

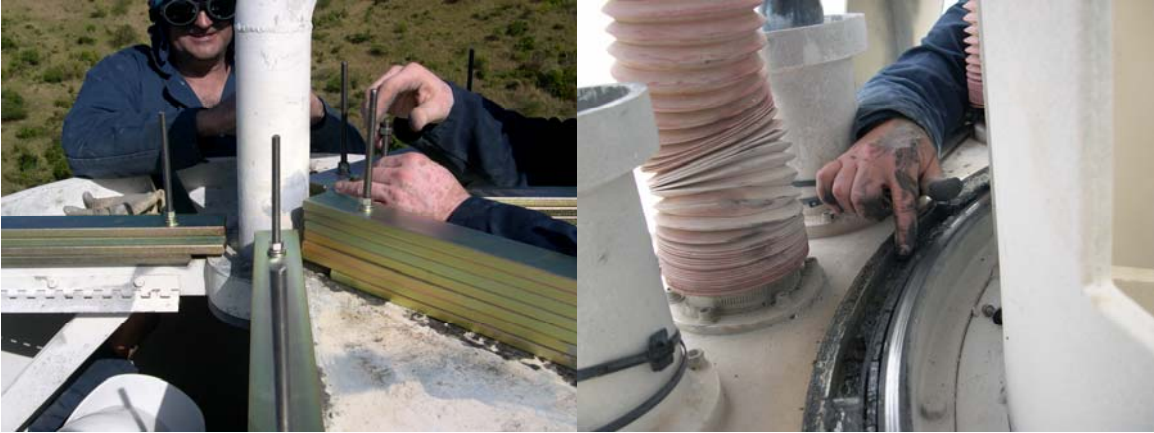
National Radio Astronomy Observatory
Socorro, New Mexico

VLBA Antenna Memo #59

Saint Croix, VI. VLBA Maintenance Visit April 4th thru April 22nd 2005.

Team members consisted of Steve Aragon, Eric Carlowe, Kelly Greene, Ken Lakies, Bob McGoldrick and Phillip Sanchez. VLBA Site Technician Greg Worrell assisted in all areas of maintenance during the visit. A task list is attached.





Sub reflector needed rebalancing. During the FRM inspection a broken INA bearing segment was found and repaired. The INA cap seal was replaced.

FRM INA BEARING CHECK 50LBS PULL ON EAST MOTOR

| | | | |
|--------------|--------|--------------|------|
| East Travel: | + .002 | West Travel: | .000 |
|--------------|--------|--------------|------|

FRM INA BEARING CHECK 50LBS PULL ON WEST MOTOR

| | | | |
|--------------|--------|--------------|--------|
| East Travel: | - .002 | West Travel: | + .001 |
|--------------|--------|--------------|--------|



Sub reflector is in fair condition. The outside edges are soft, (spongy) and delaminating. Three 1 inch holes were drilled in the center of the reflector for extra drainage.



The feed cone was leaking into the vertex room. 5 gallons of elastomeric paint and 2 cases of caulk were used to seal it above and below the panels. The dish panel's paint is in good condition.



The ellipsoid actuator was replaced. Ellipsoid and the dichroic reflectors were aligned and are in good condition.



New digital tachs were installed on EL and AZ motors. Azimuth #1 and Elevation #2 motors were replaced. The ACU backplane upgrade was installed and tested.



Both the encoder and synchro side elevation cable wraps were severely corroded. Stainless steel uni-strut was used to hold the new strain relief brackets in place.

AZIMUTH BEARING GREASE INSPECTION

| | INNER BEARING | OUTER BEARING |
|---|--------------------------|--------------------------------------|
| D1 | OK | OK |
| D2 | Small scratches in race. | OK |
| I1 | OK | Small metal flakes, small scratches. |
| I2 | OK | OK |
| Pintle bearing is well lubricated with no metal flakes in grease. | | |

