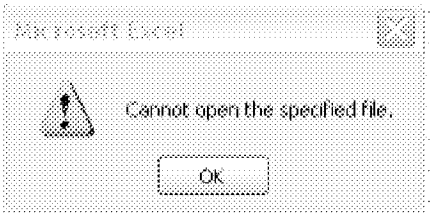
Preparation of Job Package

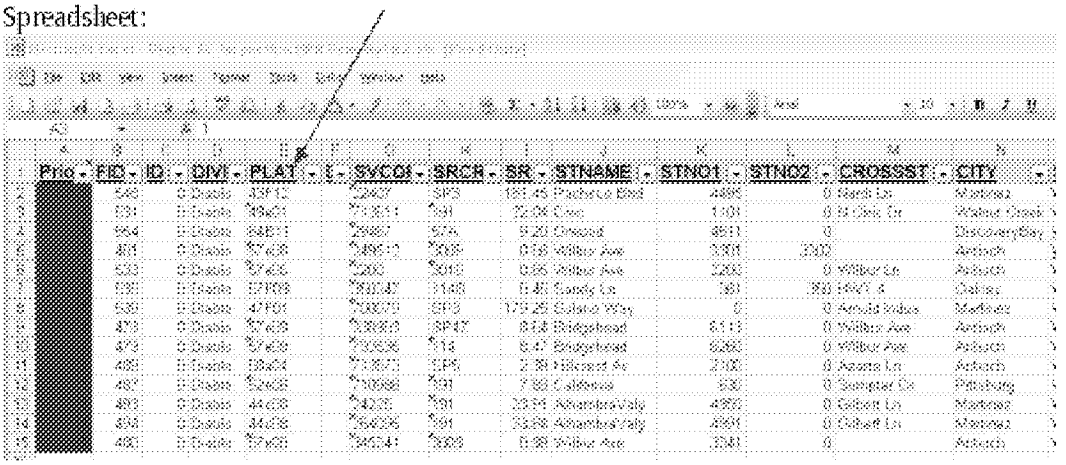
Print out the Service Order and HPR Atmospheric Corrosion Inspection Maps as shown in Bulletin TD-H-10B-001. If the HPR Atmospheric Corrosion Inspection Map has more than one HPR on it, only inspect the HPR's that are listed as Priority 1 or 2 in the spreadsheet. A map could contain Priority 1, 2, or 3 HPR's, and only Priority 1 and 2 HPR's are being inspected in 2010.

Print out the corresponding Service Order as shown in Bulletin TD-H-10B-001. The majority of the Service Records for found for each HPR, however, there are a number of HPR's whose Service Orders could not be located. When the link is clicked for these Service Orders, an error message will appear:



This indicates that a Service Order could not be obtained for this particular HPR. The HPR Atmospheric Corrosion Inspection Map as well as the Plat Map can be used to locate these HPR's.

Obtain Plat Maps if needed. The Plat number is listed in each Division Spreadsheet:

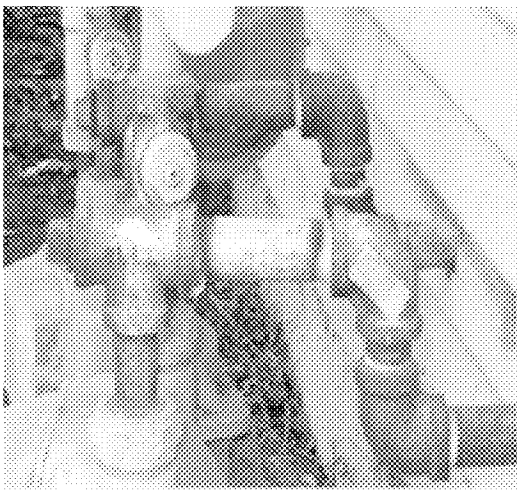


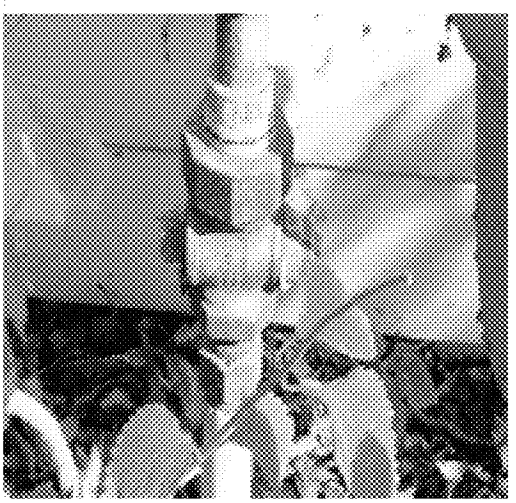
Supplemental Information for Performing AC Inspection of HPR-Type Stations

