Sta 4. Q.

MAR 30 2000

ENGINEERING DATA TRANSMITTAL

Page 1 of 1

1. EDT 628306

2. To: (Receiving Organization) Distribution	3. From: (Originating Organization) AZ-101 Mixer Pump Engineering	4. Related EDT No.: N/A
5. Proj./Prog./Dept./Div.: AZ-101 Mixer Pump Test	6. Design Authority/Design Agent/Cog. Engr.: G Tardiff/B Ulbricht/D Bragg	7. Purchase Order No.: N/A
8. Originator Remarks: This EDT is for approval and release of document RPP-6104, "AZ-101 Gamma Cart Opertational Test Report".		9. Equip./Component No.: AZ-101 gamma cart
		10. System/Bldg./Facility: 241-AZ
		12. Major Assm. Dwg. No.: H-2-79234
11. Receiver Remarks:	11A. Design Baseline Document? ○ Yes ◉ No	13. Permit/Permit Application No.: N/A
		14. Required Response Date:

15. DATA TRANSMITTED

(A) Item No.	(B) Document/Drawing No.	(C) Sheet No.	(D) Rev. No.	(E) Title or Description of Data Transmitted	(F) Approval Designator	(G) Reason for Transmittal	(H) Originator Disposition	(I) Receiver Disposition
1	RPP-6104		0	AZ-101 Gamma Cart OTR	Q,S	1		

16. KEY

Approval Designator (F)	Reason for Transmittal (G)	Disposition (H) & (I)
E, S, Q, D OR N/A (See WHC-CM-3-5, Sec. 12.7)	1. Approval 2. Release 3. Information 4. Review 5. Post-Review 6. Dist. (Receipt Acknow. Required)	1. Approved 2. Approved w/comment 3. Disapproved w/comment 4. Reviewed no/comment 5. Reviewed w/comment 6. Receipt acknowledged

17. SIGNATURE/DISTRIBUTION (See Approval Designator for required signatures)

(G) Reason	(H) Disp.	(J) Name	(K) Signature	(L) Date	(M) MSIN	(G) Reason	(H) Disp.	(J) Name	(K) Signature	(L) Date	(M) MSIN
1	1	Design Authority G Tardiff	D Bragg for	3/29/00	S5-05	1	1	J Bellomy	Ruben Mendoza for Jim Bellomy per telecon	3-30-00	
		Design Agent									
1	1	Cog. Eng. G Tardiff	D Bragg	3/29/00	S5-05	1					
1	1	Cog. Mgr. D Baide	D Baide	3/29/00	S5-05						
1	1	QA W Adams	W L Adams	3/29/00	S6-15						
1	1	Safety R T Fogg	[illegible]	3/29/00							
		Env.									

18.	19.	20.	21. DOE APPROVAL (if required)
Ruben Mendoza 3-28-00 Signature of EDT Originator / Date	Authorized Representative for Receiving Organization / Date	D Baide 3/29/00 Design Authority/ Cognizant Manager / Date	Ctrl No. ○ Approved ○ Approved w/comments ○ Disapproved w/comments

AZ-101 Gamma Cart Operational Test Report

RE Mendoza
Cogema Engineering
Richland, WA 99352
U.S. Department of Energy Contract DE-AC06-96RL13200

EDT/ECN: 628306 UC:
Org Code: Charge Code:
B&R Code: Total Pages: 240

Key Words: AZ-101, 241-AZ-101, Mixer Pumps, Gamma Cart, Sludge Mobilization, W-151, Test Report

Abstract:
Test Report documenting the successful completion of the Operational Test Procedure for the AZ-101 Gamma Carts. Gamma carts are in support of the AZ-101 Mixer Pump Test.

TRADEMARK DISCLAIMER. Reference herein to any specific commercial product, process, or service by trade name, trademark, manufacturer, or otherwise, does not necessarily constitute or imply its endorsement, recommendation, or favoring by the United States Government or any agency thereof or its contractors or subcontractors.

Printed in the United States of America. To obtain copies of this document, contact: Document Control Services, P.O. Box 950, Mailstop H6-08, Richland WA 99352, Phone (509) 372-2420; Fax (509) 376-4989.

3/30/00
Release Approval Date

DATE: HANFORD RELEASE
STA: 4 ID: 2
MAR 30 2000
Release Stamp

Approved For Public Release

RPP-6104
AZ-101 Gamma Cart
Operational Test Report

1.0 Purpose

The purpose of this test report is to document the successful completion of the gamma (also known as the Sludge Mobilization) cart system Operational Test Procedure (OTP). This OTP, OTP-260-004, *"241-AZ Gamma Cart Operational Test Procedure,"* was performed between 2/12/2000 and 3/10/2000 within work package 2E-00-00054. The completed OTP is attached as Appendix A.

This field OTP followed the successful completion of RPP-5577, *"241-AZ-101 Mixer Pump Demonstration Test Gamma Cart ATP/QTP"*.

2.0 System Description

The gamma carts were designed to provide data to help determine the effectiveness of the AZ-101 Mixer Pump Test.

There are two identical gamma cart systems, labeled A and B. Each system includes the cart itself housing the motor control unit and probe deployment cable, a gamma probe, a riser extension assembly, a data acquisition and control system, and associated communications/power cables. The gamma cart system description is documented in RPP-5576, *"241-AZ-101 Mixer Pump Gamma Cart System Description of Operation"*. The system arrangement and assemblies are shown on H-2-79234, *"TWRS Sludge Mobilization Cart Arrangement"*, H-2-79235, *"TWRS Sludge Mobilization Cart Assembly"*, and H-2-830024, *"Sheave Riser Extension Assembly"*.

The systems are used to lower the probes to various depths within drywells in the tank to measure the energies emitted by the sludge and slurry. The mixing of the sludge/slurry can be detected because the components of the sludge radiate at gamma energies greater than the slurry (greater than Cs-137 energy). The drywells are located at several positions around the tank allowing several test locations.

3.0 Test Summary

The gamma cart OTP tested each of the two complete systems including speed and position indicators, remote software and local control, and data acquisition.

Various combinations of the two carts and their modes of testing were tested in nine of the tank drywells (risers 14B, 14D, 14E, 14F, 15B, 15C, 15E, 15F, and 15I). The probes were deployed to several depths and data was acquired. The same depths were used in each of the drywells to assist in assembling tank baseline data.

4.0 Test Exceptions

There were a total of 7 test exceptions generated. These exceptions and their resolutions are summarized below. Copies of the signed off resolutions are included in Appendix A.

TE #1 – Step to route cable from gamma cart to extension tool was needed in procedure.
Resolution – Procedure was changed with a Procedure Change Authorization.

TE #2 – Incorrect amplifier was referred to, settings were incorrect.
Resolution – Accepted As-Is, correct settings were noted on exception sheet.

TE #3 – Steps 5.2.32 and 5.2.33 out of order.
Resolution - Accepted As-Is, procedure allowed Test Director to perform the steps as needed.

TE #4 – Step 5.2.32 required a hard copy of data files, no printer was available.
Resolution – Accepted after hard copies were printed from a different computer with a printer.

TE #5 – Step 5.3.3 did not include information to ensure the REAL/LIVE toggle button was set to LIVE.
Resolution – Accepted As-Is after note made on the exception sheet. Information was provided as input to the Gamma Cart Operating procedure.

TE #6 – Step 5.3.9 required a hard copy of data files, no printer was available.
Resolution – Accepted after hard copies were printed from a different computer with a printer.

TE #7 – Steps 5.2.32 and 5.2.33 out of order.
Resolution - Accepted As-Is, procedure allowed Test Director to perform the steps as needed.

5.0 Conclusions

The completion of the gamma cart OTP signifies that the gamma cart systems operate in the field as designed and are ready to perform monitoring activities during the mixer pump test.

Appendix A
Completed Operational Test Procedure

RISER 14D
GAMMA CART - B

DOCUMENT ACCEPTANCE REVIEW FORM

RPP-6104 R0
Page 1 of 1

TF-2000-025 — Procedure Change Number
TF-98-1201, Rev. 1 — USQ Screening No.
Q — Approval Designator

Prepared By: Gary Tardiff (Name)

Title/Organization:

TP-260-004 — Document No.
A-0 — Rev./Mod.

- [x] Plant Operating Procedure
- [ ] Operator Round Sheet
- [ ] Criticality Specifications
- [ ] Maintenance Procedure
- [ ] Alarm Response Procedure
- [ ] Facility Sampling Schedule
- [ ] Other Type Document
- [ ] Operating Specification Document (Requires Checklist)

- [ ] New or Revised - Full Review Required
- [x] Procedure Change Authorization
- [ ] Administrative Change

241-AZ Gamma Cart Operational Test Procedure
Document Title

[x] Procedure Changes/Changed Pages/Summary of change: Page 13 & 14 Add missing steps to allow detector probe to go through the extension tool.

PROCEDURE REVIEWERS SIGNATURES

DOCUMENT IS ACCEPTABLE

As Is	With Changes Noted	Signature	Print Name	Title/Org	Date
[x]	[ ]	Scott A. Caylor (Signature - Certified Operator/User)	S.A. Caylor	OPS	2-12-00
[ ]	[ ]	WL Adams PER TELECON (Signature - QA Engineer)	WL ADAMS	RPP QA	2-12-00
[ ]	[ ]	(Signature - Safety Engineer)			
[x]	[ ]	(Signature - Shift Manager or Operations Support Manager)	Robert J. Jones	SM. / RPP	2/12/00
[ ]	[ ]	NA (Signature - Radiological Controls)			
[ ]	[ ]	(Signature - Other)			
[x]	[ ]	Gary R Tardiff (Signature - Cognizant Engineer)	Gary Tardiff	CogEng/DSTE	2/12/00

Ensures that the procedure has been field validated and comments incorporated.

Verifies documentation is complete, including Change Summary Signature Sheet and ensures Radiological review is complete or marks Radiological Controls as N/A

Ensures that the technical aspects of the procedure are correct, and that the procedure has been reviewed per the approval designator. Enters the USQ Screening No.

PROCEDURE WRITER

Signature	Print Name	Title/Org	Date

APPROVAL AUTHORITY

Signature	Print Name	Title/Org	Date
Lm walk	Lm walk	OE/DST	2/12/00

A-3

CHANGE SUMMARY AND SIGNATURE SHEET

er, Rev/Mod Number	Procedure Title
0- , A-0	241-AZ Gamma Cart Operational Test Procedure
appl)	Effective Date of Change

Summary of Change

Add 4 missing steps

Reason for Change

Allows Gamma probe to be put through the extension tool.

(You may attach additional pages if necessary to cover all procedure changes.)

and understand the instruction contained in the Procedure/PCA/change listed above as required to maintain cification currency.

SIGNATURE	DATE	SIGNATURE	DATE
A. Bayles	2-12-00		

(If room for additional signatures is needed, they may be placed on the back.)

241-AZ GAMMA CART OPERATIONAL TEST PROCEDURE

SUPERSEDED BY Rev. A-1 2/15/00

Last Full Revision:	A0
Release Date:	02-09-2000
USQ Screening Number:	TF-00-0083 R.0
Approval Designator:	Q
Current Modification:	
USQ Screening Number:	
Approval Designator:	
PCA Incorporated:	

POSITION/ORG	DELEGATE	DATE
LNPO	Vicki Miller	02-07-2000
SOM	Rich Gutierrez	02-07-2000
RAD. CON.	Robert E. Elder	02-08-2000
ECO	P.C. Miller	02-09-2000
QA	W.L.Adams	02-08-2000
Cog. Engineer	David Bragg	02-09-2000
Acceptance Review	David W. VanDyke	02-09-2000
Approval Authority	J.H. Bryce	02-09-2000

Justification: New Procedure

Summary of Changes: N/A

TABLE OF CONTENTS

TEST EXECUTION SHEET 3

1.0 PURPOSE AND SCOPE 4
1.1 PURPOSE 4
1.2 SCOPE 4

2.0 INFORMATION 4
2.1 TERMS AND DEFINITIONS 4
2.2 RESPONSIBILITIES 4
2.3 REFERENCES 6
2.4 GENERAL INFORMATION 7
2.5 RECORDS 10

3.0 PRECAUTIONS AND LIMITATIONS 11
3.1 PERSONNEL SAFETY 11
3.2 RADIATION AND CONTAMINATION CONTROL 11

4.0 PREREQUISITES 12
4.1 SPECIAL TOOLS, EQUIPMENT, AND SUPPLIES 12
4.2 PERFORMANCE DOCUMENTS 12
4.3 CONDITIONS AND ACTIONS 12

5.0 PROCEDURE 13
5.1 SETUP 13
5.2 TEST INCREMENTAL SAMPLE MODE 16
5.3 TEST USER DEFINED MODE 23

TEST LOG 26

TEST PROCEDURE EXCEPTION LOG 27

TEST PROCEDURE EXCEPTION RECORD 27

SIGNATURE VERIFICATION LOG 29

PROCEDURE HISTORY SIGNATURE SHEET 30

TEST EXECUTION SHEET

DATE:	DOCUMENT NUMBER: OTP-260-004
DOCUMENT TITLE: 241-AZ GAMMA CART OPERATIONAL TEST PROCEDURE	
TEST PERSONNEL (PRINT NAMES)	
TEST DIRECTOR: Rich Gutierrez MDL 2/12/00 Michael Long	RECORDER: Rich Gutierrez
OPERATIONS ~~ENGINEER~~: JEanderson	
TEST EXECUTION	
TEST DIRECTOR SIGNATURE/DATE: Rich Gutierrez MDL 2/12/00 MD Long MDL 2/12/00	TEST ENGINEER SIGNATURE/DATE: Ruben mendoza 3-30-00
OPERATIONS ~~ENGINEER~~ SIGNATURE/DATE: JEanderson 3/30/00	RECORDER SIGNATURE/DATE: Rich Gutierrez 3/30/00
APPROVAL AND ACCEPTANCE OF TEST RESULTS	
WITHOUT EXCEPTION ____ (✓) WITH EXCEPTIONS RESOLVED ✓ (✓) WITH EXCEPTIONS REMAINING ____ (✓)	
TEST DIRECTOR SIGNATURE/DATE: Rich Gutierrez 3/30/00	PROJECT MANAGER SIGNATURE/DATE: Ruben mendoza for Jim Bellomy per telecon 3-30-00
TEST ENGINEER SIGNATURE/DATE: Ruben mendoza 3-30-00	QUALITY ASSURANCE SIGNATURE/DATE: WL Adams 3/30/00
DESIGN AUTHORITY SIGNATURE/DATE: Ruben mendoza for David Bragg per telecon 3-30-00	OPERATIONS ENGINEER SIGNATURE/DATE: JEanderson 3/30/00
AUTHORIZED INSPECTOR SIGNATURE/DATE: TL Clarke 3-30-00	

1.0 PURPOSE AND SCOPE

1.1 PURPOSE

This procedure provides instructions for performing an Operational Test Procedure for the Sludge Mobilization Cart System.

1.2 SCOPE

This procedure involves testing the Instrumentation involved with the Sludge Cart System, including: speed indicators, depth indicators, profile parameters, and retrieval functions.

This procedure may be repeated for either GAMMA CART A or GAMMA CART B as applicable. The procedure(s) may work independently or simultaneously as work progresses in field.

2.0 INFORMATION

2.1 TERMS AND DEFINITIONS

2.1.1 ALARA - As Low As Reasonably Achievable

2.2 RESPONSIBILITIES

2.2.1 Test Engineer is responsible for the following:

- All preparations for this Test have been completed
- Support Test Director and Test Personnel with the technical information and support necessary to complete this procedure

2.2.2 Operation Personnel are responsible for operating the equipment per the Test Engineer and Test Director's direction.

2.2 RESPONSIBILITIES (cont.)

2.2.3 Test Director is responsible for the following:

- The safe, efficient, and productive performance of the test
- Coordination of all testing activities
- Scheduling and conducting a pre-job meeting with test participants
- Notification of the persons performing and witnessing the test prior to the start of testing
- Notification of all involved test personnel when a change is made in the testing schedule
- Act as liaison between the participants involved with the testing
- Stopping any test or section which may cause damage to the system
- Obtaining revisions to the Test Procedure, to comply with authorized field changes or to accommodate existing field conditions
- Taking actions to resolve exceptions to the Test Procedure
- Signing the Operational Test Procedure Exception Record when a test exception has been resolved
- Evaluating recorded data, discrepancies, and exceptions
- Signing Test Execution Sheet when this Test Procedure has been performed
- Signing Exception Record when a retest to clear an exception has been executed and accepted
- Obtaining required signatures on the Test Procedure Working Copy prior to reproduction and distribution
- Preparing and issuing an Operational Test Report for the approved, accepted and completed Test Procedure

2.2 RESPONSIBILITIES (cont.)

2.2.4 QC Inspector is responsible for witnessing test execution and signing the completed sections of the test.

2.2.5 The Authorized Inspector is responsible for the following:

- Witnessing test execution
- Approval and signature of acceptance upon completion of this procedure.

2.3 REFERENCES

- HNF-SD-WM-PTP-027, Rev 3 Mixer Pump Test Plan for Double Shell Tank AZ-101
- HNF-3839 Data Collection Plan for AZ-101 Mixer Pump Tests
- RPP-5576 Gamma Cart System Description
- H-2-78973, R1 TANK AZ-101 TEMPERATURE PROBE INST PLAN AND ELEVATION
- H-2-79319, R2 TANK 101-AZ TEMPERATURE PROBE INSTALLATION SEQUENCE
- H-2-79215, R2 TWRS SLUDGE CART ENCL ELEC ASSEMBLY
- H-2-79232, R1 TWRS SLUDGE CART ENCL ELEMENTARY DIAGRAM
- H-2-79233, R0 TWRS SLUDGE CART ENCL WIRING DIAGRAM
- H-2-79234, R3 TWRS SLUDGE MOBILIZATION CART ARRANGEMENT
- H-14-010507,R0 DOME PENETRATION SCHEDULES TANK 241-AZ-101

2.4 GENERAL INFORMATION

2.4.1 Procedural and technical requirement changes must be processed by Procedure Change Authorization in accordance with approved procedures. If a need for such a change is discovered in the course of running the test, the applicable portion of the test shall be stopped, and the test equipment shall be placed in a safe configuration, until the Procedure Change Authorization is approved. However, this does not prevent the running of another portion of the test unaffected by the change.

2.4.2 Operational Test steps detailed in individual Tests in Section 5.0 shall be performed sequentially, unless otherwise noted or as directed by the Test Director.

- Individual Test Procedure Sections may be performed out of sequence at the direction of the Test Director, if the intent of the test is not compromised
- As each step is completed, each step will be checked off (or enter "N/A" for), as required in the spaces provided on the Working Copy of this Operational Test Procedure
- Any step that requires verification of data must include recording data on the Working Copy.

2.4.3 Any non-conformance of the instrumentation, unexpected results or exceptions during testing shall be sequentially numbered and recorded in the Operational Test Procedure Exception Log and on individual Operational Test Procedure Exception Records. Thus, case-by-case resolution, recording, approval, and distribution of each exception will be achieved.

2.4 GENERAL INFORMATION (Cont).

2.4.4 Resolve test exceptions in the following manner:

- Record the action taken to resolve each exception in the "Resolution of Exception" section of the Operational Test Procedure Exception Record.
- When the action taken results in an acceptable retest, initial and date the Correction Approval section of the Exception Sheet
- When the action taken does not result in an acceptable retest, provide a detailed explanation of why the retest action was not acceptable, and what additional plans are required. The Test Engineer then signs and dates the Resolution of Exception section of the Operational Test Procedure Exception Record, and obtains any other approvals required

2.4.5 Upon completion of the Operational Test Procedure, obtain approval of the test performance. Each Test Execution Sheet will stand alone as approval for the system under test. The Operational Test will be complete when all the outstanding tests have been performed and the Operational Test Report is prepared. The test will be approved by checking the proper response, with or without exceptions, on the Test Execution Sheet under the "Approval and Acceptance of Test Results" section of the Test Execution Sheet.

2.4 GENERAL INFORMATION (Cont).

NOTE - The following steps detail the possible conditions that may exist at the completion of the Operational Test Procedure, and the steps necessary to complete acceptance in those conditions.

2.4.6 The completed test may be approved without test exceptions:

- Check applicable space on Test Execution Sheet to show that the Operational Test Procedure has been performed and no exceptions have been recorded
- Appropriate individual Test Performers will sign and date the Test Execution Sheet in the spaces provided
- Distribute requisite copies as directed by the client
- Send the Master Copy of the completed Operational Test Procedure to the client.

2.4.7 The completed test may be approved with exceptions resolved:

- Check applicable space on Test Execution Sheet to show that this procedure has been performed with exceptions recorded and resolved
- Appropriate individual Test Performers will sign and date the Test Execution Sheet in the spaces provided
- Distribute requisite copies as directed by the client
- Send the Master Copy of the completed Operational Test Procedure to the client.

2.5 RECORDS

2.5.1 All personnel involved in the performance of this test shall sign in Procedure Signature Sheet.

2.5.2 Test results shall be recorded. All entries into this test procedure shall be made in black ink. Unless specific data is required, the signature or initials as applicable, of the person accepting the item will be entered in the blank provided to indicate compliance with the stated requirements or the successful completion of the given test step.

2.5.3 Errors shall be corrected by crossing out the incorrect data with a single line and the correct response shall be written in the direct vicinity of the original item. The person making the correction shall initial and date the correction.

2.5.4 A complete working copy of this procedure and any exception records generated shall be maintained as a permanent record.

2.5.5 An Exception Log and Exception Record sheet is attached in the event exceptions to the test are made when the test is being performed. All exceptions to the test are to be dispositioned and agreed to by all witnesses. Actions taken regarding disposition are noted on the exception sheet.

2.5.6 During the performance of this test, errors in test may be encountered which require correction or adjustment to complete the test. Such corrections are to be noted in the OTP and listed as an exception.

3.0 PRECAUTIONS AND LIMITATIONS

3.1 PERSONNEL SAFETY

3.1.1 If the performance of this procedure is suspended for any reason, ensure the equipment is left in a safe state.

3.1.2 All lockouts and tagouts or over-tagging requirements shall be performed in accordance with Tank Farm Administration Manual, HNF-IP-0842, Vol II, Section 4.9.1.

3.1.3 If any equipment problem is observed during the performance of this procedure, immediately notify the Test Director.

3.1.4 Proper lifting techniques shall be utilized throughout the procedure and personnel shall take precautions to ensure back strain, pinchpoints and protective clothing are observed.

3.2 RADIATION AND CONTAMINATION CONTROL

3.2.1 Work in radiological areas will be performed using a radiation work permit following review by Radiological Control per the ALARA procedure HNF-IP-0842, Volume VII, Section 1.1.

4.0 PREREQUISITES

4.1 SPECIAL TOOLS, EQUIPMENT, AND SUPPLIES

The following supplies may be needed to perform this procedure:

- Riser Swabbing equipment
- Riser extension tool

4.2 PERFORMANCE DOCUMENTS

The following procedures may be needed to perform this procedure:

- TO-040-333 LIQUID OBSERVATION WELL (LOW) SURVEILLANCE VAN STARTUP AND OPERATION PROCEDURE

4.3 CONDITIONS AND ACTIONS

NOTE - All signators on this procedure shall document their signature on Procedure Signature Sheet.

4.3.1 All pre-testing and inspection of the system or portions of the system to be tested has been completed.

R. Mendoza 2-12-00
Test Engineer Signature Date
R. Dutenay 2/15/00

4.3.2 A pre-job briefing has been held. and all participants have been thoroughly briefed on job safety, hazards, and their responsibilities before performing this ATP.

MD Long R Dutenay 2/12/00 2-15-00
Test Director Signature 2/15/00 Date

4.3.3 Test Director **VERIFY** section 4.3 has been COMPLETED.

MD Long R Dutenay 2/12/00
Test Director Signature 2/15/00 Date

5.0 PROCEDURE

5.1 SETUP

NOTE - This procedure may be repeated for either GAMMA CART A or GAMMA CART B as applicable. N/A may be entered in blocks or steps per Test Director as applicable.

✓ 5.1.1 **RECORD** GAMMA CART CPU number for the system being tested.

GAMMA CART IDENTIFIER # B B WST-RY 403 CPU Number

✓ 5.1.2 **PERFORM** cleanliness check in applicable riser listed on TABLE II, per section 5.10 in procedure TO-040-333 latest rev, prior to mounting riser extension tool.

✓ 5.1.3 **ENSURE** GAMMA CART riser extension tool is mounted on the applicable riser.

✓ 5.1.4 **ENSURE** GAMMA CART is placed in line with riser extension tool to facilitate installation of probe and cables.

✓ 5.1.5 **CHECK** route to riser for obstacles and clearances.

✓ 5.1.6 **LEVEL** cart using jacks.

✓ 5.1.7 **CONNECT** gamma cart power cables, as follows:

- One end to gamma cart power receptacle
- Other end to Junction Box, JB-101-100, Power Receptacle, **OR** Junction Box, JB-101-101

✓ 5.1.8 **CONNECT** gamma cart communications cable, as follows:

- One end to gamma cart communications receptacle
- Other end to Tank 241-AZ-101 Gamma Cart A **AND/OR** B Data Collection Subsystem communications receptacle

Test Exception #1 RG 2/29/00

✓ 5.1.9 **PLACE** gamma cart "RAISE OFF LOWER" switch in the LOWER position.

PCA TF-2000-025 RG 2/1/00

✓ 5.1.10 **CHECK** that the detector probe cable is resting in the gamma cart boom cable reel.

NOTE - Step 5.1.11 and 5.1.12 requires two Operators to perform continuous action until Step 5.1.12 is complete.

PCA TF-2000-025 R. [illegible] 3/1/00

WARNING

If sufficient tension is not held on the detector probe cable as the cable is being let-out, the cable could become entangled.

✓ 5.1.11 **HOLD** tension on the detector probe cable until Step 5.1.12 is completed.

✓ 5.1.12 **PRESS AND HOLD** "RESET" button until enough detector probe cable is let-out that will allow placement of detector cable through riser extension collar AND into the riser drywell, AND

RELEASE "RESET" button.

✓ 5.1.13 **INSTALL** the proper detector probe on the detector probe cable.

✓ 5.1.14 **ENSURE** that the detector probe connections are correct and tight. **AND**

INSERT probe into riser extension tool.

5.1 SETUP (Cont).

✓ 5.1.10 **ENSURE** limit switch cable is connected from limit switch on riser extension tool, to the connection point on the front of the GAMMA CART.

✓ 5.1.11 **ENSURE** the "Raise - Off - Lower" selector switch is in the "OFF" position.

✓ 5.1.12 **ENSURE** the emergency stop button is pulled out.

✓ 5.1.13 **POSITION** the "SPEED" control potentiometer to MIN speed (fully counter-clockwise).

CAUTION

There is no limit switch to stop the motion when the cable is fully unwound. The cable will rewind backwards on the reel. Damage to the cable may result.

NOTE - When the cart is first powered up, or the emergency stop button has been pushed, or power has been restored after a power failure, the cable reel will not move up or down until "RESET" button is activated.

- The "Raise-OFF-Lower" Switch is Manually controlled and is Operator Dependent.

✓ 5.1.14 **ENSURE** LOCAL/REMOTE switch is in the "LOCAL" position.

✓ 5.1.15 **ENERGIZE** the Cart.

✓ 5.1.16 **SET** the "SPEED" potentiometer to 2 on the GAMMA Cart.

✓ 5.1.17 **SET** the "RAISE -OFF- LOWER" switch to the "LOWER" position.

✓ 5.1.18 **PUSH** "EMERGENCY STOP" button on GAMMA CART.

✓ 5.1.19 **VERIFY** the system has stopped.

MD Long R Gutierrez 2/12/00
Test Director Signature 2/15/00 Date

MIKE LONG Rich Gutierrez
Test Director Print Name

5.1 SETUP (Cont).

✓ 5.1.20 **SET** the "RAISE-OFF-LOWER" switch to the "RAISE" position.

✓ 5.1.21 **PULL** "EMERGENCY STOP" out on GAMMA CART.

✓ 5.1.22 **PUSH** the "RESET" button on GAMMA CART to resume.

✓ 5.1.23 **ENSURE** limit switch activates when probe returns to the zero position.

✓ 5.1.24 **SET** the "RAISE-OFF-LOWER" switch to the "OFF" position.

✓ 5.1.25 **SET** "SPEED" potentiometer to MIN.

✓ 5.1.26 **POSITION** The "LOCAL REMOTE" switch to "REMOTE".

✓ 5.1.27 **VERIFY** by signing below section 5.1 is complete.

MD Long R Gutierrez 2/12/00
Test Director Signature 2/15/00 Date

MIKE LONG Rich Gutierrez
Test Director Print Name

QC Signature Date

RON
QC Print Name

5.2 TEST INCREMENTAL SAMPLE MODE

SETUP

NOTE - All Steps in this section apply to either cart, except in those steps where the specific cart is indicated.

INSTRUMENT CHECK

✓ 5.2.1 **IF** the pushbutton for Tank 241-AZ-101 Gamma Cart A **AND/OR** B Data Collection System Central Processing Unit (CPU), AND/OR associated MONITOR, are **NOT** ON, **PRESS** the applicable ON pushbuttons.

Test exception RG 2/29/00

✓ 5.2.2 **ENSURE** the following systems are ON **AND**

ENSURE settings are correct for the following:

- ORTEC MINIBIN
- POWER SUPPLY

Detector Bias Power Supply (HVPS): ORTEC Mod. 478.

- kV: .5
- 0 to 1000V: (+60 volts)

Amplifier (AMP): ORTEC Mod. 673

- COARSE GAIN: 200
- FINE GAIN: 0.680
- SHAPING TIME: Both knobs set to 2 microseconds
- PZ Adjust: Do NOT change settings (in this procedure)
- BLR: Switch in AUTO (up) position
- INPUTS: Switch in POS (up) position BNC cable on terminal (from pre amplifier)
- OUTPUTS: cable on UNIPOLAR terminal(to single channel Analyzer)

✓ 5.2.3 **WHEN** WINDOWS login screen appears **CLICK ON** "CANCEL".

5.2 TEST INCREMENTAL SAMPLE MODE (Cont).

NOTE - After canceling windows login, GAMMA CART software should automatically load.

✓ 5.2.4 **VERIFY** "GAMMA CART SPECTRUM ANALYZER AND CONTROL SYSTEM" screen is displayed on Tank 241-AZ-101 Gamma Cart A **AND/OR** B Data Collection System Monitor.

Rich Gutierrez 2-29-00
Test Director Signature Date

Rich Gutierrez
Test Director Print Name

✓ 5.2.5 **SELECT** "Login" on the "GAMMA CART SPECTRUM ANALYZER AND CONTROL SYSTEM" screen.

NOTE - LOGIN passwords and information may be obtained from Test Director.

✓ 5.2.6 **LOG-IN.**

✓ 5.2.7 **VERIFY** LOCAL/REMOTE switch on display screen is in "REMOTE" position.

Rich Gutierrez 2-29-00
Test Director Signature Date

Rich Gutierrez
Test Director Print Name

5.2 TEST INCREMENTAL SAMPLE MODE (Cont).

TESTING

✓ 5.2.8 **SELECT** "config" on the "Gamma Cart Display" screen.

✓ 5.2.9 **ENTER** the following data for selected riser on the "Configuration - Display" screen by pulling down applicable menu:

POSITION	DATA
Tank Number:	AZ-101
Cart:	A **OR** B
Riser ID: ft.	Selected riser number NOTE - Riser depth is automatically computed from software upon input of riser ID#.
Probe Type:	1 - 4 as applicable (Normal is 1 or 2 for Cart A and 3 or 4 for Cart B)
Survey Time:	Sec.(As determined by Test Director)

✓ 5.2.10 **ENSURE** REAL/LIVE toggle button indicates "LIVE".

