંગ્લ્સ)				
Analyst V. P. DEMERY // PA	Date Cor	FEI	ORUARY 6,	1969	
Approved by P. LATORRE, FGR., ENVIRONMENTAL	. Reference	Notebook			
P. LATORRE, MGR., ENVIRONMENTAL	HEALTH ENGL	ngestao			





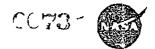
Requestor, Organization, Mail Code	Request Date FEBRUARY 3, 1969
B. Dangery BCS, CLEC GREC 41	Phone <b>257-25%</b>
Sample Description	Analysis Requested (Specification Required)
Apollo 11 Apollo 11	PF SPEC_1 TO TEST POINT 3 CONRECTIONS TO PREVIOUS REPORT 6902-10
Location ALTITUDE CHAMBER R NSOB	
Received by Wateur	2-4-59 6902-10 Date Log Number
	A P Emergency
ANALYSIS	
The pollowing analyses were enschausly any, 1969, and smooth de cuescod as smooth	reported in the Abalysis Report of 6 Februs
<u>oreginal</u>	CHARE TOS
Toyal Scribs = 1.2 mg/L	0.4 ma/s
Non-volavile Solids - 1.2 mg/L	0.4 88/6
Total filterable Solios = Mode Gevected	Nome cetecteo
Particulate/500 el =	Particulate/500 el =
even 100 enemes = (cmffed)	ever 100 mecons = 0
cc: Ed Wai ent, L3-ENG-32 NSC Biomedical Specialties Branch ( NSC Chom Systems Division (EC311) NSC Lamen Site Nebical Opp. Branch	
Analyst	Date Completed 13 February 1969
P. LATORAS, ADR., COURDINA	Reference Notebook





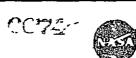
Requestor, Organization, Mail Code	Request Date 21 FEBRUARY 1969
J. Passamente, GAEC	Phone
	867-2945
Sample Description	Analysis Requested (Specification Required)
Apollo potable water	-
US, APOLLO 11	PF SPEC-1 TO TEST POINT 6 Descent Tabs
Location	
ALTITUDE CHANDEC R	
Received by WRIGHT, EVANS	Date 2/21/59 (1460) Log Number 6902-72
Priority Routine ASA	A P Emergency
ANALYSIS	IONIC SPECIES:
pH = 6.0 @ 25°C	Cacmium uuder 0.01 mg/l Chrorium uuder 0.05 mg/l
	Chromaum under 0.05 mg/l Copper under 0.05 mg/l
Total Selies = 0.4 HG/L	leon wader 0.05 mg/L
Tabre and Oddr = Home at tranship #3 ()	
Tunninity = 0.15 chits	Mangariese under 0.05 mg/l Mercury under 0.008 mg/l
Colos = madea 5 mars	Hicael urger 0.02 mg/l
<u>.</u>	Silver ubber 0.05 MG/L
Particulate/500 ML	Ziec woer 0.1 mg/L
0-10 microus = passes	Charge to amount
10-25 m+cnons = 10 <del>54</del> 25-50 m+cnons = 60	<b>S7</b>
50-100 microes = 20	Total Bacteria = Negative
over 100 microus = 9	Coliform Court = Megayive Araerosic Aralysis = Megative Veasy and Nolds = Megative
	This report passes the requested abouters.
ec: Ed Wright, LS-ERG-32	(naz)
MSC Browedical Spotsalties Braden ( MSC Crew Systems Dividica (ECSII)	(maa)
HX LAURCH SITE REGICAL OPS. BRANCI	s (DEK)
Demen UNIX	25 Febeuary 1969
Analyst	Date Completed
P. LATOREE, KSR., Equipmental Her	