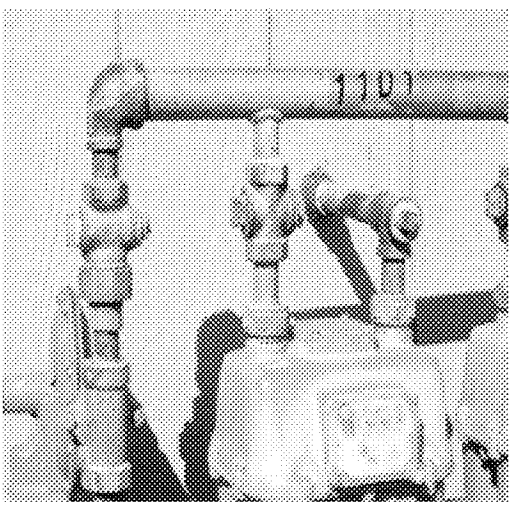
Identification of Atmospheric Corrosion

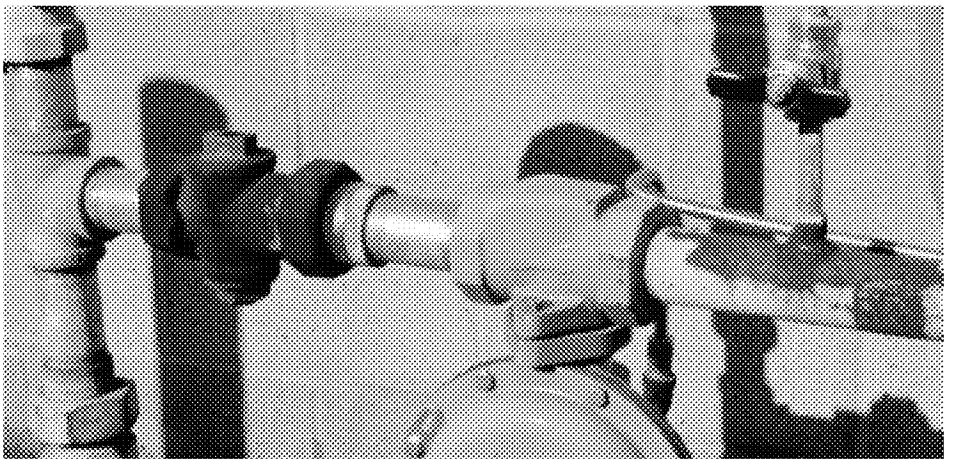
A challenge in Atmospheric Corrosion inspections is identifying what AC looks like.

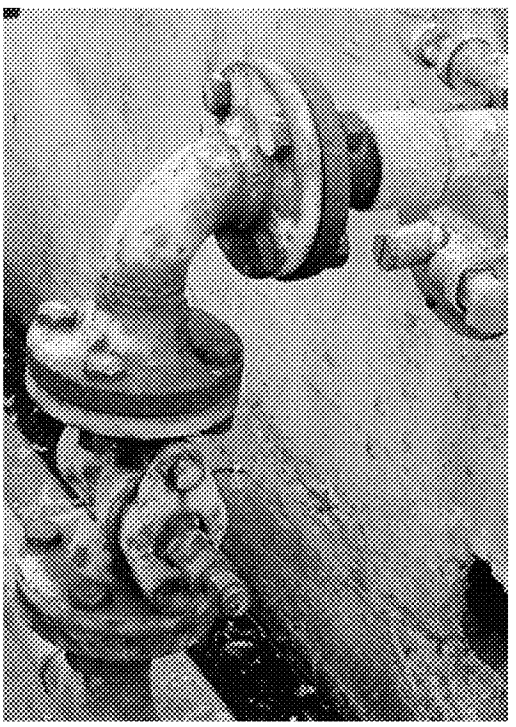
Oxidation/Surface Rust is a common occurrence, and does not require any action. Below are examples of oxidation or surface rust:

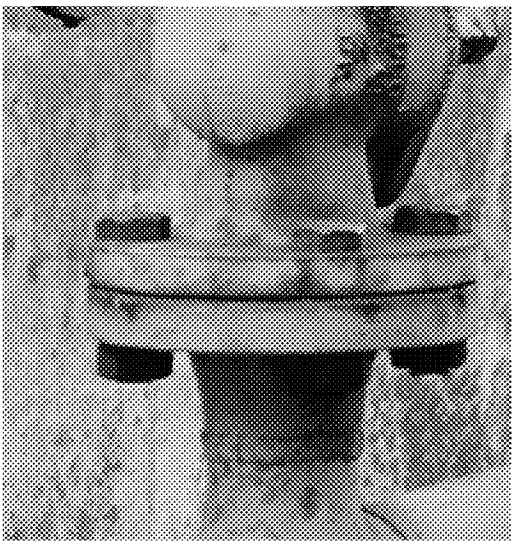






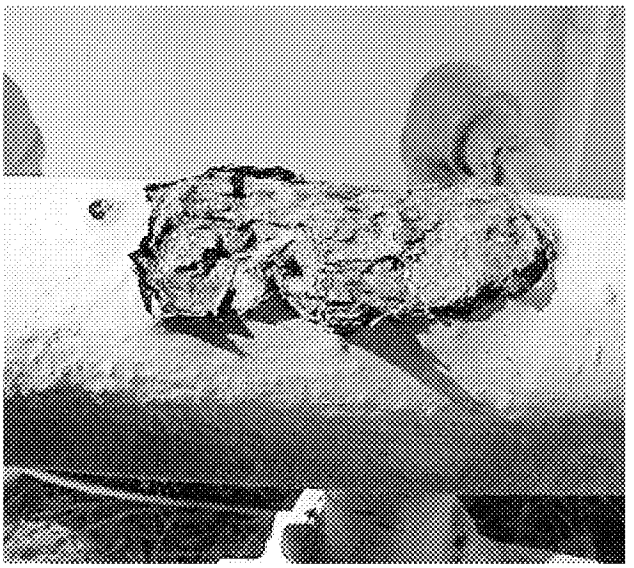


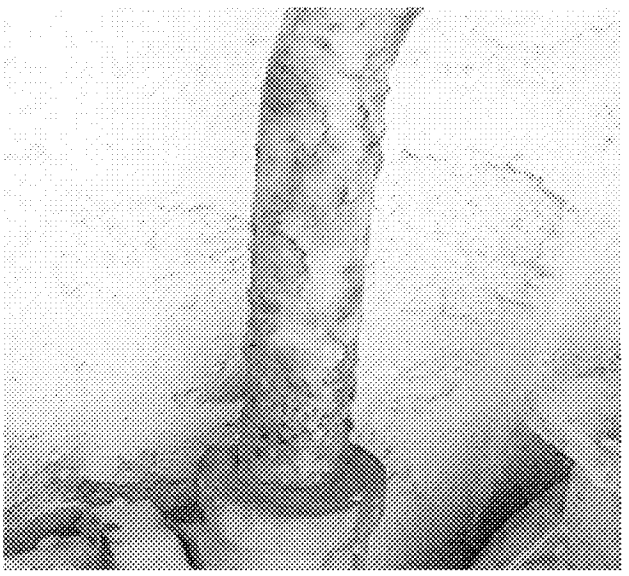


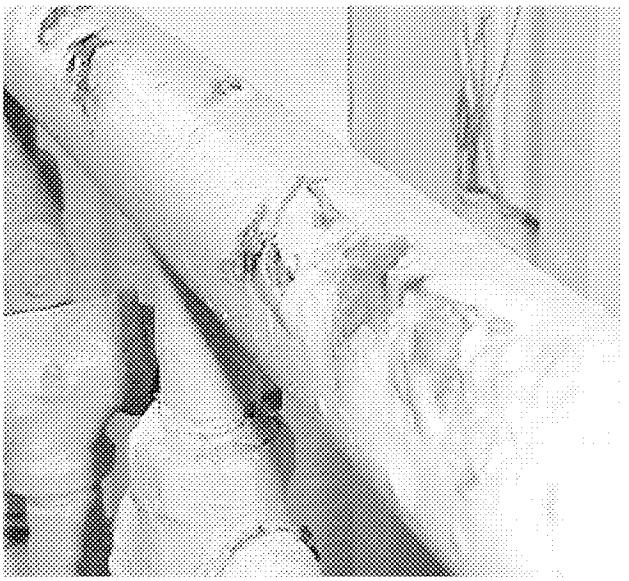


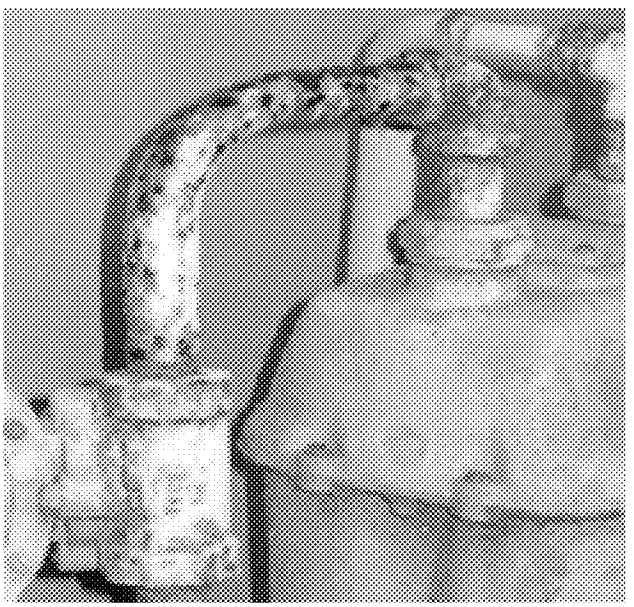
Supplemental Information for Performing AC Inspection of HPR-Type Stations