✓ 5.2.11 On the Data Collection Configuration window, **SELECT** the "Incremental" button.

INCREMENTAL PARAMETERS

Test RG 3/1/00 ~~Execution~~ RG 3/1/00 03 RG 3/1/00 RG 2/29/00 Test execution not needed see note after 5.2.14

✓ 5.2.12 **INPUT** the following Sample Collection Data:

Sample Start Depth:	~~55.0~~ 50 ft 2/29/00
Interval Size:	10.0 ft
Sample End Depth:	5.0 ft

5.2 TEST INCREMENTAL SAMPLE MODE (Cont).

✓ 5.2.13 **CLICK ON** "SAVE".

✓ 5.2.14 **CLICK ON** "EXIT".

NOTE - Test Engineer may manipulate parameters at any time during the following steps as necessary to ensure data retrieval and system configuration, with concurrence of Test Director.

- After the following step, the program should automatically run.

✓ 5.2.15 **CLICK ON** "Start" button.

✓ 5.2.16 **CLICK ON** "EMERGENCY STOP" button on computer screen.

✓ 5.2.17 **VERIFY** System stopped.

Rich Gutierrez — 2-29-00
Test Director Signature — Date

Rich Gutierrez
Test Director Print Name

✓ 5.2.18 **CLICK ON** "EMERGENCY STOP" again to RESET the emergency stop button on computer screen.

✓ 5.2.19 **CLICK ON** "ZERO" on display screen.

✓ 5.2.20 **ENSURE** GAMMA PROBE begins to RAISE.

✓ 5.2.21 **CLICK ON** "STOP" button on display screen.

5.2 TEST INCREMENTAL SAMPLE MODE (Cont).

✓ 5.2.22 **VERIFY** System stopped.

Rich Gutierrez 2-29-00
Test Director Signature Date
Rich Gutierrez
Test Director Print Name

✓ 5.2.23 **CLICK ON** "ZERO" again on display screen.

✓ 5.2.24 **ENSURE** GAMMA PROBE begins to RAISE.

✓ 5.2.25 When probe and system zeros, **CLICK ON** "START" on display screen.

✓ 5.2.26 **VERIFY** System resumed program.

Rich Gutierrez 2-29-00
Test Director Signature Date
Rich Gutierrez
Test Director Print Name

✓ 5.2.27 **CLICK ON** "STOP" button on computer screen.

✓ 5.2.28 **VERIFY** System stopped.

Rich Gutierrez 2-29-00
Test Director Signature Date
Rich Gutierrez
Test Director Print Name

✓ 5.2.29 **CLICK ON** "ZERO" on display screen.

✓ 5.2.30 When probe and system zeros, **CLICK ON** "START" on display screen.

✓ 5.2.31 **VERIFY** System resumed program.

Rich Gutierrez 2-29-00
Test Director Signature Date
Rich Gutierrez
Test Director Print Name

Test Exception 03 R. Gutierrez 2/29/00
Test Exception 04 R. Gutierrez 2/29/00

5.2 TEST INCREMENTAL SAMPLE MODE (Cont).

✓ 5.2.32 Test Engineer **ENSURE** data is received, AND both hard-copy and electronic files can be retrieved.

✓ 5.2.33 **VERIFY** system automatically ZEROs and data is collected at zero position.

Rich Gutierrez — 2/29/00
Test Director Signature — Date

Rich Gutierrez
Test Director Print Name

NOTE - The steps in section 5.1, applicable to the Emergency stop, need not be repeated if completed for an individual GAMMA CART. The Emergency stop on BOTH GAMMA CART A and B, need to be tested only once.

NOTE - It is NOT necessary to do ALL risers in one procedure. Test Director is responsible for ensuring ALL risers have been profiled by one AND/OR the other GAMMA CART(S).

* ✓ 5.2.34 **REPEAT** applicable SETUP Steps in section 5.1 AND Incremental testing steps 5.2.1 - 5.2.15 AND Steps 5.2.32 and 5.2.33 for each of the following risers and depths per Test Director's direction.

TABLE I

RISER	Depth inches (ft)
~~14A~~	660 (55.0)
~~14C~~	660 (55.0)
14D	660 (55.0)
14F	660 (55.0)
~~14G~~	660 (55.0)
14B	660 (55.0)
14E	660 (55.0)
15I	684 (57.0)
15C	684 (57.0)
15E	684 (57.0)
15B	684 (57.0)
15F	684 (57.0)

* 14D riser completed with this procedure.

5.2 INCREMENTAL SAMPLE MODE (Cont).

NOTE - In the following Table, Test Director N/A blocks that are tested with a different GAMMA CART.

✓ 5.2.35 **VERIFY** the applicable riser in step 5.2.34 has been tested.

TABLE II

RISER	TEST DIRECTOR SIGNATURE
14A	NA, see ccmail letter from J. Bellamy
14C	NA, see ccmail letter from J. Bellamy
14D	R. Gutierrez 2/29/00
14F	R. Gutierrez 3/2/00
14G	NA see cc mail letter from J. Bellamy
14B	R. Gutierrez 3/2/00
14E	R. Gutierrez 3/1/00
15I	R. Gutierrez 3/2/00
15C	R. Gutierrez 3/1/00
15E	R. Gutierrez 3/1/00
15B	R. Gutierrez 2/29/00
15F	J. HULL/James L. Hull 3-1-00 swing shift

✓ 5.2.36 **VERIFY** by signing below section 5.2 is complete.

Rich Gutierrez — 2/29/00
Test Director Signature — Date

Rich Gutierrez
Test Director Print Name

Paul A. Werner — 2-29-00
QC Signature — Date

Paul A. Werner
QC Print Name

Unresolved test exceptions at this time.
5:47 pm 2-29-00
PAW

Riser 14D

5.3 TEST USER DEFINED MODE

✓ 5.3.1 **ENSURE** applicable SETUP Steps in section 5.1 are completed.

CART CONTROL SCREEN

✓ 5.3.2 On the Gamma Cart Control, **CLICK ON** the "Config." button.

Exception #05 KG

✓ 5.3.3 **INPUT** the following data:

POSITION	DATA
Tank Number:	AZ-101
Cart:	A **OR** B
Riser ID: ft.	Selected riser number NOTE - Riser depth is automatically computed from software upon input of riser ID#.
Probe Type:	1 - 4 as applicable (Normal is 1 or 2 for Cart A and 3 or 4 for Cart B)
Survey Time:	Sec.(As determined by Test Director)

USER DEFINED PARAMETERS

✓ 5.3.4 **CLICK ON** "USER DEFINED".

✓ 5.3.5 **ENTER** depths desired for testing per Test Engineer Direction.

✓ 5.3.6 **CLICK ON** "SAVE" on display screen.

✓ 5.3.7 **CLICK ON** "EXIT".

5.3 TEST USER DEFINED MODE (Cont).

NOTE - Test Engineer may manipulate parameters at any time during the following steps as necessary to ensure data retrieval and system configuration, with concurrence of Test Director.

- After the following step, the program should automatically run.

- The "EMERGENCY STOP" may be used to stop at any time during the next step if unit fails to stop at limit switch. The "RESET" button will need to be pushed to resume the program.

TEST EXCEPTION 06 R. Gutierrez 2/29/00

✓ 5.3.8 **CLICK ON** Start button.

✓ 5.3.9 Test Engineer **ENSURE** data is received, AND both hard-copy and electronic files can be retrieved.

✓ 5.3.10 **VERIFY** system automatically ZEROs and data is collected at zero position.

Test Exception 07 R. Gutierrez 2/29/00

Rich Gutierrez — 2-29-00
Test Director Signature — Date

Rich Gutierrez
Test Director Print Name

5.3 TEST USER DEFINED MODE (Cont).

✓ 5.3.11 **CLICK ON** "LOGOUT" on display screen.

✓ 5.3.12 **REMOVE** Probe, riser extension tool, and associated equipment **AND**

STORE per Test Director direction.

OR

CONTINUE in this procedure.

✓ 5.3.13 **REPEAT** the steps in this section (5.3) as directed for any risers as directed by Test Director.

✓ 5.3.14 **VERIFY** by signing below section 5.3 is complete.

Rich Gutierrez — 2/29/00
Test Director Signature — Date

Rich Gutierrez
Test Director Print Name

Paul A. Werner — 2-29-00
QC Signature — Date

Paul A. Werner
QC Print Name

Unresolved test exceptions at this time.
6:45 PM 2-29-00 PAW

Riser 14D

TEST LOG		Page 1 of
Date	Comment	Name
~~S/RO~~ 2/15/00	Test Engineers troubleshooting communication	
	cable from Gamma Cart B to Monitoring system in	
	AZ-156. We are experiencing frequency interference. R Sut.	
2/29/00	Inst. Techs installed comm. cable per	R. Sutherey
	ECN 2E-99-0099. Started OTP	
	260-004 at 1430. Riser 14D	R Sutherey
2030	Completed testing on Riser 14D,	
	Set up to continue on riser 15B.	
	~~We will~~ SS 2/29/00 With concurrence	
	from Test Engineer, Test Director, QA,	
	QC, + AI the applicable steps in	
	5.1 + 5.2 + 5.3 can be performed at	
	Test Directors direction. The step	
	in question is 5.2.34, we interpreted	
	this step as ~~reading~~ stating RO 2/29/00 that repeating steps	
	in sections 5.1, 5.2 + 5.3 can be left up to	
	Test Directors direction.	R Sutherey

Rube Mendoza

GE Concurance WL Adams 3/1/00
per telecon concurrence dated 2/29/00

TEST LOG		Page 2 of
Date	Comment	Name
3-1-00	Set up Gamma Cart "B" on Riser 15C	
	with probe 3. OTP-260-004 was performed	
	with no new exceptions total time 2hrs.	R. Gutierrez
3-1-00	A review of the OTP-260-004 was	
	made in reference to the Revs. The	
	OTP was started with Rev A-0, during	
	the test 2 PCA's were generated. The	
	current Rev is A-2. QC, AI and	
	Test Director reviewed ~~both revs~~ both Rev's,	
	A0 + A-2 to ensure that test data	
	entered on A-0 was not effected	
	by the Rev. changes.	
	QE CONCURANCE WR Adams 3/2/00	R. Gutierrez 3/2/00
3-2-00	Set up Gamma Cart B on Riser 14B	
	during step 5.2.7 the display screen	
	did not display "REMOTE". Instructed	
	Operators in field to connect other cable (Communication)	

(1) new test Log sheet needed to continue log

TEST LOG		Page 3 of
Date	Comment	Name
3-2-00	to cart B. We did finally receive	
	the "REMOTE" display. Proceeding with	R. Gathering
	OTP. Completed readings on 14B Riser.	
	Operators in field going to next riser	
	Set up on Riser 14F with gamma cart	
	B. Completed survey of Riser 14F.	
	Moved Gamma Cart to Riser 15I	
	set Gamma Cart B to Riser.	
	Completed survey of Riser 15I.	
3-2-00	started OTP on Riser 14D with	
1600	Gamma Cart A and Probe 4.	
	Completed test on Riser 14D.	
	Attempted to setup Gamma Cart A on	
	Riser 15B and the Gamma Cart	
	experienced problems with the top	
	wheel not being able to turn.	

TEST LOG		Page 4 of
Date	Comment	Name
3-2-00	Step 5.1.15 limit switch needs	
	to be turned toward probe.	R. Stutzing
3-2-00	Steps 5.2.25 thru 5.2.31	R. Stutzing
2015	were not performed per Test Directors	
	direction (step 2.4.2). Steps 5.2.16	
	thru 5.2.22 verified that the	
	"Emergency Stop" and "Stop" did stop the system.	
2045	Completed testing on Riser 14D with	R. Stutzing
	Gamma Cart A. With concurrence from	
	Test Engineer, Test Director, QA, QC + A1	
	the applicable steps in 5.1 + 5.2 + 5.3	
	can be performed at Test Directors direction.	
	The step in question is 5.2.34, we interpreted	
	this step as ~~stating~~ RO 3/2/00 stating that repeating	
	steps in sections 5.1, 5.2 + 5.3 can be left up to	
	Test ~~Directors~~ Directors 3/2/00 direction.	
	[signature] 3/2/00	
	QE Concurrence: WL Adams 3/2/00	

TEST LOG		Page ~~8~~ 5 of
Date	Comment	Name
3-2-00	During the Zeroing Process of 5.2.33 the probe got stuck on the adapter bottom. The Emergency Stop was used by the field Operator and the Gamma Cart stopped. The Riser tool assembly was bent from the tension of the cable. Tool was surveyed out and Test Eng. to repair at 306 Bldg. Test continued with spare extension tool. Operator to standby probe as it zeroes to ensure alignment as it exits the adapter and riser tool.	R Gutierrez

TEST LOG		Page 6 of
Date	Comment	Name
3/6/2000	Started OTP at 12:30 pm.	R. Gutierrez
	Set up GammaCart A, Probe 4 at Riser	
	15B. After set up was complete we	
	noticed the monitor was not recieving	
	data. The OTP was ~~stopped~~ stopped.	
	Inst. Techs performed ringing out the wire	
	and had 12 volts on each conductor, indicating	
	the cable is damaged. Test Engineers found	
	replacement cable, estimated repair date	
	is thursday 3/9/2000. OTP was stopped	
	at step 5.3.8.	
3/10/00	Pre-job done for OTP-320-004 to	R. Gutierrez
	complete Riser 15 B with Cart A.	
	Operators set up on Riser 15-B w/ Cart A,	
	ran the probe and OTP went well.	
1300	Instructed operators to continue to	
	set up with riser 15C.	

TEST LOG		Page 7 of
Date	Comment	Name
3/10/00		

TEST PROCEDURE EXCEPTION LOG

Number	Date	Description
~~5.1.9~~ 01 RG	2/12/00	Add step to route cable from Gamma Cart to Extention Cord
~~5.1.10~~	2/15/00	Sequential steps not in order when PCA was done on 2/12/00 2000-02-15 RG 2/15/00
RG 8.02	2/29/00	Settings on Gamma Cart System were different due to the Amplifier being used. PCA to be written
03	2/29/00	Steps 5.2.32 and 5.2.33 are reversed PCA to be written
04	2/29/00	Step 5.2.32, on Rev A-0, could not print hard-copy due to no printer.
05	2/29/00	Step 5.3.3 did not include to ensure REAL/LIVE toggle button indicate live.
06	2/29/00	5.3.9 Could not print hard copy due to no printer.
07	2/29/00	5.3.10 needs to be performed before 5.3.9.

TEST PROCEDURE EXCEPTION RECORD

Test Step Number:	~~5.9.1~~ 2/29/00 RG 5.1.9	Test Exception Number:	~~5.9.1~~ RG 4/1/00

Description of Exception:

Needed to add step to route cable from gamma cart to extention tool on riser

Resolution of Exception: PCA was written, TF-2000-025, to complete.

Date of Resolution:	2/12/00
Test Director Signature:	Rich Gutierrez
Cognizant Engineer Signature:	Gary Sandoff
Quality Assurance Signature:	WK Adams
Tank Farm Operations Signature:	R. Gutierrez

TEST PROCEDURE EXCEPTION RECORD

Test Step Number:	5.2.2	Test Exception Number:	02

Description of Exception:

Settings in step 5.2.2 are to be changed per PCA due to different Amplifier to be used.

Resolution of Exception:

~~PCA will be generated.~~ RG 3/23/00 Document calls out for Model ~~476~~ 673 the model we used was a newer model 672. The settings used were as follows: KV: 5, 0 to 1000V: +100 volts, Course GAIN: 1K, FINE GAIN: 10.40, Shaping Time: 1μ sec, PZ: Auto, BLR RATE: High, INPUT SWITCH: NORM(+) OR I INPUTS: NORM and DIFF – BNC CONN NORM, DIFF IF noise is less. MINBIN & Power Supply (4001 M) Power: ON

Date of Resolution:	3/23/00
Test Director Signature:	R. Gutierrez
Cognizant Engineer Signature:	Gary Sculff
Quality Assurance Signature:	WK Adams
Tank Farm Operations Signature:	R. Gutierrez Jr Anderson

TEST PROCEDURE EXCEPTION RECORD

Test Step Number:	5.2.32 5.2.33	Test Exception Number:	Ø3

Description of Exception: ~~delete steps 5.2.18~~ following steps 5.2.32 needs to be performed after 5.2.33. Data needs to be recieved after system zeros.

Resolution of Exception: ~~PCA to be written to procedure.~~ 03/23/00

Step 2.4.2 states that individual tests in 5.0 can be performed out of order as directed by Test Director. After procedure was ran a couple of times, QC and A-E and Test Director concurred that step 2.4.2 allows Test Director to perform steps as needed.

Date of Resolution:	3/13/ØØ
Test Director Signature:	R. Gutierrez
Cognizant Engineer Signature:	Darryl Sudiff
Quality Assurance Signature:	WK Adams
Tank Farm Operations Signature:	R. Gutierrez

TEST PROCEDURE EXCEPTION RECORD

Test Step Number:	5.2.32	Test Exception Number:	Ø4

Description of Exception: hard copy not retrieved due to no printer being hooked up.

Resolution of Exception: Data downloaded to disk and printed to a different computer.

Date of Resolution:	3/23/00
Test Director Signature:	Rich Gutierrez
Cognizant Engineer Signature:	Dayn Sandoff
Quality Assurance Signature:	WL Adams
Tank Farm Operations Signature:	R. Gutierrez

TEST PROCEDURE EXCEPTION RECORD

Test Step Number:	5.3.3	Test Exception Number:	Ø5

Description of Exception: step did not include to ENSURE REAL/LIVE toggle button indicates "LIVE".

Resolution of Exception: ~~PCA to be written~~ R Gutierrez 3/24/00

Procedure TO-260-230, Rev A-0, "OPERATE TANK 241-AZ-101 GAMMA CARTS SYSTEM" steps 5.4.2 & 5.5.2 has the Operator check that the "REAL/LIVE" button indicates "LIVE". Input was incorporated in TO-260-230

Date of Resolution:	3-13-ØØ
Test Director Signature:	R. Gutierrez
Cognizant Engineer Signature:	Daryl Sudff
Quality Assurance Signature:	W L Adams
Tank Farm Operations Signature:	R. Gutierrez

TEST PROCEDURE EXCEPTION RECORD

Test Step Number:	5.3.9	Test Exception Number:	06

Description of Exception: hard copy not retrieved due to no printer being hooked up.

Resolution of Exception: This Test Exception is equivalent to Test Exception # 04. Steps 5.3.9 & 5.2.32 are identical asking for the same information in two different sections of the procedure. Answering Test Exception # 04 will answer Test Exception # 06. Hard Copy printed from a different computer after downloading to a disk.

Date of Resolution:	3/23/00
Test Director Signature:	R. Gutierrez
Cognizant Engineer Signature:	Darg Sadiff
Quality Assurance Signature:	WL Adams
Tank Farm Operations Signature:	R. Gutierrez

A-4

TEST PROCEDURE EXCEPTION RECORD

Test Step Number:	5.3.10	Test Exception Number:	Ø7

Description of Exception: step needs to be performed before 5.3.9. Data needs to be reviewed after it zero's

Resolution of Exception:

Step 2.4.2 states that individual tests in 5.0 can be performed out of order as directed by Test Director. After procedure was ran a couple of times, QC, AI and Test Director concurred that step 2.4.2 allows Test Director to perform steps as needed.

Date of Resolution:	3-13-ØØ
Test Director Signature:	R. Gutierrez
Cognizant Engineer Signature:	Gary Rodoff
Quality Assurance Signature:	W L Adams
Tank Farm Operations Signature:	R. Gutierrez

SIGNATURE VERIFICATION LOG

NAME (PRINT)	EMPLOYEE #	SIGNATURE	INITIALS
RA SPICER	67203		RAS
Ron Cowgill	58171		
Tom Clarke	67274		
ED ENLOE	88552		
Ruben Mendoza	600-05-7433		
MIKE LONG	69584		
PJ ELMENDORF	81752		PJE
Steve Stamper	81911		SRS
John H. Arndt	81910		
DAN Edmunds	67855		D.C
T.K. Nearing	82457		TKN
T BERGEL	64124		
JE McKinney	69684		JEM
SA Taylor	69840		
CW Reeke	66481		CWR
Don m Slaff	82054		
Rich Gutierrez	67765		RG
Paul A. Werner (QC)	56270		PAW
RONALD A. ARNDT (QC)	83926		RA
JAMES L. (Jim) Hull	84388		JLH
ROBERT TAYLOR	88745		RT

Type	Document No.	Rev/Mod	Release Date	Page
CONTINUOUS	OTP-260-004	A-0	02/09/2000	29 of 30

Gary R Tardiff	69204		GRT
Wendy L Adams	81875		WLA

PROCEDURE HISTORY SIGNATURE SHEET

BOLT TORQUING GUIDELINES

Last Full Revision: C-0
Release Date: 12/27/99
USQ Screening Number: TF-98-1201, Rev 1
Approval Designator: S

Current Modification: C-0
USQ Screening Number:
Approval Designator:
PCA Incorporated:

POSITION/ORG	DELEGATE	DATE
Pipefitter	Glenn Anderson	12/2/99
Maint Manager	R.G. Lee	12/2/99
Safety	Ernie Hurst	12/9/99
ECO	P.C. Miller	12/7/99
EQ Eng.	R.S. Robinson	12/21/99
RadCon	Mark Kornish	12/21/99
Acceptance Review	K.O. Smith	12/27/99
Approval Authority	R.L. Legg	12/21/99

Pages Affected	Summary of Change	Reason for Change
all	Reformat, full revision	2 year review

NEXT DUE DATE: 12/27/2001

RISER 15B
GAMMA CART - B

241-AZ GAMMA CART OPERATIONAL TEST PROCEDURE

Last Full Revision:	A-0
Release Date:	02-09-2000
USQ Screening Number:	TF-00-0083 R.0
Approval Designator:	Q
Current Modification:	A-1
USQ Screening Number:	TF-98-1201 R1
Approval Designator:	Q
PCA Incorporated:	TF-2000-025

POSITION/ORG	DELEGATE	DATE
LNPO	S.A.Caylor	02-12-2000
SOM	Robert Jones	02-12-2000
RAD. CON.		
ECO		
QA	W.L.Adams	02-12-2000
Cog. Engineer	Gary Tardiff	02-12-2000
Acceptance Review	David W. VanDyke	02-14-2000
Approval Authority	L.M. Walker	02-12-2000

Justification: Ops Request

Summary of Changes: N/A
Page 13 & 14 Added steps to allow probe through extension tool.

Gamma Cart B
Riser 15B

R. Gutierrez 2/29/00

4.0 PREREQUISITES

4.1 SPECIAL TOOLS, EQUIPMENT, AND SUPPLIES

The following supplies may be needed to perform this procedure:

- Riser Swabbing equipment
- Riser extension tool

4.2 PERFORMANCE DOCUMENTS

The following procedures may be needed to perform this procedure:

- TO-040-333 LIQUID OBSERVATION WELL (LOW) SURVEILLANCE VAN STARTUP AND OPERATION PROCEDURE

4.3 CONDITIONS AND ACTIONS

NOTE - All signators on this procedure shall document their signature on Procedure Signature Sheet.

4.3.1 All pre-testing and inspection of the system or portions of the system to be tested has been completed.

(1)

Test Engineer Signature _____ Date _____

4.3.2 A pre-job briefing has been held. and all participants have been thoroughly briefed on job safety, hazards, and their responsibilities before performing this ATP.

(1)

Test Director Signature _____ Date _____

4.3.3 Test Director **VERIFY** section 4.3 has been COMPLETED.

(1)

Test Director Signature _____ Date _____

(1) already tested per OTP-260-004, rev A-0.

R Gatering 2/29/00

5.0 PROCEDURE

5.1 SETUP

NOTE - This procedure may be repeated for either GAMMA CART A or GAMMA CART B as applicable. N/A may be entered in blocks or steps per Test Director as applicable.

✓ 5.1.1 **RECORD** GAMMA CART CPU number for the system being tested.

GAMMA CART IDENTIFIER # B WST-RY403
CPU Number

✓ 5.1.2 **PERFORM** cleanliness check in applicable riser listed on TABLE II, per section 5.10 in procedure TO-040-333 latest rev, prior to mounting riser extension tool.

✓ 5.1.3 **ENSURE** GAMMA CART riser extension tool is mounted on the applicable riser.

✓ 5.1.4 **ENSURE** GAMMA CART is placed in line with riser extension tool to facilitate installation of probe and cables.

✓ 5.1.5 **CHECK** route to riser for obstacles and clearances.

✓ 5.1.6 **LEVEL** cart using jacks.

✓ 5.1.7 **CONNECT** gamma cart power cables, as follows:

- One end to gamma cart power receptacle
- Other end to Junction Box, JB-101-100, Power Receptacle, **OR** Junction Box, JB-101-101

✓ 5.1.8 **CONNECT** gamma cart communications cable, as follows:

- One end to gamma cart communications receptacle
- Other end to Tank 241-AZ-101 Gamma Cart A **AND/OR** B Data Collection Subsystem communications receptacle

✓ 5.1.9 **PLACE** Gamma Cart "RAISE OFF LOWER" switch in the LOWER position.

✓ 5.1.10 **CHECK** that detector probe cable is resting in the Gamma Cart boom cable reel.

PAW 2-29-00

5.1 SETUP (Cont).

CAUTION

If sufficient tension is NOT held on the detector probe cable as the cable is being let out, the cable could become entangled.

NOTE - Step 5.1.11 and 5.1.12 require two operators to perform continuous action until step 5.1.12 is complete.

✓ 5.1.11 **HOLD** tension on the detector probe cable until step 5.1.12 is completed.

✓ 5.1.12 **PRESS AND HOLD** "RESET" button until enough detector probe cable is let-out that will allow placement of the detector cable through riser extension collar AND into riser drywell, **AND**

RELEASE the "RESET" button.

✓ 5.1.13 **INSTALL** the proper detector probe on the detector probe cable.

✓ 5.1.14 **ENSURE** that the detector probe connections are correct and tight. **AND**

INSERT probe into riser extension tool.

✓ 5.1.15 **ENSURE** limit switch cable is connected from limit switch on riser extension tool, to the connection point on the front of the GAMMA CART.

✓ 5.1.16 **ENSURE** the "Raise - Off - Lower" selector switch is in the "OFF" position.

✓ 5.1.17 **ENSURE** the emergency stop button is pulled out.

✓ 5.1.18 **POSITION** the "SPEED" control potentiometer to MIN speed (fully counter-clockwise).

DAW 2-29-00

5.1 SETUP (Cont).

CAUTION

There is no limit switch to stop the motion when the cable is fully unwound. The cable will rewind backwards on the reel. Damage to the cable may result.

NOTE - When the cart is first powered up, or the emergency stop button has been pushed, or power has been restored after a power failure, the cable reel will not move up or down until "RESET" button is activated.

- The "Raise-OFF-Lower" Switch is Manually controlled and is Operator Dependent.

PAV 2-29-00

✓ 5.1.19 **ENSURE** LOCAL/REMOTE switch is in the "LOCAL" position.

✓ 5.1.20 **ENERGIZE** the Cart.

✓ 5.1.21 **SET** the "SPEED" potentiometer to 2 on the GAMMA Cart.

✓ 5.1.22 **SET** the "RAISE -OFF- LOWER" switch to the "LOWER" position.

(1) 5.1.23 **PUSH** "EMERGENCY STOP" button on GAMMA CART.

(1) 5.1.24 **VERIFY** the system has stopped.

(1)
Test Director Signature _____ Date _____

(1)
Test Director Print Name _____

(1) already Tested per OTP-260-004, Rev A-0 .. see Test Log entry 2/29/00 2030.

R. Gutierrez 2/29/00

5.1 SETUP (Cont).

(1) 5.1.25 **SET** the "RAISE-OFF-LOWER" switch to the "RAISE" position.

5.1.26 **PULL** "EMERGENCY STOP" out on GAMMA CART.

5.1.27 **PUSH** the "RESET" button on GAMMA CART to resume.

5.1.28 **ENSURE** limit switch activates when probe returns to the zero position.

5.1.29 **SET** the "RAISE-OFF-LOWER" switch to the "OFF" position.

5.1.30 **SET** "SPEED" potentiometer to MIN.

5.1.31 **POSITION** The "LOCAL REMOTE" switch to "REMOTE".

5.1.32 **VERIFY** by signing below section 5.1 is complete.

(1)
Test Director Signature _____ Date _____

(1)
Test Director Print Name _____

(1)
QC Signature _____ Date _____

(1)
QC Print Name _____

(1) already tested per OTP-260-004, Rev A-0.
see Test log entry 2/29/00, 2030.
R. Gutierrez 2/29/00

5.2 TEST INCREMENTAL SAMPLE MODE

SETUP

NOTE - All Steps in this section apply to either cart, except in those steps where the specific cart is indicated.

INSTRUMENT CHECK

✓ 5.2.1 **IF** the pushbutton for Tank 241-AZ-101 Gamma Cart A **AND/OR** B Data Collection System Central Processing Unit (CPU), AND/OR associated MONITOR, are **NOT** ON, **PRESS** the applicable ON pushbuttons.

✓ 5.2.2 **ENSURE** the following systems are ON **AND**

ENSURE settings are correct for the following:

Test Exception #02 PAW 2-29-00

- ORTEC MINIBIN
- POWER SUPPLY

Detector Bias Power Supply (HVPS): ORTEC Mod. 478.

- kV: .5
- 0 to 1000V: (+60 volts)

Amplifier (AMP): ORTEC Mod. 673

- COARSE GAIN: 200
- FINE GAIN: 0.680
- SHAPING TIME: Both knobs set to 2 microseconds
- PZ Adjust: Do NOT change settings (in this procedure)
- BLR: Switch in AUTO (up) position
- INPUTS: Switch in POS (up) position BNC cable on terminal (from pre amplifier)
- OUTPUTS: cable on UNIPOLAR terminal(to single channel Analyzer)

✓ 5.2.3 **WHEN** WINDOWS login screen appears **CLICK ON** "CANCEL".

PAD 2-29-00

5.2 TEST INCREMENTAL SAMPLE MODE (Cont).

NOTE - After canceling windows login, GAMMA CART software should automatically load.

✓ 5.2.4 **VERIFY** "GAMMA CART SPECTRUM ANALYZER AND CONTROL SYSTEM" screen is displayed on Tank 241-AZ-101 Gamma Cart A **AND/OR** B Data Collection System Monitor.

R. Gutierrez 2/29/00
Test Director Signature Date

R. Gutierrez R. Gutierrez
Test Director Print Name

✓ 5.2.5 **SELECT** "Login" on the "GAMMA CART SPECTRUM ANALYZER AND CONTROL SYSTEM" screen.

NOTE - LOGIN passwords and information may be obtained from Test Director.

✓ 5.2.6 **LOG-IN.**

✓ 5.2.7 **VERIFY** LOCAL/REMOTE switch on display screen is in "REMOTE" position.

R. Gutierrez 2/29/00
Test Director Signature Date

R. Gutierrez
Test Director Print Name

DAW
2-29-00

5.2 TEST INCREMENTAL SAMPLE MODE (Cont).

TESTING

D 5.2.8 **SELECT** "config" on the "Gamma Cart Display" screen.

