UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION IV
611 RYAN PLAZA DRIVE, SUITE 400
ARLINGTON, TEXAS 76011-4005

MEMORANDUM TO: South Texas Project ADAMS Docket File

THROUGH: Arthur T. Howell III, Director, Division of Reactor Projects (DRP) 5/27/03

William D. Johnson, Chief, Project Branch A, DRP WDJ 5/27/03

FROM: Charles J. Paulk, Senior Project Engineer, Project Branch A, DRP CP 05/27/2003

SUBJECT: SUMMARY OF APRIL 17, 2003, CONFERENCE CALL

On April 17, 2003, the NRC held a conference call among members of NRC Headquarters, Region IV, and South Texas Project staff and management. The participants are identified in Attachment 1. The conference call was held at NRC's request to gather information related to an apparent leak from two bottom-mounted instrumentation (BMI) penetrations of the reactor vessel's lower head.

The licensee had identified the presence of a white substance around the Numbers 1 and 46 BMI penetrations during a routine inspection for boric acid leaks. The licensee representatives stated that samples of the material were sent to different laboratories for analysis to determine their composition. The results of the testing showed that elemental boron and lithium were present, confirming that the source was reactor coolant. Additionally, the test analyses indicated the age of the deposits to be from 3 to 4 years.

As part of the STP Generic Letter 88-05 boric acid inspection program, the licensee has visually examined the bottom of the vessel during refueling and other outages and, most recently, in November 2002 following a reactor trip. There are 12 hatches in the under vessel insulation that have been opened at various times for these visual exams. No evidence of leakage had been observed under the vessel prior to April 12, 2003. The licensee cannot explain at this time the disparity between the age of the boron samples and the fact that no prior leakage had been observed.

The licensee representatives made a presentation as outlined in the agenda provided as Enclosure 2. The pictures contained in Enclosures 3 and 4 were referenced to provide a better understanding of the extent of the material. The licensee is evaluating the nondestructive examination options for the bottom vessel penetrations. No equipment is readily available in the U.S. to conduct a volumetric examination of the BMI penetrations. The licensee is pursuing the availability of equipment located in Europe to perform the examination. The licensee is also evaluating three repair options. These include both welding and mechanical clamping designs that would act to relocate the pressure boundary to the outside of the reactor pressure vessel. All three options would require prior NRC review and approval.

The licensee representatives agreed to place on the docket their commitment to determine the cause of the leakage and the extent of the condition, complete necessary repairs, and meet with the NRC, in a public forum, to discuss their findings and corrective actions, prior to restarting Unit 1. None of the NRC staff participating in the conference call expressed disagreement with the proposed licensee actions. The NRC decided to continue to follow the licensee's investigation with the resident inspector staff pending a further review of the potential risk significance of the identified condition.

The NRC's preliminary decision was based on several factors. First, the plant was in Mode 5, depressurized, and on shutdown cooling with a recently refueled core. Second, the licensee's actions to date had been probing and thorough. Third, the licensee agreed to maintain an open channel of communications to keep NRC informed of their progress and plans. And fourth, the NRC will closely follow the licensee's corrective measures to ensure that acceptable resolution is achieved prior to plant restart.

Attachments:
As stated

ATTACHMENT 1

LIST OF PARTICIPANTS

Licensee Representatives:

Tim Bowman - Operations Division Manager, Unit 1
Rick Gangluff - Manager, Chemistry
Ed Halpin - Plant General Manager
Wayne Harrison - Senior Staff Licensing Engineer
Scott Head - Manager, Licensing
Tom Jordan - Vice President, Engineering & Technical Services
Will Jump - Manager, Training
Michael Lashley - Supervising Engineer, Test Engineering
Michael Meier - General Manager, Station Support
Gary Parkey - Vice President, Generation
Dave Rencurrel - Manager, Operations
Paul Serra - Manager, Plant Protection
Steve Thomas - Manager, Plant Design Engineering

NRC Representatives:

Division of Engineering
Bill Bateman
Joe Donoghue
Mark Hartzman
Kamal Manoly
Matt Mitchell
Ted Sullivan
Dave Terao

Division of Systems Safety and Analysis
Donnie Harrison
Steve Long

Office Of Research
Bill Cullen
Len Wert

Division of Licensing Project Management
Herb Berkow
Steve Bloom
Bob Gramm
Mohan Thadani

Office of EDO
Brian McDermott

Division of Regulatory Improvements
Jack Foster

Region IV
Jim Adams
Dwight Chamberlain
Victor Dricks
Tom Farnholtz
Gail Good
Gilbert Guerra
Pat Gwynn
Art Howell
Bill Johnson
Jack Keeton
David Loveless
Bill McNeill
Ellis Merschoff
Neill O'Keefe
Chuck Paulk
Dale Powers
Mike Runyan
Wayne Sifre

ATTACHMENT 2

MEETING AGENDA

Group/Meeting Name: Bottom Mounted Instrument Penetration Indications at the Reactor Pressure Vessel (NRC Conference Call)