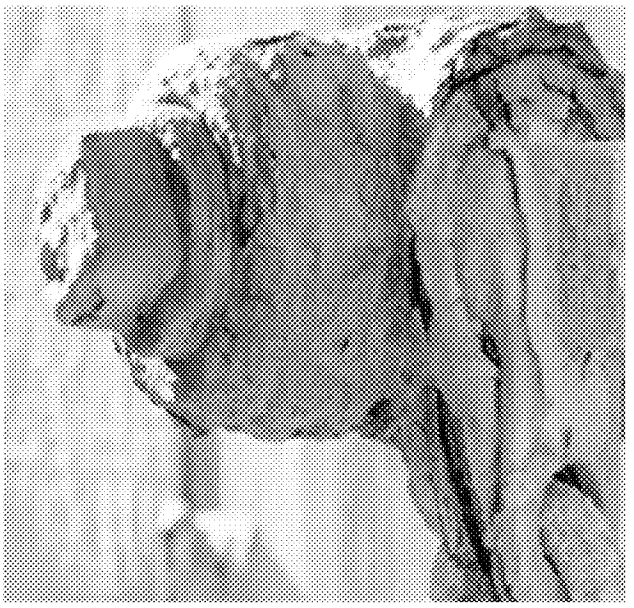
Atmospheric Corrosion compromises the integrity of the pipe, as it diminishes wall thickness of pipe. It consists of scaling, pitting, and/or blistering. Below are examples of atmospheric corrosion conditions that may require repairs:

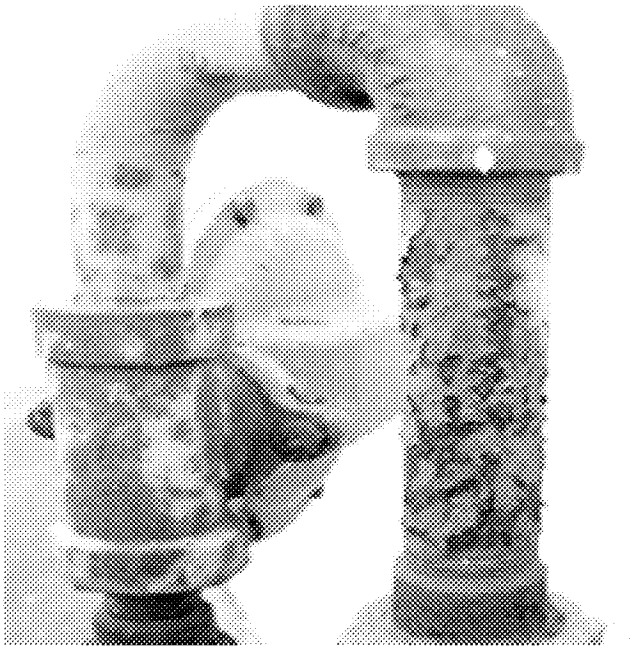












Measuring Level of Corrosion

Once it has been determined Atmospheric Corrosion is present, the wall thickness needs to be measured. Attached is a table with Pipe sizes, wall thickness, and the maximum pit depth that is compliant.

Pipe Size	Wall Thickness	Max Pit Depth Transmission	Max Pit Depth Distribution
1/4"	0.119	0.024	0.083
1/2"	0.147	0.029	0.103
3/4"	0.113	0.023	0.079
1" 0.133		0.027	0.093
1-1/4"	0.14	0.028	0.096
1-1/2"	0.145	0.029	0.102
2" 0.154		0.031	0.108
3" 0.216		0.043	0.151
4" 0.237		0.047	0.166
6" 0.28		0.056	0.196
8" 0.322		0.064	0.225
10"	0.365	0.073	0.256
12"	0.375	0.075	0.263
16"	0.375	0.075	0.263
18"	0.375	0.075	0.263
20"	0.375	0.075	0.263
22"	0.375	0.075	0.263
24"	0.375	0.075	0.263
26"	0.375	0.075	0.263
30"	0.375	0.075	0.263
34"	0.375	0.075	0.263
36"	0.375	0.075	0.263
42"	0.375	0.075	0.263

If the upstream (Transmission) portion of the piping has pitting with a depth equal to or greater than the above value, contact Pipeline Engineering to evaluate.

For example: On a 2" pipe, a pit depth measurement is taken, and pitting is found to be 0.036" deep. This is would indicate pitting that is deeper than the maximum according to the table above. This HPR needs to be reported to the T&R supervisor, so that Pipeline Engineering can be contacted.

If the downstream (Distribution) portion of the piping has pitting with a depth equal to or greater than the above values, corrective work beyond wax taping is needed. A GC notification needs to be created.

For example: On a 1-1/2" pipe, a pit depth measurement is taken, and pitting is found to be 0.111" deep. This would indicate pitting that is deeper than the maximum according