D 5.2.9 **ENTER** the following data for selected riser on the "Configuration - Display" screen by pulling down applicable menu:

POSITION	DATA
Tank Number:	AZ-101
Cart:	A OR B
Riser ID: ft.	Selected riser number NOTE - Riser depth is automatically computed from software upon input of riser ID#.
Probe Type:	1 - 4 as applicable (Normal is 1 or 2 for Cart A and 3 or 4 for Cart B)
Survey Time:	Sec.(As determined by Test Director)

D 5.2.10 **ENSURE** REAL/LIVE toggle button indicates "LIVE".

D 5.2.11 On the Data Collection Configuration window, **SELECT** the "Incremental" button.

INCREMENTAL PARAMETERS

D 5.2.12 **INPUT** the following Sample Collection Data:

Sample Start Depth:	55.0 ft
Interval Size:	10.0 ft
Sample End Depth:	5.0 ft

D already tested per OTP-260-004, Rev A-0, See Test Log Entry 2/29/00, 2030. R. Gutierrez 2/29/00

5.2 TEST INCREMENTAL SAMPLE MODE (Cont).

(D) 5.2.13 **CLICK ON** "SAVE".

(D) 5.2.14 **CLICK ON** "EXIT".

NOTE - Test Engineer may manipulate parameters at any time during the following steps as necessary to ensure data retrieval and system configuration, with concurrence of Test Director.

- After the following step, the program should automatically run.

(D) 5.2.15 **CLICK ON** "Start" button.

(D) 5.2.16 **CLICK ON** "EMERGENCY STOP" button on computer screen.

(D) 5.2.17 **VERIFY** System stopped.

(D)
Test Director Signature _____ Date _____

(D)
Test Director Print Name _____

(D) 5.2.18 **CLICK ON** "EMERGENCY STOP" again to RESET the emergency stop button on computer screen.

(D) 5.2.19 **CLICK ON** "ZERO" on display screen.

(D) 5.2.20 **ENSURE** GAMMA PROBE begins to RAISE.

(D) 5.2.21 **CLICK ON** "STOP" button on display screen.

(D) already tested per OTP-260-004, rev A-0, see test log entry 2/29/00, 2030.

R. Gettering 2/29/00

5.2 TEST INCREMENTAL SAMPLE MODE (Cont).

(1) 5.2.22 **VERIFY** System stopped.

(1)
Test Director Signature _____ Date _____

(1)
Test Director Print Name _____

(1) 5.2.23 **CLICK ON** "ZERO" again on display screen.

(1) 5.2.24 **ENSURE** GAMMA PROBE begins to RAISE.

(1) 5.2.25 When probe and system zeros, **CLICK ON** "START" on display screen.

(1) 5.2.26 **VERIFY** System resumed program.

(1)
Test Director Signature _____ Date _____

(1)
Test Director Print Name _____

(1) 5.2.27 **CLICK ON** "STOP" button on computer screen.

(1) 5.2.28 **VERIFY** System stopped.

(1)
Test Director Signature _____ Date _____

(1)
Test Director Print Name _____

(1) 5.2.29 **CLICK ON** "ZERO" on display screen.

(1) 5.2.30 When probe and system zeros, **CLICK ON** "START" on display screen.

(1) 5.2.31 **VERIFY** System resumed program.

(1)
Test Director Signature _____ Date _____

(1)
Test Director Print Name _____

(1) already tested per OTP-260-004, rev A-0
see Test Log entry, 2030. R. Gatterey 2/29/00

5.2 TEST INCREMENTAL SAMPLE MODE (Cont).

(1) 5.2.32 Test Engineer **ENSURE** data is received, AND both hard-copy and electronic files can be retrieved.

(1) 5.2.33 **VERIFY** system automatically ZEROs and data is collected at zero position.

(1)
Test Director Signature _____ Date _____

(1)
Test Director Print Name _____

NOTE - The steps in section 5.1, applicable to the Emergency stop, need not be repeated if completed for an individual GAMMA CART. The Emergency stop on BOTH GAMMA CART A and B, need to be tested only once.

NOTE - It is NOT necessary to do ALL risers in one procedure. Test Director is responsible for ensuring ALL risers have been profiled by one AND/OR the other GAMMA CART(S).

(1) 5.2.34 **REPEAT** applicable SETUP Steps in section 5.1 AND Incremental testing steps 5.2.1 - 5.2.15 AND Steps 5.2.32 and 5.2.33 for each of the following risers and depths per Test Director's direction.

(1) already tested per OTP-260-004 Rev A-0, see Test Log entry, 2030. R. Gutierrez 2/29/00

TABLE I

RISER	Depth inches (ft)
14A	660 (55.0)
14C	660 (55.0)
14D	660 (55.0)
14F	660 (55.0)
14G	660 (55.0)
14B	660 (55.0)
14E	660 (55.0)
15I	684 (57.0)
15C	684 (57.0)
15E	684 (57.0)
15B	684 (57.0)
15F	684 (57.0)

5.2 INCREMENTAL SAMPLE MODE (Cont).

NOTE - In the following Table, Test Director N/A blocks that are tested with a different GAMMA CART.

(1) 5.2.35 **VERIFY** the applicable riser in step 5.2.34 has been tested.

TABLE II

RISER	TEST DIRECTOR SIGNATURE
14A	
14C	
14D	
14F	
14G	
14B	
14E	
15I	
15C	
15E	
15B	R. Statzing RG 2/29/00
15F	

(1) 5.2.36 **VERIFY** by signing below section 5.2 is complete.

(1) _____ _____
Test Director Signature Date

(1) _____
Test Director Print Name

(1) _____ _____
QC Signature Date

(1) _____
QC Print Name

(1) already tested per OTP-260-004, Rev A-0, see Test Log entry, 2030.
R Statzing 2/29/00

5.3 TEST USER DEFINED MODE

✓ 5.3.1 **ENSURE** applicable SETUP Steps in section 5.1 are completed.

CART CONTROL SCREEN

✓ 5.3.2 On the Gamma Cart Control, **CLICK ON** the "Config." button.

✓ 5.3.3 **INPUT** the following data:

POSITION	DATA
Tank Number:	AZ-101
Cart:	A OR B
Riser ID: ft.	Selected riser number NOTE - Riser depth is automatically computed from software upon input of riser ID#.
Probe Type:	1 - 4 as applicable (Normal is 1 or 2 for Cart A and 3 or 4 for Cart B)
Survey Time:	Sec.(As determined by Test Director)

TEST Exception 05 RG. 2/29/00

USER DEFINED PARAMETERS

✓ 5.3.4 **CLICK ON** "USER DEFINED".

✓ 5.3.5 **ENTER** depths desired for testing per Test Engineer Direction.

✓ 5.3.6 **CLICK ON** "SAVE" on display screen.

✓ 5.3.7 **CLICK ON** "EXIT".

5.3 TEST USER DEFINED MODE (Cont).

NOTE - Test Engineer may manipulate parameters at any time during the following steps as necessary to ensure data retrieval and system configuration, with concurrence of Test Director.

- After the following step, the program should automatically run.

- The "EMERGENCY STOP" may be used to stop at any time during the next step if unit fails to stop at limit switch. The "RESET" button will need to be pushed to resume the program.

✓ 5.3.8 **CLICK ON** Start button.

✓ 5.3.9 Test Engineer **ENSURE** data is received, AND both hard-copy and electronic files can be retrieved.

✓ 5.3.10 **VERIFY** system automatically ZEROs and data is collected at zero position.

TGT Exception 07 RG 2/29/00

R. Gutierrez — 2-29-00

Test Director Signature — Date

Rich Gutierrez

Test Director Print Name

5.3 TEST USER DEFINED MODE (Cont).

✓ 5.3.11 **CLICK ON** "LOGOUT" on display screen.

✓ 5.3.12 **REMOVE** Probe, riser extension tool, and associated equipment **AND**

STORE per Test Director direction.

OR

CONTINUE in this procedure.

✓ 5.3.13 **REPEAT** the steps in this section (5.3) as directed for any risers as directed by Test Director.

✓ 5.3.14 **VERIFY** by signing below section 5.3 is complete.

Rich Gutierrez — 2/29/00
Test Director Signature — Date

Rich Gutierrez
Test Director Print Name

Paul A. Werner — 2-29-00
QC Signature — Date

Paul A. Werner
QC Print Name

RISER 15C
GAMMA CART - B

241-AZ GAMMA CART OPERATIONAL TEST PROCEDURE

Last Full Revision:	A-0
Release Date:	02-09-2000
USQ Screening Number:	TF-00-0083 R.0
Approval Designator:	Q
Current Modification:	A-2
USQ Screening Number:	TF-98-1201 R1
Approval Designator:	NA
PCA Incorporated:	ETF-2000-064

POSITION/ORG	DELEGATE	DATE
NCO/RET OPS	S.R. Joseph	02-16-2000
OE/Retrieval OPS	Rich Gutierrez	02-16-2000
RAD. CON.		
ECO		
QA		
Cog. Engineer	Gary Tardiff	02-22-2000
Acceptance Review	Len Ross	02-23-2000
Approval Authority	Rich Gutierrez	02-23-2000

Justification: Provide step clarity.

Summary of Changes:

Page 13: Deleted "Junction Box, JB-101-100, Power Receptacle, OR Junction Box, JB-101-101"in step 5.1.7.
Added "suitable power source" to step 5.1.7.

Gamma Cart B 15 C RISER

3-1-00
R. Gutierrez

4.0 PREREQUISITES

4.1 SPECIAL TOOLS, EQUIPMENT, AND SUPPLIES

The following supplies may be needed to perform this procedure:

- Riser Swabbing equipment
- Riser extension tool

4.2 PERFORMANCE DOCUMENTS

The following procedures may be needed to perform this procedure:

- TO-040-333 LIQUID OBSERVATION WELL (LOW) SURVEILLANCE VAN STARTUP AND OPERATION PROCEDURE

4.3 CONDITIONS AND ACTIONS

NOTE - All signators on this procedure shall document their signature on Procedure Signature Sheet.

4.3.1 All pre-testing and inspection of the system or portions of the system to be tested has been completed.

(1)

Test Engineer Signature _____ Date _____

4.3.2 A pre-job briefing has been held. and all participants have been thoroughly briefed on job safety, hazards, and their responsibilities before performing this ATP.

(1)

Test Director Signature _____ Date _____

4.3.3 Test Director **VERIFY** section 4.3 has been COMPLETED.

(1)

Test Director Signature _____ Date _____

(1) ALREADY TESTED PER OTP-260-004, REV A-0

3-1-00
R. Gatiery

5.0 PROCEDURE

5.1 SETUP

NOTE - This procedure may be repeated for either GAMMA CART A or GAMMA CART B as applicable. N/A may be entered in blocks or steps per Test Director as applicable.

✓ 5.1.1 **RECORD** GAMMA CART CPU number for the system being tested.

GAMMA CART IDENTIFIER # B WST-R4403
CPU Number

✓ 5.1.2 **PERFORM** cleanliness check in applicable riser listed on TABLE II, per section 5.10 in procedure TO-040-333 latest rev, prior to mounting riser extension tool.

✓ 5.1.3 **ENSURE** GAMMA CART riser extension tool is mounted on the applicable riser.

✓ 5.1.4 **ENSURE** GAMMA CART is placed in line with riser extension tool to facilitate installation of probe and cables.

✓ 5.1.5 **CHECK** route to riser for obstacles and clearances.

✓ 5.1.6 **LEVEL** cart using jacks.

✓ 5.1.7 **CONNECT** gamma cart power cables, as follows:

- One end to gamma cart power receptacle
- Other end to suitable power source ~~Junction Box, JB-101-100, Power Receptacle, OR Junction Box, JB-101-101~~

✓ 5.1.8 **CONNECT** gamma cart communications cable, as follows:

- One end to gamma cart communications receptacle
- Other end to Tank 241-AZ-101 Gamma Cart A **AND/OR** B Data Collection Subsystem communications receptacle

✓ 5.1.9 **PLACE** Gamma Cart "RAISE OFF LOWER" switch in the LOWER position.

✓ 5.1.10 **CHECK** that detector probe cable is resting in the Gamma Cart boom cable reel.

5.1 SETUP (Cont).

CAUTION

If sufficient tension is NOT held on the detector probe cable as the cable is being let out, the cable could become entangled.

NOTE - Step 5.1.11 and 5.1.12 require two operators to perform continuous action until step 5.1.12 is complete.

✓ 5.1.11 **HOLD** tension on the detector probe cable until step 5.1.12 is completed.

✓ 5.1.12 **PRESS AND HOLD** "RESET" button until enough detector probe cable is let-out that will allow placement of the detector cable through riser extension collar AND into riser drywell, **AND**

RELEASE the "RESET" button.

✓ 5.1.13 **INSTALL** the proper detector probe on the detector probe cable.

✓ 5.1.14 **ENSURE** that the detector probe connections are correct and tight. **AND**

INSERT probe into riser extension tool.

✓ 5.1.15 **ENSURE** limit switch cable is connected from limit switch on riser extension tool, to the connection point on the front of the GAMMA CART.

✓ 5.1.16 **ENSURE** the "Raise - Off - Lower" selector switch is in the "OFF" position.

✓ 5.1.17 **ENSURE** the emergency stop button is pulled out.

✓ 5.1.18 **POSITION** the "SPEED" control potentiometer to MIN speed (fully counter-clockwise).

5.1 SETUP (Cont).

CAUTION

There is no limit switch to stop the motion when the cable is fully unwound. The cable will rewind backwards on the reel. Damage to the cable may result.

NOTE - When the cart is first powered up, or the emergency stop button has been pushed, or power has been restored after a power failure, the cable reel will not move up or down until "RESET" button is activated.

- The "Raise-OFF-Lower" Switch is Manually controlled and is Operator Dependent.

✓ 5.1.19 **ENSURE** LOCAL/REMOTE switch is in the "LOCAL" position.

✓ 5.1.20 **ENERGIZE** the Cart.

✓ 5.1.21 **SET** the "SPEED" potentiometer to 2 on the GAMMA Cart.

✓ 5.1.22 **SET** the "RAISE -OFF- LOWER" switch to the "LOWER" position.

(1) 5.1.23 **PUSH** "EMERGENCY STOP" button on GAMMA CART.

(1) 5.1.24 **VERIFY** the system has stopped.

(1)
Test Director Signature _____ Date _____

(1)
Test Director Print Name _____

(1) ALREADY TESTED PER OTP-260-004 REV A-0 SEE TEST LOG ENTRY 2-29-00, ~~2-30-00~~ 2030 HRS 3-1-00
3-1-00
R. Gutierrez

5.1 SETUP (Cont).

(1) 5.1.25 **SET** the "RAISE-OFF-LOWER" switch to the "RAISE" position.

(1) 5.1.26 **PULL** "EMERGENCY STOP" out on GAMMA CART.

(1) 5.1.27 **PUSH** the "RESET" button on GAMMA CART to resume.

(1) 5.1.28 **ENSURE** limit switch activates when probe returns to the zero position.

(1) 5.1.29 **SET** the "RAISE-OFF-LOWER" switch to the "OFF" position.

(1) 5.1.30 **SET** "SPEED" potentiometer to MIN.

(1) 5.1.31 **POSITION** The "LOCAL REMOTE" switch to "REMOTE".

(1) 5.1.32 **VERIFY** by signing below section 5.1 is complete.

(1)
Test Director Signature _____ Date _____

(1)
Test Director Print Name _____

(1)
QC Signature _____ Date _____

(1)
QC Print Name _____

(1) ALREADY TESTED PER OTP-260-004, REV A-0
SEE TEST LOG ENTRY 2-29-00, ~~2-30-00~~ 2030 HRS RG 3-1-00

3-1-00
R. Gatewy

5.2 TEST INCREMENTAL SAMPLE MODE

SETUP

NOTE - All Steps in this section apply to either cart, except in those steps where the specific cart is indicated.

INSTRUMENT CHECK

✓ 5.2.1 **IF** the pushbutton for Tank 241-AZ-101 Gamma Cart A **AND/OR** B Data Collection System Central Processing Unit (CPU), AND/OR associated MONITOR, are **NOT** ON, **PRESS** the applicable ON pushbuttons.

✓ 5.2.2 **ENSURE** the following systems are ON **AND**

TEST EXCEPTION # 02 3-1-00 R. Hutchery

ENSURE settings are correct for the following:

- ORTEC MINIBIN
- POWER SUPPLY

Detector Bias Power Supply (HVPS): ORTEC Mod. 478.

- kV: .5
- 0 to 1000V: (+60 volts)

Amplifier (AMP): ORTEC Mod. 673

- COARSE GAIN: 200
- FINE GAIN: 0.680
- SHAPING TIME: Both knobs set to 2 microseconds
- PZ Adjust: Do NOT change settings (in this procedure)
- BLR: Switch in AUTO (up) position
- INPUTS: Switch in POS (up) position BNC cable on terminal (from pre amplifier)
- OUTPUTS: cable on UNIPOLAR terminal(to single channel Analyzer)

✓ 5.2.3 **WHEN** WINDOWS login screen appears **CLICK ON** "CANCEL".

5.2 TEST INCREMENTAL SAMPLE MODE (Cont).

NOTE - After canceling windows login, GAMMA CART software should automatically load.

✓ 5.2.4 **VERIFY** "GAMMA CART SPECTRUM ANALYZER AND CONTROL SYSTEM" screen is displayed on Tank 241-AZ-101 Gamma Cart A **AND/OR** B Data Collection System Monitor.

R Gutierrez — 3-1-00
Test Director Signature — Date

R Gutierrez
Test Director Print Name

✓ 5.2.5 **SELECT** "Login" on the "GAMMA CART SPECTRUM ANALYZER AND CONTROL SYSTEM" screen.

NOTE - LOGIN passwords and information may be obtained from Test Director.

✓ 5.2.6 **LOG-IN.**

✓ 5.2.7 **VERIFY** LOCAL/REMOTE switch on display screen is in "REMOTE" position.

R. Gutierrez — 3-1-00
Test Director Signature — Date

R. Gutierrez
Test Director Print Name

5.2 TEST INCREMENTAL SAMPLE MODE (Cont).

TESTING

(1) 5.2.8 **SELECT** "config" on the "Gamma Cart Display" screen.

(1) 5.2.9 **ENTER** the following data for selected riser on the "Configuration - Display" screen by pulling down applicable menu:

POSITION	DATA
Tank Number:	AZ-101
Cart:	A **OR** B
Riser ID: ft.	Selected riser number NOTE - Riser depth is automatically computed from software upon input of riser ID#.
Probe Type:	1 - 4 as applicable (Normal is 1 or 2 for Cart A and 3 or 4 for Cart B)
Survey Time:	Sec.(As determined by Test Director)

(1) 5.2.10 **ENSURE** REAL/LIVE toggle button indicates "LIVE".

(1) 5.2.11 On the Data Collection Configuration window, **SELECT** the "Incremental" button.

INCREMENTAL PARAMETERS

(1) 5.2.12 **INPUT** the following Sample Collection Data:

Sample Start Depth:	55.0 ft
Interval Size:	10.0 ft
Sample End Depth:	5.0 ft

(1) ALREADY TESTED PER OTP-260-004, REV. A-0
SEE TEST LOG ENTRY 2-29-00, ~~2-30-00~~ RG 2030 HRS 3-1-00

3-1-00
R. Gutierrez

5.2 TEST INCREMENTAL SAMPLE MODE (Cont).

(1) 5.2.13 **CLICK ON** "SAVE".

(1) 5.2.14 **CLICK ON** "EXIT".

NOTE - Test Engineer may manipulate parameters at any time during the following steps as necessary to ensure data retrieval and system configuration, with concurrence of Test Director.

- After the following step, the program should automatically run.

(1) 5.2.15 **CLICK ON** "Start" button.

(1) 5.2.16 **CLICK ON** "EMERGENCY STOP" button on computer screen.

(1) 5.2.17 **VERIFY** System stopped.

(1)
Test Director Signature _____ Date _____

(1)
Test Director Print Name _____

(1) 5.2.18 **CLICK ON** "EMERGENCY STOP" again to RESET the emergency stop button on computer screen.

(1) 5.2.19 **CLICK ON** "ZERO" on display screen.

(1) 5.2.20 **ENSURE** GAMMA PROBE begins to RAISE.

(1) 5.2.21 **CLICK ON** "STOP" button on display screen.

(1) ALREADY TESTED PER OTP-260-004, REV. A-0
SEE TEST LOG ENTRY 2-29-00, ~~2-30-00~~ 2030 HRS. 3-1-00

3-1-00
R. Gutierrez

5.2 TEST INCREMENTAL SAMPLE MODE (Cont).

(1) 5.2.22 **VERIFY** System stopped.

(1)
Test Director Signature Date

(1)
Test Director Print Name

(1) 5.2.23 **CLICK ON** "ZERO" again on display screen.

(1) 5.2.24 **ENSURE** GAMMA PROBE begins to RAISE.

(1) 5.2.25 When probe and system zeros, **CLICK ON** "START" on display screen.

(1) 5.2.26 **VERIFY** System resumed program.

(1)
Test Director Signature Date

(1)
Test Director Print Name

(1) 5.2.27 **CLICK ON** "STOP" button on computer screen.

(1) 5.2.28 **VERIFY** System stopped.

(1)
Test Director Signature Date

(1)
Test Director Print Name

(1) 5.2.29 **CLICK ON** "ZERO" on display screen.

(1) 5.2.30 When probe and system zeros, **CLICK ON** "START" on display screen.

(1) 5.2.31 **VERIFY** System resumed program.

(1)
Test Director Signature Date

(1)
Test Director Print Name

(1) ALREADY TESTED PER OTP 260-004, REV A-0.
SEE TEST LOG ENTRY 2-29-00, ~~2-30-00~~ RG 2030 HRS 3-1-00

3-1-00
R Gatewing

5.2 TEST INCREMENTAL SAMPLE MODE (Cont).

(1) 5.2.32 Test Engineer **ENSURE** data is received, AND both hard-copy and electronic files can be retrieved.

(1) 5.2.33 **VERIFY** system automatically ZEROs and data is collected at zero position.

(1)
Test Director Signature _____ Date _____

(1)
Test Director Print Name _____

NOTE - The steps in section 5.1, applicable to the Emergency stop, need not be repeated if completed for an individual GAMMA CART. The Emergency stop on BOTH GAMMA CART A and B, need to be tested only once.

NOTE - It is NOT necessary to do ALL risers in one procedure. Test Director is responsible for ensuring ALL risers have been profiled by one AND/OR the other GAMMA CART(S).

(1) 5.2.34 **REPEAT** applicable SETUP Steps in section 5.1 AND Incremental testing steps 5.2.1 - 5.2.15 AND Steps 5.2.32 and 5.2.33 for each of the following risers and depths per Test Director's direction.

(1) ALREADY TESTED PER OTP-260-004 REV. A-0 SEE TEST LOG ENTRY ~~2-30-00~~, ~~2-29-00~~ 2-29-00 2030 HRS 3-1-00 3-1-00 3-1-00 R. Gatney

TABLE I

RISER	Depth inches (ft)
14A	660 (55.0)
14C	660 (55.0)
14D	660 (55.0)
14F	660 (55.0)
14G	660 (55.0)
14B	660 (55.0)
14E	660 (55.0)
15I	684 (57.0)
15C	684 (57.0)
15E	684 (57.0)
15B	684 (57.0)
15F	684 (57.0)

5.2 INCREMENTAL SAMPLE MODE (Cont).

NOTE - In the following Table, Test Director N/A blocks that are tested with a different GAMMA CART.

(L) 5.2.35 **VERIFY** the applicable riser in step 5.2.34 has been tested.

TABLE II

RISER	TEST DIRECTOR SIGNATURE
14A	
14C	
14D	
14F	
14G	
14B	
14E	
15I	
15C	
15E	
15B	
15F	

(L) 5.2.36 **VERIFY** by signing below section 5.2 is complete.

(L)
Test Director Signature _____ Date _____

(L)
Test Director Print Name _____

(L)
QC Signature _____ Date _____

(L)
QC Print Name _____

(L) ALREADY TESTED PER OTP-260-004 REV. A-0, SEE TEST LOG ENTRY 2-29-00, ~~2-29-00~~ 2020 HRS 3-1-00

3-1-00
R. Gutierrez

5.3 TEST USER DEFINED MODE

✓ 5.3.1 **ENSURE** applicable SETUP Steps in section 5.1 are completed.

CART CONTROL SCREEN

✓ 5.3.2 On the Gamma Cart Control, **CLICK ON** the "Config." button.

✓ 5.3.3 **INPUT** the following data:

POSITION	DATA
Tank Number:	AZ-101
Cart:	A **OR** B
Riser ID: ft.	Selected riser number NOTE - Riser depth is automatically computed from software upon input of riser ID#.
Probe Type:	1 - 4 as applicable (Normal is 1 or 2 for Cart A and 3 or 4 for Cart B)
Survey Time:	Sec.(As determined by Test Director)

TEST EXCEPTION #05 3-1-00 R. Dalling

USER DEFINED PARAMETERS

✓ 5.3.4 **CLICK ON** "USER DEFINED".

✓ 5.3.5 **ENTER** depths desired for testing per Test Engineer Direction.

✓ 5.3.6 **CLICK ON** "SAVE" on display screen.

✓ 5.3.7 **CLICK ON** "EXIT".

5.3 TEST USER DEFINED MODE (Cont).

NOTE - Test Engineer may manipulate parameters at any time during the following steps as necessary to ensure data retrieval and system configuration, with concurrence of Test Director.

- After the following step, the program should automatically run.

- The "EMERGENCY STOP" may be used to stop at any time during the next step if unit fails to stop at limit switch. The "RESET" button will need to be pushed to resume the program.

TEST EXCEPTION #06 R. Gutierrez 3-1-00

✓ 5.3.8 **CLICK ON** Start button.

✓ 5.3.9 Test Engineer **ENSURE** data is received, AND both hard-copy and electronic files can be retrieved.

✓ 5.3.10 **VERIFY** system automatically ZEROs and data is collected at zero position.

R. Gutierrez — 3-1-00

Test Director Signature — Date

R. Gutierrez

Test Director Print Name

5.3 TEST USER DEFINED MODE (Cont).

✓ 5.3.11 **CLICK ON** "LOGOUT" on display screen.

✓ 5.3.12 **REMOVE** Probe, riser extension tool, and associated equipment **AND**

STORE per Test Director direction.

OR

CONTINUE in this procedure.

✓ 5.3.13 **REPEAT** the steps in this section (5.3) as directed for any risers as directed by Test Director.

✓ 5.3.14 **VERIFY** by signing below section 5.3 is complete.

R. Gutierrez — 3-1-00
Test Director Signature — Date

R. Gutierrez
Test Director Print Name

Ronald A. Arndt — 3-1-00
QC Signature — Date

RONALD A. ARNDT
QC Print Name

RISER 14E
GAMMA CART - B

241-AZ GAMMA CART OPERATIONAL TEST PROCEDURE

Last Full Revision:	A-0
Release Date:	02-09-2000
USQ Screening Number:	TF-00-0083 R.0
Approval Designator:	Q
Current Modification:	A-2
USQ Screening Number:	TF-98-1201 R1
Approval Designator:	NA
PCA Incorporated:	ETF-2000-064

POSITION/ORG	DELEGATE	DATE
NCO/RET OPS	S.R. Joseph	02-16-2000
OE/Retrieval OPS	Rich Gutierrez	02-16-2000
RAD. CON.		
ECO		
QA		
Cog. Engineer	Gary Tardiff	02-22-2000
Acceptance Review	Len Ross	02-23-2000
Approval Authority	Rich Gutierrez	02-23-2000

Justification: Provide step clarity.

Summary of Changes:

Page 13: Deleted "Junction Box, JB-101-100, Power Receptacle, OR Junction Box, JB-101-101"in step 5.1.7.

Added "suitable power source" to step 5.1.7.

Gamma Cart B
RISER 14E

3-1-00
R. Gutierrez

4.0 PREREQUISITES

4.1 SPECIAL TOOLS, EQUIPMENT, AND SUPPLIES

The following supplies may be needed to perform this procedure:

- Riser Swabbing equipment
- Riser extension tool

4.2 PERFORMANCE DOCUMENTS

The following procedures may be needed to perform this procedure:

- TO-040-333 LIQUID OBSERVATION WELL (LOW) SURVEILLANCE VAN STARTUP AND OPERATION PROCEDURE

4.3 CONDITIONS AND ACTIONS

NOTE - All signators on this procedure shall document their signature on Procedure Signature Sheet.

4.3.1 All pre-testing and inspection of the system or portions of the system to be tested has been completed.

(1)

Test Engineer Signature _____ Date _____

4.3.2 A pre-job briefing has been held. and all participants have been thoroughly briefed on job safety, hazards, and their responsibilities before performing this ATP.

(1)

Test Director Signature _____ Date _____

4.3.3 Test Director **VERIFY** section 4.3 has been COMPLETED.

(1)

Test Director Signature _____ Date _____

(1) ALREADY TESTED ON OTP-260-004, REV. A-0

3-1-00
R Stuting

5.0 PROCEDURE

5.1 SETUP

NOTE - This procedure may be repeated for either GAMMA CART A or GAMMA CART B as applicable. N/A may be entered in blocks or steps per Test Director as applicable.

✓ 5.1.1 **RECORD** GAMMA CART CPU number for the system being tested.

GAMMA CART IDENTIFIER # B WST-R4403
CPU Number

✓ 5.1.2 **PERFORM** cleanliness check in applicable riser listed on TABLE II, per section 5.10 in procedure TO-040-333 latest rev, prior to mounting riser extension tool.

✓ 5.1.3 **ENSURE** GAMMA CART riser extension tool is mounted on the applicable riser.

✓ 5.1.4 **ENSURE** GAMMA CART is placed in line with riser extension tool to facilitate installation of probe and cables.

✓ 5.1.5 **CHECK** route to riser for obstacles and clearances.

✓ 5.1.6 **LEVEL** cart using jacks.

✓ 5.1.7 **CONNECT** gamma cart power cables, as follows:

- One end to gamma cart power receptacle
- Other end to suitable power source ~~Junction Box, JB-101-100, Power Receptacle, OR Junction Box, JB-101-101~~

✓ 5.1.8 **CONNECT** gamma cart communications cable, as follows:

- One end to gamma cart communications receptacle
- Other end to Tank 241-AZ-101 Gamma Cart A **AND/OR** B Data Collection Subsystem communications receptacle

✓ 5.1.9 **PLACE** Gamma Cart "RAISE OFF LOWER" switch in the LOWER position.

✓ 5.1.10 **CHECK** that detector probe cable is resting in the Gamma Cart boom cable reel.

5.1 SETUP (Cont).

CAUTION

If sufficient tension is NOT held on the detector probe cable as the cable is being let out, the cable could become entangled.

NOTE - Step 5.1.11 and 5.1.12 require two operators to perform continuous action until step 5.1.12 is complete.

✓ 5.1.11 **HOLD** tension on the detector probe cable until step 5.1.12 is completed.

✓ 5.1.12 **PRESS AND HOLD** "RESET" button until enough detector probe cable is let-out that will allow placement of the detector cable through riser extension collar AND into riser drywell, **AND**

RELEASE the "RESET" button.

✓ 5.1.13 **INSTALL** the proper detector probe on the detector probe cable.

✓ 5.1.14 **ENSURE** that the detector probe connections are correct and tight. **AND**

INSERT probe into riser extension tool.

✓ 5.1.15 **ENSURE** limit switch cable is connected from limit switch on riser extension tool, to the connection point on the front of the GAMMA CART.

✓ 5.1.16 **ENSURE** the "Raise - Off - Lower" selector switch is in the "OFF" position.

✓ 5.1.17 **ENSURE** the emergency stop button is pulled out.

✓ 5.1.18 **POSITION** the "SPEED" control potentiometer to MIN speed (fully counter-clockwise).

