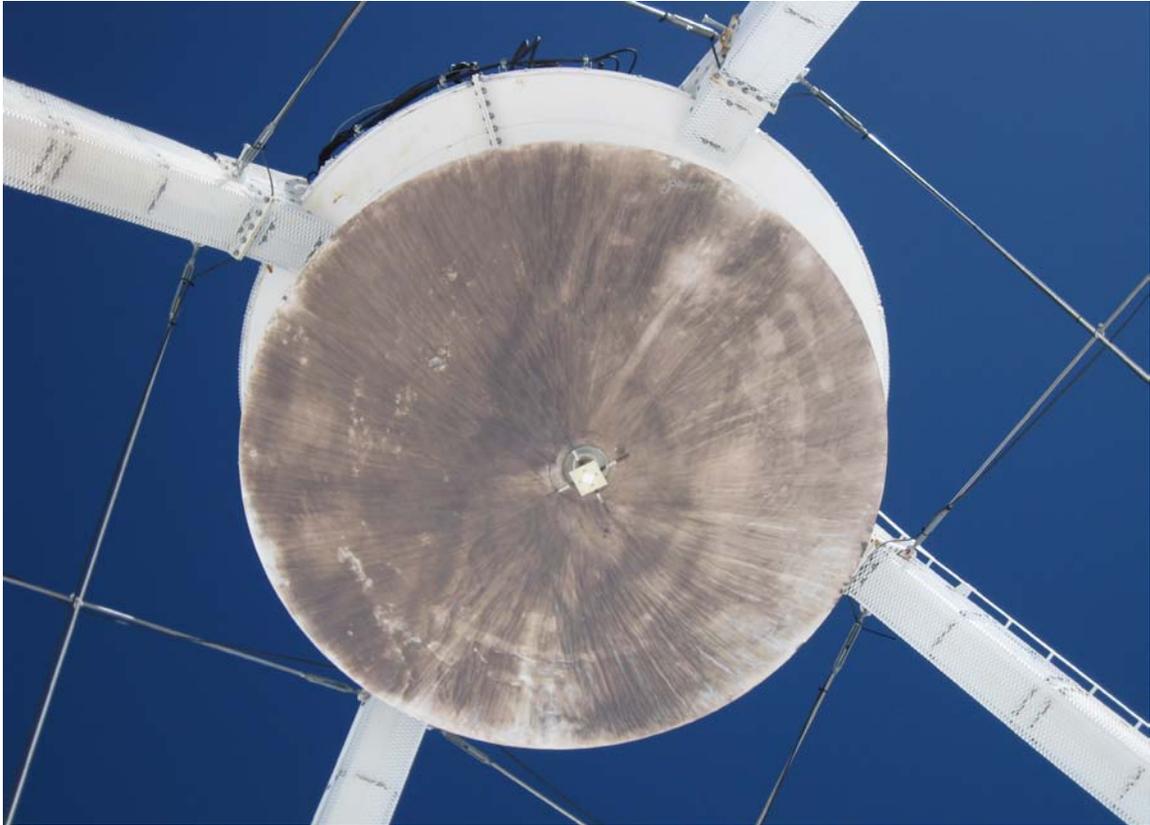


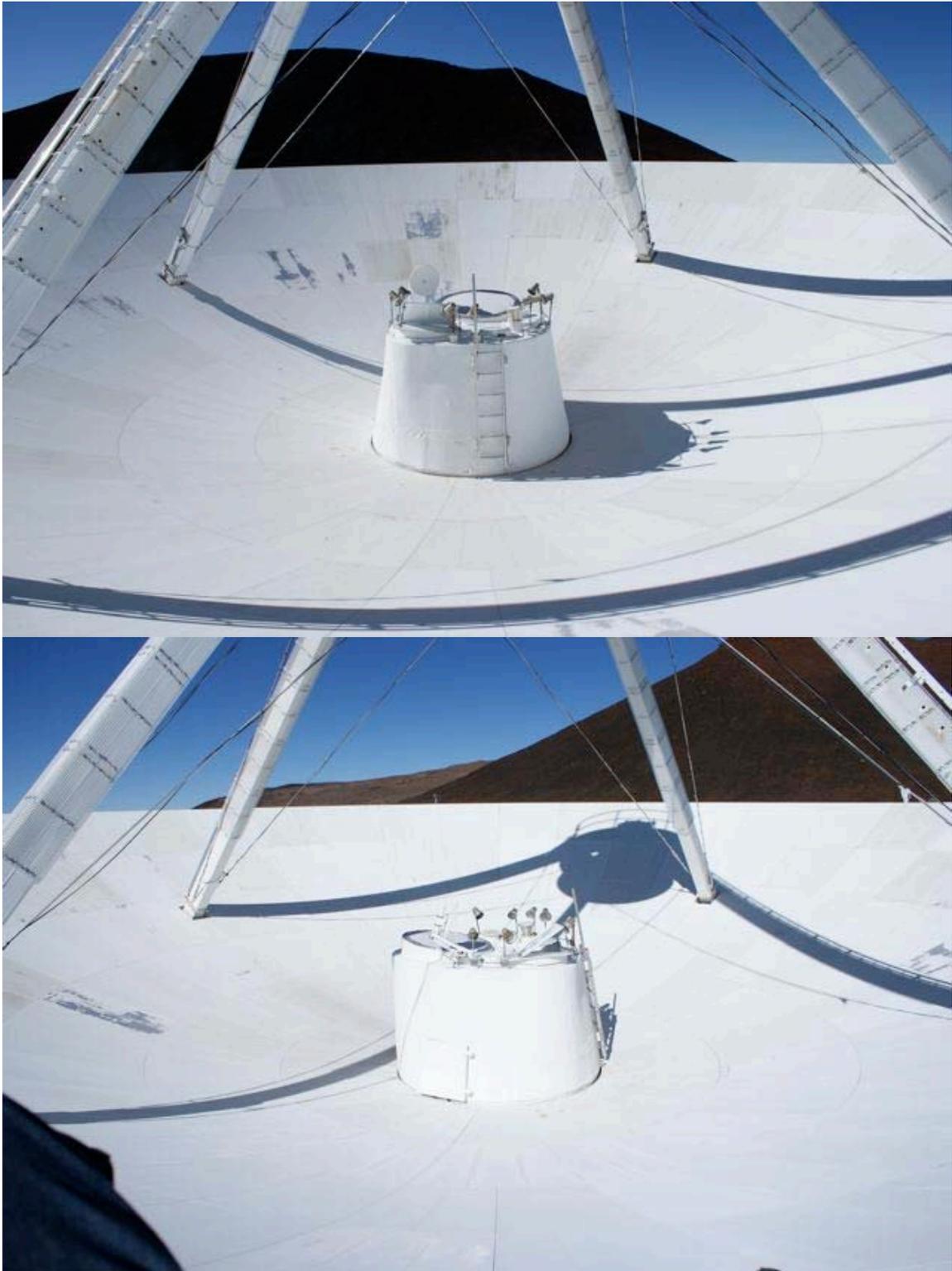
National Radio Astronomy Observatory
Socorro, New Mexico
VLBA Antenna Memo #79

Mauna Kea, Hawaii, VLBA Maintenance Visit September 22- October 2, 2009. Team members consisted of Eric Carlowe, Ramon Gutierrez, Martin Lopez, Ken Lakies, Ray McFarlin and Phillip Sanchez. VLBA Site Technicians Bill Hancock and Tony Sylvester assisted in all areas of antenna maintenance throughout the visit.





The Sub Reflector paint is beginning to flake off in spots.



Dish panels are in good condition with only a few minor dents.



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



Azimuth #1 motor and Elevation #2 motor were replaced.



The FRM was given thorough inspection and the focus flex shaft was replaced.



The grease from the Synchro side Elevation bearing has small brass and steel particles. This bearing will need to be replaced sometime in the future.



During the AZ grease inspection Idler wheel #2 outside bearing revealed a lot of metal and was replaced.

AZIMUTH BEARING GREASE INSPECTION

	INNER BEARING	OUTER BEARING
D1	New Wheel.	New Wheel.
D2	New Wheel.	New Wheel.
I1	Good, no metal.	Few small metal flakes.
I2	Good, no metal.	Replaced.

All bearings are very well lubricated.

ELEVATION BEARING GREASE INSPECTION

Encoder	Good grease with no metal flakes.
Synchro	Lots of brass and metal flakes.
All bearings are very well lubricated.	

Pintle bearing is well lubricated with no metal flakes.