Leader : Ed Halpin
Facilitator:
Recorder:

Meeting Location: MOF N201 @ STP and conference call tie-in

Purpose: Status of progress concerning Bottom Mounted Instrumentation penetration issue

Desired Outcomes: By the end of this meeting we will have:

- Discussed decision making plan and communication
- Stated the problem statement, and discussed potential root causes, and generic implications
- Discussed action taken and going forward steps
- Discussed potential NDE and repair options

AGENDA			
WHAT (content)	**HOW (process)**	**WHO**	**WHEN (minutes)**
Opening Comments	Present	Ed Halpin	2 minutes
Decision making and communications	Present/Discuss	Ed Halpin	3 minutes
Problem statement including current plant conditions	Present/Discuss	Ed Halpin	5 minutes
Action plan outline	Present/Discuss	Ed Halpin	5 minutes
Action Plan: 1. Operability/Reportability 2. Chemical and radioisotopic analysis 3. Expert panel review 4. Potential root causes 5. NDE options 6. Repair options 7. Going forward plan	 Present/Discuss Present/Discuss Present/Discuss Present/Discuss Present/Discuss Present/Discuss Present/Discuss	 Steve Thomas Rick Gangluff Will Jump Steve Thomas Steve Thomas Will Jump Ed Halpin	60 minutes
Review action items from this meeting	Present	Ed Halpin	5 minutes
Plus/Delta	+ / Δ	All	3 minutes

Bottom Mounted Instrumentation (BMI)
Penetrations to Reactor Pressure Vessel Indications
(CR's 03-6248 and 03-6266)

Problem Statement:

Minor accumulation of a white substance on BMI penetration #46 at the interface with the Reactor Pressure Vessel, and a gummy substance on penetration #1 near the interface with the Reactor Pressure Vessel.

Action Plan:

1. Determine Operability / Reportability of the condition.
2. Evaluate the chemical and radioisotopic elements of the substances.
3. Evaluate applicable Operating Experience, feasible NDE for further analysis, and the technical possibilities of the source of the substances.
4. Assemble and utilize a panel of industry and vendor experts to review STP data, analysis, and available options.
5. Evaluate the contingency plans available for repair options and monitoring of the penetrations.
6. Finalize the project organization and schedule for completion of the discovery phase.
7. Develop and reach consensus on the implementation phase action plan for resolving the above problem statement.

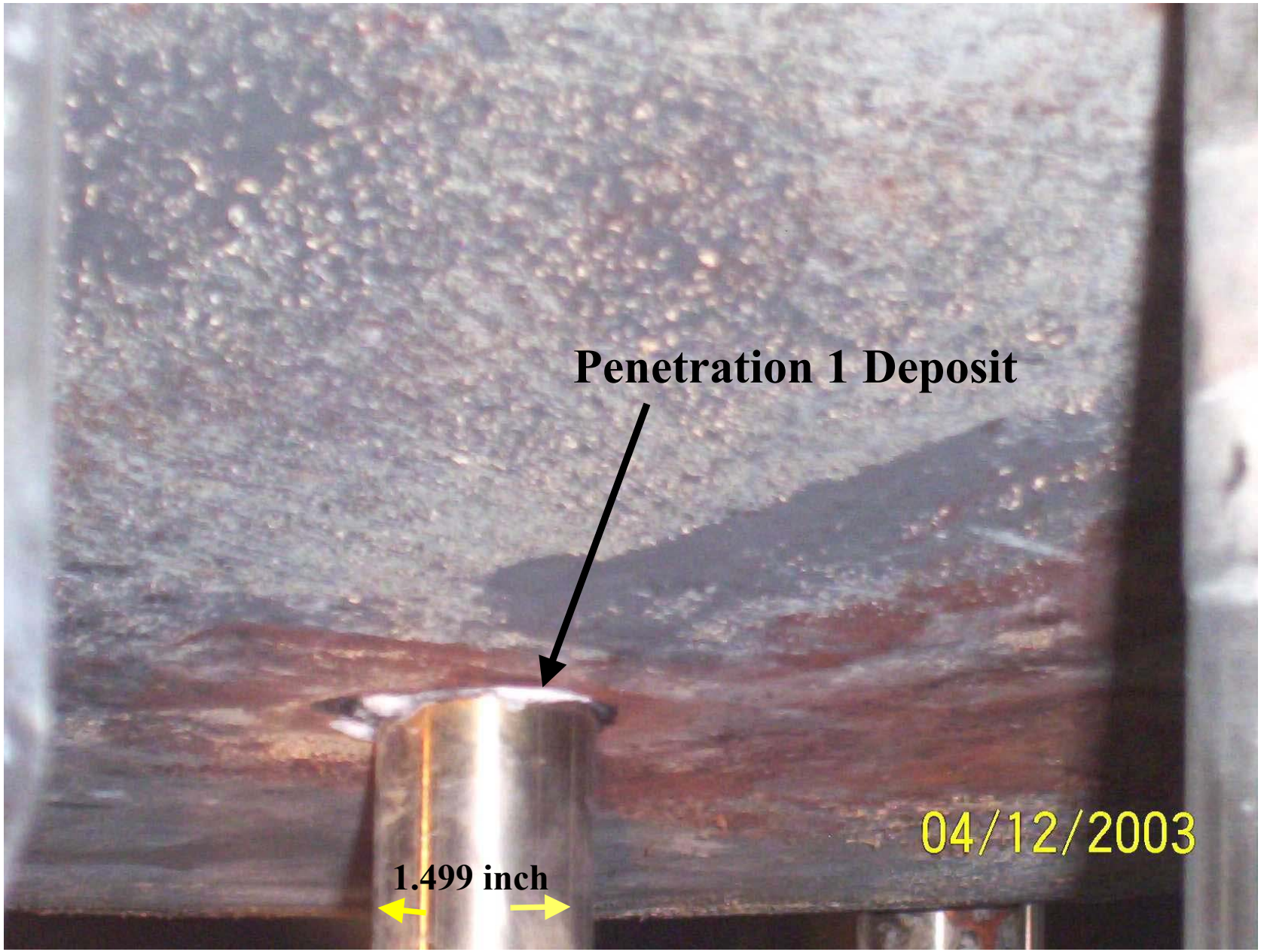
Conclusion:

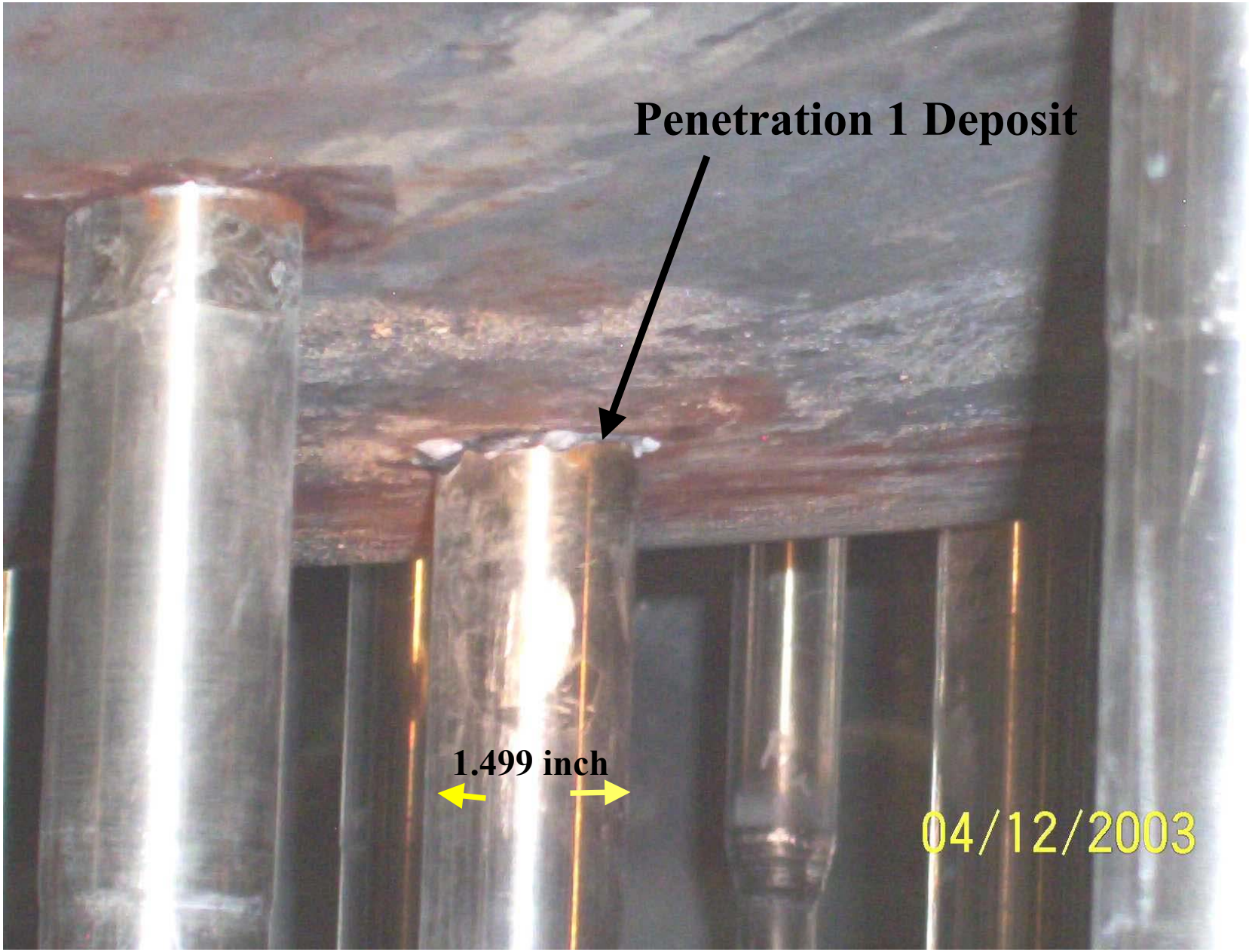
Based upon the exhaustive chemical and radioisotopic analysis, and the absence of other plausible mechanisms to account for the small amount of residue found at BMI penetrations 46 and 1, the project team has concluded the most likely source of the residue is seepage from the Reactor Coolant System.

