

National Radio Astronomy Observatory
Socorro, New Mexico
VLBA Antenna Memo #73

North Liberty, Iowa VLBA Maintenance Visit April 30-May 7, 2008.
Team members consisted of Steve Aragon, Eric Carlowe, Ray McFarlin,
and Phillip Sanchez. VLBA Site Technicians Mike Burgert and DJ Beard
assisted in all areas of antenna maintenance.





Sub reflector paint is beginning to flake off. FRM was given a thorough inspection. The focus flex was replaced. The FRM is well lubricated.



Dish panels are in good condition. The feed cone's elastomeric paint is holding up well. The feed cone was sealed and painted back in 9/2003.



Dichroic reflector is in good condition. Ellipsoid reflector is in good condition. Dichroic reflector actuator operates correctly.



The new IF Cable Wrap was installed and tested.



The Site Onan 75KW Generator radiator was repaired while the antenna was down for maintenance.

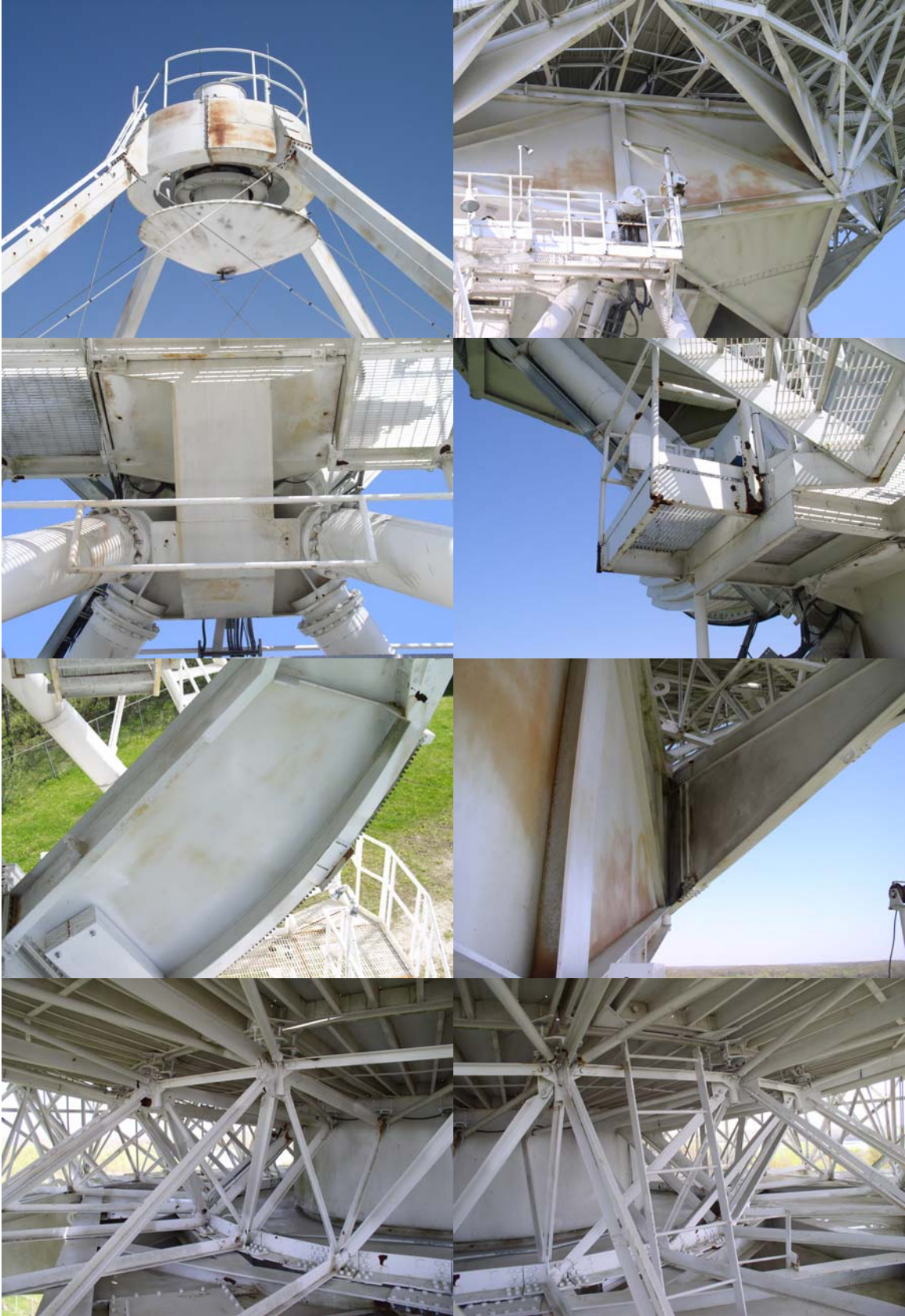
AZIMUTH BEARING GREASE INSPECTION

	INNER BEARING	OUTER BEARING
D1	New Wheel.	New Wheel.
D2	New Wheel.	New Wheel.
I1	Good, no metal.	Good, no metal.
I2	Good, no metal.	Good, no metal.
All bearings are very well lubricated.		

