2

13 STA 4
SEP 29 1994

ENGINEERING DATA TRANSMITTAL

Page 1 of 1

1. EDT 602569

2. To: (Receiving Organization)	3. From: (Originating Organization)	4. Related EDT No.:
Distribution	Effluent Treatment and Laboratory Projects	N/A
5. Proj./Prog./Dept./Div.:	**6. Cog. Engr.:**	**7. Purchase Order No.:**
Project W-049H	M. C. Carrigan	N/A

8. Originator Remarks:
Attached for approval is Acceptance Test Procedure WHC-SD-W049H-ATP-001, covering acceptance testing of the disposal system portion of Project W-049H. Previously this ATP had been sent out for preliminary review by most of the addressees.

9. Equip./Component No.: N/A

10. System/Bldg./Facility: N/A

11. Receiver Remarks:

12. Major Assm. Dwg. No.: N/A

13. Permit/Permit Application No.: N/A

14. Required Response Date: August 12, 1994

15. DATA TRANSMITTED

(A) Item No.	(B) Document/Drawing No.	(C) Sheet No.	(D) Rev. No.	(E) Title or Description of Data Transmitted	(F) Impact Level	(G) Reason for Transmittal	(H) Originator Disposition	(I) Receiver Disposition
1	WHC-SD-W049H-ATP-001	1-32	0	ATP for Project W-049H Disposal System	E-S-Q	1	1	1

16. KEY

Impact Level (F)	Reason for Transmittal (G)	Disposition (H) & (I)
1, 2, 3, or 4 (see MRP 5.43)	1. Approval 4. Review 2. Release 5. Post-Review 3. Information 6. Dist. (Receipt Acknow. Required)	1. Approved 4. Reviewed no/comment 2. Approved w/comment 5. Reviewed w/comment 3. Disapproved w/comment 6. Receipt acknowledged

17. SIGNATURE/DISTRIBUTION (See Impact Level for required signatures)

(G) Reason	(H) Disp.	(J) Name	(K) Signature	(L) Date	(M) MSIN	(J) Name	(K) Signature	(L) Date	(M) MSIN	(G) Reason	(H) Disp.
						ENV. DB		9/29/94			
1	1	Cog.Eng. MC Carrigan/TL Young	M.C. Carrigan	8/11/94	R3-35	AK Yoakum	AK Yoakum		S4-43	1	1
1	1	Cog. Mgr. DP Hughes		8/10/94	R3-35	D. J. Carrell for	D.J. Smith Jr. per fonecon 8-16-94		H6-22	1	1
1	1	QA MC Arntzen		8/16/94	L4-93	PROJ. FILES			R1-28	3	6
1	1	Safety OM Jaka	m.o. Jaka	8/11/94	R3-08	Central Files			L8-04	3	
3	6	Env. RE Johnson (SEE D.J. CARRELL)		DB	T1-30	O.S.T.I. (2)			L8-07	3	
3	6	RL Moxin			S5-11						
1		AF Crane	E.A. McNamara for A.F. Crane	9/29/94	R3-45						

18.	19.	20.	21. DOE APPROVAL (if required)
M.C. Carrigan			Ltr. No.
Signature of EDT Originator — Date 8/5/94	Authorized Representative for Receiving Organization — Date	Cognizant/Project Engineer's Manager — Date	[] Approved [] Approved w/comments [] Disapproved w/comments

BD-7400-172-1 (07/91)

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RELEASE AUTHORIZATION

Document Number:	WHC-SD-W049H-ATP-001, REV 0
Document Title:	Acceptance Test Procedure for Project W-049H
Release Date:	September 29, 1994

* * * * * * * * * * * * * *

This document was reviewed following the procedures described in WHC-CM-3-4 and is:

APPROVED FOR PUBLIC RELEASE

* * * * * * * * * * * * * *

WHC Information Release Administration Specialist:

Kara Broz
(Signature)

September 29, 1994
(Date)

SUPPORTING DOCUMENT

1. Total Pages 33

2. Title	3. Number	4. Rev No.
Acceptance Test Procedure for Project W-049H	WHC-SD-W049H-ATP-001	0

5. Key Words

Acceptance Test Procedure for Project W-049H

APPROVED FOR PUBLIC RELEASE

KmB 9/29/94

6. Author

Name: D. I. Buckles

D. I. Buckles 9/28/94
Signature

Organization/Charge Code 7FB80/41644P

7. Abstract

This procedure provides the means to perform the Acceptance Test of Project W-049H

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9. Impact Level ESQ

10. RELEASE STAMP

OFFICIAL RELEASE BY WHC
DATE SEP 29 1994
STA 4
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MASTER

A-6400-073 (11/91) (EF) WEF124

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ACCEPTANCE TEST PROCEDURE WHC-SD-W049H-ATP-001

TEST TITLE DISPOSAL SYSTEM

LOCATION 600 AREA

PROJECT NUMBER W-049H WORK ORDER CR1082

PROJECT TITLE 200 AREA TREATED EFFLUENT DISPOSAL FACILITY

Prepared By
ICF Kaiser Hanford Company
Richland, Washington

For the U.S. Department of Energy
Contract DE-AC06-93RL12359

PROCEDURE APPROVAL

ICF KAISER HANFORD COMPANY (ICF KH)

Originator	9-28-94 Date	Technical Documents	9-28-94 Date
Checker	9/28/94 Date	Safety	9-28-94 Date
Environmental	9-28-94 Date	Quality Engineering	9-28-94 Date
Project Management	9-28-94 Date		

Westinghouse Hanford Company (WHC)

Projects Department	9/28/94 Date	Quality Assurance	SEE EDT 602569 Date
Safety	SEE EDT 602569 Date	Operations	SEE EDT 602569 Date

EXECUTION AND TEST APPROVAL

EXECUTED BY

Test Director/Organization	Date	Test Operator/Organization	Date
Recorder/Organization	Date		

WITNESSES

Witness/Organization	Date	Title III Inspector	Date
Witness/Organization	Date	Witness/Organization	Date

A-E APPROVAL

ICF Kaiser Hanford Company (ICF KH)

Without exceptions ____ With exceptions resolved ____ With exceptions outstanding ____

Acceptance Inspection	Date	Design Engineer	Date
Project Manager	Date		

TEST APPROVAL AND ACCEPTANCE

Westinghouse Hanford Company

Without exceptions ____ With exceptions resolved ____ With exceptions outstanding ____

<Title or Department>	Date	<Title or Department>	Date
<Title or Department>	Date	<Title or Department>	Date

1. General

a. The Acceptance Test Procedure (ATP) program for Project W-049H covers three activities as follows:

1) Disposal System

2) Collection System

3) Instrumentation and Control System

b. Each activity has its own ATP.

c. The purpose of the ATPs is to reverify that the systems have been constructed in accordance with the construction documents (a prerequisite of ATPs) and to demonstrate that the systems function as required by the Project criteria.

d. Additional guidance and information are contained WHC-CM-6-2 "Projects Department Management Manual", Section PM-21 "Projects Closeout."