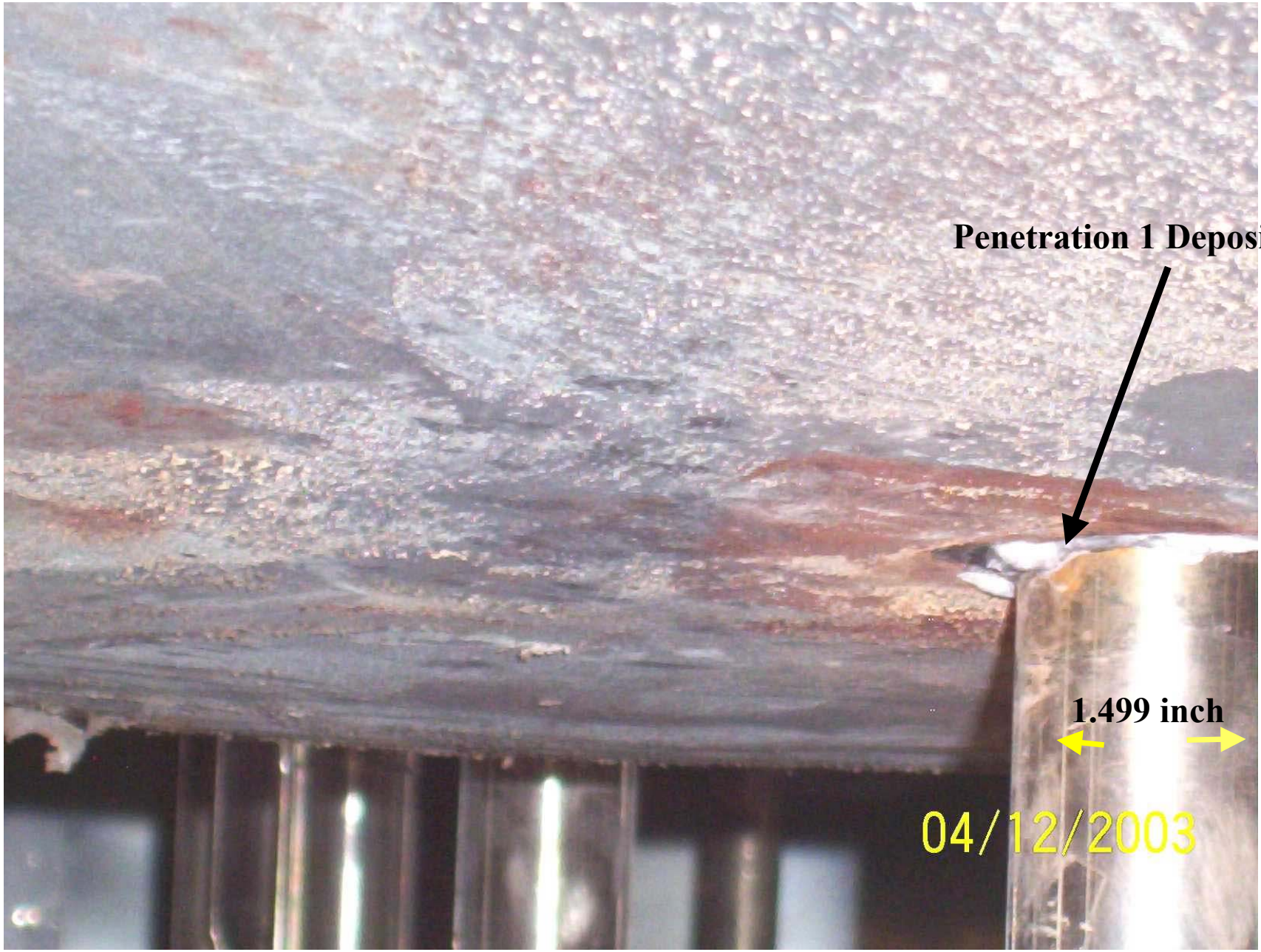
Unit 1 BMI Penetration 1 Initial Inspection