5.1 SETUP (Cont).

CAUTION

There is no limit switch to stop the motion when the cable is fully unwound. The cable will rewind backwards on the reel. Damage to the cable may result.

NOTE - When the cart is first powered up, or the emergency stop button has been pushed, or power has been restored after a power failure, the cable reel will not move up or down until "RESET" button is activated.

- The "Raise-OFF-Lower" Switch is Manually controlled and is Operator Dependent.

✓ 5.1.19 **ENSURE** LOCAL/REMOTE switch is in the "LOCAL" position.

✓ 5.1.20 **ENERGIZE** the Cart.

✓ 5.1.21 **SET** the "SPEED" potentiometer to 2 on the GAMMA Cart.

✓ 5.1.22 **SET** the "RAISE -OFF- LOWER" switch to the "LOWER" position.

(1) 5.1.23 **PUSH** "EMERGENCY STOP" button on GAMMA CART.

(1) 5.1.24 **VERIFY** the system has stopped.

(1)
Test Director Signature _____ Date _____

(1)
Test Director Print Name _____

(1) ALREADY TEST PER OTP-260-004 REV. A-0
SEE TEST LOG ENTRY 2-29-00, ~~2-30-00~~ 2030 HRS 3/1/00

5-1-00
R. Gutierrez

5.1 SETUP (Cont).

(1) 5.1.25 **SET** the "RAISE-OFF-LOWER" switch to the "RAISE" position.

(1) 5.1.26 **PULL** "EMERGENCY STOP" out on GAMMA CART.

(1) 5.1.27 **PUSH** the "RESET" button on GAMMA CART to resume.

(1) 5.1.28 **ENSURE** limit switch activates when probe returns to the zero position.

(1) 5.1.29 **SET** the "RAISE-OFF-LOWER" switch to the "OFF" position.

(1) 5.1.30 **SET** "SPEED" potentiometer to MIN.

(1) 5.1.31 **POSITION** The "LOCAL REMOTE" switch to "REMOTE".

(1) 5.1.32 **VERIFY** by signing below section 5.1 is complete.

(1)
Test Director Signature _____ Date _____

(1)
Test Director Print Name _____

(1)
QC Signature _____ Date _____

(1)
QC Print Name _____

(1) ALREADY TESTED PER OTP-260-004, REV. A0
SEE TEST LOG ENTRY 2-29-00, ~~2-30-00~~ 2030 HRS 3/1/00

3-1-00
R. Gutierrez

5.2 TEST INCREMENTAL SAMPLE MODE

SETUP

NOTE - All Steps in this section apply to either cart, except in those steps where the specific cart is indicated.

INSTRUMENT CHECK

✓ 5.2.1 **IF** the pushbutton for Tank 241-AZ-101 Gamma Cart A **AND/OR** B Data Collection System Central Processing Unit (CPU), AND/OR associated MONITOR, are **NOT** ON, **PRESS** the applicable ON pushbuttons.

✓ 5.2.2 **ENSURE** the following systems are ON **AND**

TEST EXCEPTION # 02 R. Butler 3-1-00

ENSURE settings are correct for the following:

- ORTEC MINIBIN
- POWER SUPPLY

Detector Bias Power Supply (HVPS): ORTEC Mod. 478.

- kV: .5
- 0 to 1000V: (+60 volts)

Amplifier (AMP): ORTEC Mod. 673

- COARSE GAIN: 200
- FINE GAIN: 0.680
- SHAPING TIME: Both knobs set to 2 microseconds
- PZ Adjust: Do NOT change settings (in this procedure)
- BLR: Switch in AUTO (up) position
- INPUTS: Switch in POS (up) position BNC cable on terminal (from pre amplifier)
- OUTPUTS: cable on UNIPOLAR terminal(to single channel Analyzer)

✓ 5.2.3 **WHEN** WINDOWS login screen appears **CLICK ON** "CANCEL".

5.2 TEST INCREMENTAL SAMPLE MODE (Cont).

NOTE - After canceling windows login, GAMMA CART software should automatically load.

✓ 5.2.4 **VERIFY** "GAMMA CART SPECTRUM ANALYZER AND CONTROL SYSTEM" screen is displayed on Tank 241-AZ-101 Gamma Cart A **AND/OR** B Data Collection System Monitor.

R. Gutierrez 3-1-00
Test Director Signature Date

R. Gutierrez
Test Director Print Name

✓ 5.2.5 **SELECT** "Login" on the "GAMMA CART SPECTRUM ANALYZER AND CONTROL SYSTEM" screen.

NOTE - LOGIN passwords and information may be obtained from Test Director.

✓ 5.2.6 **LOG-IN.**

✓ 5.2.7 **VERIFY** LOCAL/REMOTE switch on display screen is in "REMOTE" position.

R. Gutierrez 3-1-00
Test Director Signature Date

R. Gutierrez
Test Director Print Name

5.2 TEST INCREMENTAL SAMPLE MODE (Cont).

TESTING

(1) 5.2.8 **SELECT** "config" on the "Gamma Cart Display" screen.

(1) 5.2.9 **ENTER** the following data for selected riser on the "Configuration - Display" screen by pulling down applicable menu:

POSITION	DATA
Tank Number:	AZ-101
Cart:	A **OR** B
Riser ID: ft.	Selected riser number NOTE - Riser depth is automatically computed from software upon input of riser ID#.
Probe Type:	1 - 4 as applicable (Normal is 1 or 2 for Cart A and 3 or 4 for Cart B)
Survey Time:	Sec.(As determined by Test Director)

(1) 5.2.10 **ENSURE** REAL/LIVE toggle button indicates "LIVE".

(1) 5.2.11 On the Data Collection Configuration window, **SELECT** the "Incremental" button.

INCREMENTAL PARAMETERS

(1) 5.2.12 **INPUT** the following Sample Collection Data:

Sample Start Depth:	55.0 ft
Interval Size:	10.0 ft
Sample End Depth:	5.0 ft

(1) ALREADY TESTED PER OTP-260-004, REV. A-0 SEE TEST LOG ENTRY 2-29-00, ~~2-30-00~~ RG 3/1/00 2030 HRS

3-1-00
R. Gutierrez

5.2 TEST INCREMENTAL SAMPLE MODE (Cont).

(1) 5.2.13 **CLICK ON** "SAVE".

(1) 5.2.14 **CLICK ON** "EXIT".

NOTE - Test Engineer may manipulate parameters at any time during the following steps as necessary to ensure data retrieval and system configuration, with concurrence of Test Director.

- After the following step, the program should automatically run.

(1) 5.2.15 **CLICK ON** "Start" button.

(1) 5.2.16 **CLICK ON** "EMERGENCY STOP" button on computer screen.

(1) 5.2.17 **VERIFY** System stopped.

(1)

Test Director Signature _____ Date _____

(1)

Test Director Print Name _____

(1) 5.2.18 **CLICK ON** "EMERGENCY STOP" again to RESET the emergency stop button on computer screen.

(1) 5.2.19 **CLICK ON** "ZERO" on display screen.

(1) 5.2.20 **ENSURE** GAMMA PROBE begins to RAISE.

(1) 5.2.21 **CLICK ON** "STOP" button on display screen.

(1) ALREADY TESTED PER OTP-260-004 REV. A-0 SEE TEST LOG ENTRY 2-29-00, ~~2-30-00~~ 2030 HRS RG 3/1/00

3-1-00
R. Gutierrez

5.2 TEST INCREMENTAL SAMPLE MODE (Cont).

(D) 5.2.22 **VERIFY** System stopped.

(D)
Test Director Signature Date

(D)
Test Director Print Name

(D) 5.2.23 **CLICK ON** "ZERO" again on display screen.

(D) 5.2.24 **ENSURE** GAMMA PROBE begins to RAISE.

(D) 5.2.25 When probe and system zeros, **CLICK ON** "START" on display screen.

(D) 5.2.26 **VERIFY** System resumed program.

(D)
Test Director Signature Date

(D)
Test Director Print Name

(D) 5.2.27 **CLICK ON** "STOP" button on computer screen.

(D) 5.2.28 **VERIFY** System stopped.

(D)
Test Director Signature Date

(D)
Test Director Print Name

(D) 5.2.29 **CLICK ON** "ZERO" on display screen.

(D) 5.2.30 When probe and system zeros, **CLICK ON** "START" on display screen.

(D) 5.2.31 **VERIFY** System resumed program.

(D)
Test Director Signature Date

(D)
Test Director Print Name

(D) ALREADY TESTED PER OTP 260-004, Rev. A-0
SEE TEST LOG ENTRY 2-29-00, ~~2-30-00~~ 2030 RG 3/1/00

3-1-00 R. Gutierrez

5.2 TEST INCREMENTAL SAMPLE MODE (Cont).

(1) 5.2.32 Test Engineer **ENSURE** data is received, AND both hard-copy and electronic files can be retrieved.

(1) 5.2.33 **VERIFY** system automatically ZEROs and data is collected at zero position.

(1)

Test Director Signature _____ Date _____

(1)

Test Director Print Name _____

NOTE - The steps in section 5.1, applicable to the Emergency stop, need not be repeated if completed for an individual GAMMA CART. The Emergency stop on BOTH GAMMA CART A and B, need to be tested only once.

NOTE - It is NOT necessary to do ALL risers in one procedure. Test Director is responsible for ensuring ALL risers have been profiled by one AND/OR the other GAMMA CART(S).

(1) 5.2.34 **REPEAT** applicable SETUP Steps in section 5.1 AND Incremental testing steps 5.2.1 - 5.2.15 AND Steps 5.2.32 and 5.2.33 for each of the following risers and depths per Test Director's direction.

(1) ALREADY TESTED REV OTP-260-004 REV. A-0 SEE TEST LOG ENTRY ~~2-30-00~~ 2030 HRS 2-29-00 R. Gathing 3-1-00

TABLE I

RISER	Depth inches (ft)
14A	660 (55.0)
14C	660 (55.0)
14D	660 (55.0)
14F	660 (55.0)
14G	660 (55.0)
14B	660 (55.0)
14E	660 (55.0)
15I	684 (57.0)
15C	684 (57.0)
15E	684 (57.0)
15B	684 (57.0)
15F	684 (57.0)

5.2 INCREMENTAL SAMPLE MODE (Cont).

NOTE - In the following Table, Test Director N/A blocks that are tested with a different GAMMA CART.

(1) 5.2.35 **VERIFY** the applicable riser in step 5.2.34 has been tested.

TABLE II

RISER	TEST DIRECTOR SIGNATURE
14A	
14C	
14D	
14F	
14G	
14B	
14E	
15I	
15C	
15E	
15B	
15F	

(1) 5.2.36 **VERIFY** by signing below section 5.2 is complete.

(1) _____ _____
Test Director Signature Date

(1) _____
Test Director Print Name

(1) _____ _____
QC Signature Date

(1) _____
QC Print Name

(1) ALL ROTOR TESTED PER OTP-260-004 REV. A-0
SEE TEST LOG ENTRY 2-29-00, ~~2-30-00~~ 2030 HR RG 3/1/00
R. Gutierrez
3-1-00

5.3 TEST USER DEFINED MODE

✓ 5.3.1 **ENSURE** applicable SETUP Steps in section 5.1 are completed.

CART CONTROL SCREEN

✓ 5.3.2 On the Gamma Cart Control, **CLICK ON** the "Config." button.

✓ 5.3.3 **INPUT** the following data:

POSITION	DATA
Tank Number:	AZ-101
Cart:	A **OR** B
Riser ID: ft.	Selected riser number NOTE - Riser depth is automatically computed from software upon input of riser ID#.
Probe Type:	1 - 4 as applicable (Normal is 1 or 2 for Cart A and 3 or 4 for Cart B)
Survey Time:	Sec.(As determined by Test Director)

USER DEFINED PARAMETERS

Test Exception # 05 R. Hatheway 3-1-00

✓ 5.3.4 **CLICK ON** "USER DEFINED".

✓ 5.3.5 **ENTER** depths desired for testing per Test Engineer Direction.

✓ 5.3.6 **CLICK ON** "SAVE" on display screen.

✓ 5.3.7 **CLICK ON** "EXIT".

5.3 TEST USER DEFINED MODE (Cont).

NOTE - Test Engineer may manipulate parameters at any time during the following steps as necessary to ensure data retrieval and system configuration, with concurrence of Test Director.

- After the following step, the program should automatically run.

- The "EMERGENCY STOP" may be used to stop at any time during the next step if unit fails to stop at limit switch. The "RESET" button will need to be pushed to resume the program.

TEST EXECUTION #26 R. Gutierrez 3-1-00

✓ 5.3.8 **CLICK ON** Start button.

✓ 5.3.9 Test Engineer **ENSURE** data is received, AND both hard-copy and electronic files can be retrieved.

✓ 5.3.10 **VERIFY** system automatically ZEROs and data is collected at zero position.

R. Gutierrez — 3-1-00

Test Director Signature — Date

R. Gutierrez

Test Director Print Name

5.3 TEST USER DEFINED MODE (Cont).

✓ 5.3.11 **CLICK ON** "LOGOUT" on display screen.

✓ 5.3.12 **REMOVE** Probe, riser extension tool, and associated equipment **AND**

STORE per Test Director direction.

OR

CONTINUE in this procedure.

✓ 5.3.13 **REPEAT** the steps in this section (5.3) as directed for any risers as directed by Test Director.

✓ 5.3.14 **VERIFY** by signing below section 5.3 is complete.

R. Gutierrez — 3-1-00
Test Director Signature — Date

R. Gutierrez
Test Director Print Name

Ronald A. Arnold — 3-1-00
QC Signature — Date

Ronald A. Arnold
QC Print Name

RISER 15E
GAMMA CART - B

241-AZ GAMMA CART OPERATIONAL TEST PROCEDURE

Last Full Revision:	A-0
Release Date:	02-09-2000
USQ Screening Number:	TF-00-0083 R.0
Approval Designator:	Q
Current Modification:	A-2
USQ Screening Number:	TF-98-1201 R1
Approval Designator:	NA
PCA Incorporated:	ETF-2000-064

POSITION/ORG	DELEGATE	DATE
NCO/RET OPS	S.R. Joseph	02-16-2000
OE/Retrieval OPS	Rich Gutierrez	02-16-2000
RAD. CON.		
ECO		
QA		
Cog. Engineer	Gary Tardiff	02-22-2000
Acceptance Review	Len Ross	02-23-2000
Approval Authority	Rich Gutierrez	02-23-2000

Justification: Provide step clarity.

Summary of Changes:

Page 13: Deleted "Junction Box, JB-101-100, Power Receptacle, OR Junction Box, JB-101-101"in step 5.1.7.

Added "suitable power source" to step 5.1.7.

Gamma Cart B
15 E

R. Gutierrez 3/1/00

4.0 PREREQUISITES

4.1 SPECIAL TOOLS, EQUIPMENT, AND SUPPLIES

The following supplies may be needed to perform this procedure:

- Riser Swabbing equipment
- Riser extension tool

4.2 PERFORMANCE DOCUMENTS

The following procedures may be needed to perform this procedure:

- TO-040-333 LIQUID OBSERVATION WELL (LOW) SURVEILLANCE VAN STARTUP AND OPERATION PROCEDURE

4.3 CONDITIONS AND ACTIONS

NOTE - All signators on this procedure shall document their signature on Procedure Signature Sheet.

4.3.1 All pre-testing and inspection of the system or portions of the system to be tested has been completed.

(1)

Test Engineer Signature _____ Date _____

4.3.2 A pre-job briefing has been held. and all participants have been thoroughly briefed on job safety, hazards, and their responsibilities before performing this ATP.

(1)

Test Director Signature _____ Date _____

4.3.3 Test Director VERIFY section 4.3 has been COMPLETED.

(1)

Test Director Signature _____ Date _____

(1) already tested per per OTP-260-004 Rev A-0 see test log entry 2/29/00, 2030.

R. Sathering 3/1/00

5.0 PROCEDURE

5.1 SETUP

NOTE - This procedure may be repeated for either GAMMA CART A or GAMMA CART B as applicable. N/A may be entered in blocks or steps per Test Director as applicable.

✓ 5.1.1 **RECORD** GAMMA CART CPU number for the system being tested.

GAMMA CART IDENTIFIER # B WST-RY403
CPU Number

✓ 5.1.2 **PERFORM** cleanliness check in applicable riser listed on TABLE II, per section 5.10 in procedure TO-040-333 latest rev, prior to mounting riser extension tool.

✓ 5.1.3 **ENSURE** GAMMA CART riser extension tool is mounted on the applicable riser.

✓ 5.1.4 **ENSURE** GAMMA CART is placed in line with riser extension tool to facilitate installation of probe and cables.

✓ 5.1.5 **CHECK** route to riser for obstacles and clearances.

✓ 5.1.6 **LEVEL** cart using jacks.

✓ 5.1.7 **CONNECT** gamma cart power cables, as follows:

- One end to gamma cart power receptacle
- Other end to suitable power source ~~Junction Box, JB-101-100, Power Receptacle, OR Junction Box, JB-101-101~~

✓ 5.1.8 **CONNECT** gamma cart communications cable, as follows:

- One end to gamma cart communications receptacle
- Other end to Tank 241-AZ-101 Gamma Cart A **AND/OR** B Data Collection Subsystem communications receptacle

✓ 5.1.9 **PLACE** Gamma Cart "RAISE OFF LOWER" switch in the LOWER position.

✓ 5.1.10 **CHECK** that detector probe cable is resting in the Gamma Cart boom cable reel.

5.1 SETUP (Cont).

CAUTION

If sufficient tension is NOT held on the detector probe cable as the cable is being let out, the cable could become entangled.

NOTE - Step 5.1.11 and 5.1.12 require two operators to perform continuous action until step 5.1.12 is complete.

✓ 5.1.11 **HOLD** tension on the detector probe cable until step 5.1.12 is completed.

✓ 5.1.12 **PRESS AND HOLD** "RESET" button until enough detector probe cable is let-out that will allow placement of the detector cable through riser extension collar AND into riser drywell, **AND**

RELEASE the "RESET" button.

✓ 5.1.13 **INSTALL** the proper detector probe on the detector probe cable.

✓ 5.1.14 **ENSURE** that the detector probe connections are correct and tight. **AND**

INSERT probe into riser extension tool.

✓ 5.1.15 **ENSURE** limit switch cable is connected from limit switch on riser extension tool, to the connection point on the front of the GAMMA CART.

✓ 5.1.16 **ENSURE** the "Raise - Off - Lower" selector switch is in the "OFF" position.

✓ 5.1.17 **ENSURE** the emergency stop button is pulled out.

✓ 5.1.18 **POSITION** the "SPEED" control potentiometer to MIN speed (fully counter-clockwise).

5.1 SETUP (Cont).

CAUTION

There is no limit switch to stop the motion when the cable is fully unwound. The cable will rewind backwards on the reel. Damage to the cable may result.

NOTE - When the cart is first powered up, or the emergency stop button has been pushed, or power has been restored after a power failure, the cable reel will not move up or down until "RESET" button is activated.

- The "Raise-OFF-Lower" Switch is Manually controlled and is Operator Dependent.

Ø 5.1.19 **ENSURE** LOCAL/REMOTE switch is in the "LOCAL" position.

Ø 5.1.20 **ENERGIZE** the Cart.

Ø 5.1.21 **SET** the "SPEED" potentiometer to 2 on the GAMMA Cart.

Ø 5.1.22 **SET** the "RAISE -OFF- LOWER" switch to the "LOWER" position.

Ø 5.1.23 **PUSH** "EMERGENCY STOP" button on GAMMA CART.

Ø 5.1.24 **VERIFY** the system has stopped.

Rich Gutierrez 3-1-00
Test Director Signature Date

Rich Gutierrez
Test Director Print Name

Ø already tested on OTP-260-004 Rev A-0
see Test Log entry 2/24/00, 2030.
R. Gutierrez 3/1/00

5.1 SETUP (Cont).

D	5.1.25	**SET** the "RAISE-OFF-LOWER" switch to the "RAISE" position.
D	5.1.26	**PULL** "EMERGENCY STOP" out on GAMMA CART.
D	5.1.27	**PUSH** the "RESET" button on GAMMA CART to resume.
D	5.1.28	**ENSURE** limit switch activates when probe returns to the zero position.
D	5.1.29	**SET** the "RAISE-OFF-LOWER" switch to the "OFF" position.
D	5.1.30	**SET** "SPEED" potentiometer to MIN.
D	5.1.31	**POSITION** The "LOCAL REMOTE" switch to "REMOTE".
D	5.1.32	**VERIFY** by signing below section 5.1 is complete.

D
Test Director Signature _____ Date _____

D
Test Director Print Name _____

D
QC Signature _____ Date _____

D
QC Print Name _____

D already tested per OTP-260-004 Rev A-0
see test log entry 2/29/00, 2030.
R. Stuthering 3/1/00

5.2 TEST INCREMENTAL SAMPLE MODE

SETUP

NOTE - All Steps in this section apply to either cart, except in those steps where the specific cart is indicated.

INSTRUMENT CHECK

✓ 5.2.1 **IF** the pushbutton for Tank 241-AZ-101 Gamma Cart A **AND/OR** B Data Collection System Central Processing Unit (CPU), AND/OR associated MONITOR, are **NOT** ON, **PRESS** the applicable ON pushbuttons.

Test Exception #02 R Gutshall 3/1/00

✓ 5.2.2 **ENSURE** the following systems are ON **AND**

ENSURE settings are correct for the following:

- ORTEC MINIBIN
- POWER SUPPLY

Detector Bias Power Supply (HVPS): ORTEC Mod. 478.

- kV: .5
- 0 to 1000V: (+60 volts)

Amplifier (AMP): ORTEC Mod. 673

- COARSE GAIN: 200
- FINE GAIN: 0.680
- SHAPING TIME: Both knobs set to 2 microseconds
- PZ Adjust: Do NOT change settings (in this procedure)
- BLR: Switch in AUTO (up) position
- INPUTS: Switch in POS (up) position BNC cable on terminal (from pre amplifier)
- OUTPUTS: cable on UNIPOLAR terminal(to single channel Analyzer)

✓ 5.2.3 **WHEN** WINDOWS login screen appears **CLICK ON** "CANCEL".

5.2 TEST INCREMENTAL SAMPLE MODE (Cont).

NOTE - After canceling windows login, GAMMA CART software should automatically load.

✓ 5.2.4 **VERIFY** "GAMMA CART SPECTRUM ANALYZER AND CONTROL SYSTEM" screen is displayed on Tank 241-AZ-101 Gamma Cart A **AND/OR** B Data Collection System Monitor.

Rich Gutierrez — 3-1-00
Test Director Signature — Date

Rich Gutierrez
Test Director Print Name

✓ 5.2.5 **SELECT** "Login" on the "GAMMA CART SPECTRUM ANALYZER AND CONTROL SYSTEM" screen.

NOTE - LOGIN passwords and information may be obtained from Test Director.

✓ 5.2.6 **LOG-IN**.

✓ 5.2.7 **VERIFY** LOCAL/REMOTE switch on display screen is in "REMOTE" position.

Rich Gutierrez — 3-1-00
Test Director Signature — Date

Rich Gutierrez
Test Director Print Name

5.2 TEST INCREMENTAL SAMPLE MODE (Cont).

TESTING

5.2.8 **SELECT** "config" on the "Gamma Cart Display" screen.

5.2.9 **ENTER** the following data for selected riser on the "Configuration - Display" screen by pulling down applicable menu:

POSITION	DATA
Tank Number:	AZ-101
Cart:	A **OR** B
Riser ID: ft.	Selected riser number NOTE - Riser depth is automatically computed from software upon input of riser ID#.
Probe Type:	1 - 4 as applicable (Normal is 1 or 2 for Cart A and 3 or 4 for Cart B)
Survey Time:	Sec.(As determined by Test Director)

5.2.10 **ENSURE** REAL/LIVE toggle button indicates "LIVE".

5.2.11 On the Data Collection Configuration window, **SELECT** the "Incremental" button.

INCREMENTAL PARAMETERS

5.2.12 **INPUT** the following Sample Collection Data:

Sample Start Depth:	**55.0 ft**
Interval Size:	**10.0 ft**
Sample End Depth:	**5.0 ft**

① already tested per OTP-260-004 Rev A-0 see Test Log Entry 2/29/00, 2030.

R. Gutierrez 3/1/00

5.2 TEST INCREMENTAL SAMPLE MODE (Cont).

D 5.2.13 **CLICK ON** "SAVE".

D 5.2.14 **CLICK ON** "EXIT".

NOTE - Test Engineer may manipulate parameters at any time during the following steps as necessary to ensure data retrieval and system configuration, with concurrence of Test Director.

- After the following step, the program should automatically run.

D 5.2.15 **CLICK ON** "Start" button.

D 5.2.16 **CLICK ON** "EMERGENCY STOP" button on computer screen.

D 5.2.17 **VERIFY** System stopped.

D

Test Director Signature _____ Date _____

D

Test Director Print Name _____

D 5.2.18 **CLICK ON** "EMERGENCY STOP" again to RESET the emergency stop button on computer screen.

D 5.2.19 **CLICK ON** "ZERO" on display screen.

D 5.2.20 **ENSURE** GAMMA PROBE begins to RAISE.

D 5.2.21 **CLICK ON** "STOP" button on display screen.

D already tested on OTP-260-004 Rev A-0
See Test Log entry 2/29/00, 2030.

R. Gutierrez 3/1/00

5.2 TEST INCREMENTAL SAMPLE MODE (Cont).

① 5.2.22 **VERIFY** System stopped.

① Test Director Signature _____ Date _____

① Test Director Print Name

① 5.2.23 **CLICK ON** "ZERO" again on display screen.

① 5.2.24 **ENSURE** GAMMA PROBE begins to RAISE.

① 5.2.25 When probe and system zeros, **CLICK ON** "START" on display screen.

① 5.2.26 **VERIFY** System resumed program.

① Test Director Signature _____ Date _____

① Test Director Print Name

① 5.2.27 **CLICK ON** "STOP" button on computer screen.

① 5.2.28 **VERIFY** System stopped.

① Test Director Signature _____ Date _____

① Test Director Print Name

① 5.2.29 **CLICK ON** "ZERO" on display screen.

① 5.2.30 When probe and system zeros, **CLICK ON** "START" on display screen.

① 5.2.31 **VERIFY** System resumed program.

① Test Director Signature _____ Date _____

① Test Director Print Name

① already tested on OTP-260-004 Rev A-0
See Test log entry 2/29/00, 2030.

R. Gerberg 3/1/00

5.2 TEST INCREMENTAL SAMPLE MODE (Cont).

① 5.2.32 Test Engineer **ENSURE** data is received, AND both hard-copy and electronic files can be retrieved.

① 5.2.33 **VERIFY** system automatically ZEROs and data is collected at zero position.

① _____ _____
Test Director Signature Date

① _____
Test Director Print Name

NOTE - The steps in section 5.1, applicable to the Emergency stop, need not be repeated if completed for an individual GAMMA CART. The Emergency stop on BOTH GAMMA CART A and B, need to be tested only once.

NOTE - It is NOT necessary to do ALL risers in one procedure. Test Director is responsible for ensuring ALL risers have been profiled by one AND/OR the other GAMMA CART(S).

① 5.2.34 **REPEAT** applicable SETUP Steps in section 5.1 AND Incremental testing steps 5.2.1 - 5.2.15 AND Steps 5.2.32 and 5.2.33 for each of the following risers and depths per Test Director's direction.

① Already tested on OTP-260-004 Rev A-0 See Test log entry 2/29/00, 2030.

R. Gutierrez 3/1/00

TABLE I

RISER	Depth inches (ft)
14A	660 (55.0)
14C	660 (55.0)
14D	660 (55.0)
14F	660 (55.0)
14G	660 (55.0)
14B	660 (55.0)
14E	660 (55.0)
15I	684 (57.0)
15C	684 (57.0)
15E	684 (57.0)
15B	684 (57.0)
15F	684 (57.0)

5.2 INCREMENTAL SAMPLE MODE (Cont).

NOTE - In the following Table, Test Director N/A blocks that are tested with a different GAMMA CART.

Ø 5.2.35 **VERIFY** the applicable riser in step 5.2.34 has been tested.

TABLE II

RISER	TEST DIRECTOR SIGNATURE
14A	
14C	
14D	
14F	
14G	
14B	
14E	
15I	
15C	
15E	
15B	
15F	

Ø 5.2.36 **VERIFY** by signing below section 5.2 is complete.

Ø
Test Director Signature _____ Date _____

Ø
Test Director Print Name _____

Ø
QC Signature _____ Date _____

Ø
QC Print Name _____

Ø already tested on OTP-260-004, Rev A-0.
See Test log entry 2/29/00, 2030.

R Stuhing 3/1/00

5.3 TEST USER DEFINED MODE

✓ 5.3.1 **ENSURE** applicable SETUP Steps in section 5.1 are completed.

CART CONTROL SCREEN

✓ 5.3.2 On the Gamma Cart Control, **CLICK ON** the "Config." button.

✓ 5.3.3 **INPUT** the following data:

POSITION	DATA
Tank Number:	AZ-101
Cart:	A OR B
Riser ID: ft.	Selected riser number NOTE - Riser depth is automatically computed from software upon input of riser ID#.
Probe Type:	1 - 4 as applicable (Normal is 1 or 2 for Cart A and 3 or 4 for Cart B)
Survey Time:	Sec.(As determined by Test Director)

TEST Exception #03 R Jatung 3/1/00

USER DEFINED PARAMETERS

✓ 5.3.4 **CLICK ON** "USER DEFINED".

✓ 5.3.5 **ENTER** depths desired for testing per Test Engineer Direction.

✓ 5.3.6 **CLICK ON** "SAVE" on display screen.

✓ 5.3.7 **CLICK ON** "EXIT".

5.3 TEST USER DEFINED MODE (Cont).

NOTE - Test Engineer may manipulate parameters at any time during the following steps as necessary to ensure data retrieval and system configuration, with concurrence of Test Director.

- After the following step, the program should automatically run.

- The "EMERGENCY STOP" may be used to stop at any time during the next step if unit fails to stop at limit switch. The "RESET" button will need to be pushed to resume the program.

Test Execution #06 J. Lewis 3-1-00

✓ 5.3.8 **CLICK ON** Start button.

✓ 5.3.9 Test Engineer **ENSURE** data is received, AND both hard-copy and electronic files can be retrieved.

✓ 5.3.10 **VERIFY** system automatically ZEROs and data is collected at zero position.

R. Gutierrez — 3-1-00

Test Director Signature — Date

R. Gutierrez

Test Director Print Name

5.3 TEST USER DEFINED MODE (Cont).

✓ 5.3.11 **CLICK ON** "LOGOUT" on display screen.

✓ 5.3.12 **REMOVE** Probe, riser extension tool, and associated equipment **AND**

STORE per Test Director direction.

OR

CONTINUE in this procedure.

✓ 5.3.13 **REPEAT** the steps in this section (5.3) as directed for any risers as directed by Test Director.

✓ 5.3.14 **VERIFY** by signing below section 5.3 is complete.

R. Gutierrez — 3-1-00
Test Director Signature — Date

R. Gutierrez
Test Director Print Name

Ronald A. Arnot — 3-1-00
QC Signature — Date

RONALD A. ARNOT
QC Print Name

RISER 15F
GAMMA CART - B

241-AZ GAMMA CART OPERATIONAL TEST PROCEDURE

Last Full Revision:	A-0
Release Date:	02-09-2000
USQ Screening Number:	TF-00-0083 R.0
Approval Designator:	Q
Current Modification:	A-2
USQ Screening Number:	TF-98-1201 R1
Approval Designator:	NA
PCA Incorporated:	ETF-2000-064

POSITION/ORG	DELEGATE	DATE
NCO/RET OPS	S.R. Joseph	02-16-2000
OE/Retrieval OPS	Rich Gutierrez	02-16-2000
RAD. CON.		
ECO		
QA		
Cog. Engineer	Gary Tardiff	02-22-2000
Acceptance Review	Len Ross	02-23-2000
Approval Authority	Rich Gutierrez	02-23-2000

Justification: Provide step clarity.