2. Disposal System

This ATP covers the testing of the following: disposal line flowmeters, room air temperatures in the Disposal Station Sampling Building, effluent valves and position indicators, disposal pond level monitors, automated sampler, pressure relief valves, and overflow diversion sluice gates.

This test will be accomplished electronically by means of simulated inputs/outputs. There will be minimal water flow involved in this ATP.

3. Collection System

This ATP covers the testing of the two pump stations and all equipment installed therein under ICF KH Contract 5354.

This will be a "wet" test with potable water being introduced into the pump pits to test for leakage. Potable water will also be employed in the testing of the pumps and related mechanical equipment.

All Instrument and Control (I&C) equipment related to the pump stations will be checked electronically with simulated inputs/outputs when actual input/output signals are unavailable.

Water from Pump Station 1 will be moved through the TEDF piping system and discharged into the disposal ponds. This will check the proper function of the air/vac valves not tested during construction.

4. Instrumentation and Control (I&C)

This ATP covers the testing of the entire TEDF I&C system. This includes 3 OCS units, modem, and GPLI cabinets in the ETF control room; 2 pump stations; disposal station sampling building; and all LCUs installed in the field.

Testing will be performed using actual signals when available and simulated signals when actual signals are unavailable.

TABLE OF CONTENTS

NOTE: At completion of test, enter pages added during performance of test to this Table of Contents.

1 PURPOSE

This Acceptance Test Procedure (ATP) has been prepared to demonstrate that the Disposal System Electrical/Instrumentation systems, valves and actuators installed under ICF KH Contract 5392, function as required by project criteria.

2 REFERENCES

2.1 DRAWINGS

H-2-815119, Sh 1, Rev 0	P & ID - Symbols & Legend Disposal Station
H-2-815120, Sh 1, Rev 0	P & ID - Disposal Station
H-2-815110, Sh 1, Rev 0	Civil - Disposal Ponds - Plan & Section
H-2-815121, Sh 1, Rev 0	Electrical/Instm - Plan, El, Details & Wrg Disposal Ponds
H-2-815121, Sh 2, Rev 0	Electrical/Instm - Plan, El, Details & Wrg Disposal Station
H-2-815121, Sh 3, Rev 0	Electrical/Instm - Plan, El, Details & Wrg Disposal Station
H-2-815121, Sh 4, Rev 0	Electrical/Instm - Plan, el, Details & Wrg Disposal Station
H-2-815122, Sh 1, Rev 0	Electrical/Instm - Elementary Diagrams Disposal Station
H-2-815123, Sh 1, Rev 0	Electrical/Instm - Cable Run List Disposal Station

2.2 SPECIFICATIONS

W-049H-C3, Rev 0	Disposal Station Construction Specification

2.3 ENGINEERING CHANGE NOTICES (ECN)

Prior to final test approval, enter ECNs written against this ATP.

2.4 VENDOR INFORMATION SUBMITTALS

Submittals 0029-0033, 0063-0067, 0071 & 0072

2.5 PROCEDURES

ICF KH Procedure CON 3.5	Performance and Recording of Acceptance Test Procedures

3 RESPONSIBILITIES

3.1 GENERAL

Each company or organization participating in this ATP will designate personnel to assume the responsibilities and duties as defined herein for their respective roles. The designees shall become familiar with this ATP and the systems involved to the extent that they can perform their assigned duties.

3.2 WHC PROJECT ENGINEER

3.2.1 Designates a Test Director.

3.2.2 Coordinates testing with the Area Manager.

3.2.3 Acts as liaison between the participants in acceptance testing.

3.2.4 Distributes the approved testing schedule before start of testing.

3.2.5 Schedules and conducts a pretest kickoff meeting with test participants.

3.2.6 Notifies the persons performing and witnessing the test 2 days before the start of testing.

3.2.7 Schedules a dry run if test director deems necessary.

3.2.8 Notifies concerned parties when a change is made in the testing schedule.

3.2.9 Signs Execution and Test Approval page when test is approved and accepted.

3.2.10 Takes necessary action to clear exceptions to the test.

3.2.11 Signs Exception Form when exception has been resolved.

3.2.12 Provides a distribution list for the approved and accepted ATP(ATR).

3.3 TEST DIRECTOR

3.3.1 Coordinates and directs acceptance testing.

3.3.2 Confirms that field testing and inspection of the system or portion of the system to be tested has been completed prior to start of ATP.

3.3.3 Stops any test which, in his or her judgment, may cause damage to the system until the problem has been resolved.

3.3.4 After verifying there is no adverse impact, may alter the sequence in which systems or subsystems are tested.

3.3.5 Ensures that required environmental conditions are maintained.

3.3.6 If a test is to be suspended for a period of time, ensures that the system is left in a safe mode.

3.3.7 Before restarting suspended test, reverifies the test prerequisites.

3.3.8 Initiates ECNs to document required changes to the ATP.

3.3.9 Reviews recorded data, discrepancies, and exceptions.

3.3.10 Obtains information or changes necessary to clear or resolve objections during the performance of the test.

3.3.11 Signs Execution and Test Approval page when test has been performed.

3.3.12 Signs Exception Form when exception has been resolved.

3.3.13 Obtains required signatures on the ATP Master prior to reproduction and distribution.

3.4 WITNESSES (Provided by Participating Organizations. One witness shall be a Title III acceptance inspector.)

3.4.1 Witness the tests.

3.4.2 Review results of testing.

3.4.3 Assist the Test Director when requested.

3.4.4 Sign Execution and Test Approval page when test has been performed.

3.4.5 Sign Exception Form when exception has been resolved.

3.5 RECORDER (Provided by ICF KH)

3.5.1 Prepares a Field copy from the ATP Master.

3.5.2 Records names of all designated personnel on Field copy of ATP prior to start of testing.

3.5.3 Records test instrument identification numbers and calibration expiration dates.

3.5.4 Initials and dates every test step on the Field copy as it is completed next to the step number or on a data sheet, when provided. Records test data. On data sheets where there is not room for both the initial and date, date may be entered at bottom of column.

3.5.5 Records objections and exceptions on an Exception form. Uses additional Exception forms as needed. Notifies the Test Director at time the objection is made.

3.5.6 Signs Execution and Test Approval page when test has been performed.

3.5.7 After test is finished, assigns alpha numeric page numbers to added data sheets and Exception forms. Records page numbers in the Table of Contents.

3.5.8 Transfers Field copy entries for each step to the Master in ink or type, signs, and dates. Transmits the completed Master to the Test Director for approval signature routing. Transmits the Field copy to Construction Document Control for inclusion in the official project file.