04/12/03

03-6266


Penetration 1 Deposit
1.499 inch
04/12/2003


Penetration 1 Deposit
1.499 inch
04/12/2003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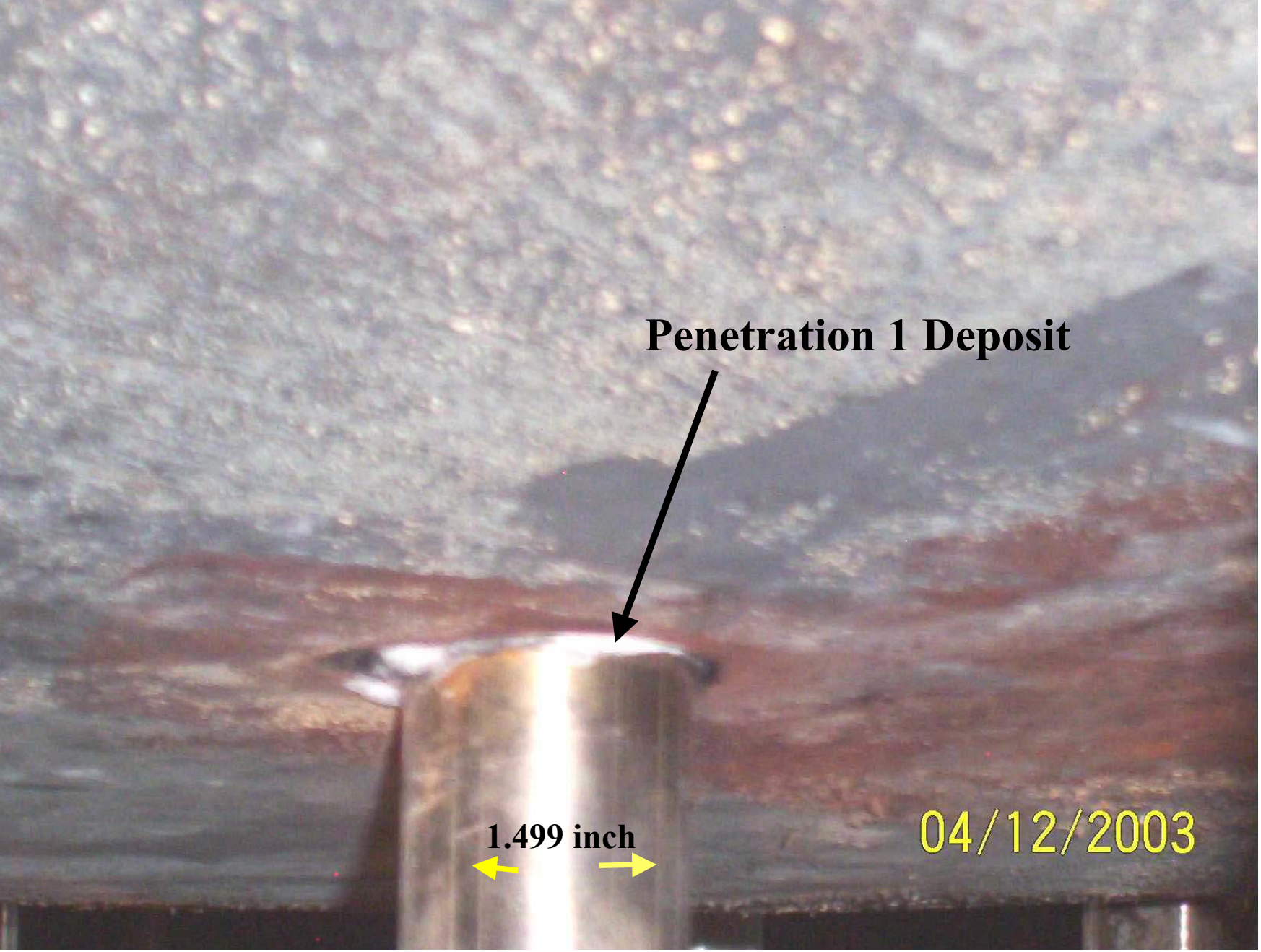
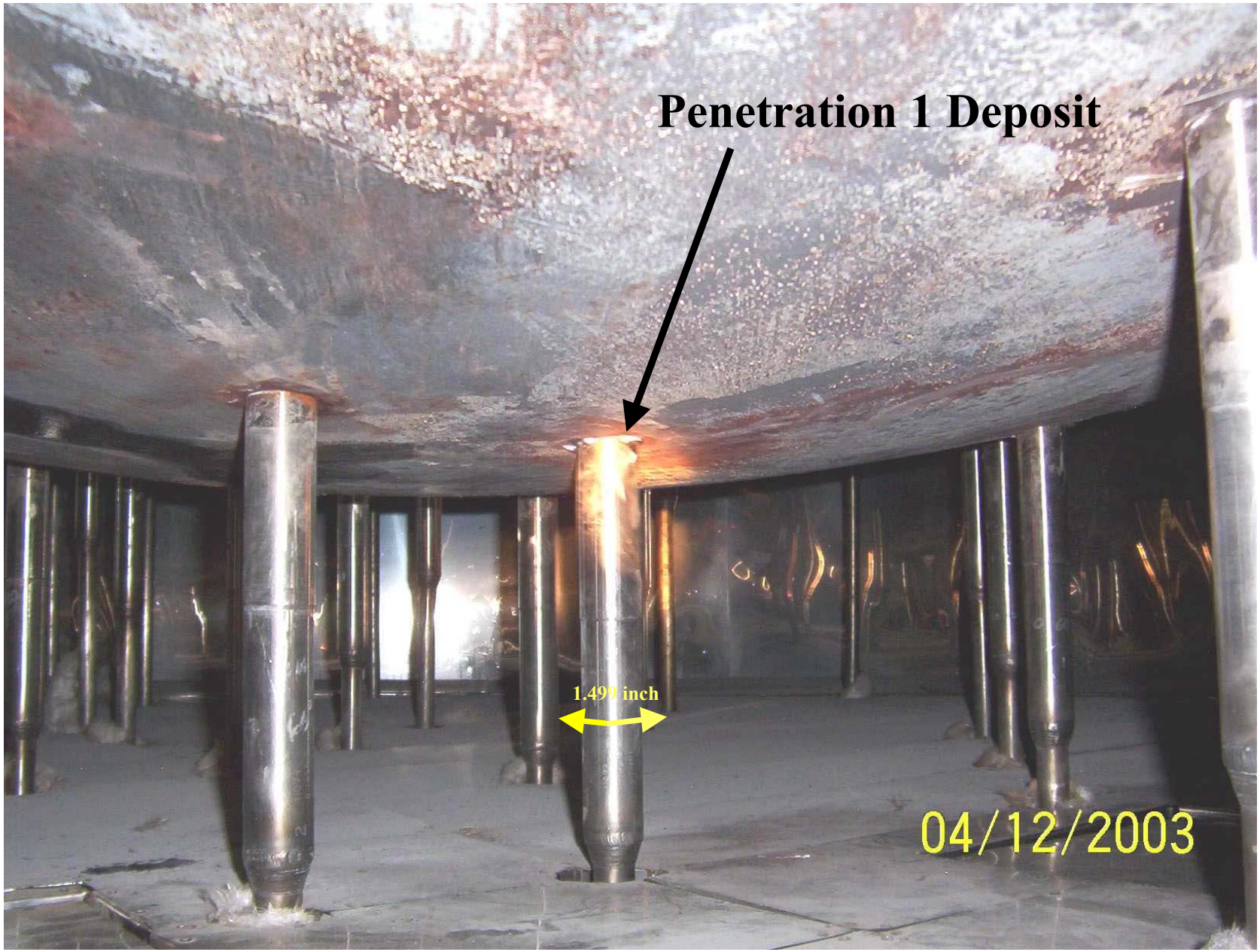
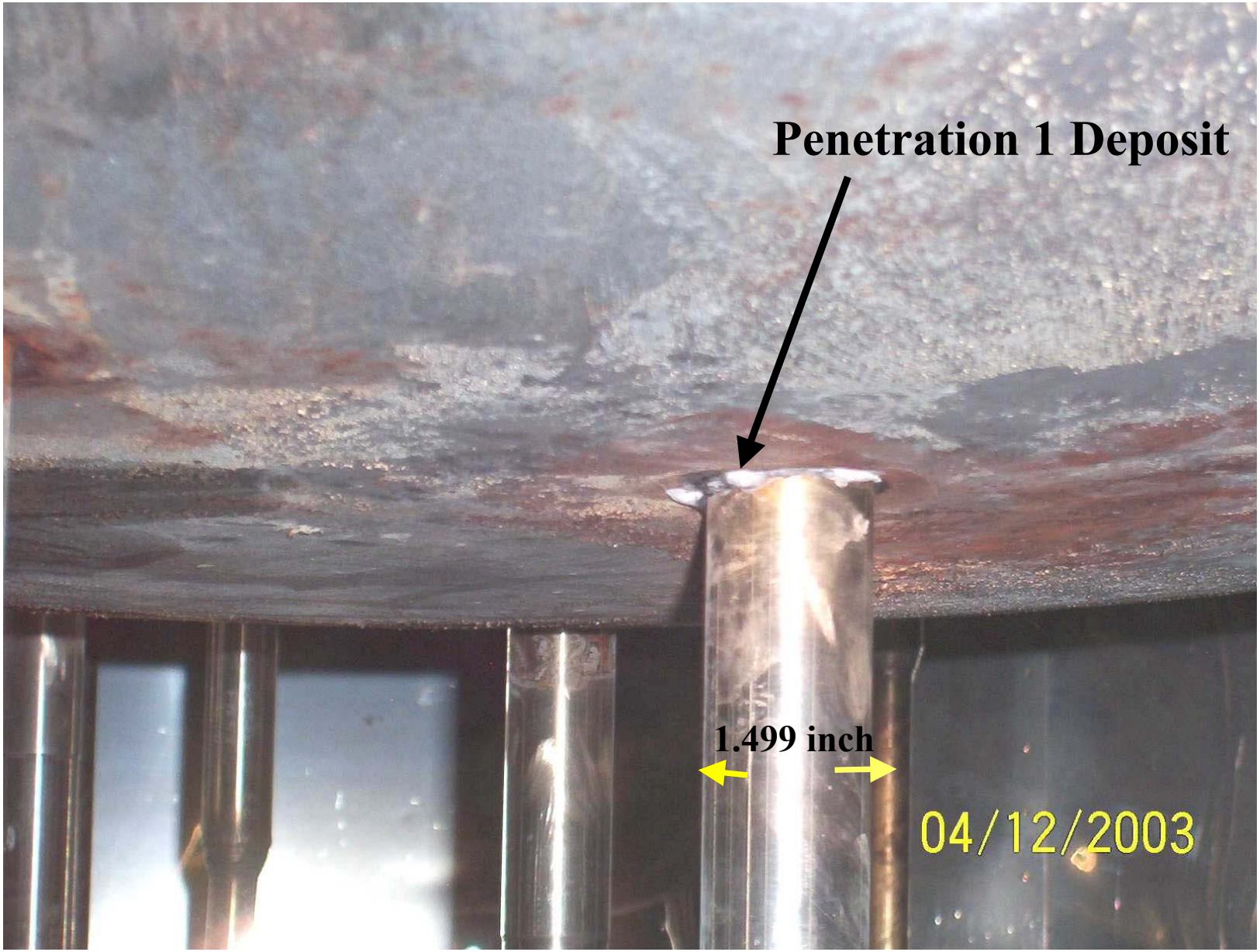