Summary of Changes:

Page 13: Deleted "Junction Box, JB-101-100, Power Receptacle, OR Junction Box, JB-101-101"in step 5.1.7.
Added "suitable power source" to step 5.1.7.

Gamma Cart B
Riser 15F
3/1/00

4.0 PREREQUISITES

4.1 SPECIAL TOOLS, EQUIPMENT, AND SUPPLIES

The following supplies may be needed to perform this procedure:

- Riser Swabbing equipment
- Riser extension tool

4.2 PERFORMANCE DOCUMENTS

The following procedures may be needed to perform this procedure:

- TO-040-333 LIQUID OBSERVATION WELL (LOW) SURVEILLANCE VAN STARTUP AND OPERATION PROCEDURE

4.3 CONDITIONS AND ACTIONS

NOTE - All signators on this procedure shall document their signature on Procedure Signature Sheet.

4.3.1 All pre-testing and inspection of the system or portions of the system to be tested has been completed.

(1)

Test Engineer Signature _____ Date _____

4.3.2 A pre-job briefing has been held. and all participants have been thoroughly briefed on job safety, hazards, and their responsibilities before performing this ATP.

James L. Hull 3-1-00

Test Director Signature Date

4.3.3 Test Director **VERIFY** section 4.3 has been COMPLETED.

James L. Hull 3-1-00

Test Director Signature Date

(1) ALREADY TESTED PER OTP-260-004 REV. A0 SEE TEST LOG ENTRY 2-29-00; 2030 HRS

James L. Hull 3-1-00 SWING SHIFT

5.0 PROCEDURE

5.1 SETUP

NOTE - This procedure may be repeated for either GAMMA CART A or GAMMA CART B as applicable. N/A may be entered in blocks or steps per Test Director as applicable.

✓ 5.1.1 **RECORD** GAMMA CART CPU number for the system being tested.

GAMMA CART IDENTIFIER # B WST-RY 483
CPU Number

✓ 5.1.2 **PERFORM** cleanliness check in applicable riser listed on TABLE II, per section 5.10 in procedure TO-040-333 latest rev, prior to mounting riser extension tool.

✓ 5.1.3 **ENSURE** GAMMA CART riser extension tool is mounted on the applicable riser.

✓ 5.1.4 **ENSURE** GAMMA CART is placed in line with riser extension tool to facilitate installation of probe and cables.

✓ 5.1.5 **CHECK** route to riser for obstacles and clearances.

✓ 5.1.6 **LEVEL** cart using jacks.

✓ 5.1.7 **CONNECT** gamma cart power cables, as follows:

- One end to gamma cart power receptacle
- Other end to suitable power source ~~Junction Box, JB 101 100, Power Receptacle, OR Junction Box, JB 101 101~~

✓ 5.1.8 **CONNECT** gamma cart communications cable, as follows:

- One end to gamma cart communications receptacle
- Other end to Tank 241-AZ-101 Gamma Cart A **AND/OR** B Data Collection Subsystem communications receptacle

✓ 5.1.9 **PLACE** Gamma Cart "RAISE OFF LOWER" switch in the LOWER position.

✓ 5.1.10 **CHECK** that detector probe cable is resting in the Gamma Cart boom cable reel.

5.1 SETUP (Cont).

CAUTION

If sufficient tension is NOT held on the detector probe cable as the cable is being let out, the cable could become entangled.

NOTE - Step 5.1.11 and 5.1.12 require two operators to perform continuous action until step 5.1.12 is complete.

✓ 5.1.11 **HOLD** tension on the detector probe cable until step 5.1.12 is completed.

✓ 5.1.12 **PRESS AND HOLD** "RESET" button until enough detector probe cable is let-out that will allow placement of the detector cable through riser extension collar AND into riser drywell, **AND**

RELEASE the "RESET" button.

✓ 5.1.13 **INSTALL** the proper detector probe on the detector probe cable.

✓ 5.1.14 **ENSURE** that the detector probe connections are correct and tight. **AND**

INSERT probe into riser extension tool.

✓ 5.1.15 **ENSURE** limit switch cable is connected from limit switch on riser extension tool, to the connection point on the front of the GAMMA CART.

✓ 5.1.16 **ENSURE** the "Raise - Off - Lower" selector switch is in the "OFF" position.

✓ 5.1.17 **ENSURE** the emergency stop button is pulled out.

✓ 5.1.18 **POSITION** the "SPEED" control potentiometer to MIN speed (fully counter-clockwise).

5.1 SETUP (Cont).

CAUTION

There is no limit switch to stop the motion when the cable is fully unwound. The cable will rewind backwards on the reel. Damage to the cable may result.

NOTE - When the cart is first powered up, or the emergency stop button has been pushed, or power has been restored after a power failure, the cable reel will not move up or down until "RESET" button is activated.

- The "Raise-OFF-Lower" Switch is Manually controlled and is Operator Dependent.

✓ 5.1.19 **ENSURE** LOCAL/REMOTE switch is in the "LOCAL" position.

✓ 5.1.20 **ENERGIZE** the Cart.

✓ 5.1.21 **SET** the "SPEED" potentiometer to 2 on the GAMMA Cart.

✓ 5.1.22 **SET** the "RAISE -OFF- LOWER" switch to the "LOWER" position.

(P) 5.1.23 **PUSH** "EMERGENCY STOP" button on GAMMA CART.

(P) 5.1.24 **VERIFY** the system has stopped.

(P)
Test Director Signature _____ Date _____

(P)
Test Director Print Name _____

(P) Already tested per OTP-260-004 REV. A-0
See test log entry 2-29-00; 2030HRS
3-1-00 Swing Shift
James L. (Jim) Hull

5.1 SETUP (Cont).

(P) 5.1.25 **SET** the "RAISE-OFF-LOWER" switch to the "RAISE" position.

(P) 5.1.26 **PULL** "EMERGENCY STOP" out on GAMMA CART.

(P) 5.1.27 **PUSH** the "RESET" button on GAMMA CART to resume.

(P) 5.1.28 **ENSURE** limit switch activates when probe returns to the zero position.

(P) 5.1.29 **SET** the "RAISE-OFF-LOWER" switch to the "OFF" position.

(P) 5.1.30 **SET** "SPEED" potentiometer to MIN.

(P) 5.1.31 **POSITION** The "LOCAL REMOTE" switch to "REMOTE".

(P) 5.1.32 **VERIFY** by signing below section 5.1 is complete.

(P)
Test Director Signature _____ Date _____

(P)
Test Director Print Name _____

(P)
QC Signature _____ Date _____

(P)
QC Print Name _____

(P) Already tested per OTP-260-004, REV. A-0 See test log entry 2-29-00; 2230 hrs
James L. (Jim) Hull
3-1-00

5.2 TEST INCREMENTAL SAMPLE MODE

SETUP

NOTE - All Steps in this section apply to either cart, except in those steps where the specific cart is indicated.

INSTRUMENT CHECK

✓ 5.2.1 **IF** the pushbutton for Tank 241-AZ-101 Gamma Cart A **AND/OR** B Data Collection System Central Processing Unit (CPU), AND/OR associated MONITOR, are **NOT** ON, **PRESS** the applicable ON pushbuttons.

✓ 5.2.2 **ENSURE** the following systems are ON **AND**

Test Exception #02 J Lahuel 3-1-00 swing shift

ENSURE settings are correct for the following:

- ORTEC MINIBIN
- POWER SUPPLY

Detector Bias Power Supply (HVPS): ORTEC Mod. 478.

- kV: .5
- 0 to 1000V: (+60 volts)

Amplifier (AMP): ORTEC Mod. 673

- COARSE GAIN: 200
- FINE GAIN: 0.680
- SHAPING TIME: Both knobs set to 2 microseconds
- PZ Adjust: Do NOT change settings (in this procedure)
- BLR: Switch in AUTO (up) position
- INPUTS: Switch in POS (up) position BNC cable on terminal (from pre amplifier)
- OUTPUTS: cable on UNIPOLAR terminal(to single channel Analyzer)

✓ 5.2.3 **WHEN** WINDOWS login screen appears **CLICK ON** "CANCEL".

5.2 TEST INCREMENTAL SAMPLE MODE (Cont).

NOTE - After canceling windows login, GAMMA CART software should automatically load.

✓ 5.2.4 **VERIFY** "GAMMA CART SPECTRUM ANALYZER AND CONTROL SYSTEM" screen is displayed on Tank 241-AZ-101 Gamma Cart A **AND/OR** B Data Collection System Monitor.

James L. (Jim) Hull — 3-1-00
Test Director Signature — Date
Swing Shift
JAMES L. (Jim) HULL
Test Director Print Name

✓ 5.2.5 **SELECT** "Login" on the "GAMMA CART SPECTRUM ANALYZER AND CONTROL SYSTEM" screen.

NOTE - LOGIN passwords and information may be obtained from Test Director.

✓ 5.2.6 **LOG-IN.**

✓ 5.2.7 **VERIFY** LOCAL/REMOTE switch on display screen is in "REMOTE" position.

James L. (Jim) Hull — 3-1-00
Test Director Signature — Date
Swing Shift
JAMES L. (Jim) HULL
Test Director Print Name

5.2 TEST INCREMENTAL SAMPLE MODE (Cont).

TESTING

(D) 5.2.8 **SELECT** "config" on the "Gamma Cart Display" screen.

(D) 5.2.9 **ENTER** the following data for selected riser on the "Configuration - Display" screen by pulling down applicable menu:

POSITION	DATA
Tank Number:	AZ-101
Cart:	A **OR** B
Riser ID: ft.	Selected riser number NOTE - Riser depth is automatically computed from software upon input of riser ID#.
Probe Type:	1 - 4 as applicable (Normal is 1 or 2 for Cart A and 3 or 4 for Cart B)
Survey Time:	Sec.(As determined by Test Director)

(D) 5.2.10 **ENSURE** REAL/LIVE toggle button indicates "LIVE".

(D) 5.2.11 On the Data Collection Configuration window, **SELECT** the "Incremental" button.

INCREMENTAL PARAMETERS

(D) 5.2.12 **INPUT** the following Sample Collection Data:

Sample Start Depth:	**55.0 ft**
Interval Size:	**10.0 ft**
Sample End Depth:	**5.0 ft**

(D) Already tested per OTP-260-004, Rev. A0 See test Log Entry 2-29-00, 2030 hrs
3-1-00
J. Huel
swing shift.

5.2 TEST INCREMENTAL SAMPLE MODE (Cont).

(1) 5.2.13 **CLICK ON** "SAVE".

(1) 5.2.14 **CLICK ON** "EXIT".

NOTE - Test Engineer may manipulate parameters at any time during the following steps as necessary to ensure data retrieval and system configuration, with concurrence of Test Director.

- After the following step, the program should automatically run.

(1) 5.2.15 **CLICK ON** "Start" button.

(1) 5.2.16 **CLICK ON** "EMERGENCY STOP" button on computer screen.

(1) 5.2.17 **VERIFY** System stopped.

(1)

Test Director Signature _____ Date _____

(1)

Test Director Print Name _____

(1) 5.2.18 **CLICK ON** "EMERGENCY STOP" again to RESET the emergency stop button on computer screen.

(1) 5.2.19 **CLICK ON** "ZERO" on display screen.

(1) 5.2.20 **ENSURE** GAMMA PROBE begins to RAISE.

(1) 5.2.21 **CLICK ON** "STOP" button on display screen.

(1) Already tested per OTP-260-004 Rev. A-0
See test Log entry 2-29-00, 2030 hrs
James L. Hull
3-1-00
Swing shift

5.2 TEST INCREMENTAL SAMPLE MODE (Cont).

(1) 5.2.22 **VERIFY** System stopped.

(1)
Test Director Signature _____ Date _____

(1)
Test Director Print Name _____

(1) 5.2.23 **CLICK ON** "ZERO" again on display screen.

(1) 5.2.24 **ENSURE** GAMMA PROBE begins to RAISE.

(1) 5.2.25 When probe and system zeros, **CLICK ON** "START" on display screen.

(1) 5.2.26 **VERIFY** System resumed program.

(1)
Test Director Signature _____ Date _____

(1)
Test Director Print Name _____

(1) 5.2.27 **CLICK ON** "STOP" button on computer screen.

(1) 5.2.28 **VERIFY** System stopped.

(1)
Test Director Signature _____ Date _____

(1)
Test Director Print Name _____

(1) 5.2.29 **CLICK ON** "ZERO" on display screen.

(1) 5.2.30 When probe and system zeros, **CLICK ON** "START" on display screen.

(1) 5.2.31 **VERIFY** System resumed program.

(1)
Test Director Signature _____ Date _____

(1)
Test Director Print Name _____

(1) Already tested per OTP-260-004. REV A-0
See ~~Test~~ log entry 2-29-00 200 hrs

3-1-00
James L. Hull
swing shift

5.2 TEST INCREMENTAL SAMPLE MODE (Cont).

(1) 5.2.32 Test Engineer **ENSURE** data is received, AND both hard-copy and electronic files can be retrieved.

(1) 5.2.33 **VERIFY** system automatically ZEROs and data is collected at zero position.

(1)
Test Director Signature _____ Date _____

(1)
Test Director Print Name _____

NOTE - The steps in section 5.1, applicable to the Emergency stop, need not be repeated if completed for an individual GAMMA CART. The Emergency stop on BOTH GAMMA CART A and B, need to be tested only once.

NOTE - It is NOT necessary to do ALL risers in one procedure. Test Director is responsible for ensuring ALL risers have been profiled by one AND/OR the other GAMMA CART(S).

(1) 5.2.34 **REPEAT** applicable SETUP Steps in section 5.1 AND Incremental testing steps 5.2.1 - 5.2.15 AND Steps 5.2.32 and 5.2.33 for each of the following risers and depths per Test Director's direction.

(1) Already tested per OTP-260-004 Rev. A-0 see test log entry 2-29-00, 20:30 hrs
J L Hull
swing shift

TABLE I

RISER	Depth inches (ft)
14A	660 (55.0)
14C	660 (55.0)
14D	660 (55.0)
14F	660 (55.0)
14G	660 (55.0)
14B	660 (55.0)
14E	660 (55.0)
15I	684 (57.0)
15C	684 (57.0)
15E	684 (57.0)
15B	684 (57.0)
15F	684 (57.0)

5.2 INCREMENTAL SAMPLE MODE (Cont).

NOTE - In the following Table, Test Director N/A blocks that are tested with a different GAMMA CART.

(1) 5.2.35 **VERIFY** the applicable riser in step 5.2.34 has been tested.

TABLE II

RISER	TEST DIRECTOR SIGNATURE
14A	
14C	
14D	
14F	
14G	
14B	
14E	
15I	
15C	
15E	
15B	
15F	

(1) 5.2.36 **VERIFY** by signing below section 5.2 is complete.

(1)
Test Director Signature _____ Date _____

(1)
Test Director Print Name _____

(1)
QC Signature _____ Date _____

(1)
QC Print Name _____

(1) already tested per OTP-260-004 REV. A-0
see test log entry 2-29-00; 2030 hrs
[illegible]
3-1-00
swing shift.

5.3 TEST USER DEFINED MODE

✓ 5.3.1 **ENSURE** applicable SETUP Steps in section 5.1 are completed.

CART CONTROL SCREEN

✓ 5.3.2 On the Gamma Cart Control, **CLICK ON** the "Config." button.

✓ 5.3.3 **INPUT** the following data:

POSITION	DATA
Tank Number:	AZ-101
Cart:	A **OR** B
Riser ID: ft.	Selected riser number NOTE - Riser depth is automatically computed from software upon input of riser ID#.
Probe Type:	1 - 4 as applicable (Normal is 1 or 2 for Cart A and 3 or 4 for Cart B)
Survey Time:	Sec.(As determined by Test Director)

USER DEFINED PARAMETERS

Test Exception #005 Tanker Hull 3-1-00 swing shift

✓ 5.3.4 **CLICK ON** "USER DEFINED".

✓ 5.3.5 **ENTER** depths desired for testing per Test Engineer Direction.

✓ 5.3.6 **CLICK ON** "SAVE" on display screen.

✓ 5.3.7 **CLICK ON** "EXIT".

5.3 TEST USER DEFINED MODE (Cont).

NOTE - Test Engineer may manipulate parameters at any time during the following steps as necessary to ensure data retrieval and system configuration, with concurrence of Test Director.

- After the following step, the program should automatically run.

- The "EMERGENCY STOP" may be used to stop at any time during the next step if unit fails to stop at limit switch. The "RESET" button will need to be pushed to resume the program.

Test Exception #26 J. Hull 3-1-00

✓ 5.3.8 **CLICK ON** Start button.

✓ 5.3.9 Test Engineer **ENSURE** data is received, AND both hard-copy and electronic files can be retrieved.

✓ 5.3.10 **VERIFY** system automatically ZEROs and data is collected at zero position.

James L. Hull — 3-1-00

Test Director Signature — Date

JAMES L. HULL

Test Director Print Name

5.3 TEST USER DEFINED MODE (Cont).

✓ 5.3.11 **CLICK ON** "LOGOUT" on display screen.

✓ 5.3.12 **REMOVE** Probe, riser extension tool, and associated equipment **AND**

STORE per Test Director direction.

OR

CONTINUE in this procedure.

✓ 5.3.13 **REPEAT** the steps in this section (5.3) as directed for any risers as directed by Test Director.

✓ 5.3.14 **VERIFY** by signing below section 5.3 is complete.

James L. Hull — 3-1-00
Test Director Signature — Date

JAMES L. HULL
Test Director Print Name

Fred G. Arnt — 3-1-00
QC Signature — Date

RONALD A. ARNDT
QC Print Name

RISER 14B
GAMMA CART - B

241-AZ GAMMA CART OPERATIONAL TEST PROCEDURE

Last Full Revision:	A-0
Release Date:	02-09-2000
USQ Screening Number:	TF-00-0083 R.0
Approval Designator:	Q
Current Modification:	A-2
USQ Screening Number:	TF-98-1201 R1
Approval Designator:	NA
PCA Incorporated:	ETF-2000-064

POSITION/ORG	DELEGATE	DATE
NCO/RET OPS	S.R. Joseph	02-16-2000
OE/Retrieval OPS	Rich Gutierrez	02-16-2000
RAD. CON.		
ECO		
QA		
Cog. Engineer	Gary Tardiff	02-22-2000
Acceptance Review	Len Ross	02-23-2000
Approval Authority	Rich Gutierrez	02-23-2000

Justification: Provide step clarity.

Summary of Changes:

Page 13: Deleted "Junction Box, JB-101-100, Power Receptacle, OR Junction Box, JB-101-101"in step 5.1.7.

Added "suitable power source" to step 5.1.7.

Gamma Cart B

R. SETR 14B R. Gutierrez 3/2/00.

4.0 PREREQUISITES

4.1 SPECIAL TOOLS, EQUIPMENT, AND SUPPLIES

The following supplies may be needed to perform this procedure:

- Riser Swabbing equipment
- Riser extension tool

4.2 PERFORMANCE DOCUMENTS

The following procedures may be needed to perform this procedure:

- TO-040-333 LIQUID OBSERVATION WELL (LOW) SURVEILLANCE VAN STARTUP AND OPERATION PROCEDURE

4.3 CONDITIONS AND ACTIONS

NOTE - All signators on this procedure shall document their signature on Procedure Signature Sheet.

4.3.1 All pre-testing and inspection of the system or portions of the system to be tested has been completed.

(1)
Test Engineer Signature _____ Date _____

4.3.2 A pre-job briefing has been held. and all participants have been thoroughly briefed on job safety, hazards, and their responsibilities before performing this ATP.

(1)
Test Director Signature _____ Date _____

4.3.3 Test Director **VERIFY** section 4.3 has been COMPLETED.

(1)
Test Director Signature _____ Date _____

(1) ALREADY TESTED PER OTP-260-004, REV A-0

3-2-00
R. Gutierrez

5.0 PROCEDURE

5.1 SETUP

NOTE - This procedure may be repeated for either GAMMA CART A or GAMMA CART B as applicable. N/A may be entered in blocks or steps per Test Director as applicable.

✓ 5.1.1 **RECORD** GAMMA CART CPU number for the system being tested.

GAMMA CART IDENTIFIER # B WST-24403
CPU Number

✓ 5.1.2 **PERFORM** cleanliness check in applicable riser listed on TABLE II, per section 5.10 in procedure TO-040-333 latest rev, prior to mounting riser extension tool.

✓ 5.1.3 **ENSURE** GAMMA CART riser extension tool is mounted on the applicable riser.

✓ 5.1.4 **ENSURE** GAMMA CART is placed in line with riser extension tool to facilitate installation of probe and cables.

✓ 5.1.5 **CHECK** route to riser for obstacles and clearances.

✓ 5.1.6 **LEVEL** cart using jacks.

✓ 5.1.7 **CONNECT** gamma cart power cables, as follows:

- One end to gamma cart power receptacle
- Other end to suitable power source ~~Junction Box, JB 101-100, Power Receptacle, OR Junction Box, JB 101-101~~

✓ 5.1.8 **CONNECT** gamma cart communications cable, as follows:

- One end to gamma cart communications receptacle
- Other end to Tank 241-AZ-101 Gamma Cart A **AND/OR** B Data Collection Subsystem communications receptacle

✓ 5.1.9 **PLACE** Gamma Cart "RAISE OFF LOWER" switch in the LOWER position.

✓ 5.1.10 **CHECK** that detector probe cable is resting in the Gamma Cart boom cable reel.

5.1 SETUP (Cont).

CAUTION

If sufficient tension is NOT held on the detector probe cable as the cable is being let out, the cable could become entangled.

NOTE - Step 5.1.11 and 5.1.12 require two operators to perform continuous action until step 5.1.12 is complete.

✓ 5.1.11 **HOLD** tension on the detector probe cable until step 5.1.12 is completed.

✓ 5.1.12 **PRESS AND HOLD** "RESET" button until enough detector probe cable is let-out that will allow placement of the detector cable through riser extension collar AND into riser drywell, **AND**

RELEASE the "RESET" button.

✓ 5.1.13 **INSTALL** the proper detector probe on the detector probe cable.

✓ 5.1.14 **ENSURE** that the detector probe connections are correct and tight. **AND**

INSERT probe into riser extension tool.

✓ 5.1.15 **ENSURE** limit switch cable is connected from limit switch on riser extension tool, to the connection point on the front of the GAMMA CART.

✓ 5.1.16 **ENSURE** the "Raise - Off - Lower" selector switch is in the "OFF" position.

✓ 5.1.17 **ENSURE** the emergency stop button is pulled out.

✓ 5.1.18 **POSITION** the "SPEED" control potentiometer to MIN speed (fully counter-clockwise).

5.1 SETUP (Cont).

CAUTION

There is no limit switch to stop the motion when the cable is fully unwound. The cable will rewind backwards on the reel. Damage to the cable may result.

NOTE - When the cart is first powered up, or the emergency stop button has been pushed, or power has been restored after a power failure, the cable reel will not move up or down until "RESET" button is activated.

- The "Raise-OFF-Lower" Switch is Manually controlled and is Operator Dependent.

✓ 5.1.19 **ENSURE** LOCAL/REMOTE switch is in the "LOCAL" position.

✓ 5.1.20 **ENERGIZE** the Cart.

✓ 5.1.21 **SET** the "SPEED" potentiometer to 2 on the GAMMA Cart.

✓ 5.1.22 **SET** the "RAISE -OFF- LOWER" switch to the "LOWER" position.

(1) 5.1.23 **PUSH** "EMERGENCY STOP" button on GAMMA CART.

(1) 5.1.24 **VERIFY** the system has stopped.

(1)
Test Director Signature _____ Date _____

(1)
Test Director Print Name _____

(1) ALREADY TESTED PER OTP 260-004 REV. A-0 SEE TEST LOG ENTRY 2-29-00, 2030 HRS

R. Gutierrez 3-2-00

5.1 SETUP (Cont).

(1) 5.1.25 **SET** the "RAISE-OFF-LOWER" switch to the "RAISE" position.

(1) 5.1.26 **PULL** "EMERGENCY STOP" out on GAMMA CART.

(1) 5.1.27 **PUSH** the "RESET" button on GAMMA CART to resume.

(1) 5.1.28 **ENSURE** limit switch activates when probe returns to the zero position.

(1) 5.1.29 **SET** the "RAISE-OFF-LOWER" switch to the "OFF" position.

(1) 5.1.30 **SET** "SPEED" potentiometer to MIN.

(1) 5.1.31 **POSITION** The "LOCAL REMOTE" switch to "REMOTE".

(1) 5.1.32 **VERIFY** by signing below section 5.1 is complete.

(1)
Test Director Signature _____ Date _____

(1)
Test Director Print Name _____

(1)
QC Signature _____ Date _____

(1)
QC Print Name _____

(1) ALREADY TESTED PER OTP-260-004, REV A-0
SEE TEST LOG ENTRY 2-29-00, 2030 HRS

R. Gutierrez
3-2-00

5.2 TEST INCREMENTAL SAMPLE MODE

SETUP

NOTE - All Steps in this section apply to either cart, except in those steps where the specific cart is indicated.

INSTRUMENT CHECK

✓ ____ 5.2.1 **IF** the pushbutton for Tank 241-AZ-101 Gamma Cart A **AND/OR** B Data Collection System Central Processing Unit (CPU), AND/OR associated MONITOR, are **NOT** ON, **PRESS** the applicable ON pushbuttons.

✓ ____ 5.2.2 **ENSURE** the following systems are ON **AND**

TEST EXCEPTION #02 R. Stuteng 3-2-00

ENSURE settings are correct for the following:

- ORTEC MINIBIN
- POWER SUPPLY

Detector Bias Power Supply (HVPS): ORTEC Mod. 478.

- kV: .5
- 0 to 1000V: (+60 volts)

Amplifier (AMP): ORTEC Mod. 673

- COARSE GAIN: 200
- FINE GAIN: 0.680
- SHAPING TIME: Both knobs set to 2 microseconds
- PZ Adjust: Do NOT change settings (in this procedure)
- BLR: Switch in AUTO (up) position
- INPUTS: Switch in POS (up) position BNC cable on terminal (from pre amplifier)
- OUTPUTS: cable on UNIPOLAR terminal(to single channel Analyzer)

✓ ____ 5.2.3 **WHEN** WINDOWS login screen appears **CLICK ON** "CANCEL".

5.2 TEST INCREMENTAL SAMPLE MODE (Cont).

NOTE - After canceling windows login, GAMMA CART software should automatically load.

✓ 5.2.4 **VERIFY** "GAMMA CART SPECTRUM ANALYZER AND CONTROL SYSTEM" screen is displayed on Tank 241-AZ-101 Gamma Cart A **AND/OR** B Data Collection System Monitor.

Rich Gutierrez — 3-2-00
Test Director Signature — Date

Rich Gutierrez
Test Director Print Name

✓ 5.2.5 **SELECT** "Login" on the "GAMMA CART SPECTRUM ANALYZER AND CONTROL SYSTEM" screen.

NOTE - LOGIN passwords and information may be obtained from Test Director.

✓ 5.2.6 **LOG-IN.**

✓ 5.2.7 **VERIFY** LOCAL/REMOTE switch on display screen is in "REMOTE" position.

Rich Gutierrez — 3-2-00
Test Director Signature — Date

Rich Gutierrez
Test Director Print Name

5.2 TEST INCREMENTAL SAMPLE MODE (Cont).

TESTING

(1) 5.2.8 **SELECT** "config" on the "Gamma Cart Display" screen.

(1) 5.2.9 **ENTER** the following data for selected riser on the "Configuration - Display" screen by pulling down applicable menu:

POSITION	DATA
Tank Number:	AZ-101
Cart:	A OR B
Riser ID: ft.	Selected riser number NOTE - Riser depth is automatically computed from software upon input of riser ID#.
Probe Type:	1 - 4 as applicable (Normal is 1 or 2 for Cart A and 3 or 4 for Cart B)
Survey Time:	Sec.(As determined by Test Director)

(1) 5.2.10 **ENSURE** REAL/LIVE toggle button indicates "LIVE".

(1) 5.2.11 On the Data Collection Configuration window, **SELECT** the "Incremental" button.

INCREMENTAL PARAMETERS

(1) 5.2.12 **INPUT** the following Sample Collection Data:

Sample Start Depth:	55.0 ft
Interval Size:	10.0 ft
Sample End Depth:	5.0 ft

(1) ALREADY TESTED PER OTP-260-004, REV. A-0
SEE TEST LOG ENTRY 2-29-00, 2030 HRS
R. Stutzman
3-2-00

5.2 TEST INCREMENTAL SAMPLE MODE (Cont).

(1) 5.2.13 **CLICK ON** "SAVE".

(1) 5.2.14 **CLICK ON** "EXIT".

NOTE - Test Engineer may manipulate parameters at any time during the following steps as necessary to ensure data retrieval and system configuration, with concurrence of Test Director.

- After the following step, the program should automatically run.

(1) 5.2.15 **CLICK ON** "Start" button.

(1) 5.2.16 **CLICK ON** "EMERGENCY STOP" button on computer screen.

(1) 5.2.17 **VERIFY** System stopped.

(1)
Test Director Signature _____ Date _____

(1)
Test Director Print Name _____

(1) 5.2.18 **CLICK ON** "EMERGENCY STOP" again to RESET the emergency stop button on computer screen.

(1) 5.2.19 **CLICK ON** "ZERO" on display screen.

(1) 5.2.20 **ENSURE** GAMMA PROBE begins to RAISE.

(1) 5.2.21 **CLICK ON** "STOP" button on display screen.

(1) ALREADY TESTED PER OTP-260-004, REV. A-0
SEE TEST LOG ENTRY 2-24-00, 2030 HRS

R. Gutierrez
3-2-00

5.2 TEST INCREMENTAL SAMPLE MODE (Cont).

(1) 5.2.22 **VERIFY** System stopped.

(1)
Test Director Signature _____ Date _____

(1)
Test Director Print Name

(1) 5.2.23 **CLICK ON** "ZERO" again on display screen.

(1) 5.2.24 **ENSURE** GAMMA PROBE begins to RAISE.

(1) 5.2.25 When probe and system zeros, **CLICK ON** "START" on display screen.

(1) 5.2.26 **VERIFY** System resumed program.

(1)
Test Director Signature _____ Date _____

(1)
Test Director Print Name

(1) 5.2.27 **CLICK ON** "STOP" button on computer screen.

(1) 5.2.28 **VERIFY** System stopped.

(1)
Test Director Signature _____ Date _____

(1)
Test Director Print Name

(1) 5.2.29 **CLICK ON** "ZERO" on display screen.

(1) 5.2.30 When probe and system zeros, **CLICK ON** "START" on display screen.

(1) 5.2.31 **VERIFY** System resumed program.

(1)
Test Director Signature _____ Date _____

(1)
Test Director Print Name

(1) ALREADY TESTED PER OTP-260-004, REV. A-0
SEE TEST LOG ENTRY 2-29-00, 2030 HRS
R. Gutierrez
3-2-00

5.2 TEST INCREMENTAL SAMPLE MODE (Cont).

(1) 5.2.32 Test Engineer **ENSURE** data is received, AND both hard-copy and electronic files can be retrieved.