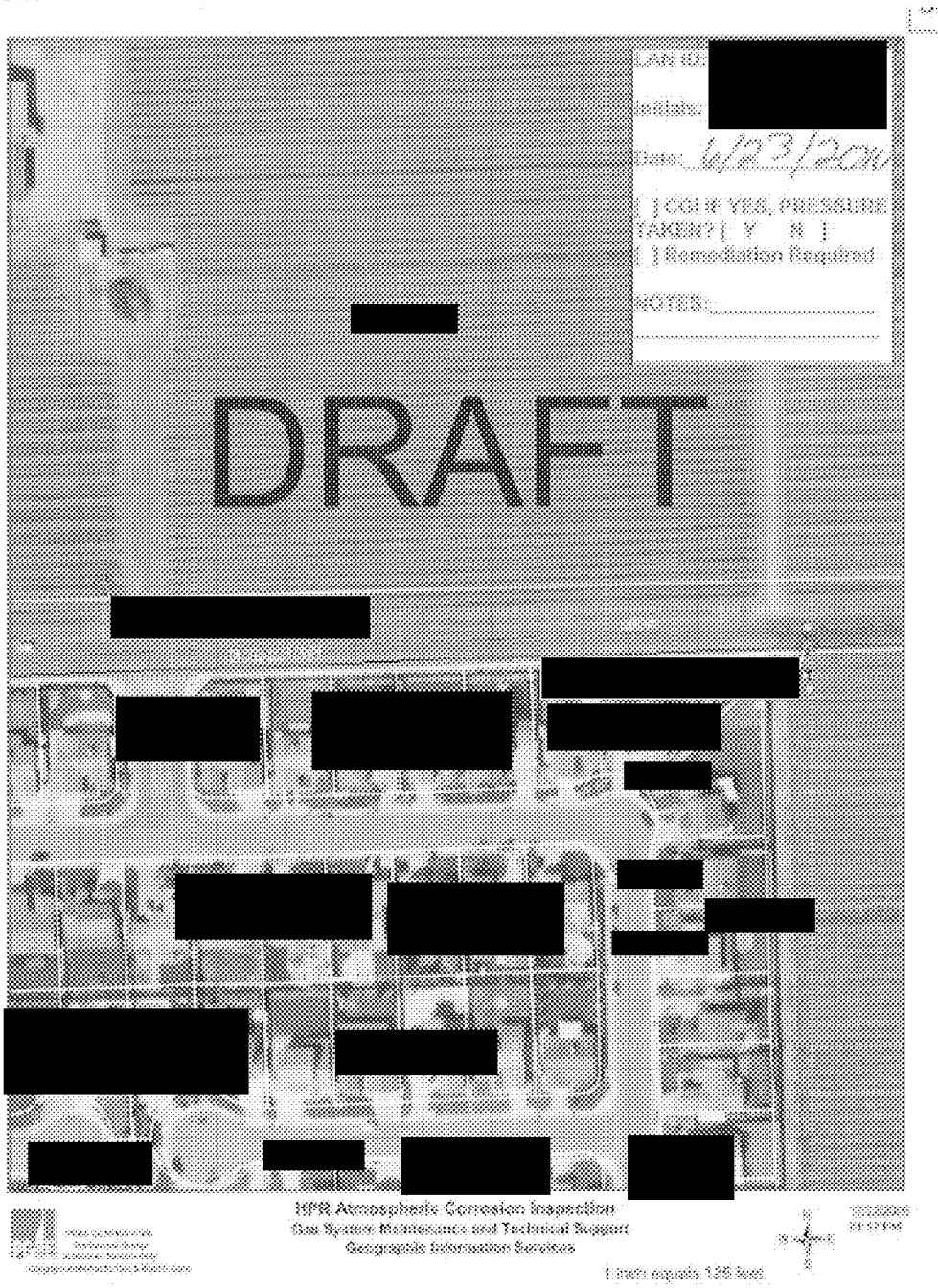
the table above. A GC Corrective Work Form needs to be filled out so a GC notification can be created in SAP to remediate this HPR.