3.5.9 Signs Exception Form when exception has been resolved and transmits to Test Director.

3.6 TEST OPERATOR

3.6.1 Performs test under direction of the Test Director.

3.6.2 Provides labor, equipment, and test instruments required for performing tests which have not been designated as being provided by others.

3.6.3 Requests in writing from the Test Director those services, materials, or equipment that have been designated as being supplied by others.

3.6.4 Confirms that all equipment required for performing test will be available at the start of testing.

3.6.5 Signs the Execution and Test Approval page.

3.7 A-E ACCEPTANCE INSPECTION, DESIGN ENGINEER, AND PROJECT MANAGER

3.7.1 Evaluate results.

3.7.2 Sign for A-E Approval on Execution and Test Approval page.

4 CHANGE CONTROL

Required changes to this ATP must be processed on ECNs in accordance with company procedures. If a need for change is discovered in the course of running the test, the test shall be stopped until the ECN is approved. However, this does not prevent the running of another portion of the test unaffected by the change.

5 EXECUTION

5.1 OCCUPATIONAL SAFETY AND HEALTH

Individuals shall carry out their assigned work in a safe manner to protect themselves and others from undue hazards and to prevent damage to property and environment. Facility line managers shall assure the safety of activities within their areas to prevent injury, property damage, or interruption of operation. Performance of test activities shall always include safety and health aspects.

5.2 PERFORMANCE

5.2.1 Conduct testing in accordance with ICF KH Procedure CON 3.5 (Performance and Recording of Acceptance Test Procedures).

5.2.2 Perform test following the steps and requirements of this procedure.

6 EXCEPTIONS

6.1 GENERAL

Exceptions to the required test results are sequentially numbered and recorded on individual Exception forms. This enables case-by-case resolution and approval of each exception.

Errors/exceptions in the ATP itself shall NOT be processed as test exceptions (see Section 4 CHANGE CONTROL).

6.2 RECORDING

6.2.1 Number each exception sequentially as it occurs and record it on an Exception Form (KEH-428), sample appended.

6.2.2 Enter name and organization of objecting party for each exception.

6.2.3 Enter planned action to resolve each exception when such determination is made.

6.3 RETEST/RESOLUTION

Record the action taken to resolve each exception. Action taken may not be the same as planned action.

6.3.1 When action taken results in an acceptable retest, sign and date Retest Execution and Acceptance section of the Exception Form.

6.3.2 When action taken does not involve an acceptable retest, strike out the Retest Execution and Acceptance section of the Exception Form.

6.4 APPROVAL AND ACCEPTANCE

The customer provides final approval and acceptance of exceptions by checking one of the following on Exception Form:

6.4.1 Retest Approved and Accepted: Applicable when Retest Execution and Acceptance section is completed.

6.4.2 Exception Accepted-As-Is: Requires detailed explanation.

6.4.3 Other: Requires detailed explanation.

The customer signs and dates the Exception Form and obtains other customer internal approvals, if required.

6.5 DISTRIBUTION

A copy of the approved Exception Form is distributed to each participant. The signed original is attached to the ATP Master.

7 PREREQUISITES, EQUIPMENT/INSTRUMENTS, AND ABBREVIATIONS

7.1 PREREQUISITES

The following conditions shall exist at start of testing for that portion of the system being tested.

7.1.1 Systems have been inspected for compliance with construction documents.

7.1.2 Reference documents (including this ATP) have been verified for correct revision number and outstanding ECNs.

7.1.3 A Prejob Safety Analysis has been prepared and a Prejob Safety Meeting has been conducted.

7.1.4 Test instruments have a valid calibration stamp attached. Test instrument identification numbers and calibration expiration dates have been recorded in Para 7.2.

7.1.5 Methods of water disposal have been approved by Facilities Management.

7.1.6 Power is available.

7.1.7 Voice communications are available between Handholes I-1 and I-3 and Building 6653, and MV 68C004&5 manhole and Building 6653.

7.2 EQUIPMENT/INSTRUMENTS

Supplied by Test Operator unless otherwise noted.

7.2.1 Voltohmmeters (VOM): 0-600 V, 0-10 MΩ.

Instrument No. _____ Expiration Date _____

7.2.2 Ammeters: 0-40 mA dc.

Instrument No. _____ Expiration Date _____

7.2.3 Loop Calibrator: Device shall be capable of sourcing a 4-20 mA loop.

Instrument No. _____ Expiration Date _____

7.2.4 Shorting Jumpers: Determine length in field. Jumpers shall be capable of connecting 120 V ac power and low voltage signals.

7.2.5 Pressure gage: 0-50 psig (minimum).

7.2.6 Variable test pressure source (VTPS): 0-50 psig minimum, nitrogen or dry air, with Tygon tube connector.

7.2.7 Container: To hold water for leak or level detector tests.

7.2.8 DC Power Supply: 12 V, 3 A (minimum); 40 V, 3 A (maximum).

7.2.9 Load Resistor: 100 Ω (minimum) to 600 Ω (maximum), 1 W (minimum).

7.2.10 Hoses: Field to determine material, size, length, and end connections.

7.2.11 Hot Air Blower

7.2.12 Supply 100 gallons of potable or raw water.

7.3 ABBREVIATIONS

AGC	Automatic Gain Control
ECN	Engineering Change Notice
ERR	Flowmeter error Codes
LCD	Liquid Crystal Display
NOR	Normalized Flow Rate
SIG	Flowmeter signal strength
T12	Flowmeter signal crossing time setting
ZOF	Zero Offset

8 DISPOSAL LINE FLOWMETER FE, FT, FXS 68C003, AND IB 68C003

FE 68C003 is an ultrasonic flow element mounted in a 10-inch section of the Disposal Line at Coordinates N40726.77, W37260.03. The meter's flow tube is mounted in a manhole northwest of Sampling Building 6653. The flowmeter is remotely pulsed and monitored by a transmitter/receiver mounted on the south wall of Building 6653. The wall mounted enclosure houses the meters flow detection, transmission (FT 68C003), and fault detection (FXS 68C003), electronics.

IB 68C003 is a loop isolator mounted in an enclosure located next to the flowmeter enclosure. IB 68C003 splits the 4-20 mA flow loop originating at FT 68C003 to flow inputs at Automated Samplers 68C-SMPL-1 and 68C-SMPL-2. The flow signals are used by the automated samplers as a reference for sampling regimes based on flow through the disposal line.

8.1 PREPARATION

_____ 8.1.1 Verify all prerequisites of Para 7.1 have been met.

_____ 8.1.2 Provide 120 V ac power to the Series 4500 flowmeter electronics. Allow unit to warm up a minimum of 5 minutes prior to start of test.

8.2 DISPOSAL LINE FLOWMETER FE, FT, FXS 68C003, AND IB 68C003 VERIFICATION

The flowmeter is a microprocessor based device whose function can be verified via menu functions accessed from front panel keys. This test will verify the operational status of the flowmeter pulsar circuit, transmitter, and alarm relays by performing a diagnostic self test on the meter's electronics.