(1) 5.2.33 **VERIFY** system automatically ZEROs and data is collected at zero position.

(1)
Test Director Signature _____ Date _____

(1)
Test Director Print Name _____

NOTE - The steps in section 5.1, applicable to the Emergency stop, need not be repeated if completed for an individual GAMMA CART. The Emergency stop on BOTH GAMMA CART A and B, need to be tested only once.

NOTE - It is NOT necessary to do ALL risers in one procedure. Test Director is responsible for ensuring ALL risers have been profiled by one AND/OR the other GAMMA CART(S).

(1) 5.2.34 **REPEAT** applicable SETUP Steps in section 5.1 AND Incremental testing steps 5.2.1 - 5.2.15 AND Steps 5.2.32 and 5.2.33 for each of the following risers and depths per Test Director's direction.

(1) ALREADY TESTED PER OTP-260-004 REV. A-0 SEE TEST LOG ENTRY 2-29-00, 2030 HRS
R Gatewy
3-2-00

TABLE I

RISER	Depth inches (ft)
14A	660 (55.0)
14C	660 (55.0)
14D	660 (55.0)
14F	660 (55.0)
14G	660 (55.0)
14B	660 (55.0)
14E	660 (55.0)
15I	684 (57.0)
15C	684 (57.0)
15E	684 (57.0)
15B	684 (57.0)
15F	684 (57.0)

5.2 INCREMENTAL SAMPLE MODE (Cont).

NOTE - In the following Table, Test Director N/A blocks that are tested with a different GAMMA CART.

(1) 5.2.35 **VERIFY** the applicable riser in step 5.2.34 has been tested.

TABLE II

RISER	TEST DIRECTOR SIGNATURE
14A	
14C	
14D	
14F	
14G	
14B	
14E	
15I	
15C	
15E	
15B	
15F	

(1) 5.2.36 **VERIFY** by signing below section 5.2 is complete.

(1) _____ Test Director Signature _____ Date

(1) _____ Test Director Print Name

(1) _____ QC Signature _____ Date

(1) _____ QC Print Name

(1) ALREADY TESTED PER OTP-260-004 REV. A-0 SEE TEST LOG ENTRY 2-29-00, 2030 HRS

R. Gutierrez
3-2-00

5.3 TEST USER DEFINED MODE

✓ 5.3.1 **ENSURE** applicable SETUP Steps in section 5.1 are completed.

CART CONTROL SCREEN

✓ 5.3.2 On the Gamma Cart Control, **CLICK ON** the "Config." button.

✓ 5.3.3 **INPUT** the following data:

POSITION	DATA
Tank Number:	AZ-101
Cart:	A OR B
Riser ID: ft.	Selected riser number NOTE - Riser depth is automatically computed from software upon input of riser ID#.
Probe Type:	1 - 4 as applicable (Normal is 1 or 2 for Cart A and 3 or 4 for Cart B)
Survey Time:	Sec.(As determined by Test Director)

USER DEFINED PARAMETERS

Test execution #05 R. Lutheny 3-2-00

✓ 5.3.4 **CLICK ON** "USER DEFINED".

✓ 5.3.5 **ENTER** depths desired for testing per Test Engineer Direction.

✓ 5.3.6 **CLICK ON** "SAVE" on display screen.

✓ 5.3.7 **CLICK ON** "EXIT".

5.3 TEST USER DEFINED MODE (Cont).

NOTE - Test Engineer may manipulate parameters at any time during the following steps as necessary to ensure data retrieval and system configuration, with concurrence of Test Director.

- After the following step, the program should automatically run.

- The "EMERGENCY STOP" may be used to stop at any time during the next step if unit fails to stop at limit switch. The "RESET" button will need to be pushed to resume the program.

TEST EXECUTION #06 R. Gutierrez 3-2-00

✓ 5.3.8 **CLICK ON** Start button.

✓ 5.3.9 Test Engineer **ENSURE** data is received, AND both hard-copy and electronic files can be retrieved.

✓ 5.3.10 **VERIFY** system automatically ZEROs and data is collected at zero position.

Rich Gutierrez 3-2-00
Test Director Signature Date

Rich Gutierrez
Test Director Print Name

5.3 TEST USER DEFINED MODE (Cont).

✓ 5.3.11 **CLICK ON** "LOGOUT" on display screen.

✓ 5.3.12 **REMOVE** Probe, riser extension tool, and associated equipment **AND**

STORE per Test Director direction.

OR

CONTINUE in this procedure.

✓ 5.3.13 **REPEAT** the steps in this section (5.3) as directed for any risers as directed by Test Director.

✓ 5.3.14 **VERIFY** by signing below section 5.3 is complete.

Rich Gutierrez — 3-2-00
Test Director Signature — Date

Rich Gutierrez
Test Director Print Name

[signature] — 3-2-00
QC Signature — Date

Romeo A. Arnot
QC Print Name

RISER 14F
GAMMA CART - B

241-AZ GAMMA CART OPERATIONAL TEST PROCEDURE

Last Full Revision:	A-0
Release Date:	02-09-2000
USQ Screening Number:	TF-00-0083 R.0
Approval Designator:	Q
Current Modification:	A-2
USQ Screening Number:	TF-98-1201 R1
Approval Designator:	NA
PCA Incorporated:	ETF-2000-064

POSITION/ORG	DELEGATE	DATE
NCO/RET OPS	S.R. Joseph	02-16-2000
OE/Retrieval OPS	Rich Gutierrez	02-16-2000
RAD. CON.		
ECO		
QA		
Cog. Engineer	Gary Tardiff	02-22-2000
Acceptance Review	Len Ross	02-23-2000
Approval Authority	Rich Gutierrez	02-23-2000

Justification: Provide step clarity.

Summary of Changes:

Page 13: Deleted "Junction Box, JB-101-100, Power Receptacle, OR Junction Box, JB-101-101"in step 5.1.7.

Added "suitable power source" to step 5.1.7.

GAMMA CART B
RISER 14F
R Gutierrez 3/2/00

4.0 PREREQUISITES

4.1 SPECIAL TOOLS, EQUIPMENT, AND SUPPLIES

The following supplies may be needed to perform this procedure:

- Riser Swabbing equipment
- Riser extension tool

4.2 PERFORMANCE DOCUMENTS

The following procedures may be needed to perform this procedure:

- TO-040-333 LIQUID OBSERVATION WELL (LOW) SURVEILLANCE VAN STARTUP AND OPERATION PROCEDURE

4.3 CONDITIONS AND ACTIONS

NOTE - All signators on this procedure shall document their signature on Procedure Signature Sheet.

4.3.1 All pre-testing and inspection of the system or portions of the system to be tested has been completed.

(1)

Test Engineer Signature _____ Date _____

4.3.2 A pre-job briefing has been held. and all participants have been thoroughly briefed on job safety, hazards, and their responsibilities before performing this ATP.

(1)

Test Director Signature _____ Date _____

4.3.3 Test Director **VERIFY** section 4.3 has been COMPLETED.

(1)

Test Director Signature _____ Date _____

(1) ALREADY TESTED PER OTP-260-004, REV. A-0

R. Gutierrez
3-2-00

5.0 PROCEDURE

5.1 SETUP

NOTE - This procedure may be repeated for either GAMMA CART A or GAMMA CART B as applicable. N/A may be entered in blocks or steps per Test Director as applicable.

✓ 5.1.1 **RECORD** GAMMA CART CPU number for the system being tested.

GAMMA CART IDENTIFIER # B WST Y 403
CPU Number

✓ 5.1.2 **PERFORM** cleanliness check in applicable riser listed on TABLE II, per section 5.10 in procedure TO-040-333 latest rev, prior to mounting riser extension tool.

✓ 5.1.3 **ENSURE** GAMMA CART riser extension tool is mounted on the applicable riser.

✓ 5.1.4 **ENSURE** GAMMA CART is placed in line with riser extension tool to facilitate installation of probe and cables.

✓ 5.1.5 **CHECK** route to riser for obstacles and clearances.

✓ 5.1.6 **LEVEL** cart using jacks.

✓ 5.1.7 **CONNECT** gamma cart power cables, as follows:

- One end to gamma cart power receptacle
- Other end to suitable power source ~~Junction Box, JB-101-100, Power Receptacle, OR Junction Box, JB-101-101~~

✓ 5.1.8 **CONNECT** gamma cart communications cable, as follows:

- One end to gamma cart communications receptacle
- Other end to Tank 241-AZ-101 Gamma Cart A **AND/OR** B Data Collection Subsystem communications receptacle

✓ 5.1.9 **PLACE** Gamma Cart "RAISE OFF LOWER" switch in the LOWER position.

✓ 5.1.10 **CHECK** that detector probe cable is resting in the Gamma Cart boom cable reel.

5.1 SETUP (Cont).

CAUTION

If sufficient tension is NOT held on the detector probe cable as the cable is being let out, the cable could become entangled.

NOTE - Step 5.1.11 and 5.1.12 require two operators to perform continuous action until step 5.1.12 is complete.

✓ 5.1.11 **HOLD** tension on the detector probe cable until step 5.1.12 is completed.

✓ 5.1.12 **PRESS AND HOLD** "RESET" button until enough detector probe cable is let-out that will allow placement of the detector cable through riser extension collar AND into riser drywell, **AND**

RELEASE the "RESET" button.

✓ 5.1.13 **INSTALL** the proper detector probe on the detector probe cable.

✓ 5.1.14 **ENSURE** that the detector probe connections are correct and tight. **AND**

INSERT probe into riser extension tool.

✓ 5.1.15 **ENSURE** limit switch cable is connected from limit switch on riser extension tool, to the connection point on the front of the GAMMA CART.

✓ 5.1.16 **ENSURE** the "Raise - Off - Lower" selector switch is in the "OFF" position.

✓ 5.1.17 **ENSURE** the emergency stop button is pulled out.

✓ 5.1.18 **POSITION** the "SPEED" control potentiometer to MIN speed (fully counter-clockwise).

5.1 SETUP (Cont).

CAUTION

There is no limit switch to stop the motion when the cable is fully unwound. The cable will rewind backwards on the reel. Damage to the cable may result.

NOTE - When the cart is first powered up, or the emergency stop button has been pushed, or power has been restored after a power failure, the cable reel will not move up or down until "RESET" button is activated.

- The "Raise-OFF-Lower" Switch is Manually controlled and is Operator Dependent.

✓ 5.1.19 **ENSURE** LOCAL/REMOTE switch is in the "LOCAL" position.

✓ 5.1.20 **ENERGIZE** the Cart.

✓ 5.1.21 **SET** the "SPEED" potentiometer to 2 on the GAMMA Cart.

✓ 5.1.22 **SET** the "RAISE -OFF- LOWER" switch to the "LOWER" position.

(1) 5.1.23 **PUSH** "EMERGENCY STOP" button on GAMMA CART.

(1) 5.1.24 **VERIFY** the system has stopped.

Rich Gutierrez — 3-2-00
Test Director Signature — Date

Rich Gutierrez
Test Director Print Name

(1) ALREADY TESTED PER OTP-260-004, REV. A-0 SEE TEST LOG ENTRY 2-29-00, 2030 HRS

R. Gutierrez
3-2-00

5.1 SETUP (Cont).

(1) 5.1.25 **SET** the "RAISE-OFF-LOWER" switch to the "RAISE" position.

(1) 5.1.26 **PULL** "EMERGENCY STOP" out on GAMMA CART.

(1) 5.1.27 **PUSH** the "RESET" button on GAMMA CART to resume.

(1) 5.1.28 **ENSURE** limit switch activates when probe returns to the zero position.

(1) 5.1.29 **SET** the "RAISE-OFF-LOWER" switch to the "OFF" position.

(1) 5.1.30 **SET** "SPEED" potentiometer to MIN.

(1) 5.1.31 **POSITION** The "LOCAL REMOTE" switch to "REMOTE".

(1) 5.1.32 **VERIFY** by signing below section 5.1 is complete.

(1)
Test Director Signature _____ Date _____

(1)
Test Director Print Name _____

(1)
QC Signature _____ Date _____

(1)
QC Print Name _____

(1) ALREADY TESTED PER OTP-260-004, REV. A-0
SEE TEST LOG ENTRY 2-29-00, 2030 HRS

R Gutierrez
3-2-00

5.2 TEST INCREMENTAL SAMPLE MODE

SETUP

NOTE - All Steps in this section apply to either cart, except in those steps where the specific cart is indicated.

INSTRUMENT CHECK

✓ 5.2.1 **IF** the pushbutton for Tank 241-AZ-101 Gamma Cart A **AND/OR** B Data Collection System Central Processing Unit (CPU), AND/OR associated MONITOR, are **NOT** ON, **PRESS** the applicable ON pushbuttons.

✓ 5.2.2 **ENSURE** the following systems are ON **AND**

Test Execution #02 R. Butler 3-2-00

ENSURE settings are correct for the following:

- ORTEC MINIBIN
- POWER SUPPLY

Detector Bias Power Supply (HVPS): ORTEC Mod. 478.

- kV: .5
- 0 to 1000V: (+60 volts)

Amplifier (AMP): ORTEC Mod. 673

- COARSE GAIN: 200
- FINE GAIN: 0.680
- SHAPING TIME: Both knobs set to 2 microseconds
- PZ Adjust: Do NOT change settings (in this procedure)
- BLR: Switch in AUTO (up) position
- INPUTS: Switch in POS (up) position BNC cable on terminal (from pre amplifier)
- OUTPUTS: cable on UNIPOLAR terminal(to single channel Analyzer)

✓ 5.2.3 **WHEN** WINDOWS login screen appears **CLICK ON** "CANCEL".

5.2 TEST INCREMENTAL SAMPLE MODE (Cont).

NOTE - After canceling windows login, GAMMA CART software should automatically load.

✓ 5.2.4 **VERIFY** "GAMMA CART SPECTRUM ANALYZER AND CONTROL SYSTEM" screen is displayed on Tank 241-AZ-101 Gamma Cart A **AND/OR** B Data Collection System Monitor.

Rich Gutierrez — 3-2-00
Test Director Signature — Date

Rich Gutierrez
Test Director Print Name

✓ 5.2.5 **SELECT** "Login" on the "GAMMA CART SPECTRUM ANALYZER AND CONTROL SYSTEM" screen.

NOTE - LOGIN passwords and information may be obtained from Test Director.

✓ 5.2.6 **LOG-IN.**

✓ 5.2.7 **VERIFY** LOCAL/REMOTE switch on display screen is in "REMOTE" position.

Rich Gutierrez — 3-2-00
Test Director Signature — Date

Rich Gutierrez
Test Director Print Name

5.2 TEST INCREMENTAL SAMPLE MODE (Cont).

TESTING

(1) 5.2.8 **SELECT** "config" on the "Gamma Cart Display" screen.

(1) 5.2.9 **ENTER** the following data for selected riser on the "Configuration - Display" screen by pulling down applicable menu:

POSITION	DATA
Tank Number:	AZ-101
Cart:	A OR B
Riser ID: ft.	Selected riser number NOTE - Riser depth is automatically computed from software upon input of riser ID#.
Probe Type:	1 - 4 as applicable (Normal is 1 or 2 for Cart A and 3 or 4 for Cart B)
Survey Time:	Sec.(As determined by Test Director)

(1) 5.2.10 **ENSURE** REAL/LIVE toggle button indicates "LIVE".

(1) 5.2.11 On the Data Collection Configuration window, **SELECT** the "Incremental" button.

INCREMENTAL PARAMETERS

(1) 5.2.12 **INPUT** the following Sample Collection Data:

Sample Start Depth:	55.0 ft
Interval Size:	10.0 ft
Sample End Depth:	5.0 ft

(1) ALREADY TESTED PER OTP-260-004, REV. A-0 SEE TEST LOG ENTRY 2-29-00, 2030 HRS
R. Gutierrez
3-2-00

5.2 TEST INCREMENTAL SAMPLE MODE (Cont).

(1) 5.2.13 **CLICK ON** "SAVE".

(1) 5.2.14 **CLICK ON** "EXIT".

NOTE - Test Engineer may manipulate parameters at any time during the following steps as necessary to ensure data retrieval and system configuration, with concurrence of Test Director.

- After the following step, the program should automatically run.

(1) 5.2.15 **CLICK ON** "Start" button.

(1) 5.2.16 **CLICK ON** "EMERGENCY STOP" button on computer screen.

(1) 5.2.17 **VERIFY** System stopped.

(1)
Test Director Signature _____ Date _____

(1)
Test Director Print Name _____

(1) 5.2.18 **CLICK ON** "EMERGENCY STOP" again to RESET the emergency stop button on computer screen.

(1) 5.2.19 **CLICK ON** "ZERO" on display screen.

(1) 5.2.20 **ENSURE** GAMMA PROBE begins to RAISE.

(1) 5.2.21 **CLICK ON** "STOP" button on display screen.

(1) ALREADY TESTED PER OTP-260-004, REV. A-1
SEE TEST LOG ENTRY 2-29-00, 2030 HRS
R. Stirling
3-2-00

5.2 TEST INCREMENTAL SAMPLE MODE (Cont).

(1) 5.2.22 **VERIFY** System stopped.

(1)
Test Director Signature Date

(1)
Test Director Print Name

(1) 5.2.23 **CLICK ON** "ZERO" again on display screen.

(1) 5.2.24 **ENSURE** GAMMA PROBE begins to RAISE.

(1) 5.2.25 When probe and system zeros, **CLICK ON** "START" on display screen.

(1) 5.2.26 **VERIFY** System resumed program.

(1)
Test Director Signature Date

(1)
Test Director Print Name

(1) 5.2.27 **CLICK ON** "STOP" button on computer screen.

(1) 5.2.28 **VERIFY** System stopped.

(1)
Test Director Signature Date

(1)
Test Director Print Name

(1) 5.2.29 **CLICK ON** "ZERO" on display screen.

(1) 5.2.30 When probe and system zeros, **CLICK ON** "START" on display screen.

(1) 5.2.31 **VERIFY** System resumed program.

(1)
Test Director Signature Date

(1)
Test Director Print Name

(1) already tested on OTP-320-004 Rev A-0
SEE TEST LOG ENTRY 2-29-00, 2030 HRS
R Sutherling 3/2/00

5.2 TEST INCREMENTAL SAMPLE MODE (Cont).

(1) 5.2.32 Test Engineer **ENSURE** data is received, AND both hard-copy and electronic files can be retrieved.

(1) 5.2.33 **VERIFY** system automatically ZEROs and data is collected at zero position.

(1)
Test Director Signature _____ Date _____

(1)
Test Director Print Name _____

NOTE - The steps in section 5.1, applicable to the Emergency stop, need not be repeated if completed for an individual GAMMA CART. The Emergency stop on BOTH GAMMA CART A and B, need to be tested only once.

NOTE - It is NOT necessary to do ALL risers in one procedure. Test Director is responsible for ensuring ALL risers have been profiled by one AND/OR the other GAMMA CART(S).

(1) 5.2.34 **REPEAT** applicable SETUP Steps in section 5.1 AND Incremental testing steps 5.2.1 - 5.2.15 AND Steps 5.2.32 and 5.2.33 for each of the following risers and depths per Test Director's direction.

(1) already Tested on OTP-320-004 Rev A-0 SEE TEST LOG ENTRY 2-28-00, 2030 HRS R. Gutierrez 3/2/00

TABLE I

RISER	Depth inches (ft)
14A	660 (55.0)
14C	660 (55.0)
14D	660 (55.0)
14F	660 (55.0)
14G	660 (55.0)
14B	660 (55.0)
14E	660 (55.0)
15I	684 (57.0)
15C	684 (57.0)
15E	684 (57.0)
15B	684 (57.0)
15F	684 (57.0)

5.2 INCREMENTAL SAMPLE MODE (Cont).

NOTE - In the following Table, Test Director N/A blocks that are tested with a different GAMMA CART.

(1) 5.2.35 **VERIFY** the applicable riser in step 5.2.34 has been tested.

TABLE II

RISER	TEST DIRECTOR SIGNATURE
14A	
14C	
14D	
14F	
14G	
14B	
14E	
15I	
15C	
15E	
15B	
15F	

(1) 5.2.36 **VERIFY** by signing below section 5.2 is complete.

(1)
Test Director Signature _____ Date _____

(1)
Test Director Print Name _____

(1)
QC Signature _____ Date _____

(1)
QC Print Name _____

(1) already tested on OTP-320-004 Rev A-0
SEE TEST LOG ENTRY 2-29-00, 2030 HRS

R. Gettering 3/2/00

5.3 TEST USER DEFINED MODE

✓ 5.3.1 **ENSURE** applicable SETUP Steps in section 5.1 are completed.

CART CONTROL SCREEN

✓ 5.3.2 On the Gamma Cart Control, **CLICK ON** the "Config." button.

✓ 5.3.3 **INPUT** the following data:

POSITION	DATA
Tank Number:	AZ-101
Cart:	A OR B
Riser ID: ft.	Selected riser number NOTE - Riser depth is automatically computed from software upon input of riser ID#.
Probe Type:	1 - 4 as applicable (Normal is 1 or 2 for Cart A and 3 or 4 for Cart B)
Survey Time:	Sec.(As determined by Test Director)

Test Exception #05 [illegible] 3/2/2000

USER DEFINED PARAMETERS

✓ 5.3.4 **CLICK ON** "USER DEFINED".

✓ 5.3.5 **ENTER** depths desired for testing per Test Engineer Direction.

✓ 5.3.6 **CLICK ON** "SAVE" on display screen.

✓ 5.3.7 **CLICK ON** "EXIT".

5.3 TEST USER DEFINED MODE (Cont).

NOTE - *Test Engineer may manipulate parameters at any time during the following steps as necessary to ensure data retrieval and system configuration, with concurrence of Test Director.*

- After the following step, the program should automatically run.

- The "EMERGENCY STOP" may be used to stop at any time during the next step if unit fails to stop at limit switch. The "RESET" button will need to be pushed to resume the program.

✓ 5.3.8 **CLICK ON** Start button.

✓ 5.3.9 Test Engineer **ENSURE** data is received, AND both hard-copy and electronic files can be retrieved.

Test Exception #96 R Gutierrez 3/2/00

✓ 5.3.10 **VERIFY** system automatically ZEROs and data is collected at zero position.

Rich Gutierrez 3/2/00
Test Director Signature Date

Rich Gutierrez
Test Director Print Name

5.3 TEST USER DEFINED MODE (Cont).

✓ 5.3.11 **CLICK ON** "LOGOUT" on display screen.

✓ 5.3.12 **REMOVE** Probe, riser extension tool, and associated equipment **AND**

STORE per Test Director direction.

OR

CONTINUE in this procedure.

✓ 5.3.13 **REPEAT** the steps in this section (5.3) as directed for any risers as directed by Test Director.

✓ 5.3.14 **VERIFY** by signing below section 5.3 is complete.

Rich Gutierrez — 3-2-00
Test Director Signature — Date

Rich Gutierrez
Test Director Print Name

Ronald A. Arnot — 3-2-00
QC Signature — Date

Ronald A. Arnot
QC Print Name

RISER 15I
GAMMA CART - B

241-AZ GAMMA CART OPERATIONAL TEST PROCEDURE

Last Full Revision:	A-0
Release Date:	02-09-2000
USQ Screening Number:	TF-00-0083 R.0
Approval Designator:	Q
Current Modification:	A-2
USQ Screening Number:	TF-98-1201 R1
Approval Designator:	NA
PCA Incorporated:	ETF-2000-064

POSITION/ORG	DELEGATE	DATE
NCO/RET OPS	S.R. Joseph	02-16-2000
OE/Retrieval OPS	Rich Gutierrez	02-16-2000
RAD. CON.		
ECO		
QA		
Cog. Engineer	Gary Tardiff	02-22-2000
Acceptance Review	Len Ross	02-23-2000
Approval Authority	Rich Gutierrez	02-23-2000

Justification: Provide step clarity.

Summary of Changes:

Page 13: Deleted "Junction Box, JB-101-100, Power Receptacle, OR Junction Box, JB-101-101"in step 5.1.7.
Added "suitable power source" to step 5.1.7.

GAMMA CART B
RISER 15 I
3/1/00 R. Gutierrez

4.0 PREREQUISITES

4.1 SPECIAL TOOLS, EQUIPMENT, AND SUPPLIES

The following supplies may be needed to perform this procedure:

- Riser Swabbing equipment
- Riser extension tool

4.2 PERFORMANCE DOCUMENTS

The following procedures may be needed to perform this procedure:

- TO-040-333 LIQUID OBSERVATION WELL (LOW) SURVEILLANCE VAN STARTUP AND OPERATION PROCEDURE

4.3 CONDITIONS AND ACTIONS

NOTE - All signators on this procedure shall document their signature on Procedure Signature Sheet.

4.3.1 All pre-testing and inspection of the system or portions of the system to be tested has been completed.

(1)
Test Engineer Signature _____ Date _____

4.3.2 A pre-job briefing has been held. and all participants have been thoroughly briefed on job safety, hazards, and their responsibilities before performing this ATP.

(1)
Test Director Signature _____ Date _____

4.3.3 Test Director **VERIFY** section 4.3 has been COMPLETED.

(1)
Test Director Signature _____ Date _____

(1) ALREADY TESTED PER OTP-260-004, REV. A-0
R. Gutierrez
3-2-00

5.0 PROCEDURE

5.1 SETUP

NOTE - This procedure may be repeated for either GAMMA CART A or GAMMA CART B as applicable. N/A may be entered in blocks or steps per Test Director as applicable.

✓ 5.1.1 **RECORD** GAMMA CART CPU number for the system being tested.

GAMMA CART IDENTIFIER # B WST-RY403
CPU Number

✓ 5.1.2 **PERFORM** cleanliness check in applicable riser listed on TABLE II, per section 5.10 in procedure TO-040-333 latest rev, prior to mounting riser extension tool.

✓ 5.1.3 **ENSURE** GAMMA CART riser extension tool is mounted on the applicable riser.

✓ 5.1.4 **ENSURE** GAMMA CART is placed in line with riser extension tool to facilitate installation of probe and cables.

✓ 5.1.5 **CHECK** route to riser for obstacles and clearances.

✓ 5.1.6 **LEVEL** cart using jacks.

✓ 5.1.7 **CONNECT** gamma cart power cables, as follows:

- One end to gamma cart power receptacle
- Other end to suitable power source ~~Junction Box, JB-101-100, Power Receptacle, OR Junction Box, JB-101-101~~

✓ 5.1.8 **CONNECT** gamma cart communications cable, as follows:

- One end to gamma cart communications receptacle
- Other end to Tank 241-AZ-101 Gamma Cart A **AND/OR** B Data Collection Subsystem communications receptacle

✓ 5.1.9 **PLACE** Gamma Cart "RAISE OFF LOWER" switch in the LOWER position.

✓ 5.1.10 **CHECK** that detector probe cable is resting in the Gamma Cart boom cable reel.

5.1 SETUP (Cont).

CAUTION

If sufficient tension is NOT held on the detector probe cable as the cable is being let out, the cable could become entangled.

NOTE - Step 5.1.11 and 5.1.12 require two operators to perform continuous action until step 5.1.12 is complete.

✓ 5.1.11 **HOLD** tension on the detector probe cable until step 5.1.12 is completed.

✓ 5.1.12 **PRESS AND HOLD** "RESET" button until enough detector probe cable is let-out that will allow placement of the detector cable through riser extension collar AND into riser drywell, **AND**

RELEASE the "RESET" button.

✓ 5.1.13 **INSTALL** the proper detector probe on the detector probe cable.

✓ 5.1.14 **ENSURE** that the detector probe connections are correct and tight. **AND**

INSERT probe into riser extension tool.

✓ 5.1.15 **ENSURE** limit switch cable is connected from limit switch on riser extension tool, to the connection point on the front of the GAMMA CART.

✓ 5.1.16 **ENSURE** the "Raise - Off - Lower" selector switch is in the "OFF" position.

✓ 5.1.17 **ENSURE** the emergency stop button is pulled out.

✓ 5.1.18 **POSITION** the "SPEED" control potentiometer to MIN speed (fully counter-clockwise).

5.1 SETUP (Cont).

CAUTION

There is no limit switch to stop the motion when the cable is fully unwound. The cable will rewind backwards on the reel. Damage to the cable may result.

NOTE - When the cart is first powered up, or the emergency stop button has been pushed, or power has been restored after a power failure, the cable reel will not move up or down until "RESET" button is activated.

- The "Raise-OFF-Lower" Switch is Manually controlled and is Operator Dependent.

✓ 5.1.19 **ENSURE** LOCAL/REMOTE switch is in the "LOCAL" position.

✓ 5.1.20 **ENERGIZE** the Cart.

✓ 5.1.21 **SET** the "SPEED" potentiometer to 2 on the GAMMA Cart.

✓ 5.1.22 **SET** the "RAISE -OFF- LOWER" switch to the "LOWER" position.

(1) 5.1.23 **PUSH** "EMERGENCY STOP" button on GAMMA CART.

(1) 5.1.24 **VERIFY** the system has stopped.

(1)
Test Director Signature _____ Date _____

(1)
Test Director Print Name _____

(1) ALREADY TESTED PER OTP-260-004, Rev A-0
SEE TEST LOG ENTRY 2-29-00, 2030 HRS
R. Gutierrez
3-2-00

5.1 SETUP (Cont).

(1) 5.1.25 **SET** the "RAISE-OFF-LOWER" switch to the "RAISE" position.

(1) 5.1.26 **PULL** "EMERGENCY STOP" out on GAMMA CART.

(1) 5.1.27 **PUSH** the "RESET" button on GAMMA CART to resume.

(1) 5.1.28 **ENSURE** limit switch activates when probe returns to the zero position.

(1) 5.1.29 **SET** the "RAISE-OFF-LOWER" switch to the "OFF" position.

(1) 5.1.30 **SET** "SPEED" potentiometer to MIN.

(1) 5.1.31 **POSITION** The "LOCAL REMOTE" switch to "REMOTE".

(1) 5.1.32 **VERIFY** by signing below section 5.1 is complete.

(1)
Test Director Signature _____ Date _____

(1)
Test Director Print Name _____

(1)
QC Signature _____ Date _____

(1)
QC Print Name _____

(1) ALREADY TESTED PER OTP-260-004, REV. A-0
SEE TEST LOG ENTRY 2-29-00, 2030 HRS
R. Gutierrez
3-2-00

5.2 TEST INCREMENTAL SAMPLE MODE

SETUP

NOTE - All Steps in this section apply to either cart, except in those steps where the specific cart is indicated.

INSTRUMENT CHECK

✓ 5.2.1 **IF** the pushbutton for Tank 241-AZ-101 Gamma Cart A **AND/OR** B Data Collection System Central Processing Unit (CPU), AND/OR associated MONITOR, are **NOT** ON, **PRESS** the applicable ON pushbuttons.

✓ 5.2.2 **ENSURE** the following systems are ON **AND**

TEST EXECUTOR #02 R. Autery 3-2-00

ENSURE settings are correct for the following:

- ORTEC MINIBIN
- POWER SUPPLY

Detector Bias Power Supply (HVPS): ORTEC Mod. 478.

- kV: .5
- 0 to 1000V: (+60 volts)

Amplifier (AMP): ORTEC Mod. 673

- COARSE GAIN: 200
- FINE GAIN: 0.680
- SHAPING TIME: Both knobs set to 2 microseconds
- PZ Adjust: Do NOT change settings (in this procedure)
- BLR: Switch in AUTO (up) position
- INPUTS: Switch in POS (up) position BNC cable on terminal (from pre amplifier)
- OUTPUTS: cable on UNIPOLAR terminal(to single channel Analyzer)

✓ 5.2.3 **WHEN** WINDOWS login screen appears **CLICK ON** "CANCEL".