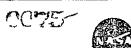
Requestor, Organization, Mail Code	Request Date 21 FTGGGARY 1969
J. Pasjanente, GAEC	Phone <b>867–29</b> \$5
Sample Description	Analysis Requested (Specification Required)
Apollo petable water	
LUG, Apollo 11	PF SPEC-1 TO TEST POIST 4
Location	ASCENT TANK
Altitude Charder R	
Received by Wasses Evans	21 FEB. 69 (1400) 6902-75 Date Log Number
Priority Routine ASA	A P Emergency
ANALYSIS	
PH = 6.0 @ 25 <sup>0</sup> C	Caemfur under 0.01 mg/l Chemfur under 0.05 mg/l
Total Solods = 0.4 mg/l	Charitum under 0.05 mg/l Copper under 0.05 mg/l
O EN O JOHCERNT TA SUGU = 8000 BIA STEAT	45°c lees tenen 0.05 mg/L
Tuesidity = 0.35 units	lead whose 0.05 mg/l Mangamede whose 0.05 mg/l
Color = emera 5 emite	Meacody onder 0.008 mg/L
Particulate/500 el	Micrel Chara 0.02 rg/l
· · · · · · · · · · · · · · · · · · ·	Solver under 0.05 ms/l Zone under 0.1 mg/l
0-10 enceces = passes 10-25 macross = 246	400
25-50 miches = 71	Sterility:
50-160 markes = 5 over 160 markes = 2	Total Bacteria = Megative Colifera Court = Megative Arregeric Arrives = Megative Verst ard Moles = Megative
cc: Ed Weight, LS-ENG-32 NSC Biomedical Specialtich Boaren ( NSC Crew Systems Division (EC311) NSC Lawren Site Nebical Ope. Branch	•
Analyst  Approved by  P. LAYCRES, MOSOS ENVIRONMENTAL HEAL	Reference Notebook





Requestor, Organization, Mail Code	Request Date 5 MARCH 1969
J. Passamoute GAEC	Phone
wro v	
Sample Description	Analysis Requested (Specification Required)
POLLO POTABLE WATER FROM LM-5	
ASCENT AND DESCENT	PARTICULATE ANALYSIS TO PF SPEC-I
•	
Location	i
ALTITUDE CHAMBER R, MSDS	
Received by WRIGHT	ate 5 MARCH 69 (1600) Log Number 6903-6
	A P Emergency
(Due Date)	~ - ~ - ~ - ~ - ~ - ~ - ~ - ~ - ~ - ~ -
ANALYSIS	
ASCENT TANK	SCENT TAKK
1. PARTICULATE/500 ML 1.	PARTICULATE/500 ML
0-10 Micrors = Passes	0-10 micross = passes
10-25 micross = 127	10-25 MICRONS = 392
25-50 MICRORS = 40	25-50 MICROUS = 150
50-100 micross = 10	50-100 MICROMS = 21
over 100 microns = 1	OVER 100 MICRORS = 9
2000 1-1 0010 maring - F	402. 100 Miduada - 7
	0-10 microns = Passes
10-15 Microus = 94	10-25 MICROMS = 182
25-50 microbs = 36	25-50 a caoas = 68
50-100 MICROMS = 8	50-100 microus = 12
over 100 nicrous = 2	over 100 microus = 6
NOTE: 500 ML WERE FLUSHED BEFORE COLLEG	week was made ander a
The second of th	in iam of General regins them them
ce: En Walest, LS-EMG-32	
Don Price EC-311	
	j
Analyst	Date Completed 6 March 1969
· · · · · · · · · · · · · · · · · · ·	Reference Notebook
P. LAYORRE, MGR., EUNIRORMENTAL NE	Heterence Notebook