The operational status of the Loop Isolator IB 68C003 will also be verified. To test the loop isolator the flowmeter will be used to generate a flow simulation. Function of the loop isolator will be verified during the flow simulation.

Perform the following steps.

_____ 8.2.1 Apply 120 V ac power to the unit. The LCD display will show squares across the top line for a second and then the display will show flow and total.

_____ 8.2.2 Disconnect Wires FT68C003(+) and FT68C003(-) from TB1, located in the IB68C003 enclosure, Points 2 and 1.

_____ 8.2.3 Connect the loop calibrator 4-20 mA input (+) wire to Wire FT68C003(+) 3 and the 4-20 mA (-) wire to FT68C003(-).

_____ 8.2.4 On FT68C003 Front Panel Display, press the MENU key then the DOWN arrow key to enter into the devices STATUS mode.

_____ 8.2.5 Press the UP arrow key and record the following values displayed on the LCD: Note that DEL may flicker as its value changes. Record N/A if value is not legible.

_____ 8.2.5.1 Zero offset (ZOF). _____.

_____ 8.2.5.2 Normalized flow rate (NOR). _____.

_____ 8.2.5.3 Phase shift (DEL). _____.

_____ 8.2.5.4 Signal crossing time (T12). _____.

_____ 8.2.6 Press the ENTER key and record the following values: Note that the AGC value may flicker as the values change. Record N/A if value is not legible.

_____ 8.2.6.1 Error codes (ERR). _____.

_____ 8.2.6.2 Automatic Gain Control (AGC). _____.

_____ 8.2.6.3 Signal Strength (SIG). _____.

_____ 8.2.7 Press the ENTER key and the UP arrow key to start the device SELF TEST. Record the results of the SELF TEST as follows:

_____ 8.2.7.1 TRANSMIT Passed/Failed.

_____ 8.2.7.2 RECEIVER Passed/Failed.

NOTE: The receiver portion of the self test may indicate failed if there is no water in the line. Therefore, insure that water is in the line at the flowmeter location. The flowmeter is located at a low point in the line to insure submergence. If the line is dry add water at any convenient upstream access point until discharge is noted at the disposal site. This will insure a flooded flowmeter condition.

_____ 8.2.7.3 T12 Passed/Failed.

_____ 8.2.7.4 Sig Level Passed/Failed.

_____ 8.2.7.5 EEPROM Passed/Failed.

_____ 8.2.8 Activate the FLOW SIMULATION after the SELF TEST is complete by pressing the UP arrow key.

_____ 8.2.9 Verify simulated flow reading is 0 gpm. Record reading on the loop calibrator. _____ mA. Verify current is 4.0 ± 0.2 mA.

NOTE: The flow is adjusted by using the UP or Down arrow key to adjust the digit valve and the right arrow key to choose a digit.

_____ 8.2.10 Press the arrow keys on the meter face to adjust the simulated flow rate to 400 gpm. Record reading on the loop calibrator. _____ mA. Verify current is 6.0 ± 0.2 mA.

_____ 8.2.11 Press the arrow keys on the meter face to adjust the simulated flow rate to 1500 gpm. Record reading on the loop calibrator. _____ mA. Verify current is 12.0 ± 0.2 mA.

_____ 8.2.12 Press the arrow keys on the meter face to adjust the simulated flow rate to 3000 gpm. Record reading on the loop calibrator. _____ mA. Verify current is 20.0 ± 0.2 mA.

_____ 8.2.13 Disconnect the loop calibrator from Wires FT68C003(+) and FT68C003(-) and reconnect the wires to TB1.

_____ 8.2.14 Remove Wires FT68C003(-) and IB003B-1(+) from LCU conduit interface box (Reference Drawing H-2-815121, Sh 2) and connect them to the input of the loop calibrator.

_____ 8.2.15 Press the arrow keys on the meter face to adjust the simulated flow rate to 0 gpm. Record reading on the loop calibrator. _____ mA. Verify current is 4.0 ± 0.2 mA.

_____ 8.2.16 Press the arrow keys on the meter face to adjust the simulated flow rate to 400 gpm. Record reading on the loop calibrator. _____ mA. Verify current is 6.0 ± 0.2 mA.

_____ 8.2.17 Press the arrow keys on the meter face to adjust the simulated flow rate to 1500 gpm. Record reading on the loop calibrator. _____. Verify current is 12.0 ± 0.2 mA.

_____ 8.2.18 Press the arrow keys on the meter face to adjust the simulated flow rate to 3000 gpm. Record reading on the loop calibrator. _____ mA. Verify current is 20.0 ± 0.2 mA.

_____ 8.2.19 Disconnect Wires FT68C003(-) and IB003B-1(+) from the loop calibrator input and stow in LCU conduit interface box.

_____ 8.2.20 Connect a lead resistor across Points 3 and 4 of TB1 in the IB68C003 enclosure.

_____ 8.2.21 Disconnect Automated Sampler 68C-SMPL-1 Flow Input Wires IB003B-2(+) and IB003B-2(-) from the sampler input terminals.

_____ 8.2.22 Connect the loop calibrator (+)4-20 mA input Point 5 of TB1. Connect the loop calibrator (-)4-20 mA input to Point 6 of TB1.

_____ 8.2.23 Press the arrow keys on the meter face to adjust the simulated flow rate to 0 gpm. Record reading on loop calibrator. _____ mA. Verify current is 4.0 ± 0.2 mA.

_____ 8.2.24 Press the arrow keys on the meter face to adjust the simulated flow rate to 400 gpm. Record reading on the loop calibrator. _____ mA. Verify current is 6.0 ± 0.2 mA.

_____ 8.2.25 Press the arrow keys on the meter face to adjust the simulated flow rate to 1500 gpm. Record reading on the loop calibrator. _____ mA. Verify current is 12.0 ± 0.2 mA.

_____ 8.2.26 Press the arrow keys on the meter face to adjust the simulated flow rate to 3000 gpm. Record reading on the loop calibrator. _____ mA. Verify current is 20.0 ± 0.2 mA.

_____ 8.2.27 Disconnect the loop calibrator from TB1.

_____ 8.2.28 Reconnect Automated Sampler 68C-SMPL-1 Flow Input Wires IB003B-2(+) and IB003B-2(-) to TB1 Points 5 and 6.

_____ 8.2.29 Disconnect Automated Sampler 68C-SMPL-2 Flow Input Wires IB003A-2(+) and IB003A-2(-) from TB1 Points 7 and 8.

_____ 8.2.30 Connect the loop calibrator (+)4-20 mA input to Point 7 of TB1. Connect the loop calibrator (-)4-20 mA input to Point 8 of TB1.