ELEVATION BEARING GREASE INSPECTION

Encoder	Good grease with no metal flakes.
Synchro	Good grease with no metal flakes.
All bearings are very well lubricated.	

Pintle bearing is well lubricated with no metal flakes.





The Antenna could use a paint job. Paint is flaking off and surface rust is affecting most of the Antenna structure.



Azimuth #1 Wheel assembly was replaced. The new drive wheel assembly rotated smoothly without any popping or grinding noises.

	MEASURED	SPECIFIED
Conic Radius	299.893	300.00 +/- .25
Coupling Runout	.001	<.005
Vertical	93.463	93.440 +/- .023
Horizontal	.004	<.023



Grout is beginning to break up fall out from under the rail at bolt numbers 71 and 72.

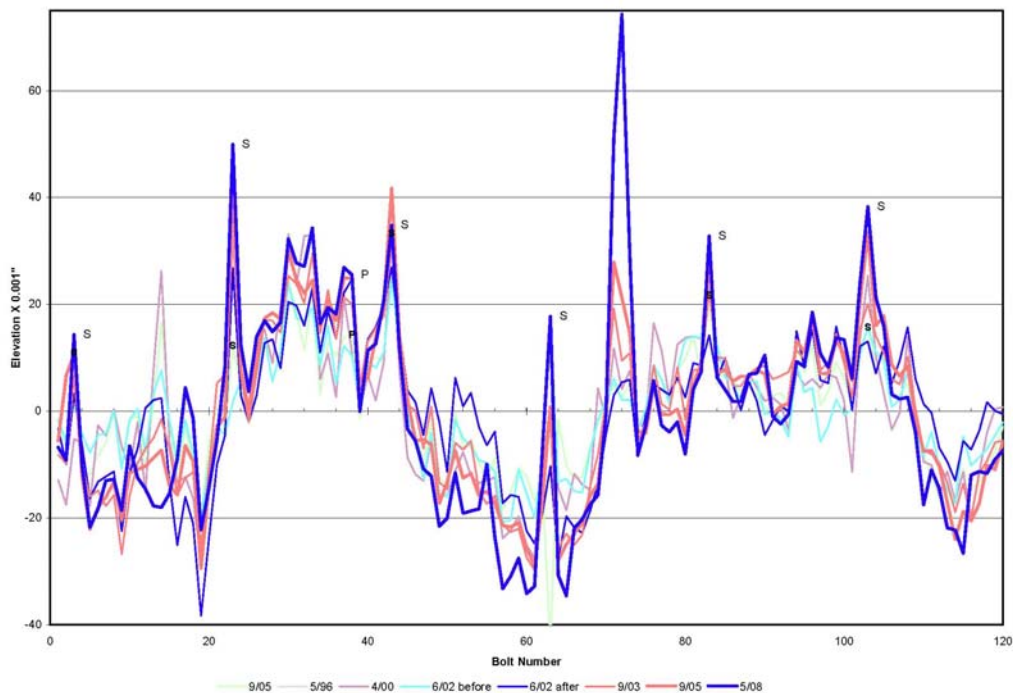


Grout is cracking and has fallen out at both ends of this rail splice. Bolt numbers 65 and 62.



Grout has deteriorated from under the rail at bolt numbers 55 and 54. Rail clip bolts are broken at 34, 39 and 54.

North Liberty Az Rail Elevations
First Order Tilt Removed



North Liberty's Rail Elevations. The Rail at bolt numbers 71 and 72 is failing and should be repaired before this upcoming winter.