Requestor, Organization, Mail Code		st Date	Мавси	7, 1969	
J. Passancete Gaec	Phone		867-29	<del></del>	
Sample Description	Analy:	sis Requested (Spe	cification F	Required)	
Apollo potable water	1	PEC-1 TO TEST		-	
M-5, Apolio 11	Desc		russi •	re	
and a sample in		€19 A			
Location	1				
HSOB Charber					
Received by Camery	Date 3/	7/69 (1850)	Loc	69 Number	03-21
Decorate Decision					
Priority Routine ASA (Due Date)	4 P		Em	ergency	
ANALYSIS		TONIC SPECTI			
PH = 6.0 @ 25°C		CAEMIUM	uneer	0.01	MG/L
Total Solios = under 0.5 mg/l		Сивомиче	under		ME/L
New-Volatile Solids = UNDER 0.5 Mg/L		Coppen	ua de a	-	• •
TOTAL FILTERABLE SOLIDS = UNBER 0.5 Mg/L	A	1809	U21055	•	· · ·
TASTE AND ORDE = NONE () THRESMOLD #3 () 45	C	LEAD	George Contraction of the Contra	- •	- 4
Turbidity = 0.43 units		Man Canese	um den		
Colos = ubber 5 ubits		Kencury	obsea	•	*
Particulate/500 kl		Kt CKET	umber 1000		
0-10 michems = passes		Silver Ziuc	un der Under		
10-25 microns = 127		_	wayen May kw	ودون	and r
25-50 mic aous = 24		Sterilitys			
50-100 micagas = 2		TOTAL BACT	TERIA = '	- •	
over 100 microus = 0		Pas sman s	MADONS I		100 ML
		Coliform ( Auaerebic			ue.
cc: En Waight, LS-ENG-32		Veasy and			9E
Preventive Kedicine Div. (DC-7)		THIS DEPORT	Fails 7	ne acquest	ED
MSC CREM SABLEMS DIAIRION (ECRIS)		analysis for	steril	ITY.	
MSC Laucen Site Medical Ops. Bracen	(DEK)				
North American Rocketll, Dolmey, Cal					
•					
Andrew Comerce 1/1/4			10 Rai	 acm 1969	
Analyst	- 1	Date Completed			<del></del> ,
Approved by P. LATORES, MRS., ENVIRONMENTAL HEALT	ih byg	Reference Noteboo	)k		
					3







Requestor, Organization, Mail Code	Request Date	7 Ma	RCH 1969	9	ł
J. PASSAMONTE	Phone				
GAEC	1 Horie	967	2945		}
		00/-	·637J		
Sample Description	Analysis Reque	sted (Specific	ation Requi	red)	
Apollo potable water	PF SPEC-1	to Test Po	INT 4		1
LM5, Apollo 11	ASCENT	10 1231 10	, , , , ,		
,,					
Location					1
MSOB, CHAMBER L					
					7 01
Received by DEMERY	3/7/69	(1830)	Log Nui	nber	3-21
Priority Routine A S A	P		Emergen	irv.	
(Due Date)				,	
ANALYSIS					
7110.12.1010	i	ONIC SPECI	ES:		
PH = 6.0 @ 25 <sup>0</sup> C	С	ADM I UM	UNDER	0.01	MG/L
Total Solids = under $0.5 \text{ mg/L}$		HROMIUM			MG/L
Non-volatile Solids = under 0.5 mg/l		OPPER	UNDER	0.05	MG/L
TOTAL FILTERABLE SOLIDS = UNDER 0.5 Mg/L	, 1	RON	UNDER	1.0	MG/L
Taste and Odor = None at threshold #3 @ 45	°C L	EAD	UNDER	0.05	MG/L
Turbidity = 0.23 units	М	AN GANESE	UNDER	0.05	MG/L
Color = under 5 units	М	ERCURY	UNDER	0.008	MG/L
Particulate/500 ML	N	1 CKE L	UNDER	0.05	MG/L
	S	ILVER	UNDER	0.05	MG/L
0-10 MICRONS = PASSES	Z	INC	UNDER	0.05	MG/L
10-25  microns = 106					
25-50  microns = 16	S	TERILITY:			.
50-100  microns = 2		TOTAL BAC	TEDIA	750 000	COLONIES
over $100 \text{ microns} = 2$		TOTAL DAG	IICKIA	100 ML	COLONIES
ODINE = NONE DETECTED		COLIFORM	COUNT =	NEGATIVE	:
		ANAEROBIC			
		YEAST AND	Molds =	: NEGATI	/E
cc: En Wright, LS-ENG-32					
PREVENTIVE MEDICINE DIVISION (DC-7)		HIS REPORT			STED ]
MSC CREW Systems Division (EC-311)		NALYSIS FO		.ITY AND	Į
MSC Launch Site Medical Ops. Branch (	D DIC /	ARTICULATE	•		
North American Rockwell, Downey, Cali	F.		•		
					1
					ļ
					ł
Analyst PEMERY	. Date Con	pleted	March 10	, 1969	[
A Cartain		•			
Approved by		Notebook	. <del></del>		}
P. LATORRE, MGR., ENVIRONMENTAL H	EALTH ENGIN	ERING			