_____ 8.2.31 Press the arrow keys on the meter face to adjust the simulated flow rate to 0 gpm. Record reading on the loop calibrator. _____ mA. Verify current is 4.0 ± 0.2 mA.

_____ 8.2.32 Press the arrow keys on the meter face to adjust the simulated flow rate to 400 gpm. Record reading on the loop calibrator. _____ mA. Verify current is 6.0 ± 0.2 mA.

_____ 8.2.33 Press the arrow keys on the meter face to adjust the simulated flow rate to 1500 gpm. Record reading on the loop calibrator. _____ mA. Verify current is 12.0 ± 0.2 mA.

_____ 8.2.34 Press the arrow keys on the meter face to adjust the simulated flow rate to 3000 gpm. Record reading on the loop calibrator. _____ mA. Verify current is 20.0 ± 0.2 mA.

_____ 8.2.35 Disconnect the loop calibrator from TB1.

_____ 8.2.36 Reconnect Automated Sampler 68C-SMPL-2 Flow Input Wires IB003A-2 (+) and IB003A-2(-) to the TB1 Points 7 and 8.

END OF SECTION 8

9 ROOM AIR TEMPERATURE MONITOR: TE/TT 68C009

TT 68C009 and Integral Temperature Sensing Element TE68C009 are located on the south wall of the Disposal Station Sampling Building 6653. The temperature transmitter transmits a 4-20 mA signal related to room air temperature to LCU55C-16.

TE/TT 68C009 and the temperature sensing element will be tested to verify that each functions correctly.

9.1 PREPARATION

_____ 9.1.1 Verify all prerequisites of Para 7.1 have been met.

9.2 ROOM AIR TEMPERATURE MONITOR VERIFICATION

This test will verify that the room air temperature monitor will function as required.

Perform the following steps.

_____ 9.2.1 Remove Temperature Transmitter TT 68C009 Wires TT68C009(+) and TT68C009(-) from LCU conduit interface box (Reference Drawing H-2-815121, Sh 2).

_____ 9.2.2 Terminate TT68C009(+) to the (+) terminal of the dc power supply. Terminate the (-) terminal of the power supply to the (-) mA input terminal of the loop calibrator with a shorting jumper. Terminate TT68C009(-) to the (+) mA input terminal of the loop calibrator.

_____ 9.2.3 Verify loop power on the loop calibrator is on.

_____ 9.2.4 Verify and record reading from loop calibrator display. _____ mA.

_____ 9.2.5 Apply heated air to outside of wall mounted module.

NOTE: Do not overheat wall mounted module as plastic frame may be affected.

_____ 9.2.6 Visually verify that mA reading on loop calibrator increases as the integral temperature element is heated.

_____ 9.2.7 Remove heat from wall mounted module.

_____ 9.2.8 Visually verify that mA reading on loop calibrator stabilizes and begins to decrease as the wall mounted unit cools.

_____ 9.2.9 Disconnect Temperature Transmitter Wires TT68C009(+) and TT68C009(-) and store in LCU conduit interface box.

END OF SECTION 9

10 EFFLUENT VALVES AND POSITION INDICATORS: MV 68C004 & 005

MV 68C004 and MV 68C005 are located in the disposal line. Each "ON/OFF" motor operated valve controls flow to a disposal pond. MV 68C004 controls flow to Pond B and MV 68C005 to Pond A. Valve position is remotely controlled. Valve position is remotely monitored by Position Switches ZS 68C004C/N and ZS 68C005C/N.

MV 68C004, ZSH 68C004N, ZSL 68C004C, MV 68C005, ZSH 68C005N, and ZSL 68C005C will be tested to verify that each functions correctly.

10.1 PREPARATION

_____ 10.1.1 Verify all prerequisites of Para 7.1 have been met.

_____ 10.1.2 Verify local power source to valve motor and local power source is OFF.

_____ 10.1.3 Verify there is no power to the position switches.

10.2 MV 68C0* VALVE VERIFICATION (* = 04 or 05)

Record the following steps for the items shown on Data Sheet 10.2.

10.2.1 Remove valve actuator cover.

10.2.2 Manually operate the valve actuator handwheel clockwise, until the valve is fully closed.

10.2.3 Verify handwheel smoothness and freedom of operation.

10.2.4 Verify no debris in valve seat.

10.2.5 In the CLOSED position, verify that the lower two limit switches mounted on the indicator shaft (wired with blue wires) are actuated by the cam lobes. If required, individually adjust the cams. For adjustment, rotate the cam's brass worm screw until the cam lobe just trips the switch from a clockwise direction. If the cams do not require adjustment, skip to Step 10.2.9.

10.2.6 With the close limit switches adjusted, loosen the closed travel stop locknut (closed stop located on right when viewed from travel stop side of actuator).

NOTE: Travel stops are located on the gear case housing of the valve.

10.2.7 Rotate closed travel stop clockwise until it just touches the internal stop lug of the output drive.

10.2.8 Rotate closed travel stop 1/2 turn counterclockwise and lock in position with locknut.

10.2.9 Verify resistance is approximately 0 ohms across Auxilliary CLOSE limit switch (closed contact). Terminal points 5 and 6 on TB-1 in the actuator housing.

10.2.10 Verify resistance is approximately infinite ohms across CLOSE limit switch (open contact). Terminal points 1 and 2 on TB-1 in the actuator housing.

10.2.11 Verify resistance is approximately infinite ohms across OPEN limit switch (open contact). Terminal points 5 and 4 on TB-1 in the actuator housing.

10.2.12 Verify resistance is approximately infinite ohms across Auxilliary OPEN limit switch (open contact). Terminal points 5 and 4 on TB-1 in the actuator housing.

10.2.13 Manually operate the actuator handwheel counterclockwise, until the valve is fully open.

10.2.14 In the OPEN position, verify that the upper two limit switches mounted on the indicator shaft (wired with red wires) are actuated by the cam lobes. If required individually adjust the cams. For adjustment, rotate the cam's brass worm screw until the cam lobe just trips the switch from a clockwise direction. If the cams do not require adjustment, skip to Step 10.2.18.

10.2.15 With the open limit switches adjusted, loosen the open travel stop locknut (open stop located on left when viewed from travel stop side of actuator).

NOTE: Travel stops are located on the gear case housing of the valve.

10.2.16 Rotate open travel stop clockwise until it just touches the internal stop lug of the output drive.

10.2.17 Rotate open travel stop 1/2 turn counterclockwise and lock in position with locknut.

10.2.18 Verify resistance is approximately 0 ohms across Auxilliary OPEN limit switch (closed contact). Terminal points 5 and 4 on TB-1 in the actuator housing.

10.2.19 Verify resistance is approximately infinite ohms across OPEN limit switch (open contact). Terminal points 1 and 3 on TB-1 in the actuator housing.

10.2.20 Verify resistance is approximately infinite ohms across CLOSE limit switch (open contact). Terminal points 1 and 2 on TB-1 in the actuator housing.