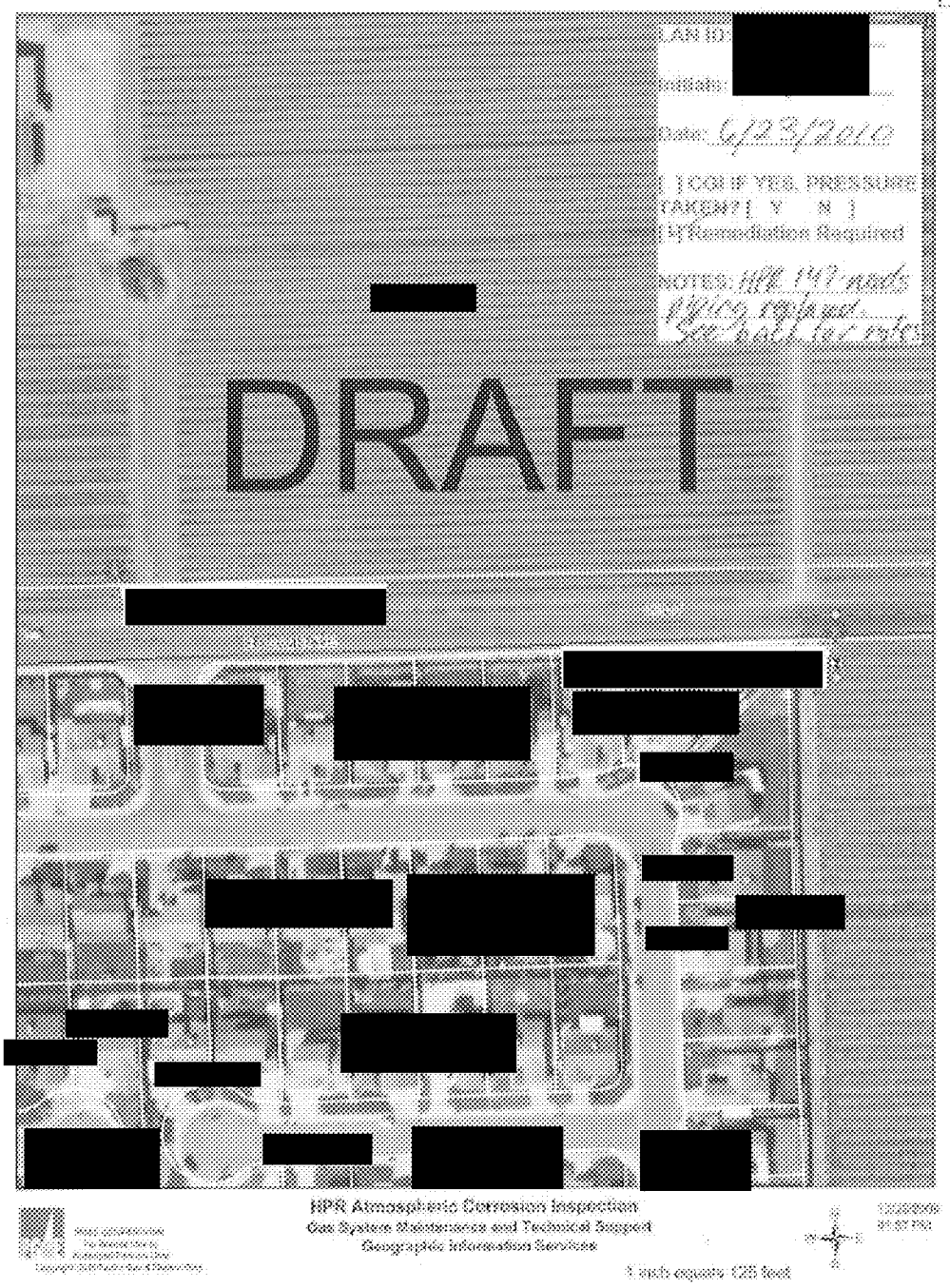
If Atmospheric Corrosion is present, but the pit depths are less than the above values, recoat with wax tape.

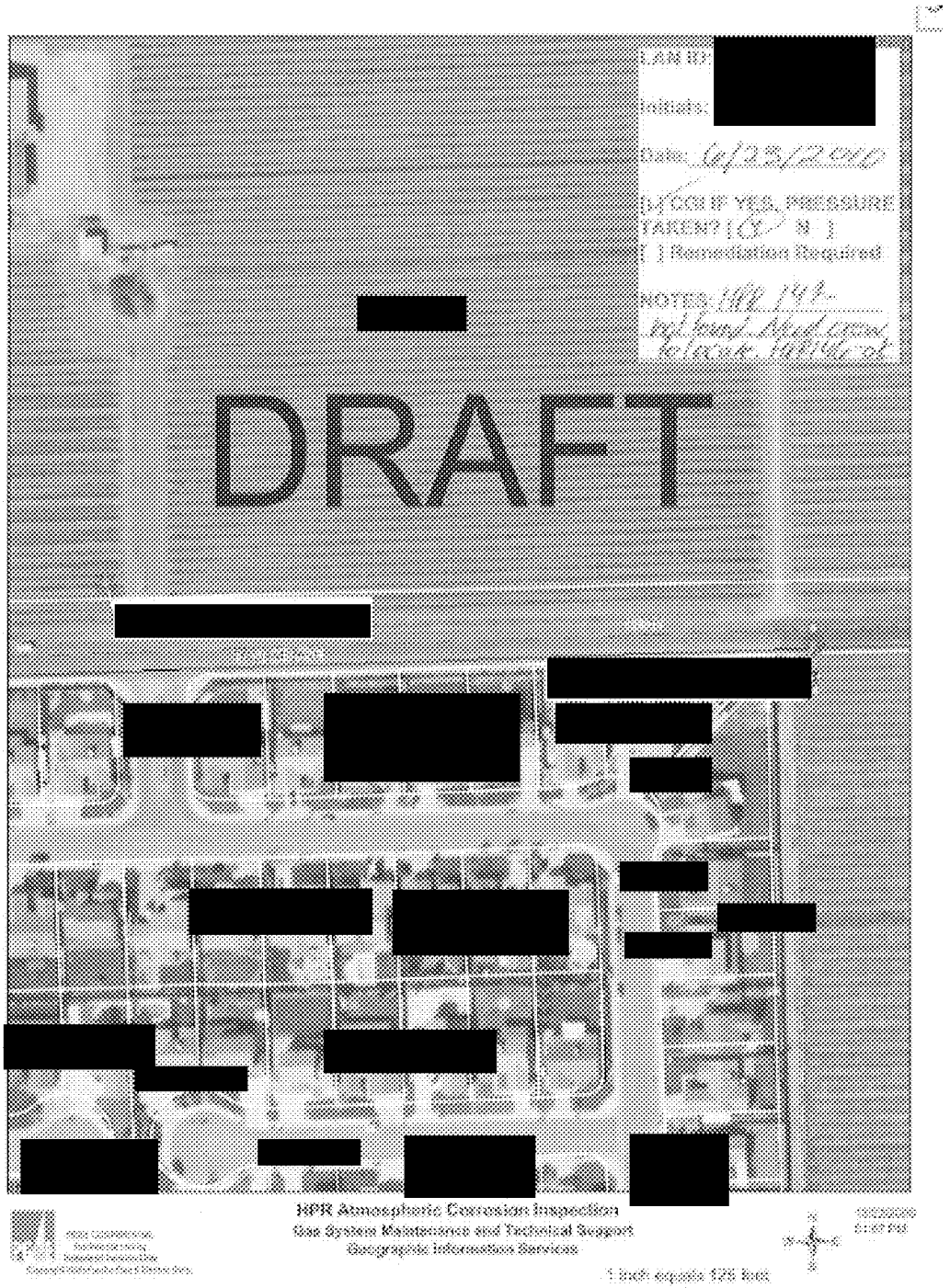
For example: On a 4" upstream (Transmission) pipe, a pit depth measurement is taken, and pitting is found to be 0.039" deep. This would indicate pitting that is not deeper than the maximum according to the table. Recoat with wax tape. This does not warrant a GC Corrective Work Form, as this work is considered part of the inspection.