Requestor, Organization, Mail Code	Request Date MARCH 14, 1969
R. Bay	Phone
GREC 49	
MSQD	867 - 3576
Sample Description	Analysis Requested (Specification Required)
L/M Daine Dispenses	•
S/N COOS	CSD-A-872A
Location	
4.	
Enugarine Health Laboratory	
Received by Buck	3-14-69 (1200) 6903-45 Date Log Number
	A P Emergency
Priority Routine ASA	
ANALYSIS	
ANALIGIO	
Steuf for als	<u> </u>
PORT A = NECATIVE	
V 0112 3, 1 11000000	
Port B = Megative	
Port C = Necative	
· mast @ and most of a com	
The block of the total and	
ect Ed Might, LS-ENG-32 Don Paice, MSC Chen Systems Div.	/ cr_2\
Preventative Medicage Davisies (	
MSC LAUMEN SITE MEDICAL OPERATIO	
joe jornson (ECK-11)	
AnalystAMDERSON	Date Completed MARCH 20, 1969
12. 166	•
P. LATORRE, Map., ENVIRONMENTAL	Reference Notebook
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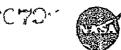






Requestor, Organization, Mail Code	Request Date Manca 17, 1969	
R. BAY	Phone	
Gaec 41 MSOB	867-3576	
Sample Description	Analysis Requested (Specification Required)	
L/N Baina <b>Dispe</b> nsea S/N COO2	CSD-A-872A	
Location		
Environmental Health Lab		
Received by D	3-17-69 (0730) Log Number 6903-46	
Priority Routine ASA	A P Emergency	
ANALYSIS	~ ~	
Steep fills		
PORT A - MEGATIVE		
Port B - Regative		
Port C - Megative		
CC: EO WICHT, LS-ENG-32 DOS PRICE, MSC CHEN SYSTEMS DIV. (EC-3) PREVENTIVE MEDICINE DIVISION (CC-7) MSC LAURCH SITE NEDICAL OPS. BRANCH (DDK) JOS JOHNSON (ECX-11)		
AnalystAppensor	Date Completed Mascis 20, 1969	
/ /		
Approved by	Reference Notebook	
P. LaTorre, Hod., Environmental	Health Edgineering	





Requestor, Organization, Mail Code	Request Date Masca 21, 1969
R. Buy	Phone
evec al	867-3575
Sample Description  L/A Beitts Dispenses	Analysis Requested (Specification Required)
S/8 0003	
G.101 (45/N 34:62	
Folter #8/# 106	CSB-A-872-A
Location	
Environmental Mealth Englheering Lab	
Page	Date 3-21-69 (0800) Log Number 6903-70
•	
Priority Routine AS	A P Emergency
ANALYSIS	
Sterse 1772	
Port A = Megative	
Port B = 2 colouies	
Post C = 16 colouiso	
Port A-GN; = Negative	
<b>&amp;</b>	
cer En Vargat (LS-EMG-H2)	
Den Peice, ISC Coen Svetens Doves	
Preventius Medicine Division (DC-	
MSC Launch Styf Medical Operation Log Johnson (ECK_11)	is branch (ULL)
ene ornavar fares si	
NOTE: This assembly was returned to i on Narch 24, 1969, per Report A	Divironmental Health Labs for resterilization
em restor any 1909, the extres in	
Paging	
¥	
Analyst AEDERS CO	Date Completed NARCH 28, 1969
00111	
Approved by	Reference Notebook
P. Latoree, Man., Environmen	ival meatar emgideriing