10.2.21 Verify resistance is approximately infinite ohms across Auxilliary CLOSE limit switch (open contact). Terminal points 5 and 6 on TB-1 in the actuator housing.

10.2.22 Remove valve OPEN auxillary limit switch wires 9A-* and 9-N from LCU conduit interface box and verify resistance is approximately 0 ohms (closed contact) across them.

10.2.23 Remove valve CLOSE auxillary limit switch wires 9A-* and 9-N from LCU conduit interface box and verify resistance is approximately infinite ohms (open contact) across them.

10.2.24 Terminate CLOSE valve wire 11-* and 11-N to switched 120 V ac power supply. Turn power ON and verify Actuator turns the valve to the FULL CLOSE position.

10.2.25 Verify that actuator stops and motor turns off at the FULL CLOSE position.

10.2.26 Manually operate the actuator handwheel until the valve is between FULL OPEN and FULL CLOSE position.

10.2.27 Verify resistance across valve OPEN auxillary limit switch, wires 9A-* and 9-N, is approximately infinite ohms (open contact).

10.2.28 Verify resistance across valve CLOSE auxillary limit switch, wires 9A-* and 9-N,is approximately infinite ohms (open contact).

10.2.29 Terminate OPEN valve wire 11-* and 11-N to switched 120 V ac power supply. Turn power ON and verify Actuator turns the valve towards the OPEN position. Apply power to the valve until it reaches the FULL OPEN position.

10.2.30 Disconnect power supply and restore valve wiring and valve cover to their as found conditions.

DATA SHEET 10.2			
STEP	PERFORM/VERIFY	EFFLUENT VALVES MV 68C0*	
		04	05
10.2.1	Remove cover		
10.2.2	Manually close valve		
10.2.3	Manual operation acceptable		
10.2.4	Valve seat clean		
10.2.5	Lower limit switches activated. (If yes, Steps 10.2.6 through 10.2.8 are N/A.)		
10.2.6	Loosen close travel stop locknut		
10.2.7	Rotate close travel stop clockwise		
10.2.8	Rotate close travel stop counterclockwise and lock in position		
10.2.9	Auxiliary close limit switch is closed.		
10.2.10	CLOSED limit switch is open		
10.2.11	OPEN limit switch is open		
10.2.12	Auxiliary OPEN limit switch is open		
10.2.13	Manually open valve		
10.2.14	Upper limit switches actuated. (If yes Steps 10.2.15 through 10.2.17 are N/A.)		
10.2.15	Loosen open travel stop locknut		
10.2.16	Rotate open travel stop clockwise		
10.2.17	Rotate open travel stop counterclockwise and lock in position		
10.2.18	Auxiliary OPEN limit switch is closed		
10.2.19	OPEN limit switch is open		

10.2.20	CLOSE limit switch is open		
10.2.21	Auxiliary CLOSE limit switch is open		
10.2.22	0 resistance across wires: 9A-4 and 9-N (Valve #05) 9A-6 and 9-N (Valve #04)		
10.2.23	Infinite resistance across wires: 9A-3/9-N (Valve #05) 9A-5/9-N (Valve #04)		
10.2.24	Apply power to close valve wires: 11-2/1/N (Valve #05) 11-4/1/N (Valve #04)		
10.2.25	Actuator stops and motor turns off		
10.2.26	Close valve halfway		
10.2.27	Infinite resistance across wires: 9A-4/9-N (Valve #05) 9A-6/9-N (Valve #04)		
10.2.28	Infinite resistance across wires: 9A-3/9-N (Valve #05) 9A-5/9-N (Valve #04)		
10.2.29	Apply power to OPEN valve wires: 11-1/11-N (Valve #05) 11-3/11-N (Valve #04)		
10.2.30	Disconnect power return valves to as found condition		

END OF SECTION 10

11 DISPOSAL POND LEVEL MONITOR: LE/LT 68C007 AND LE/LT 68C008

LE/LT 68C007 and LE/LT 68C008 level instruments monitor stilling wells located on the west side of the disposal ponds. The level instruments transmit a 4-20 mA signals related to disposal pond level to LCU55C-16.

LE/LT 68C007 and LE/LT 68C008 level instruments will be tested to verify that each functions correctly.

11.1 PREPARATION

Verify all prerequisites of Para 7.1 have been met.

_____ 11.1.1 Verify level instruments are installed in stilling wells.

_____ 11.1.2 Provide communications between the Disposal Station and Disposal Pond A and B level instrument.

_____ 11.1.3 Provide water (100 gal minimum) to fill stilling well as required during test.

_____ 11.1.4 Allow level transmitter to stabilize for 5 minutes after power up.

11.2 DISPOSAL POND LEVEL MONITOR VERIFICATION (* = 07 or 08)

This test will verify that the disposal pond level monitors will function as required. Level instrument function will be tested with the devices installed in the stilling well. Isolation Valves 68C-V-03 and 68C-V-04 will be closed to isolate the stilling wells from the disposal pond. The stilling wells will be filled with water to demonstrate device function.

Record the following steps for the items shown in Data Sheet 11.2.

11.2.1 Terminate a jumper wire to Transmitter LT68C0* Terminal 3(+) and Transmitter Wire LT68C0*(-) to Transmitter LT68C0*(-) Terminal 4(-).

11.2.2 Terminate level Transmitter Wire LT68C0*(+) to the (+) input of ammeter. Terminate the jumper wire to the (-) input of the ammeter.

11.2.3 Terminate opposite of level transmitter wire LT68C0(+), stored in the LCU conduit interface box, to (-) terminal of dc power supply and LT68C0*(-) to (-) input of dc power supply.

11.2.4 Manually OPEN and CLOSE stilling well isolation valve to verify smoothness and freedom of operation. Leave valve open and allow well to drain until empty.

11.2.5 Adjust transmitter COARSE and FINE ZERO potentiometers as needed to obtain a 4.0 ± 0.2 mA reading.

11.2.6 Close stilling well isolation valve.

11.2.7 Fill disposal pond stilling well with water to bottom of transmitter flange.

NOTE: Fill well through 3/4-inch nipple in 6-inch CW-SST. DO NOT fill stilling well through 6-inch WELL-SST.