5.2 TEST INCREMENTAL SAMPLE MODE (Cont).

NOTE - After canceling windows login, GAMMA CART software should automatically load.

✓ 5.2.4 **VERIFY** "GAMMA CART SPECTRUM ANALYZER AND CONTROL SYSTEM" screen is displayed on Tank 241-AZ-101 Gamma Cart A **AND/OR** B Data Collection System Monitor.

Rich Gutierrez — 3-2-00
Test Director Signature — Date

Rich Gutierrez
Test Director Print Name

✓ 5.2.5 **SELECT** "Login" on the "GAMMA CART SPECTRUM ANALYZER AND CONTROL SYSTEM" screen.

NOTE - LOGIN passwords and information may be obtained from Test Director.

✓ 5.2.6 **LOG-IN.**

✓ 5.2.7 **VERIFY** LOCAL/REMOTE switch on display screen is in "REMOTE" position.

Rich Gutierrez — 3-2-00
Test Director Signature — Date

Rich Gutierrez
Test Director Print Name

5.2 TEST INCREMENTAL SAMPLE MODE (Cont).

TESTING

(D) 5.2.8 **SELECT** "config" on the "Gamma Cart Display" screen.

(D) 5.2.9 **ENTER** the following data for selected riser on the "Configuration - Display" screen by pulling down applicable menu:

POSITION	DATA
Tank Number:	AZ-101
Cart:	A OR B
Riser ID: ft.	Selected riser number NOTE - Riser depth is automatically computed from software upon input of riser ID#.
Probe Type:	1 - 4 as applicable (Normal is 1 or 2 for Cart A and 3 or 4 for Cart B)
Survey Time:	Sec.(As determined by Test Director)

(V) 5.2.10 **ENSURE** REAL/LIVE toggle button indicates "LIVE".

(V) 5.2.11 On the Data Collection Configuration window, **SELECT** the "Incremental" button.

INCREMENTAL PARAMETERS

(D) 5.2.12 **INPUT** the following Sample Collection Data:

Sample Start Depth:	55.0 ft
Interval Size:	10.0 ft
Sample End Depth:	5.0 ft

(D) ALREADY TEST PER OTP-260-004, 1200, A-0
SEE TEST LOG ENTRY 2-29-00, 2030 HRS
R. Gatenz
3-2-00

5.2 TEST INCREMENTAL SAMPLE MODE (Cont).

(1) 5.2.13 **CLICK ON** "SAVE".

(1) 5.2.14 **CLICK ON** "EXIT".

NOTE - Test Engineer may manipulate parameters at any time during the following steps as necessary to ensure data retrieval and system configuration, with concurrence of Test Director.

- After the following step, the program should automatically run.

(1) 5.2.15 **CLICK ON** "Start" button.

(1) 5.2.16 **CLICK ON** "EMERGENCY STOP" button on computer screen.

(1) 5.2.17 **VERIFY** System stopped.

(1)
Test Director Signature _____ Date _____

(1)
Test Director Print Name _____

(1) 5.2.18 **CLICK ON** "EMERGENCY STOP" again to RESET the emergency stop button on computer screen.

(1) 5.2.19 **CLICK ON** "ZERO" on display screen.

(1) 5.2.20 **ENSURE** GAMMA PROBE begins to RAISE.

(1) 5.2.21 **CLICK ON** "STOP" button on display screen.

(1) ALREADY TESTED PER OTP-260-004, REV. A-0
SEE TEST LOG ENTRY 2-29-00, 2030 HRS
R. Gatery
3-2-00

5.2 TEST INCREMENTAL SAMPLE MODE (Cont).

(1) 5.2.22 **VERIFY** System stopped.

(1)
Test Director Signature _____ Date _____

(1)
Test Director Print Name _____

(1) 5.2.23 **CLICK ON** "ZERO" again on display screen.

(1) 5.2.24 **ENSURE** GAMMA PROBE begins to RAISE.

(1) 5.2.25 When probe and system zeros, **CLICK ON** "START" on display screen.

(1) 5.2.26 **VERIFY** System resumed program.

(1)
Test Director Signature _____ Date _____

(1)
Test Director Print Name _____

(1) 5.2.27 **CLICK ON** "STOP" button on computer screen.

(1) 5.2.28 **VERIFY** System stopped.

(1)
Test Director Signature _____ Date _____

(1)
Test Director Print Name _____

(1) 5.2.29 **CLICK ON** "ZERO" on display screen.

(1) 5.2.30 When probe and system zeros, **CLICK ON** "START" on display screen.

(1) 5.2.31 **VERIFY** System resumed program.

(1)
Test Director Signature _____ Date _____

(1)
Test Director Print Name _____

(1) ALREADY TESTED PER OTP-260-004, REV. A-0
SEE TEST LOG ENTRY 2-29-00, 2030 HRS

3-2-00 R. Gutierrez

5.2 TEST INCREMENTAL SAMPLE MODE (Cont).

(D) 5.2.32 Test Engineer **ENSURE** data is received, AND both hard-copy and electronic files can be retrieved.

(D) 5.2.33 **VERIFY** system automatically ZEROs and data is collected at zero position.

(D)
Test Director Signature _____ Date _____

(D)
Test Director Print Name _____

NOTE - The steps in section 5.1, applicable to the Emergency stop, need not be repeated if completed for an individual GAMMA CART. The Emergency stop on BOTH GAMMA CART A and B, need to be tested only once.

NOTE - It is NOT necessary to do ALL risers in one procedure. Test Director is responsible for ensuring ALL risers have been profiled by one AND/OR the other GAMMA CART(S).

(D) 5.2.34 **REPEAT** applicable SETUP Steps in section 5.1 AND Incremental testing steps 5.2.1 - 5.2.15 AND Steps 5.2.32 and 5.2.33 for each of the following risers and depths per Test Director's direction.

(D) ALREADY TESTED PER OTP-260-004 REV. A-0 SEE TEST LOG ENTRY 2-24-00, 2030 HRS
R. Gutierrez 3-2-00

TABLE I

RISER	Depth inches (ft)
14A	660 (55.0)
14C	660 (55.0)
14D	660 (55.0)
14F	660 (55.0)
14G	660 (55.0)
14B	660 (55.0)
14E	660 (55.0)
15I	684 (57.0)
15C	684 (57.0)
15E	684 (57.0)
15B	684 (57.0)
15F	684 (57.0)

5.2 INCREMENTAL SAMPLE MODE (Cont).

NOTE - In the following Table, Test Director N/A blocks that are tested with a different GAMMA CART.

(D) 5.2.35 **VERIFY** the applicable riser in step 5.2.34 has been tested.

TABLE II

RISER	TEST DIRECTOR SIGNATURE
14A	
14C	
14D	
14F	
14G	
14B	
14E	
15I	
15C	
15E	
15B	
15F	

(D) 5.2.36 **VERIFY** by signing below section 5.2 is complete.

(D)
Test Director Signature _____ Date _____

(D)
Test Director Print Name _____

(D)
QC Signature _____ Date _____

(D)
QC Print Name _____

(D) ALREADY TESTED PER OTP-260-004 REV. A-0 SEE TEST LOG ENTRY 2-29-00, 2030 HRS
R. Gutierrez 3-2-00

5.3 TEST USER DEFINED MODE

✓ 5.3.1 **ENSURE** applicable SETUP Steps in section 5.1 are completed.

CART CONTROL SCREEN

✓ 5.3.2 On the Gamma Cart Control, **CLICK ON** the "Config." button.

✓ 5.3.3 **INPUT** the following data:

POSITION	DATA
Tank Number:	AZ-101
Cart:	A OR B
Riser ID: ft.	Selected riser number NOTE - Riser depth is automatically computed from software upon input of riser ID#.
Probe Type:	1 - 4 as applicable (Normal is 1 or 2 for Cart A and 3 or 4 for Cart B)
Survey Time:	Sec.(As determined by Test Director)

Test execution #05 R. Gatterry 3-2-00

USER DEFINED PARAMETERS

✓ 5.3.4 **CLICK ON** "USER DEFINED".

✓ 5.3.5 **ENTER** depths desired for testing per Test Engineer Direction.

✓ 5.3.6 **CLICK ON** "SAVE" on display screen.

✓ 5.3.7 **CLICK ON** "EXIT".

5.3 TEST USER DEFINED MODE (Cont).

NOTE - Test Engineer may manipulate parameters at any time during the following steps as necessary to ensure data retrieval and system configuration, with concurrence of Test Director.

- After the following step, the program should automatically run.

- The "EMERGENCY STOP" may be used to stop at any time during the next step if unit fails to stop at limit switch. The "RESET" button will need to be pushed to resume the program.

Test exception #06 R. Gutierrez 3-2-00

✓ 5.3.8 **CLICK ON** Start button.

✓ 5.3.9 Test Engineer **ENSURE** data is received, AND both hard-copy and electronic files can be retrieved.

✓ 5.3.10 **VERIFY** system automatically ZEROs and data is collected at zero position.

Rich Gutierrez — 3-2-00

Test Director Signature — Date

Rich Gutierrez

Test Director Print Name

5.3 TEST USER DEFINED MODE (Cont).

✓ 5.3.11 **CLICK ON** "LOGOUT" on display screen.

✓ 5.3.12 **REMOVE** Probe, riser extension tool, and associated equipment **AND**

STORE per Test Director direction.

OR

CONTINUE in this procedure.

✓ 5.3.13 **REPEAT** the steps in this section (5.3) as directed for any risers as directed by Test Director.

✓ 5.3.14 **VERIFY** by signing below section 5.3 is complete.

Rich Gutierrez — 3-2-00
Test Director Signature — Date

Rich Gutierrez
Test Director Print Name

[illegible] — 3-2-00
QC Signature — Date

Romeo A. Bravo
QC Print Name

RISER 14D
GAMMA CART - A

241-AZ GAMMA CART OPERATIONAL TEST PROCEDURE

Last Full Revision:	A-0
Release Date:	02-09-2000
USQ Screening Number:	TF-00-0083 R.0
Approval Designator:	Q
Current Modification:	A-2
USQ Screening Number:	TF-98-1201 R1
Approval Designator:	NA
PCA Incorporated:	ETF-2000-064

POSITION/ORG	DELEGATE	DATE
NCO/RET OPS	S.R. Joseph	02-16-2000
OE/Retrieval OPS	Rich Gutierrez	02-16-2000
RAD. CON.		
ECO		
QA		
Cog. Engineer	Gary Tardiff	02-22-2000
Acceptance Review	Len Ross	02-23-2000
Approval Authority	Rich Gutierrez	02-23-2000

Justification: Provide step clarity.

Summary of Changes:

Page 13: Deleted "Junction Box, JB-101-100, Power Receptacle, OR Junction Box, JB-101-101"in step 5.1.7.

Added "suitable power source" to step 5.1.7.

Gamma ~~Cart~~ RR 3/2/00 CART A

14D

R Gutierrez 3/2/00

4.0 PREREQUISITES

4.1 SPECIAL TOOLS, EQUIPMENT, AND SUPPLIES

The following supplies may be needed to perform this procedure:

- Riser Swabbing equipment
- Riser extension tool

4.2 PERFORMANCE DOCUMENTS

The following procedures may be needed to perform this procedure:

- TO-040-333 LIQUID OBSERVATION WELL (LOW) SURVEILLANCE VAN STARTUP AND OPERATION PROCEDURE

4.3 CONDITIONS AND ACTIONS

NOTE - All signators on this procedure shall document their signature on Procedure Signature Sheet.

4.3.1 All pre-testing and inspection of the system or portions of the system to be tested has been completed.

Bill Albright 03/02/2000
Test Engineer Signature Date

4.3.2 A pre-job briefing has been held. and all participants have been thoroughly briefed on job safety, hazards, and their responsibilities before performing this ATP.

Rich Gutierrez 3-2-00
Test Director Signature Date

4.3.3 Test Director **VERIFY** section 4.3 has been COMPLETED.

Rich Gutierrez 3-2-00
Test Director Signature Date

5.0 PROCEDURE

5.1 SETUP

NOTE - This procedure may be repeated for either GAMMA CART A or GAMMA CART B as applicable. N/A may be entered in blocks or steps per Test Director as applicable.

✓ 5.1.1 **RECORD** GAMMA CART CPU number for the system being tested.

GAMMA CART IDENTIFIER # A WC68789
CPU Number

✓ 5.1.2 **PERFORM** cleanliness check in applicable riser listed on TABLE II, per section 5.10 in procedure TO-040-333 latest rev, prior to mounting riser extension tool.

✓ 5.1.3 **ENSURE** GAMMA CART riser extension tool is mounted on the applicable riser.

✓ 5.1.4 **ENSURE** GAMMA CART is placed in line with riser extension tool to facilitate installation of probe and cables.

✓ 5.1.5 **CHECK** route to riser for obstacles and clearances.

✓ 5.1.6 **LEVEL** cart using jacks.

✓ 5.1.7 **CONNECT** gamma cart power cables, as follows:

- One end to gamma cart power receptacle
- Other end to suitable power source ~~Junction Box, JB 101-100, Power Receptacle, OR Junction Box, JB 101-101~~

✓ 5.1.8 **CONNECT** gamma cart communications cable, as follows:

- One end to gamma cart communications receptacle
- Other end to Tank 241-AZ-101 Gamma Cart A **AND/OR** B Data Collection Subsystem communications receptacle

✓ 5.1.9 **PLACE** Gamma Cart "RAISE OFF LOWER" switch in the LOWER position.

✓ 5.1.10 **CHECK** that detector probe cable is resting in the Gamma Cart boom cable reel.

5.1 SETUP (Cont).

CAUTION

If sufficient tension is NOT held on the detector probe cable as the cable is being let out, the cable could become entangled.

NOTE - Step 5.1.11 and 5.1.12 require two operators to perform continuous action until step 5.1.12 is complete.

✓ 5.1.11 **HOLD** tension on the detector probe cable until step 5.1.12 is completed.

✓ 5.1.12 **PRESS AND HOLD** "RESET" button until enough detector probe cable is let-out that will allow placement of the detector cable through riser extension collar AND into riser drywell, **AND**

RELEASE the "RESET" button.

✓ 5.1.13 **INSTALL** the proper detector probe on the detector probe cable.

✓ 5.1.14 **ENSURE** that the detector probe connections are correct and tight. **AND**

INSERT probe into riser extension tool.

✓ 5.1.15 **ENSURE** limit switch cable is connected from limit switch on riser extension tool, to the connection point on the front of the GAMMA CART.

NOTE: see log entry 3-2-00 R Stutley

✓ 5.1.16 **ENSURE** the "Raise - Off - Lower" selector switch is in the "OFF" position.

✓ 5.1.17 **ENSURE** the emergency stop button is pulled out.

✓ 5.1.18 **POSITION** the "SPEED" control potentiometer to MIN speed (fully counter-clockwise).

5.1 SETUP (Cont).

CAUTION

There is no limit switch to stop the motion when the cable is fully unwound. The cable will rewind backwards on the reel. Damage to the cable may result.

NOTE - When the cart is first powered up, or the emergency stop button has been pushed, or power has been restored after a power failure, the cable reel will not move up or down until "RESET" button is activated.

- The "Raise-OFF-Lower" Switch is Manually controlled and is Operator Dependent.

✓ 5.1.19 **ENSURE** LOCAL/REMOTE switch is in the "LOCAL" position.

✓ 5.1.20 **ENERGIZE** the Cart.

✓ 5.1.21 **SET** the "SPEED" potentiometer to 2 on the GAMMA Cart.

✓ 5.1.22 **SET** the "RAISE -OFF- LOWER" switch to the "LOWER" position.

✓ 5.1.23 **PUSH** "EMERGENCY STOP" button on GAMMA CART.

✓ 5.1.24 **VERIFY** the system has stopped.

Rich Gutierrez 3-2-00

Test Director Signature Date

Rich Gutierrez

Test Director Print Name

5.1 SETUP (Cont).

✓ 5.1.25 **SET** the "RAISE-OFF-LOWER" switch to the "RAISE" position.

✓ 5.1.26 **PULL** "EMERGENCY STOP" out on GAMMA CART.

✓ 5.1.27 **PUSH** the "RESET" button on GAMMA CART to resume.

✓ 5.1.28 **ENSURE** limit switch activates when probe returns to the zero position.

✓ 5.1.29 **SET** the "RAISE-OFF-LOWER" switch to the "OFF" position.

✓ 5.1.30 **SET** "SPEED" potentiometer to MIN.

✓ 5.1.31 **POSITION** The "LOCAL REMOTE" switch to "REMOTE".

✓ 5.1.32 **VERIFY** by signing below section 5.1 is complete.

Rich Gutierrez — 3/2/00
Test Director Signature — Date

Rich Gutierrez
Test Director Print Name

Randy A. Clark — 3-2-00
QC Signature — Date

Ronald A. Albert
QC Print Name

5.2 TEST INCREMENTAL SAMPLE MODE

SETUP

NOTE - All Steps in this section apply to either cart, except in those steps where the specific cart is indicated.

INSTRUMENT CHECK

✓ 5.2.1 **IF** the pushbutton for Tank 241-AZ-101 Gamma Cart A **AND/OR** B Data Collection System Central Processing Unit (CPU), AND/OR associated MONITOR, are **NOT** ON, **PRESS** the applicable ON pushbuttons.

Test Exception #01 R. Lutterey 3/2/00

✓ 5.2.2 **ENSURE** the following systems are ON **AND**

ENSURE settings are correct for the following:

- ORTEC MINIBIN
- POWER SUPPLY

Detector Bias Power Supply (HVPS): ORTEC Mod. 478.

- kV: ~~.5~~ 0
- 0 to 1000V: ~~±60~~ +100 volts)
- Power: ON

Amplifier (AMP): ORTEC Mod. 673

- COARSE GAIN: ~~200~~ 500
- FINE GAIN: ~~0.680~~ 10.40
- SHAPING TIME: ~~Both knobs set to 2 microseconds~~ 1 μsec
- PZ Adjust: ~~Do NOT change settings (in this procedure)~~ AUTO
- BLR: Switch in AUTO (up) position
- INPUTS: Switch in POS (up) position BNC cable on terminal (from pre amplifier)
- OUTPUTS: cable on UNIPOLAR terminal(to single channel Analyzer) is on the back.

✓ 5.2.3 **WHEN** WINDOWS login screen appears **CLICK ON** "CANCEL".

5.2 TEST INCREMENTAL SAMPLE MODE (Cont).

NOTE - After canceling windows login, GAMMA CART software should automatically load.

✓ 5.2.4 **VERIFY** "GAMMA CART SPECTRUM ANALYZER AND CONTROL SYSTEM" screen is displayed on Tank 241-AZ-101 Gamma Cart A **AND/OR** B Data Collection System Monitor.

Rich Gutierrez — 3-2-00
Test Director Signature — Date

Rich Gutierrez
Test Director Print Name

✓ 5.2.5 **SELECT** "*Login*" *on the* "*GAMMA CART SPECTRUM ANALYZER AND* CONTROL SYSTEM" screen.

NOTE - LOGIN passwords and information may be obtained from Test Director.

✓ 5.2.6 **LOG-IN.**

✓ 5.2.7 **VERIFY** LOCAL/REMOTE switch on display screen is in "REMOTE" position.

Rich Gutierrez — 3-2-00
Test Director Signature — Date

Rich Gutierrez
Test Director Print Name

5.2 TEST INCREMENTAL SAMPLE MODE (Cont).

TESTING

5.2.8 **SELECT** "config" on the "Gamma Cart Display" screen.

5.2.9 **ENTER** the following data for selected riser on the "Configuration - Display" screen by pulling down applicable menu:

POSITION	DATA
Tank Number:	AZ-101
Cart:	A **OR** B
Riser ID: ft.	Selected riser number NOTE - Riser depth is automatically computed from software upon input of riser ID#.
Probe Type:	1 - 4 as applicable (Normal is 1 or 2 for Cart A and 3 or 4 for Cart B)
Survey Time:	Sec.(As determined by Test Director)

5.2.10 **ENSURE** REAL/LIVE toggle button indicates "LIVE".

5.2.11 On the Data Collection Configuration window, **SELECT** the "Incremental" button.

INCREMENTAL PARAMETERS

5.2.12 **INPUT** the following Sample Collection Data:

Sample Start Depth:	~~55.0~~ ft 50
Interval Size:	10.0 ft
Sample End Depth:	5.0 ft

5.2 TEST INCREMENTAL SAMPLE MODE (Cont).

✓ 5.2.13 **CLICK ON** "SAVE".

✓ 5.2.14 **CLICK ON** "EXIT".

NOTE - Test Engineer may manipulate parameters at any time during the following steps as necessary to ensure data retrieval and system configuration, with concurrence of Test Director.

- After the following step, the program should automatically run.

✓ 5.2.15 **CLICK ON** "Start" button.

✓ 5.2.16 **CLICK ON** "EMERGENCY STOP" button on computer screen.

✓ 5.2.17 **VERIFY** System stopped.

Rich Gutierrez — 3-2-00

Test Director Signature — Date

Rich Gutierrez

Test Director Print Name

✓ 5.2.18 **CLICK ON** "EMERGENCY STOP" again to RESET the emergency stop button on computer screen.

✓ 5.2.19 **CLICK ON** "ZERO" on display screen.

✓ 5.2.20 **ENSURE** GAMMA PROBE begins to RAISE.

✓ 5.2.21 **CLICK ON** "STOP" button on display screen.

5.2 TEST INCREMENTAL SAMPLE MODE (Cont).

✓ 5.2.22 **VERIFY** System stopped.

Rich Gutierrez 3-2-00
Test Director Signature Date

Rich Gutierrez
Test Director Print Name

✓ 5.2.23 **CLICK ON** "ZERO" again on display screen.

✓ 5.2.24 **ENSURE** GAMMA PROBE begins to RAISE.

(*) 5.2.25 When probe and system zeros, **CLICK ON** "START" on display screen.

(*) 5.2.26 **VERIFY** System resumed program.

(*)
Test Director Signature Date

(*)
Test Director Print Name

(*) 5.2.27 **CLICK ON** "STOP" button on computer screen.

(*) 5.2.28 **VERIFY** System stopped.

(*)
Test Director Signature Date

(*)
Test Director Print Name

(*) 5.2.29 **CLICK ON** "ZERO" on display screen.

(*) 5.2.30 When probe and system zeros, **CLICK ON** "START" on display screen.

(*) 5.2.31 **VERIFY** System resumed program.

(*)
Test Director Signature Date

(*)
Test Director Print Name

(*) SEE ~~NO~~ RG 3/2/00 TEST LOG ENTRY 3/2/00, 2015 entry

R. Gutierrez 3/2/00

Test exception #02 R. Gutierrez 3/2/00

5.2 TEST INCREMENTAL SAMPLE MODE (Cont).

✓ 5.2.32 Test Engineer **ENSURE** data is received, AND both hard-copy and electronic files can be retrieved.

✓ 5.2.33 **VERIFY** system automatically ZEROs and data is collected at zero position.

Rich Gutierrez — Test Director Signature

3-2-00 — Date

Rich Gutierrez — Test Director Print Name

NOTE - The steps in section 5.1, applicable to the Emergency stop, need not be repeated if completed for an individual GAMMA CART. The Emergency stop on BOTH GAMMA CART A and B, need to be tested only once.

NOTE - It is NOT necessary to do ALL risers in one procedure. Test Director is responsible for ensuring ALL risers have been profiled by one AND/OR the other GAMMA CART(S).

* ✓ 5.2.34 **REPEAT** applicable SETUP Steps in section 5.1 AND Incremental testing steps 5.2.1 - 5.2.15 AND Steps 5.2.32 and 5.2.33 for each of the following risers and depths per Test Director's direction.

TABLE I

RISER	Depth inches (ft)
14A	660 (55.0)
14C	660 (55.0)
14D	660 (55.0)
14F	660 (55.0)
14G	660 (55.0)
14B	660 (55.0)
14E	660 (55.0)
15I	684 (57.0)
15C	684 (57.0)
15E	684 (57.0)
15B	684 (57.0)
15F	684 (57.0)

* 14D riser completed with this procedure.

5.2 INCREMENTAL SAMPLE MODE (Cont).

NOTE - In the following Table, Test Director N/A blocks that are tested with a different GAMMA CART.

✓ 5.2.35 **VERIFY** the applicable riser in step 5.2.34 has been tested.

TABLE II

RISER	TEST DIRECTOR SIGNATURE
14A	N/A
14C	
14D	R. Gutierrez 3/2/00
14F	
14G	
14B	
14E	
15I	
15C	
15E	
15B	
15F	

✓ 5.2.36 **VERIFY** by signing below section 5.2 is complete.

Rich Gutierrez — 3-2-00
Test Director Signature — Date

Rich Gutierrez
Test Director Print Name

QC Signature — Date

QC Print Name

UNRESOLVED TEST EXCEPTIONS AT THIS TIME

5.3 TEST USER DEFINED MODE

✓ 5.3.1 **ENSURE** applicable SETUP Steps in section 5.1 are completed.

CART CONTROL SCREEN

✓ 5.3.2 On the Gamma Cart Control, **CLICK ON** the "Config." button.

✓ 5.3.3 **INPUT** the following data:

POSITION	DATA
Tank Number:	AZ-101
Cart:	A OR B
Riser ID: ft.	Selected riser number NOTE - Riser depth is automatically computed from software upon input of riser ID#.
Probe Type:	1 - 4 as applicable (Normal is 1 or 2 for Cart A and 3 or 4 for Cart B)
Survey Time:	Sec.(As determined by Test Director)

Test Exception #03 R. Hutting 3/9/00

USER DEFINED PARAMETERS

✓ 5.3.4 **CLICK ON** "USER DEFINED".

✓ 5.3.5 **ENTER** depths desired for testing per Test Engineer Direction.

✓ 5.3.6 **CLICK ON** "SAVE" on display screen.

✓ 5.3.7 **CLICK ON** "EXIT".

5.3 TEST USER DEFINED MODE (Cont).

NOTE - Test Engineer may manipulate parameters at any time during the following steps as necessary to ensure data retrieval and system configuration, with concurrence of Test Director.

- After the following step, the program should automatically run.

- The "EMERGENCY STOP" may be used to stop at any time during the next step if unit fails to stop at limit switch. The "RESET" button will need to be pushed to resume the program.

Test Exception #04 R. Gutierrez 3-2-2000

✓ 5.3.8 **CLICK ON** Start button.

✓ 5.3.9 Test Engineer **ENSURE** data is received, AND both hard-copy and electronic files can be retrieved.

✓ 5.3.10 **VERIFY** system automatically ZEROs and data is collected at zero position.

Rich Gutierrez — 3/2/2000
Test Director Signature — Date

Rich Gutierrez
Test Director Print Name

5.3 TEST USER DEFINED MODE (Cont).

✓ 5.3.11 **CLICK ON** "LOGOUT" on display screen.

✓ 5.3.12 **REMOVE** Probe, riser extension tool, and associated equipment **AND**

STORE per Test Director direction.

OR

CONTINUE in this procedure.

✓ 5.3.13 **REPEAT** the steps in this section (5.3) as directed for any risers as directed by Test Director.

✓ 5.3.14 **VERIFY** by signing below section 5.3 is complete.

Rich Gutierrez — 3/2/2000
Test Director Signature — Date

Rich Gutierrez
Test Director Print Name

[signature] — 3/2/00
QC Signature — Date

Ronald A. Hewitt
QC Print Name

SIGNATURE VERIFICATION LOG

NAME (PRINT)	EMPLOYEE #	SIGNATURE	INITIALS
Steve Stamper	81911		SRS
John H. Arnold	81910		
Joe E. Valdez	67192		JV
Clw Blake	66481		CWB
Greg Doss	84193		
Robert Taylor	88745	Robert Taylor	RT
Romeo A. Arnaud	83926		RA
Rich Gutierrez	67765	Rich Gutierrez	RG

RISER 15B
GAMMA CART - A

241-AZ GAMMA CART OPERATIONAL TEST PROCEDURE

Last Full Revision:	A-0
Release Date:	02-09-2000
USQ Screening Number:	TF-00-0083 R.0
Approval Designator:	Q
Current Modification:	A-2
USQ Screening Number:	TF-98-1201 R1
Approval Designator:	NA
PCA Incorporated:	ETF-2000-064

POSITION/ORG	DELEGATE	DATE
NCO/RET OPS	S.R. Joseph	02-16-2000
OE/Retrieval OPS	Rich Gutierrez	02-16-2000
RAD. CON.		
ECO		
QA		
Cog. Engineer	Gary Tardiff	02-22-2000
Acceptance Review	Len Ross	02-23-2000
Approval Authority	Rich Gutierrez	02-23-2000

Justification: Provide step clarity.

Summary of Changes:

Page 13: Deleted "Junction Box, JB-101-100, Power Receptacle, OR Junction Box, JB-101-101"in step 5.1.7.

Added "suitable power source" to step 5.1.7.

GAMMA CART A (Probe 4)

Riser 15 B

R Gutierrez 3/6/00

4.0 PREREQUISITES

4.1 SPECIAL TOOLS, EQUIPMENT, AND SUPPLIES

The following supplies may be needed to perform this procedure:

- Riser Swabbing equipment
- Riser extension tool

4.2 PERFORMANCE DOCUMENTS

The following procedures may be needed to perform this procedure:

- TO-040-333 LIQUID OBSERVATION WELL (LOW) SURVEILLANCE VAN STARTUP AND OPERATION PROCEDURE

4.3 CONDITIONS AND ACTIONS

NOTE - All signators on this procedure shall document their signature on Procedure Signature Sheet.

4.3.1 All pre-testing and inspection of the system or portions of the system to be tested has been completed.

① _____ _____
Test Engineer Signature Date

4.3.2 A pre-job briefing has been held. and all participants have been thoroughly briefed on job safety, hazards, and their responsibilities before performing this ATP.

① _____ _____
Test Director Signature Date

4.3.3 Test Director **VERIFY** section 4.3 has been COMPLETED.

① _____ _____
Test Director Signature Date

① already completed on ~~DTP-R6~~ OTP-260-004, Rev A-2, dated 3/2/00.

R. Gutierrez 3/6/2000

5.0 PROCEDURE

5.1 SETUP

NOTE - This procedure may be repeated for either GAMMA CART A or GAMMA CART B as applicable. N/A may be entered in blocks or steps per Test Director as applicable.

✓ 5.1.1 **RECORD** GAMMA CART CPU number for the system being tested.

GAMMA CART IDENTIFIER # A WC68789
CPU Number

✓ 5.1.2 **PERFORM** cleanliness check in applicable riser listed on TABLE II, per section 5.10 in procedure TO-040-333 latest rev, prior to mounting riser extension tool.

✓ 5.1.3 **ENSURE** GAMMA CART riser extension tool is mounted on the applicable riser.

✓ 5.1.4 **ENSURE** GAMMA CART is placed in line with riser extension tool to facilitate installation of probe and cables.

✓ 5.1.5 **CHECK** route to riser for obstacles and clearances.

✓ 5.1.6 **LEVEL** cart using jacks.

✓ 5.1.7 **CONNECT** gamma cart power cables, as follows:

- One end to gamma cart power receptacle
- Other end to suitable power source ~~Junction Box, JB 101-100, Power Receptacle, OR Junction Box, JB 101-101~~

✓ 5.1.8 **CONNECT** gamma cart communications cable, as follows:

- One end to gamma cart communications receptacle
- Other end to Tank 241-AZ-101 Gamma Cart A **AND/OR** B Data Collection Subsystem communications receptacle

✓ 5.1.9 **PLACE** Gamma Cart "RAISE OFF LOWER" switch in the LOWER position.