### KSC

0080<



## ENVIRONMENTAL HEALTH ENGINEERING Analysis Report

Requestor, Organization, Mail Code Request Date Maggu 24, 1969 Phone R. Bay 857-3576 carc of esob Sample Description Analysis Requested (Specification Required) L/M On the Dispenses S/10 0003 Cur 45/11 5462 CSD-A-872-A Filter #5/8 106 Location Environmental Marth Engineering Lab 3-24-69 (1200) Log Number 6903-75 Cuer \_ Date \_ Received by \_\_\_ \_\_\_\_\_ ASAP \_\_\_\_\_ Emergency\_ Priority Routine \_\_\_\_ (Due Date) ANALYSIS STEDILITYS POST A = NEGATIVE Pour D = 4 colours PORT C = MEGATIVE ce: En Watcht (LS-ENG-52) Des Parce, MSC Crew Systems Division (EC-3) PREVENTIVE ADDICINE DOVISION (DC-7) MET LAUMEN SITE MEDICAL OPERATIONS BRANCH (DES) daz Johnson (ECK-11) Date Completed Manch 24, 1969 Approved by Reference Notebook \_\_\_\_\_ P. LATCOCE, KOR., BICHROCKERTAL MEALTH ENGINEERING

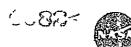


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Requestor, Organization, Mail Code	Request Date MARCH 24, 1969
r. Bav Gaec 41 XSOB	Phone 867-3576
Sample Description	Analysis Requested (Specification Required)
L/M Jeiek Dispenser S/M 0002 Gun #S/N 3461 Filter #S/N 103	CSD-A-872-A
Location	
Englhonmental Health Engineering Lab	
Received by Buck	Date5-25-63 (0800) Log Number6903-76
	A P Emergency
(Due Date)	
ANALYSIS	
STERILITY:  PORT A = MEGATIVE  PORT B = NEGATIVE  LURI C = HEGATIVE  CC: EO LAIGHT (LS-ENG-32)  DON PRICE, MSC CREW SYSTEMS DIVISION PREVENTIVE MEDICINE DIVISION (BC-7)  MSC LAUNCH SIVE MEDICAL OPERATIONS B  JOE JOHNSON (ECK-11)	
Analyst AnnexSum  Approved by	Date Completed MARCH 25, 1969  Reference Notebook
p. Latorre, Mgs., Environmental	HEALTH ENGINEERING





Requestor, Organization, Mail Code  Ro Bay	Request Date MARCH 29, 1969	
GAEC &1	Phone	
MSOD	867~3576	
Sample Description	Analysis Requested (Specification Required)	
L/M Daier Dispenser S/M M/A Gun #5/M 3455 Filver #S/N M/A	CS0-A-872-A	
Location		
Environmental Health Engineering Lab		
Received by Suck	Date	
	A PEmergency	
ANALYSIS		
	v	
Sterilitai		
Port A = Megative		
Port B = Negative		
Port C = Negative		
Port A-Ei <sub>2</sub> = Negative		
CC: ED WRIGHT (LS-ENG-32)  DOW PRICE, MSC CREW SYSTEMS DIVISION (EC-3)  PREVENTIVE MEDICINE DIVISION (DC-7)  MSC LAUSEN SITE MEDICAL CHERATIONS BRANCH (UEX)  JOE JOHNSON (ECK-11)		
•		
Analyst Annerson	Data Completed NARCH 24, 1969	
Approved by Approved by	Date Completed	
P. LATORRE, Mon., EMVIRORMENTAL HEAL	Reference Notebook	