11.2.8 Adjust COARSE and FINE SPAN potentiometers as needed to obtain a 20.0 ± 0.2 mA reading on the ammeter.

11.2.9 Open isolation valve and allow stilling well to drain.

11.2.10 Verify ammeter reading decreases as stilling well drains.

11.2.11 Verify current reading is 4.0 ± 0.2 mA with stilling well empty.

11.2.12 Disconnect power supply and store transmitter wires in LCU conduit in interface box.

11.2.13 Disconnect jumper wire. Remove ammeter and reconnect LT68C0*(+) to Transmitter LT68C0* Terminal 3(+).

11.2.14 Replace transmitter cover. Open isolation valve and replace station covers.

DATA SHEET 11.2			
STEP	PERFORM/VERIFY	LEVEL MONITOR LT68CO*	
		07	08
11.2.1	Signal and jumper wires terminated on transmitter		
11.2.2	Ammeter connected in circuit		
11.2.3	Signal wires terminated to power supply		
11.2.4	Isolation valve operation ok. Valve open. Well drained.		
11.2.5	Adjust ZERO. 4.0 ± 0.2 mA output		
11.2.6	Isolation valve closed		
11.2.7	Stilling well full		
11.2.8	Adjust SPAN. 20.0 ± 0.2 mA output		
11.2.9	Open valve		
11.2.10	Transmitter current decreases as well drains		
11.2.11	Transmitter current is 4.0 ± 0.2 mA		
11.2.12	Disconnect power supply. Store wires.		
11.2.13	Jumper and ammeter removed. Transmitter reconnected.		
11.2.14	Transmitter cover. Open valve. Station cover.		

END OF SECTION 11

12 AUTOMATED SAMPLER 68C-SMPL-1 AND 68C-SMPL-2

Automated Samplers 68C-SMPL-1 and 68C-SMPL-2 are permanent and portable refrigerated waste water samplers mounted in the Disposal Station Building 6653. The samplers are microprocessor based devices with programming capability. A 4-20 mA disposal line flow signal from Flow Transmitter FT 68C003 is input to both samplers via Loop Splitter IB 68C003. The flow signal can be used by the samplers as a basis for sample size and frequency.

This test will verify that Automated Samplers 68C-SMPL-1 and 68C-SMPL-2 function as specified.

12.1 PREPARATION

_____ 12.1.1 Verify all prerequisites of Para 7.1 have been met.

_____ 12.1.2 Verify power to the automated samplers. Allow samplers to warm up for 5 minutes before testing.

_____ 12.1.3 Verify that there is liquid in the Disposal Line.

12.2 AUTOMATED SAMPLER 68C-SMPL-1 VERIFICATION

Perform the following steps.

_____ 12.2.1 Disconnect sampler input leads IB003B-2(+) and IB003B-2(-). Connect the positive lead to the positive source lead of the loop calibrator. Connect the negative lead of the sampler to the negative source lead of the loop calibrator.

_____ 12.2.2 Press ON button. "READY TO START", "PROGRAM HALTED", "PROGRAM COMPLETE", or "PROGRAM RUNNING" will be displayed. If "PROGRAM RUNNING" is displayed press [CHANGE/HALT]. If "READY TO START", "PROGRAM HALTED", or "PROGRAM COMPLETE" is displayed then press [*].

_____ 12.2.3 "ALTER PARAMETER" will be displayed. Press [YES/ENTER].

_____ 12.2.4 "ADVANCED PROGRAM" will be displayed. Press [NO].

_____ 12.2.5 "ENTER NUMBER OF SAMPLE BOTTLES, TOTAL BOTTLES =____" will be displayed. Press [1]. Press [YES/ENTER].

_____ 12.2.6 "ENTER UNITS FOR BOTTLE VOLUME, MILLILTERS?" Note, gallons may be displayed instead of millilters. When units of millilters are displayed press [YES/ENTER].

_____ 12.2.7 "VOLUME = ____MILLILTERS" will be displayed. Press [100]. Press [YES/ENTER].

_____ 12.2.8 "ENTER UNITS FOR TUBING LENGTH, FEET?" will be displayed. Note, centimeters may be displayed instead of feet. A "NO" response will cause the other units to cycle through the display. Press [YES/ENTER] when "FEET" are shown.

_____ 12.2.9 "ENTER LENGTH OF TUBING, LENGTH = ____FEET" will be displayed. Press [3] then press [YES/ENTER].

_____ 12.2.10 "PROGRAM LOCK" will be displayed. Press [NO].

_____ 12.2.11 "PROGRAM DELAY?" will be displayed. Press [NO].

_____ 12.2.12 If "TIMED MODE?" is displayed. Press [NO].

_____ 12.2.13 When "FLOW MODE?" is displayed. Press [YES/ENTER].

_____ 12.2.14 The user will be prompted to enter the number of flow signals desired for the sampler to count down between samples. Press [2]. Press [YES/ENTER].

_____ 12.2.15 "CONTINUOUS MODE" will be displayed. Press [YES]

_____ 12.2.16 "CHANGE VOLUME" will be displayed. Press [NO].

_____ 12.2.17 "INTAKE RINSES" will be displayed. Press [NO].

_____ 12.2.18 "INTAKE FAULTS" will be displayed. Press [NO].

_____ 12.2.19 "ID # 0000" will be displayed. Press [YES].

_____ 12.2.20 "READY TO START" will be displayed.

_____ 12.2.21 With the loop calibrator, generate a 20 mA supply current.

_____ 12.2.22 Remove Tygon section of sample tube from stainless section and submerge end of line in water.

_____ 12.2.23 Press [START PROGRAM].

_____ 12.2.24 Verify operation of the sampler pump and fluid discharge into the sampling bottle.

_____ 12.2.25 Stop the test by pressing [Change/HALT].

_____ 12.2.26 Press [OFF].

_____ 12.2.27 Disconnect the loop calibrator from the sampler. Reconnect sampler leads to their original termination point.

_____ 12.2.28 Reconnect Tygon section of sample tube to stainless section.

12.3 AUTOMATED SAMPLER 68C-SMPL-2 VERIFICATION

Perform the following steps.

_____ 12.3.1 Disconnect sampler input leads IB003A-2(+) and IB003A-2(-) from TB1. Connect the positive lead to the positive source lead of the loop calibrator. Connect the negative lead of the sampler to the negative source lead of the loop calibrator.

_____ 12.3.2 Press ON button. "READY TO START", "PROGRAM HALTED", "PROGRAM COMPLETE", or "PROGRAM RUNNING" will be displayed. If "PROGRAM RUNNING" is displayed press [CHANGE/HALT]. If "READY TO START", "PROGRAM HALTED", or "PROGRAM COMPLETE" is displayed then press [*].

_____ 12.3.3 "ALTER PARAMETER" will be displayed. Press [YES/ENTER].

_____ 12.3.4 "ADVANCED PROGRAM" will be displayed. Press [NO].

_____ 12.3.5 "ENTER NUMBER OF SAMPLE BOTTLES, TOTAL BOTTLES =_____" will be displayed. Press [1]. Press [YES/ENTER].

_____ 12.3.6 "ENTER UNITS FOR BOTTLE VOLUME, MILLILTERS?" Note, gallons may be displayed instead of millilters. When units of millilters are displayed press [YES/ENTER]. A "NO" response causes the other volume units to appear.