Penetration 1 Deposit
1.499 inch
04/12/2003


Penetration 1 Deposit
1.499 inch
04/12/2003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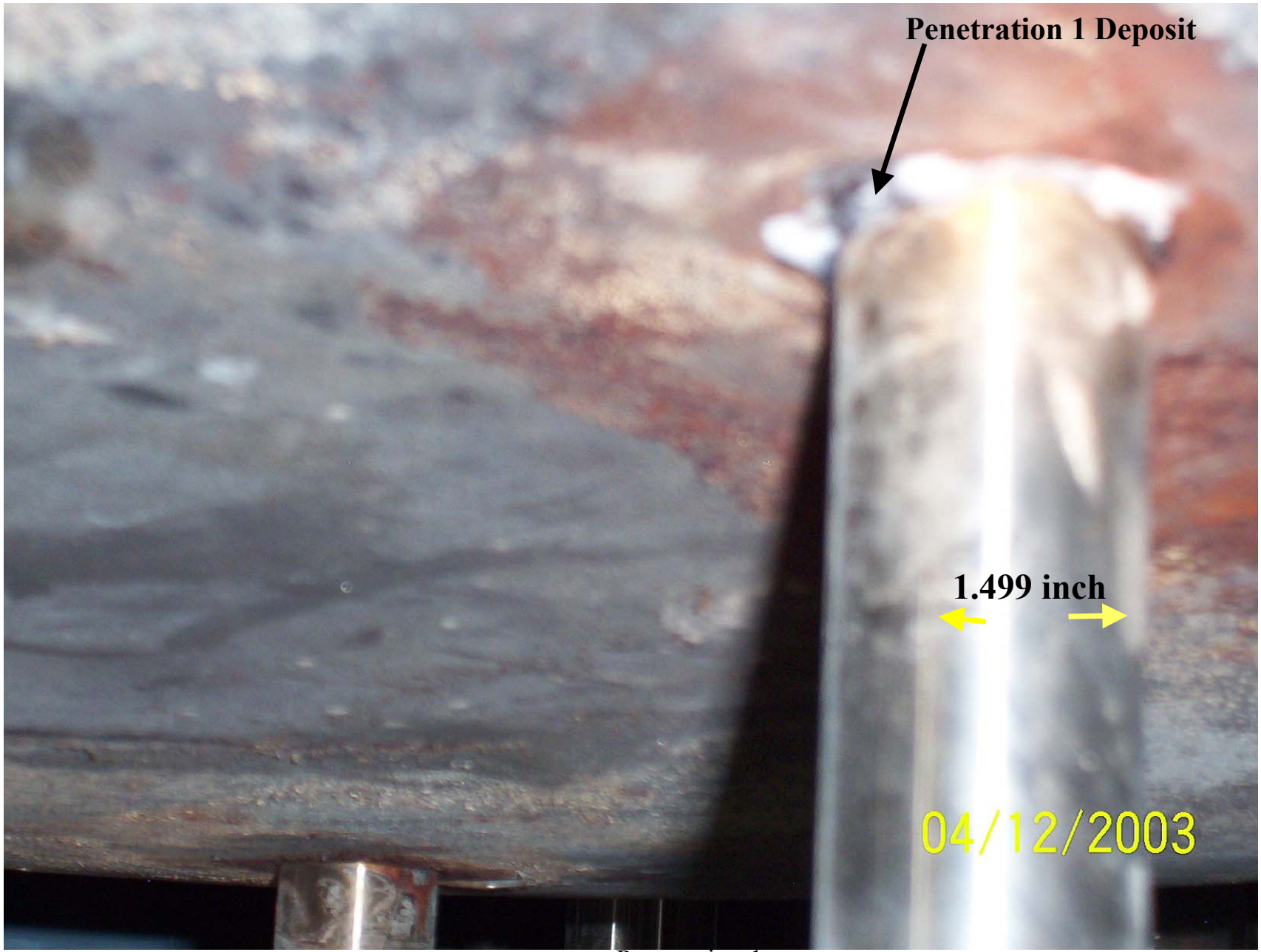
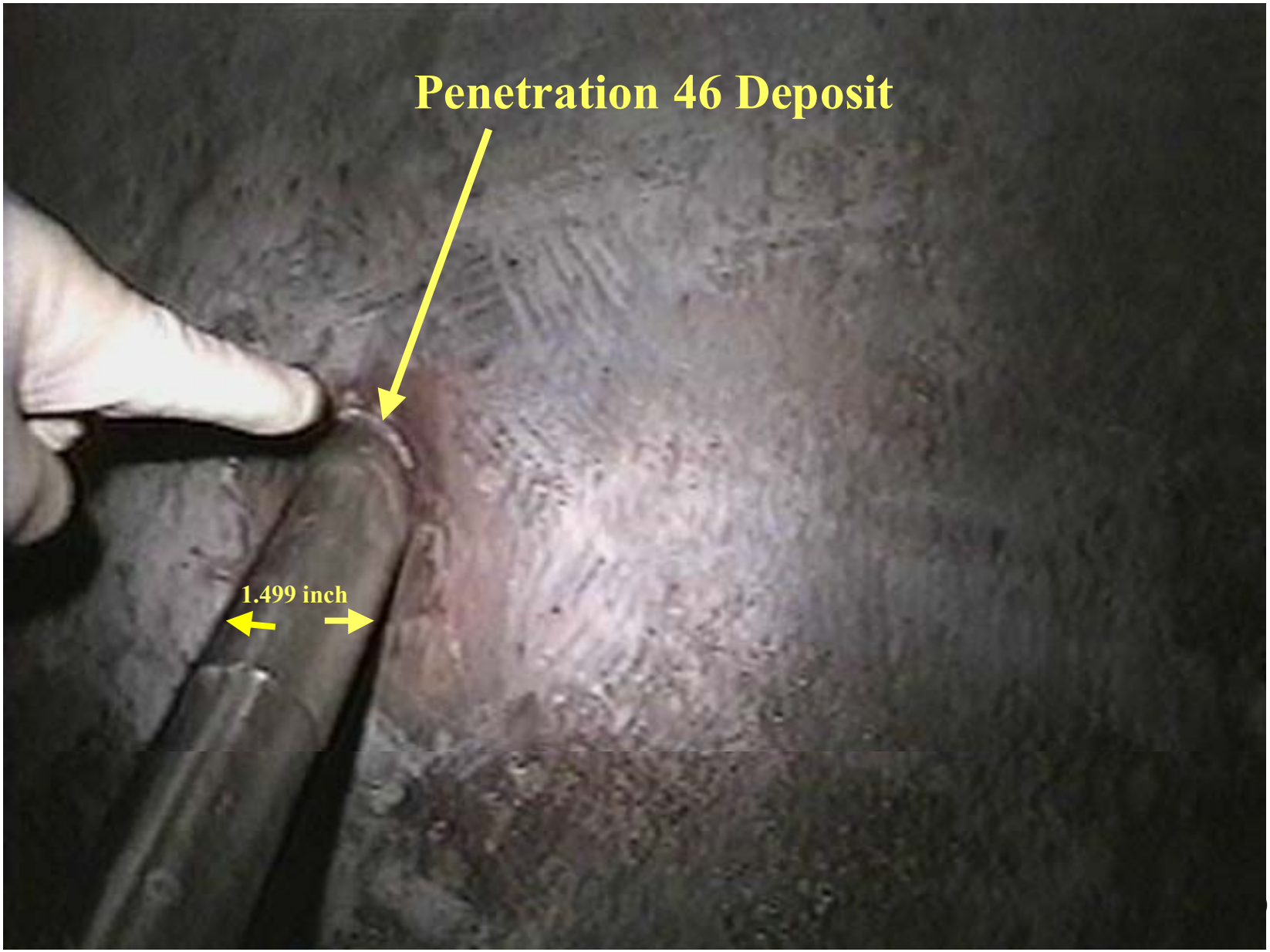


Penetration 1


Penetration 46 Deposit
1.499 inch

Unit 1 BMI Penetration 46
Initial Inspection – Attachment to 03-6248

Unit 1 BMI Penetration 46
Initial Inspection – Closeups

Unit 1 BMI Penetration 46
Initial Inspection – Closeups

Unit 1 BMI Penetration 46
After Obtaining Samples