0083<



Requestor, Organization, Mail Code	Request Date Manch 25, 1969		
J. Passamouve, GAEC	Phone 867-2945		
Sample Description	Analysis Requested (Specification Required)		
Apollo Potable Water LM-5, Apollo 11 Descent Tank Post Flight	PF SPEC-1 TO TEST POINT 4 (AS REQUESTED)		
CHARBEP R, ASCS			
Received by WRIGHT	3-25-69 (0700) Log Number 6903-87		
Priority Routine ASA	A P Emergency		
ANALYSIS	IONIC SPECIES:		
PH = 6.4 9 25°C	CADMIUM UNDER 0.01 MG/L		
TOTAL SOLIDS = 1.8 MG/L	Chromium under 0.05 mg/l Copper under 0.05 mg/l		
TASTE AND ODOR = NOWE AT THRESHOLD #3 (3)	45°C IRON UNDER 0.1 MG/C		
Turbibity = 0.2 units	Lead under 0.05 mg/l		
Color, TRUE = UBBER 5 UNITS	NAUGANESE UNDER 0.01 MG/L MERCURY UNDER 0.008 MG/L NICKEL UNDER 0.05 MG/L SILVER UNDER 0.05 MG/L ZINC UNDER 0.03 MG/L		
Steril 1748	Stensestys		
Sample taken vith onink gum and Filter imstalled:	Sarple taken theosen hose oblys		
TOTAL BACTERÍA = NEGATIVE	TOTAL BACTERIA = 2,500,000 CCLONIES/		
COLIFORM COUNT = NEGATIVE	COLIFORM COUNT = NEGATIVE		
Veast & Molds = Negative Veast & Molds = Negative	Amaerobic Amalysis = Regative Veast & Molds = Necative		
CC: EO WRIGHT, LS-ENG-32 PREVENTIVE MEDICHE DIV. (DC-7) MSC CREW SYSTEMS DIVISION (EC-3) MSC LAUGEN SITE MEDICAL OPS. BRANC	This report fails the requested analysis for Sterility.		
Analyst DEMERY	Date Completed APRIL 2, 1969		
Approved by January Man Farmer Designation He	_ Reference Notebook		
P. LATORRE, MGR., ENVIRONMENTAL HE	METER FRASHCEVERA		



1 00844



Requestor, Organization, Mail Code	Request Date MARCH 28, 1969	
r. Bay Gaec 41	Phone	
MSOB	8 <b>67 - 35</b> 76	
Sample Description	Analysis Requested (Specification Required)	
L/M Dates Dispenses		
S/N 0002 Gus #S/N 3461 Filten #S/N 103	CSD-A-872-A ANO TPS-CSB-LM5-35-17	
FILLER HOYN 105	Nii 0 1 L 2 = 0 40 = 51/2 = 32 = 1 1	
Location		
Environmental Mealth Engineering Lab		
Received by	Date 3-28-69 (0801) Log Number 6903-94	
	A P Emergency	
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ANALYSIS		
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Port A = Wegative		
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ce: Eo Wright, (LS-ENG-32)		
Don Price, MSC Creu Systems Divis Preventive Medicine Division (DC-		
ASS LANGEN SITE AMERICAL CHERATURE		
Joe Josepson (ECX-11)		
	the second secon	
Analyst ANDERSON	March 31, 1969  Date Completed	
Approved by	_ Reference Notebook	
P. LATORRE, Man., Expressival		





Requestor, Organization, Mail Code	Request Date	1, 1969
R. BAY	Phone	19 1989
GAEC 41		
MSOB	8 <b>67-3</b> 5	/6
Sample Description	Analysis Requested (Specifica	tion Required)
L/M Daink Dispeases	CSD-A-072-A	
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Location		
ENJIRODMENTA HEALTH FRELHEERING LAB		
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ANALYSIS		
FINAL ESULTS FOLLOWING STERILIZATION:		
POT A = HEGATIVE		
PORT B = NEGATIVE		
PORT C = NEGATIVE		
cc: Fo VRIONT (LS-ENG-32)		
Jon Price, MSC CREU Systems Division	0ti (EC-3)	
Preventive Medicine Division (DC-7)		
NSC LAUBER SITE MEDICAL OPERATIONS JOE JOHNSON (ECK-11)	BRANCH (DOK)	
Analyst Anderson	Date Completed / Pt. 1	L 7, 1969
Approved by	·	
P. LATORRE, MGR., ENVIRONMENTAL HEA	Reference Notebook	



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