_____ 12.3.7 "VOLUME = _____MILLILTERS" will be displayed. Press [100]. Press [YES/ENTER].

_____ 12.3.8 "ENTER UNITS FOR TUBING LENGTH, FEET?" will be displayed. Note, centimeters may be displayed instead of feet. A "NO" response will cause the other units to cycle through the display. Press [YES/ENTER] when "FEET" are shown.

_____ 12.3.9 "ENTER LENGTH OF TUBING, LENGTH = _____FEET" will be displayed. Press [3] then press [YES/ENTER].

_____ 12.3.10 "PROGRAM LOCK" will be displayed. Press [NO].

_____ 12.3.11 "PROGRAM DELAY?" will be displayed. Press [NO].

_____ 12.3.12 If "TIMED MODE?" is displayed. Press [NO].

_____ 12.3.13 When "FLOW MODE?" is displayed. Press [YES/ENTER].

_____ 12.3.14 The user will be prompted to enter the number of flow signals desired for the sampler to count down between samples. Press [2]. Press [YES/ENTER].

_____ 12.3.15 "CONTINUOUS MODE" will be displayed. Press [YES].

_____ 12.3.16 "CHANGE VOLUME" will be displayed. Press [NO].

_____ 12.3.17 "INTAKE RINSES" will be displayed. Press [NO].

_____ 12.3.18 "INTAKE FAULTS" will be displayed. Press [NO].

_____ 12.3.19 "READY TO START" will be displayed.

_____ 12.3.20 With the loop calibrator, generate a 20 mA supply current.

_____ 12.3.21 Remove Tygon section of sample tube from stainless section and submerge end of line in water.

_____ 12.3.22 Press [START PROGRAM].

_____ 12.3.23 Verify operation of the sampler pump and fluid discharge into the sampling bottle.

_____ 12.3.24 Stop the test by pressing [Change/HALT].

_____ 12.3.25 Press [OFF].

_____ 12.3.26 Disconnect the loop calibrator from the sampler. Reconnect sampler leads to their original termination point.

_____ 12.3.27 Reconnect Tygon section of sample tube to stainless section.

END OF SECTION 12

13 PRESSURE RELIEF VALVE PSV 68C001 AND PSV 68C002

PSV 68C001 and PSV 68C002 are low-pressure relief valves used to prevent over pressure of the inlet to the automated and portable waste water samplers. Over pressure of the sampler inlets will occur only if both Basin Inlet Valves MV 68C004 and MV68C005 are simultaneously closed. The relief valves are connected to the sample line of each sampler and are mounted so they drain into the building floor drain.

PSV 68C001 and PSV 68C002 pressure relief valves will be tested to verify that their cracking pressures are set correctly.

13.1 PREPARATION

_____ 13.1.1 Verify all prerequisites of Para 7.1 have been met.

13.2 PRESSURE RELIEF VALVE PSV 68C001 AND PSV 68C002 CRACKING PRESSURE VERIFICATION

This test will verify that the pressure relief valves will prevent over pressure of the automated samplers' input.

Record the following steps in Data Sheet 13.3.

Note that for the following: * = 01 or 02.

13.2.1 Disconnect sample tubing from waste water sampler inlet. Connect pressure gage to end of Tygon tubing.

13.2.2 Disconnect PSV68C00* from sample tube isolation valve 68C-V-*.

13.2.3 Attach regulated nitrogen or dry air pressure source to free end of stainless sample tube. Pressure source shall be regulated and have pressure indication to indicate line pressure.

13.2.4 Close sample tube isolation valve.

13.2.5 With the regulated pressure source ramp the sample tube pressure up from 0 psig to relief valve cracking pressure at a rate not to exceed 5 psig per minute.

13.2.6 Verify that relief valve cracking pressure is set to 18-22 psig. Adjust relief valve as necessary.

13.2.7 With the regulated pressure source ramp the sample tube pressure down from the cracking pressure to the valve's reseal pressure at a rate not to exceed 5 psi per minute. Record relief valve reseal pressure.

13.2.8 Remove pressure source from sample tube, reconnect sample tube to sampler inlet, relief valve to isolation valve, and open sample tube isolation valve.

DATA SHEET 13.2			
STEP	PERFORM/VERIFY	PSV 68C0*	
		07	08
13.2.1	Sample tubing disconnected from sampler. Pressure gage connected.		
13.2.2	Relief valve disconnected from isolation valve		
13.2.3	Attach regulated pressure source to end of sample tube		
13.2.4	Sample tube isolation valve closed		
13.2.5	Sample tube pressure ramp does not exceed 5 psi per minute		
13.2.6	Relief valve cracking pressure is 20-25 psig		
13.2.7	Relief valve reseal pressure		
13.2.8	Sample tube connected to sampler inlet and open sample tube isolation valve open		

END OF SECTION 13

14 SLUICE GATES 68C-SLG-06, 07, AND 08

Sluice Gates 68C-SLG-06, 07, and 08 are manually operated sluice gates located in the Pond Overflow Diversion basing located between the ponds. The sluice gates are used to transfer water between basins.

Manual operability of the sluice gates will be tested by the following procedure.

14.1 PREPARATION

_____ 14.1.1 Verify all prerequisites of Para 7.1 have been met.

14.2 SLUICE GATES 68C-SLG-06, 07, AND 08 MANUAL OPERABILTIY TEST

_____ 14.2.1 Manually open sluice gate 68C-SLG-06 by rotating handwheel. Verify smoothness and freedom of operation.

_____ 14.2.2 Manually close sluice gate 68C-SLG-06 by rotating handwheel.

_____ 14.2.3 Manually open sluice gate 68C-SLG-07 by rotating handwheel. Verify smoothness and freedom of operation.

_____ 14.2.4 Manually close sluice gate 68C-SLG-07 by rotating handwheel.

_____ 14.2.5 Manually open sluice gate 68C-SLG-08 by rotating handwheel. Verify smoothness and freedom of operation.

_____ 14.2.6 Manually close sluice gate 68C-SLG-08 by rotating handwheel.

END OF SECTION 14

EXCEPTION NO.	Project No.	ATP No.	Rev.
Recorded by	Organization	Date Recorded	ATP Page No.
Step No.	Requirement		
Description of Problem			
Objector 1 (Name/Organization)	Objector 2 (Name/Organization)		
Planned Action			
Action Taken			

SAMPLE

RETEST EXECUTION AND ACCEPTANCE

Retest Installation Contractor	Date	Recorder	Date
Witness 1 (Name/Organization)	Date	Witness 2 (Name/Organization)	Date
Field Engineering	Date	Test Director (Name/Organization)	Date
Design Engineering (Author of ATP)	Date	A-E Project Engineer	Date

APPROVAL AND ACCEPTANCE – OPERATING CONTRACTOR

☐ Retest Approved and Accepted ☐ Exception Accepted-as-is* ☐ Other*

* Explanation

Approver 1	Date	Approver 2	Date
Approver 3	Date	Approver 4	Date

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