✓ 5.1.10 **CHECK** that detector probe cable is resting in the Gamma Cart boom cable reel.

5.1 SETUP (Cont).

CAUTION

If sufficient tension is NOT held on the detector probe cable as the cable is being let out, the cable could become entangled.

NOTE - Step 5.1.11 and 5.1.12 require two operators to perform continuous action until step 5.1.12 is complete.

✓ 5.1.11 **HOLD** tension on the detector probe cable until step 5.1.12 is completed.

✓ 5.1.12 **PRESS AND HOLD** "RESET" button until enough detector probe cable is let-out that will allow placement of the detector cable through riser extension collar AND into riser drywell, **AND**

RELEASE the "RESET" button.

✓ 5.1.13 **INSTALL** the proper detector probe on the detector probe cable.

✓ 5.1.14 **ENSURE** that the detector probe connections are correct and tight. **AND**

INSERT probe into riser extension tool.

✓ 5.1.15 **ENSURE** limit switch cable is connected from limit switch on riser extension tool, to the connection point on the front of the GAMMA CART.

✓ 5.1.16 **ENSURE** the "Raise - Off - Lower" selector switch is in the "OFF" position.

✓ 5.1.17 **ENSURE** the emergency stop button is pulled out.

✓ 5.1.18 **POSITION** the "SPEED" control potentiometer to MIN speed (fully counter-clockwise).

5.1 SETUP (Cont).

CAUTION

There is no limit switch to stop the motion when the cable is fully unwound. The cable will rewind backwards on the reel. Damage to the cable may result.

NOTE - When the cart is first powered up, or the emergency stop button has been pushed, or power has been restored after a power failure, the cable reel will not move up or down until "RESET" button is activated.

- The "Raise-OFF-Lower" Switch is Manually controlled and is Operator Dependent.

✓ 5.1.19 **ENSURE** LOCAL/REMOTE switch is in the "LOCAL" position.

✓ 5.1.20 **ENERGIZE** the Cart.

✓ 5.1.21 **SET** the "SPEED" potentiometer to 2 on the GAMMA Cart.

✓ 5.1.22 **SET** the "RAISE -OFF- LOWER" switch to the "LOWER" position.

(1) 5.1.23 **PUSH** "EMERGENCY STOP" button on GAMMA CART.

(1) 5.1.24 **VERIFY** the system has stopped.

(1)
Test Director Signature _____ Date _____

(1)
Test Director Print Name _____

(1) already tested per OTP-260-004, Rev A-2, dated 3/2/00.

R. Stutzing 3/6/2000

5.1 SETUP (Cont).

0 5.1.25 **SET** the "RAISE-OFF-LOWER" switch to the "RAISE" position.

0 5.1.26 **PULL** "EMERGENCY STOP" out on GAMMA CART.

0 5.1.27 **PUSH** the "RESET" button on GAMMA CART to resume.

0 5.1.28 **ENSURE** limit switch activates when probe returns to the zero position.

0 5.1.29 **SET** the "RAISE-OFF-LOWER" switch to the "OFF" position.

0 5.1.30 **SET** "SPEED" potentiometer to MIN.

0 5.1.31 **POSITION** The "LOCAL REMOTE" switch to "REMOTE".

0 5.1.32 **VERIFY** by signing below section 5.1 is complete.

0
Test Director Signature _____ Date _____

0
Test Director Print Name

0
QC Signature _____ Date _____

0
QC Print Name

0 already tested per OTP-260-004, Rev A-2, dated 3/2/00 -

R. Gutierrez 3/6/2000

5.2 TEST INCREMENTAL SAMPLE MODE

SETUP

NOTE - All Steps in this section apply to either cart, except in those steps where the specific cart is indicated.

INSTRUMENT CHECK

✓ 5.2.1 **IF** the pushbutton for Tank 241-AZ-101 Gamma Cart A **AND/OR** B Data Collection System Central Processing Unit (CPU), AND/OR associated MONITOR, are **NOT** ON, **PRESS** the applicable ON pushbuttons.

✓ 5.2.2 **ENSURE** the following systems are ON **AND**

ENSURE settings are correct for the following:

- ORTEC MINIBIN
- POWER SUPPLY

Détector Bias Power Supply (HVPS): ORTEC Mod. 478.

- kV: .5
- 0 to 1000V: (+60 volts)

Amplifier (AMP): ORTEC Mod. 673

- COARSE GAIN: 200
- FINE GAIN: 0.680
- SHAPING TIME: Both knobs set to 2 microseconds
- PZ Adjust: Do NOT change settings (in this procedure)
- BLR: Switch in AUTO (up) position
- INPUTS: Switch in POS (up) position BNC cable on terminal (from pre amplifier)
- OUTPUTS: cable on UNIPOLAR terminal(to single channel Analyzer)

Test Exception 02
pHW 3-10-00
RG 3-10-00

✓ 5.2.3 **WHEN** WINDOWS login screen appears **CLICK ON** "CANCEL".

Reperformed 3-10-00
R Gutierrez 3-10-00

R. Gutrejie 3-6-2000
Paul H. Weiner 3-6-00

5.2 TEST INCREMENTAL SAMPLE MODE (Cont).

NOTE - After canceling windows login, GAMMA CART software should automatically load.

✓ 5.2.4 **VERIFY** "GAMMA CART SPECTRUM ANALYZER AND CONTROL SYSTEM" screen is displayed on Tank 241-AZ-101 Gamma Cart A **AND/OR** B Data Collection System Monitor.

Rich Gutierrez — 3-6-2000
Test Director Signature — Date

Rich Gutierrez
Test Director Print Name

✓ 5.2.5 **SELECT** "Login" on the "GAMMA CART SPECTRUM ANALYZER AND CONTROL SYSTEM" screen.

NOTE - LOGIN passwords and information may be obtained from Test Director.

✓ 5.2.6 **LOG-IN.**

✓ 5.2.7 **VERIFY** LOCAL/REMOTE switch on display screen is in "REMOTE" position.

Rich Gutierrez — 3-6-2000
Test Director Signature — Date

Rich Gutierrez
Test Director Print Name

Reperformed 3-10-00
Paul A. Werner
R. Gutierrez 3/10/00

Rich Gutierrez 3-6-2000
Paul A. Werner 3-6-00

5.2 TEST INCREMENTAL SAMPLE MODE (Cont).

TESTING

✓ 5.2.8 **SELECT** "config" on the "Gamma Cart Display" screen.

✓ 5.2.9 **ENTER** the following data for selected riser on the "Configuration - Display" screen by pulling down applicable menu:

POSITION	DATA
Tank Number:	AZ-101
Cart:	A OR B
Riser ID: ft. ①	Selected riser number NOTE - Riser depth is automatically computed from software upon input of riser ID#.
Probe Type:	1 - 4 as applicable (Normal is 1 or 2 for Cart A and 3 or 4 for Cart B)
Survey Time:	Sec.(As determined by Test Director)

✓ 5.2.10 **ENSURE** REAL/LIVE toggle button indicates "LIVE".

✓ 5.2.11 On the Data Collection Configuration window, **SELECT** the "Incremental" button.

INCREMENTAL PARAMETERS

✓ 5.2.12 **INPUT** the following Sample Collection Data:

Sample Start Depth:	55.0 ft
Interval Size:	10.0 ft
Sample End Depth:	5.0 ft

① steps not needed, previously tested on OTP-260-004 Rev A-2 3/2/2000
R. Gutierrez 3/6/00

5.2 TEST INCREMENTAL SAMPLE MODE (Cont).

____ 5.2.13 **CLICK ON** "SAVE".

____ 5.2.14 **CLICK ON** "EXIT".

NOTE - Test Engineer may manipulate parameters at any time during the following steps as necessary to ensure data retrieval and system configuration, with concurrence of Test Director.

- After the following step, the program should automatically run.

____ 5.2.15 **CLICK ON** "Start" button.

____ 5.2.16 **CLICK ON** "EMERGENCY STOP" button on computer screen.

____ 5.2.17 **VERIFY** System stopped. (1)

_____ _____
Test Director Signature Date

_____
Test Director Print Name

____ 5.2.18 **CLICK ON** "EMERGENCY STOP" again to RESET the emergency stop button on computer screen.

____ 5.2.19 **CLICK ON** "ZERO" on display screen.

____ 5.2.20 **ENSURE** GAMMA PROBE begins to RAISE.

____ 5.2.21 **CLICK ON** "STOP" button on display screen.

(1) see note on page 19.

R. Stutzig

5.2 TEST INCREMENTAL SAMPLE MODE (Cont).

____ 5.2.22 **VERIFY** System stopped.

Test Director Signature _____ Date _____

Test Director Print Name _____

____ 5.2.23 **CLICK ON** "ZERO" again on display screen.

____ 5.2.24 **ENSURE** GAMMA PROBE begins to RAISE.

____ 5.2.25 When probe and system zeros, **CLICK ON** "START" on display screen.

____ 5.2.26 **VERIFY** System resumed program.

(1)

Test Director Signature _____ Date _____

Test Director Print Name _____

____ 5.2.27 **CLICK ON** "STOP" button on computer screen.

____ 5.2.28 **VERIFY** System stopped.

Test Director Signature _____ Date _____

Test Director Print Name _____

____ 5.2.29 **CLICK ON** "ZERO" on display screen.

____ 5.2.30 When probe and system zeros, **CLICK ON** "START" on display screen.

____ 5.2.31 **VERIFY** System resumed program.

Test Director Signature _____ Date _____

Test Director Print Name _____

(1) see note on Page 19

R. Stetting 3/6/2000

5.2 TEST INCREMENTAL SAMPLE MODE (Cont).

____ 5.2.32 Test Engineer **ENSURE** data is received, AND both hard-copy and electronic files can be retrieved.

____ 5.2.33 **VERIFY** system automatically ZEROs and data is collected at zero position.

_____ _____
Test Director Signature Date

(1)

_____
Test Director Print Name

NOTE - The steps in section 5.1, applicable to the Emergency stop, need not be repeated if completed for an individual GAMMA CART. The Emergency stop on BOTH GAMMA CART A and B, need to be tested only once.

NOTE - It is NOT necessary to do ALL risers in one procedure. Test Director is responsible for ensuring ALL risers have been profiled by one AND/OR the other GAMMA CART(S).

____ 5.2.34 **REPEAT** applicable SETUP Steps in section 5.1 AND Incremental testing steps 5.2.1 - 5.2.15 AND Steps 5.2.32 and 5.2.33 for each of the following risers and depths per Test Director's direction.

(1) see note on page 19

R. Stutzing
3/6/2000

TABLE I

RISER	Depth inches (ft)
14A	660 (55.0)
14C	660 (55.0)
14D	660 (55.0)
14F	660 (55.0)
14G	660 (55.0)
14B	660 (55.0)
14E	660 (55.0)
15I	684 (57.0)
15C	684 (57.0)
15E	684 (57.0)
15B	684 (57.0)
15F	684 (57.0)

5.2 INCREMENTAL SAMPLE MODE (Cont).

NOTE - In the following Table, Test Director N/A blocks that are tested with a different GAMMA CART.

____ 5.2.35 **VERIFY** the applicable riser in step 5.2.34 has been tested.

TABLE II

RISER	TEST DIRECTOR SIGNATURE
14A	
14C	
14D	
14F	
14G	
14B	
14E	
15I	(1)
15C	
15E	
15B	
15F	

____ 5.2.36 **VERIFY** by signing below section 5.2 is complete.

_____ _____
Test Director Signature Date

_____
Test Director Print Name

_____ _____
QC Signature Date

_____
QC Print Name

(1) See note on Page 19. R. Gething 3/6/2000 ~~3/2/00~~ 3/6/2000

5.3 TEST USER DEFINED MODE

✓ 5.3.1 **ENSURE** applicable SETUP Steps in section 5.1 are completed.

CART CONTROL SCREEN

✓ 5.3.2 On the Gamma Cart Control, **CLICK ON** the "Config." button.

✓ 5.3.3 **INPUT** the following data:

POSITION	DATA
Tank Number:	AZ-101
Cart:	A OR B
Riser ID: ft.	Selected riser number NOTE - Riser depth is automatically computed from software upon input of riser ID#.
Probe Type:	1 - 4 as applicable (Normal is 1 or 2 for Cart A and 3 or 4 for Cart B)
Survey Time:	Sec.(As determined by Test Director)

USER DEFINED PARAMETERS

✓ 5.3.4 **CLICK ON** "USER DEFINED".

✓ 5.3.5 **ENTER** depths desired for testing per Test Engineer Direction.

✓ 5.3.6 **CLICK ON** "SAVE" on display screen.

✓ 5.3.7 **CLICK ON** "EXIT".

Test Exception #5 pzw 3-10-00

5.3 TEST USER DEFINED MODE (Cont).

NOTE - Test Engineer may manipulate parameters at any time during the following steps as necessary to ensure data retrieval and system configuration, with concurrence of Test Director.

- After the following step, the program should automatically run.

- The "EMERGENCY STOP" may be used to stop at any time during the next step if unit fails to stop at limit switch. The "RESET" button will need to be pushed to resume the program.

Test Engr R. Gutierrez 3/10/2000

✓ 5.3.8 **CLICK ON** Start button.

✓ 5.3.9 Test Engineer **ENSURE** data is received, AND both hard-copy and electronic files can be retrieved.

✓ 5.3.10 **VERIFY** system automatically ZEROs and data is collected at zero position.

Rich Gutierrez — 3-10-00

Test Director Signature — Date

Rich Gutierrez

Test Director Print Name

5.3 TEST USER DEFINED MODE (Cont).

✓ 5.3.11 **CLICK ON** "LOGOUT" on display screen.

✓ 5.3.12 **REMOVE** Probe, riser extension tool, and associated equipment **AND**

STORE per Test Director direction.

OR

CONTINUE in this procedure.

✓ 5.3.13 **REPEAT** the steps in this section (5.3) as directed for any risers as directed by Test Director.

✓ 5.3.14 **VERIFY** by signing below section 5.3 is complete.

Rich Gutierrez 3-10/00
Test Director Signature Date

Rich Gutierrez
Test Director Print Name

Paul A. Werner 3-10-00
QC Signature Date

Paul A. Werner
QC Print Name

Riser 15B
PAW
3-10-00

RISER 15C
GAMMA CART - A

RPP-6104 R0

241-AZ GAMMA CART OPERATIONAL TEST PROCEDURE

Last Full Revision:	A-0
Release Date:	02-09-2000
USQ Screening Number:	TF-00-0083 R.0
Approval Designator:	Q
Current Modification:	A-2
USQ Screening Number:	TF-98-1201 R1
Approval Designator:	NA
PCA Incorporated:	ETF-2000-064

POSITION/ORG	DELEGATE	DATE
NCO/RET OPS	S.R. Joseph	02-16-2000
OE/Retrieval OPS	Rich Gutierrez	02-16-2000
RAD. CON.		
ECO		
QA		
Cog. Engineer	Gary Tardiff	02-22-2000
Acceptance Review	Len Ross	02-23-2000
Approval Authority	Rich Gutierrez	02-23-2000

Justification: Provide step clarity.

Summary of Changes:

Page 13: Deleted "Junction Box, JB-101-100, Power Receptacle, OR Junction Box, JB-101-101"in step 5.1.7.

Added "suitable power source" to step 5.1.7.

Gamma Cart A
15 C
R. Gutierrez 3/10/00

4.0 PREREQUISITES

4.1 SPECIAL TOOLS, EQUIPMENT, AND SUPPLIES

The following supplies may be needed to perform this procedure:

- Riser Swabbing equipment
- Riser extension tool

4.2 PERFORMANCE DOCUMENTS

The following procedures may be needed to perform this procedure:

- TO-040-333 LIQUID OBSERVATION WELL (LOW) SURVEILLANCE VAN STARTUP AND OPERATION PROCEDURE

4.3 CONDITIONS AND ACTIONS

NOTE - All signators on this procedure shall document their signature on Procedure Signature Sheet.

4.3.1 All pre-testing and inspection of the system or portions of the system to be tested has been completed.

① _____ _____
Test Engineer Signature Date

4.3.2 A pre-job briefing has been held. and all participants have been thoroughly briefed on job safety, hazards, and their responsibilities before performing this ATP.

① _____ _____
Test Director Signature Date

4.3.3 Test Director **VERIFY** section 4.3 has been COMPLETED.

① _____ _____
Test Director Signature Date

① Previously tested on OTP-260-004 Rev A-0.

R. Gutierrez 3/10/00

5.0 PROCEDURE

5.1 SETUP

NOTE - This procedure may be repeated for either GAMMA CART A or GAMMA CART B as applicable. N/A may be entered in blocks or steps per Test Director as applicable.

✓ 5.1.1 **RECORD** GAMMA CART CPU number for the system being tested.

GAMMA CART IDENTIFIER # A WC 68789
CPU Number

✓ 5.1.2 **PERFORM** cleanliness check in applicable riser listed on TABLE II, per section 5.10 in procedure TO-040-333 latest rev, prior to mounting riser extension tool.

✓ 5.1.3 **ENSURE** GAMMA CART riser extension tool is mounted on the applicable riser.

✓ 5.1.4 **ENSURE** GAMMA CART is placed in line with riser extension tool to facilitate installation of probe and cables.

✓ 5.1.5 **CHECK** route to riser for obstacles and clearances.

✓ 5.1.6 **LEVEL** cart using jacks.

✓ 5.1.7 **CONNECT** gamma cart power cables, as follows:

- One end to gamma cart power receptacle
- Other end to suitable power source ~~Junction Box, JB 101-100, Power Receptacle, OR Junction Box, JB 101-101~~

✓ 5.1.8 **CONNECT** gamma cart communications cable, as follows:

- One end to gamma cart communications receptacle
- Other end to Tank 241-AZ-101 Gamma Cart A **AND/OR** B Data Collection Subsystem communications receptacle

✓ 5.1.9 **PLACE** Gamma Cart "RAISE OFF LOWER" switch in the LOWER position.

✓ 5.1.10 **CHECK** that detector probe cable is resting in the Gamma Cart boom cable reel.

5.1 SETUP (Cont).

CAUTION

If sufficient tension is NOT held on the detector probe cable as the cable is being let out, the cable could become entangled.

NOTE - Step 5.1.11 and 5.1.12 require two operators to perform continuous action until step 5.1.12 is complete.

✓ 5.1.11 **HOLD** tension on the detector probe cable until step 5.1.12 is completed.

✓ 5.1.12 **PRESS AND HOLD** "RESET" button until enough detector probe cable is let-out that will allow placement of the detector cable through riser extension collar AND into riser drywell, **AND**

RELEASE the "RESET" button.

✓ 5.1.13 **INSTALL** the proper detector probe on the detector probe cable.

✓ 5.1.14 **ENSURE** that the detector probe connections are correct and tight. **AND**

INSERT probe into riser extension tool.

✓ 5.1.15 **ENSURE** limit switch cable is connected from limit switch on riser extension tool, to the connection point on the front of the GAMMA CART.

✓ 5.1.16 **ENSURE** the "Raise - Off - Lower" selector switch is in the "OFF" position.

✓ 5.1.17 **ENSURE** the emergency stop button is pulled out.

✓ 5.1.18 **POSITION** the "SPEED" control potentiometer to MIN speed (fully counter-clockwise).

5.1 SETUP (Cont).

CAUTION

There is no limit switch to stop the motion when the cable is fully unwound. The cable will rewind backwards on the reel. Damage to the cable may result.

NOTE - When the cart is first powered up, or the emergency stop button has been pushed, or power has been restored after a power failure, the cable reel will not move up or down until "RESET" button is activated.

- The "Raise-OFF-Lower" Switch is Manually controlled and is Operator Dependent.

✓ 5.1.19 **ENSURE** LOCAL/REMOTE switch is in the "LOCAL" position.

✓ 5.1.20 **ENERGIZE** the Cart.

✓ 5.1.21 **SET** the "SPEED" potentiometer to 2 on the GAMMA Cart.

✓ 5.1.22 **SET** the "RAISE -OFF- LOWER" switch to the "LOWER" position.

(1) 5.1.23 **PUSH** "EMERGENCY STOP" button on GAMMA CART.

(1) 5.1.24 **VERIFY** the system has stopped.

(1) _____ (1) _____
Test Director Signature Date

(1) _____
Test Director Print Name

(1) already Tested per OTP-260-004 Rev A-0

R. Stutzing 3/10/00

5.1 SETUP (Cont).

0 5.1.25 **SET** the "RAISE-OFF-LOWER" switch to the "RAISE" position.

0 5.1.26 **PULL** "EMERGENCY STOP" out on GAMMA CART.

0 5.1.27 **PUSH** the "RESET" button on GAMMA CART to resume.

0 5.1.28 **ENSURE** limit switch activates when probe returns to the zero position.

0 5.1.29 **SET** the "RAISE-OFF-LOWER" switch to the "OFF" position.

0 5.1.30 **SET** "SPEED" potentiometer to MIN.

0 5.1.31 **POSITION** The "LOCAL REMOTE" switch to "REMOTE".

0 5.1.32 **VERIFY** by signing below section 5.1 is complete.

0 Test Director Signature _____ Date _____

0 Test Director Print Name _____

0 QC Signature _____ Date _____

0 QC Print Name _____

0 previously tested on OTP-260-004 A-0
R. Stirling 3/10/00

5.2 TEST INCREMENTAL SAMPLE MODE

SETUP

NOTE - All Steps in this section apply to either cart, except in those steps where the specific cart is indicated.

INSTRUMENT CHECK

✓ 5.2.1 **IF** the pushbutton for Tank 241-AZ-101 Gamma Cart A **AND/OR** B Data Collection System Central Processing Unit (CPU), AND/OR associated MONITOR, are **NOT** ON, **PRESS** the applicable ON pushbuttons.

✓ 5.2.2 **ENSURE** the following systems are ON **AND**

ENSURE settings are correct for the following:

- ORTEC MINIBIN
- POWER SUPPLY

Test Exception 02 RG 3-10-00

Detector Bias Power Supply (HVPS): ORTEC Mod. 478.

- kV: .5
- 0 to 1000V: (+60 volts)

Amplifier (AMP): ORTEC Mod. 673

- COARSE GAIN: 200
- FINE GAIN: 0.680
- SHAPING TIME: Both knobs set to 2 microseconds
- PZ Adjust: Do NOT change settings (in this procedure)
- BLR: Switch in AUTO (up) position
- INPUTS: Switch in POS (up) position BNC cable on terminal (from pre amplifier)
- OUTPUTS: cable on UNIPOLAR terminal(to single channel Analyzer)

✓ 5.2.3 **WHEN** WINDOWS login screen appears **CLICK ON** "CANCEL".

Paul A. Werner 3-10-00

5.2 TEST INCREMENTAL SAMPLE MODE (Cont).

NOTE - After canceling windows login, GAMMA CART software should automatically load.

✓ 5.2.4 **VERIFY** "GAMMA CART SPECTRUM ANALYZER AND CONTROL SYSTEM" screen is displayed on Tank 241-AZ-101 Gamma Cart A **AND/OR** B Data Collection System Monitor.

Rich Gutierrez 3-10-00
Test Director Signature Date

Rich Gutierrez
Test Director Print Name

✓ 5.2.5 **SELECT** "Login" on the "GAMMA CART SPECTRUM ANALYZER AND CONTROL SYSTEM" screen.

NOTE - LOGIN passwords and information may be obtained from Test Director.

✓ 5.2.6 **LOG-IN.**

✓ 5.2.7 **VERIFY** LOCAL/REMOTE switch on display screen is in "REMOTE" position.

Rich Gutierrez 3-10-00
Test Director Signature Date

Rich Gutierrez
Test Director Print Name

Paul M. Wenner
3-10-00

5.2 TEST INCREMENTAL SAMPLE MODE (Cont).

TESTING

____ 5.2.8 **SELECT** "config" on the "Gamma Cart Display" screen.

____ 5.2.9 **ENTER** the following data for selected riser on the "Configuration - Display" screen by pulling down applicable menu:

POSITION	DATA
Tank Number:	AZ-101
Cart:	A OR B
Riser ID: ft.	Selected riser number NOTE - Riser depth is automatically computed from software upon input of riser ID#.
Probe Type:	1 - 4 as applicable (Normal is 1 or 2 for Cart A and 3 or 4 for Cart B)
Survey Time:	Sec.(As determined by Test Director)

____ 5.2.10 **ENSURE** REAL/LIVE toggle button indicates "LIVE".

____ 5.2.11 On the Data Collection Configuration window, **SELECT** the "Incremental" button.

INCREMENTAL PARAMETERS

____ 5.2.12 **INPUT** the following Sample Collection Data:

Sample Start Depth:	55.0 ft
Interval Size:	10.0 ft
Sample End Depth:	5.0 ft

① previously tested on OTP-320-004 A-0

R. Gutierrez 3/10/00

5.2 TEST INCREMENTAL SAMPLE MODE (Cont).

____ 5.2.13 **CLICK ON** "SAVE".

____ 5.2.14 **CLICK ON** "EXIT".

NOTE - Test Engineer may manipulate parameters at any time during the following steps as necessary to ensure data retrieval and system configuration, with concurrence of Test Director.

- After the following step, the program should automatically run.

____ 5.2.15 **CLICK ON** "Start" button.

____ 5.2.16 **CLICK ON** "EMERGENCY STOP" button on computer screen.

____ 5.2.17 **VERIFY** System stopped.

(1)

_____ _____
Test Director Signature Date

_____
Test Director Print Name

____ 5.2.18 **CLICK ON** "EMERGENCY STOP" again to RESET the emergency stop button on computer screen.

____ 5.2.19 **CLICK ON** "ZERO" on display screen.

____ 5.2.20 **ENSURE** GAMMA PROBE begins to RAISE.

____ 5.2.21 **CLICK ON** "STOP" button on display screen.

(1) previously tested on OTP-320-004 Rev A.0

R. Gutierrez 3/10/00

5.2 TEST INCREMENTAL SAMPLE MODE (Cont).

____ 5.2.22 **VERIFY** System stopped.

Test Director Signature _____ Date _____

Test Director Print Name _____

____ 5.2.23 **CLICK ON** "ZERO" again on display screen.

____ 5.2.24 **ENSURE** GAMMA PROBE begins to RAISE.

____ 5.2.25 When probe and system zeros, **CLICK ON** "START" on display screen.

____ 5.2.26 **VERIFY** System resumed program.

Test Director Signature _____ Date _____

(1)

Test Director Print Name _____

____ 5.2.27 **CLICK ON** "STOP" button on computer screen.

____ 5.2.28 **VERIFY** System stopped.

Test Director Signature _____ Date _____

Test Director Print Name _____

____ 5.2.29 **CLICK ON** "ZERO" on display screen.

____ 5.2.30 When probe and system zeros, **CLICK ON** "START" on display screen.

____ 5.2.31 **VERIFY** System resumed program.

Test Director Signature _____ Date _____

Test Director Print Name _____

(1) Previously tested on OTP-260-004 Rev A-0
R. Sutenya 3/15/00

5.2 TEST INCREMENTAL SAMPLE MODE (Cont).

____ 5.2.32 Test Engineer **ENSURE** data is received, AND both hard-copy and electronic files can be retrieved.

____ 5.2.33 **VERIFY** system automatically ZEROs and data is collected at zero position.

_____ _____
Test Director Signature Date

_____
Test Director Print Name

NOTE - The steps in section 5.1, applicable to the Emergency stop, need not be repeated if completed for an individual GAMMA CART. The Emergency stop on BOTH GAMMA CART A and B, need to be tested only once.

NOTE - It is NOT necessary to do ALL risers in one procedure. Test Director is responsible for ensuring ALL risers have been profiled by one AND/OR the other GAMMA CART(S).

____ 5.2.34 **REPEAT** applicable SETUP Steps in section 5.1 AND Incremental testing steps 5.2.1 - 5.2.15 AND Steps 5.2.32 and 5.2.33 for each of the following risers and depths per Test Director's direction.

(1) previously Tested on OTP-320-004 Rev A-0 R. Gutierrez 3/10/00

TABLE I

RISER	Depth inches (ft)
14A	660 (55.0)
14C	660 (55.0)
14D	660 (55.0)
14F	660 (55.0)
14G	660 (55.0)
14B	660 (55.0)
14E	660 (55.0)
15I	684 (57.0)
15C	684 (57.0)
15E	684 (57.0)
15B	684 (57.0)
15F	684 (57.0)

5.2 INCREMENTAL SAMPLE MODE (Cont).

NOTE - In the following Table, Test Director N/A blocks that are tested with a different GAMMA CART.

____ 5.2.35 **VERIFY** the applicable riser in step 5.2.34 has been tested.

TABLE II

RISER	TEST DIRECTOR SIGNATURE
14A	
14C	
14D	
14F	
14G	①
14B	
14E	
15I	
15C	
15E	
15B	
15F	

____ 5.2.36 **VERIFY** by signing below section 5.2 is complete.

_____ _____
Test Director Signature Date

_____
Test Director Print Name

_____ _____
QC Signature Date

_____
QC Print Name

① Previously Tested on OTP-320-004 Rev A-0
R. Gutierrez 3/10/00

5.3 TEST USER DEFINED MODE

✓ 5.3.1 **ENSURE** applicable SETUP Steps in section 5.1 are completed.

CART CONTROL SCREEN

✓ 5.3.2 On the Gamma Cart Control, **CLICK ON** the "Config." button.

✓ 5.3.3 **INPUT** the following data:

POSITION	DATA
Tank Number:	AZ-101
Cart:	A OR B
Riser ID: ft.	Selected riser number NOTE - Riser depth is automatically computed from software upon input of riser ID#.
Probe Type:	1 - 4 as applicable (Normal is 1 or 2 for Cart A and 3 or 4 for Cart B)
Survey Time:	Sec.(As determined by Test Director)

USER DEFINED PARAMETERS

✓ 5.3.4 **CLICK ON** "USER DEFINED".

✓ 5.3.5 **ENTER** depths desired for testing per Test Engineer Direction.

✓ 5.3.6 **CLICK ON** "SAVE" on display screen.

✓ 5.3.7 **CLICK ON** "EXIT".

est exception #05 3/10/00 RG

5.3 TEST USER DEFINED MODE (Cont).

NOTE - Test Engineer may manipulate parameters at any time during the following steps as necessary to ensure data retrieval and system configuration, with concurrence of Test Director.

- After the following step, the program should automatically run.

- The "EMERGENCY STOP" may be used to stop at any time during the next step if unit fails to stop at limit switch. The "RESET" button will need to be pushed to resume the program.

TEST EXCEPTION #06 3/10/00 R. Gutierrez

✓ 5.3.8 **CLICK ON** Start button.

✓ 5.3.9 Test Engineer **ENSURE** data is received, AND both hard-copy and electronic files can be retrieved.

✓ 5.3.10 **VERIFY** system automatically ZEROs and data is collected at zero position.

Rich Gutierrez — Test Director Signature

3/10/00 — Date

Rich Gutierrez — Test Director Print Name

5.3 TEST USER DEFINED MODE (Cont).

✓ 5.3.11 **CLICK ON** "LOGOUT" on display screen.

✓ 5.3.12 **REMOVE** Probe, riser extension tool, and associated equipment **AND**

STORE per Test Director direction.

OR

CONTINUE in this procedure.

✓ 5.3.13 **REPEAT** the steps in this section (5.3) as directed for any risers as directed by Test Director.

✓ 5.3.14 **VERIFY** by signing below section 5.3 is complete.

Rich Gutierrez 3/10/00
Test Director Signature Date

Rich Gutierrez
Test Director Print Name

Paul H. Werner 3-10-00
QC Signature Date

Paul H. Werner
QC Print Name

Riser 15C