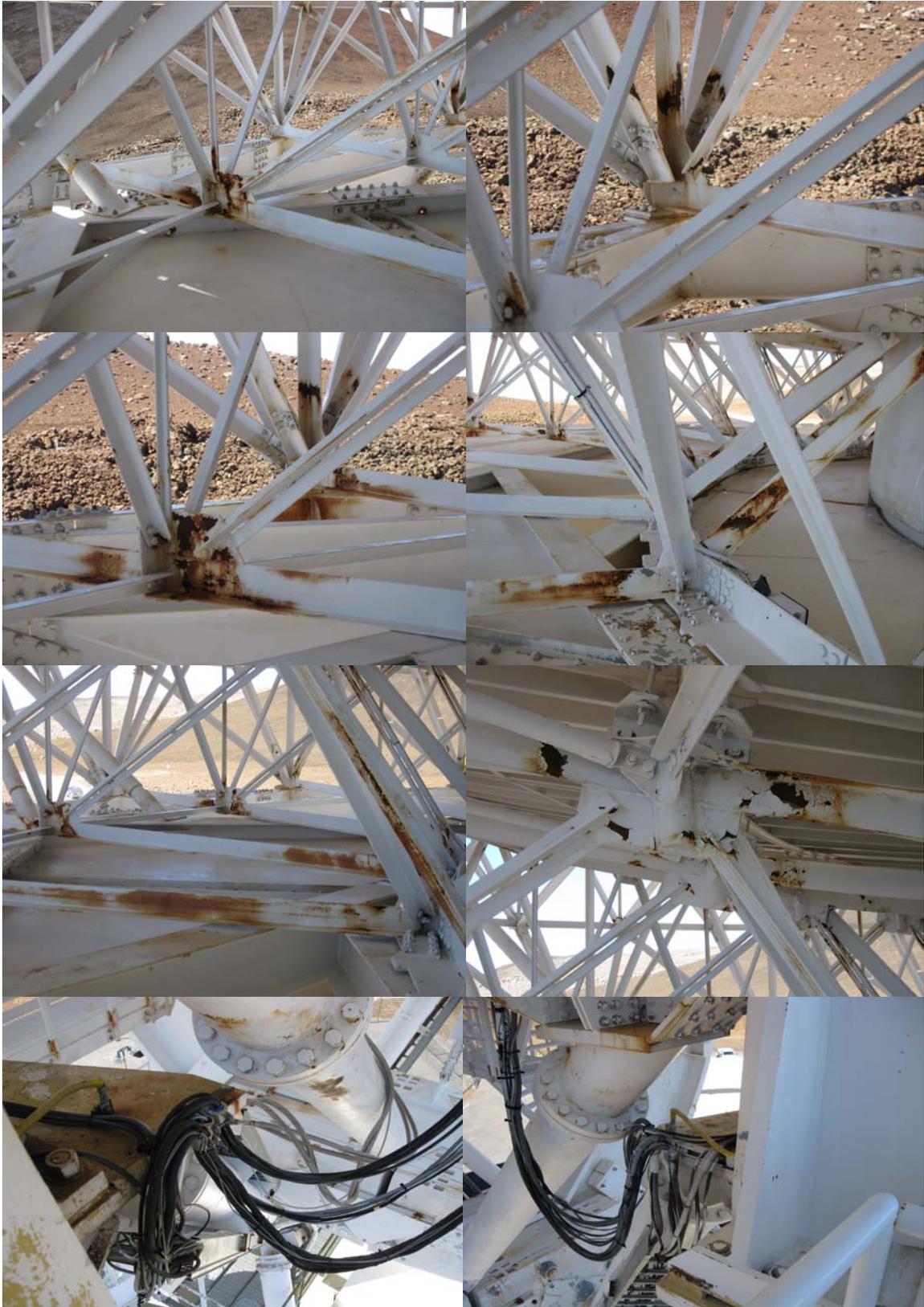
Elevation axle has no visible signs of cracks. Paint is in fair condition with surface rust.



The feed heaters and FE windows are in good condition. Apex paint is in good condition.



Antenna backup structure is in good condition. Paint is in fair condition with lots of surface rust.