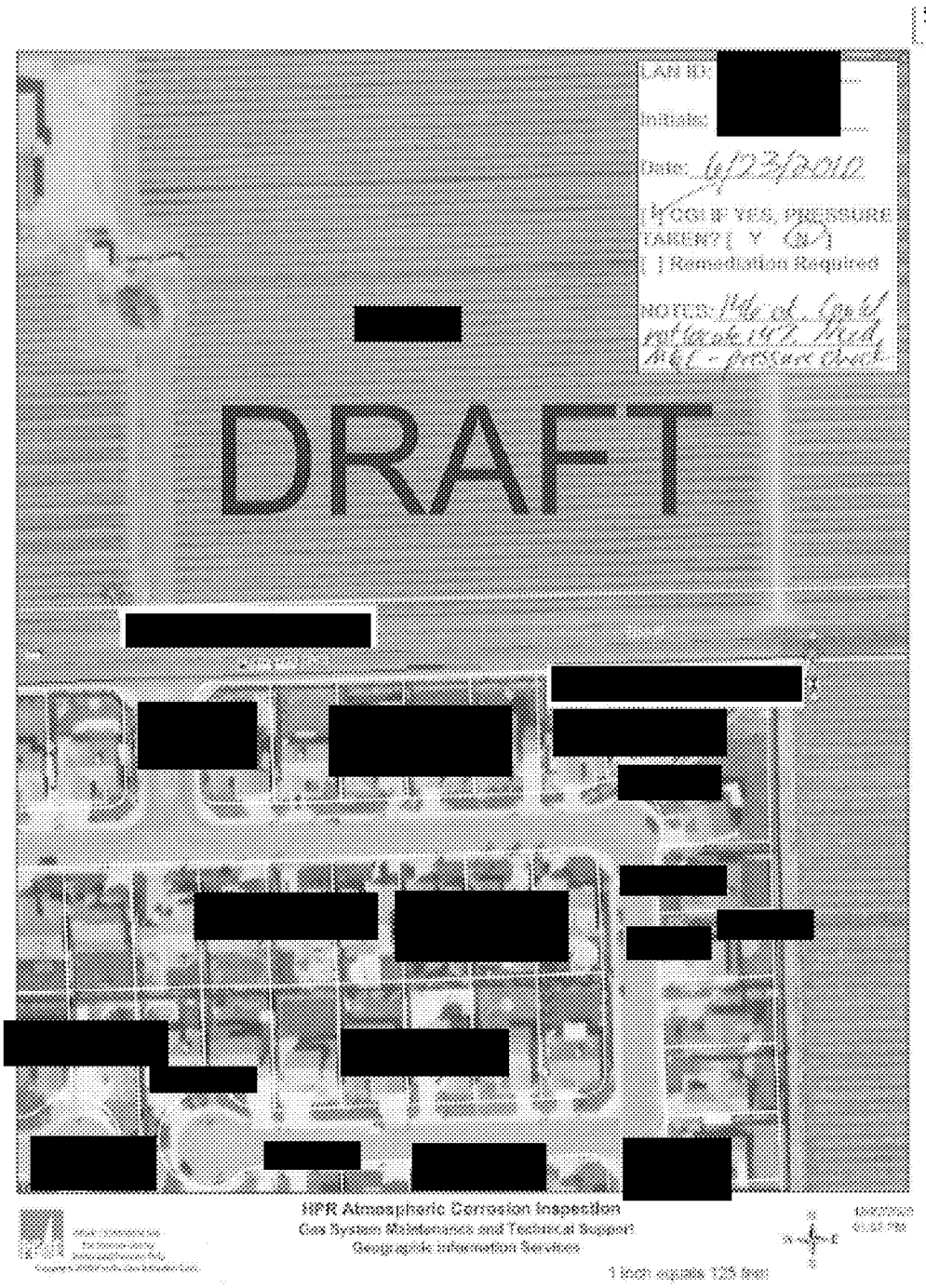
Documentation

Fill out the Stamp on each HPR Atmospheric Corrosion Inspection Map with non-erasable ink. You may use the back of the map to include additional notes. See examples below:




DRAFT
HPR Atmospheric Corrosion Inspection
Gas System Maintenance and Technical Support
Geographic Information Services


DRAFT
HPR Atmospheric Corrosion Inspection
Gas System Maintenance and Technical Support
Geographic Information Services


DRAFT
HPR Atmospheric Corrosion Inspection
Gas System Maintenance and Technical Support
Geographic Information Services

Fill out Corrective Work Form if Expense Work is Required

If an HPR needs remediation beyond recoating with wax tape or paint, fill out a Corrective Work Form. The majority of CWF's created from HPR Atmospheric Corrosion Inspections will be priority G – Maint. Compliance. This indicates work that must be performed to ensure that our assets remain in code compliance. In rare instances a HPR may be discovered that requires immediate action, and this CWF would be filled out after the fact with a priority of A – Emergency Unsafe Condition.

Follow the guide below when filling out the CWF:

CORRECTIVE WORK FORM
GAS DISTRIBUTION

ORDER #:

NOTIFICATION #:

Use Distribution form if Service less than 60lbs

CREW

1. PROBLEM DESCRIPTION:

2. STREET ADDRESS: Enter a Street Address

3. CITY: Enter City

4. STATION NAME/NODE CPA NO:

5. TECH ID/BADGE NO:

6. PLAT MAP NO:

7. COMMENTS (LONG TEXT): Fields above and Comments are Important to Correct Notification Creation

8. HOW WORK WAS IDENTIFIED:

- CORRECTIVE MAINTENANCE
- CPUC AUDIT
- LEAK SURVEY
- MAJOR EVENT
- INOPERABLE EQUIPMENT

9. ADDITIONAL INFORMATION:

10. STATUS OF NOTIFICATION:

- CANCELLED
- COMPLETED

11. GC NOTIFICATION (GAS DIST – CORRECTIVE)

GR NOTIFICATION (GAS DIST – PROJECT)

12. PRIORITY:

13. WORK TYPE CODE:

14. CREW CLASS:

15. DURATION NEEDED: MHRH

CREW CLASS: For assistance refer to JA_609 Crew Classes on the Gas T&D Toolkit

DURATION NEEDED: MHRH

CREW CLASS:

DURATION NEEDED: MHRH

16. REPORTED BY (LAN ID):

17. EST. MATERIAL COST: $

18. REQUIRED START DATE: / /

19. REQUIRED END DATE: / /

20. TECHNICAL INSPECTION BY (LAN ID):

21. DATE: / /

22. ACTUAL LABOR HOURS:

23. SUPERVISOR

Task: Completed By:

REVW: Supervisor Reviewed/Approved by (LAN ID):

Comp. Date:

LOCAL HEADQUARTER CLERK

24. PLAT SECTION/COUNTY:

25. LOCATION/DIVISION:

26. MAIN WORK CENTER:

27. EQUIPMENT LOCATION: GD

material redacted

Supplemental Information for Performing AC Inspection of HPR-Type Stations

When filling out a GC Corrective Work Form for this type of work, there are many fields that will commonly have similar information, no matter the specific HPR being inspected. Here are some commonly used values:

1. Problem Description – always begin with "HPR AC Inspection", so that the work can be easily found in SAP. Then, input the address of the HPR. For example, a Problem Description would look like "HPR AC Inspection 1101 Roosevelt Danville.
7. Comments (Long Text) – is the reason the corrective work is needed. Input the pit depth, condition of components, or other reasons in this area. For example: "Active corrosion found on relief valve and on downstream piping. Pit depth v measured above maximum."
8. How was work identified – always choose "CPUC Audit" for HPR AC inspections.
11. Always select GC Notification.
12. Priority – generally "G = Maint. Compliance" will be selected, unless an emergency situation was encountered, corrective work was done, and the GC Corrective Work Form is being filled out after the corrective work has been completed (this will happen in rare instances when the relief is blowing or there is a severe leak found during the inspection). If emergency work is completed, select priority "A = Emergency Unsafe Condition".
13. Work Type – select 609 if the meter being fed by the HPR is over 1000 CFH, or 610 if the meter is under 1000 CFH.
14. Crew Class – indicate if a T&R and/or Construction crew is needed.
15. Duration - Estimate the total man hours needed to complete the work.
16. Reported by – enter the LAN ID of the person who inspected the HPR.
20. Technical Inspection By – if the work has already been completed, enter the Foreman's LAN ID.