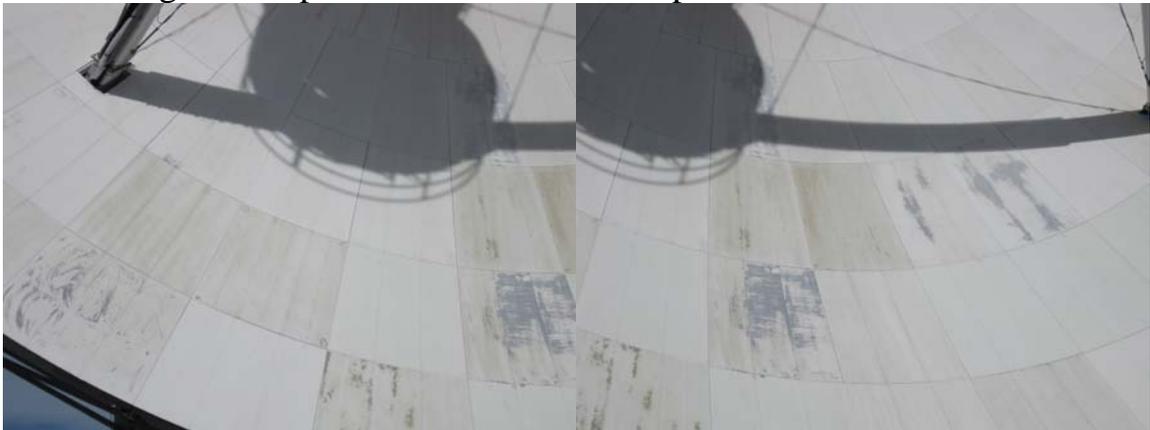
Surface rust is mainly found on the backup structure. Elevation axle cable wraps are in good condition. Page 7



The DBE rack and cables were installed. Techs installed the sites MK5 in the new rack.



The feed cone insulation and ladder were damaged during the 2009 winter. This damage was repaired and the feed cone painted with elastomeric.



The paint is deteriorating on several dish panels.

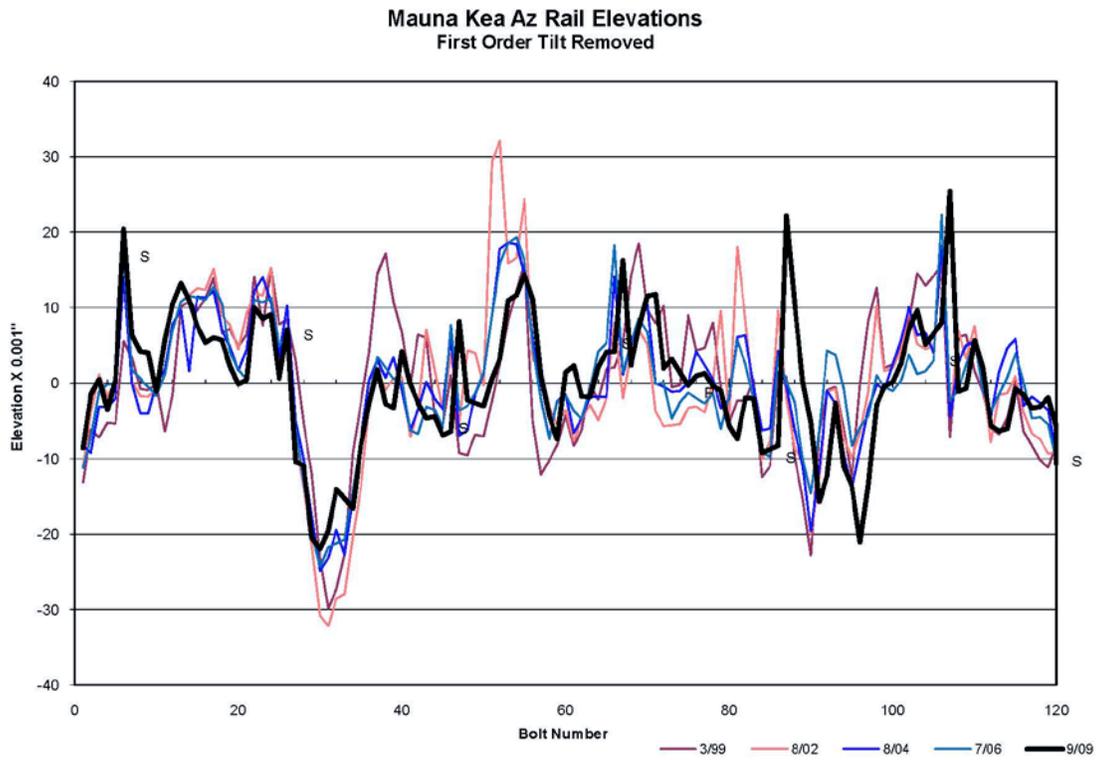


Azimuth #2 Drive Wheel assembly was replaced. The new drive wheel assembly rotated smoothly without any popping or grinding noises.

	MEASURED	SPECIFIED
Conic Radius	300.185	300.00 +/- .25
Coupling Runout	.004	<.005
Vertical	93.445	93.440 +/- .023
Horizontal	.020	<.023



The Mauna Kea rail is in good condition.



Mauna Kea Rail Elevations.