ELEVATION BEARING GREASE INSPECTION

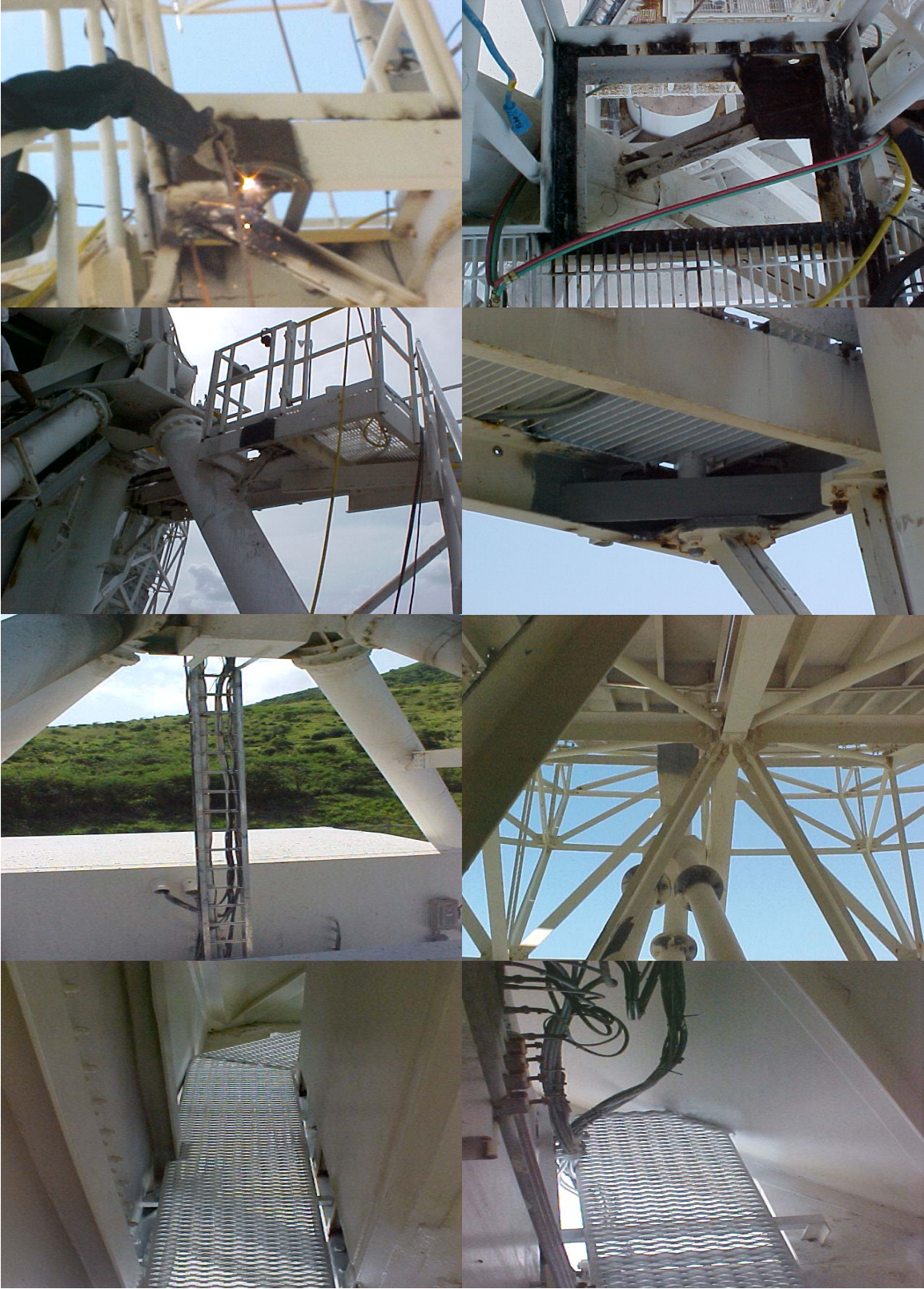
| | |
|---------|-----------------------------------|
| Encoder | Good grease with no metal flakes. |
| Synchro | Good grease with no metal flakes. |



The feed cone leak had damaged part of the vertex room floor tiles. The floor was repaired and sealed, then covered with deck paint.



Rust holes were repaired in the ladder quad leg above and below the dish surface. All quad legs were inspected, patched and painted with rust bullet.

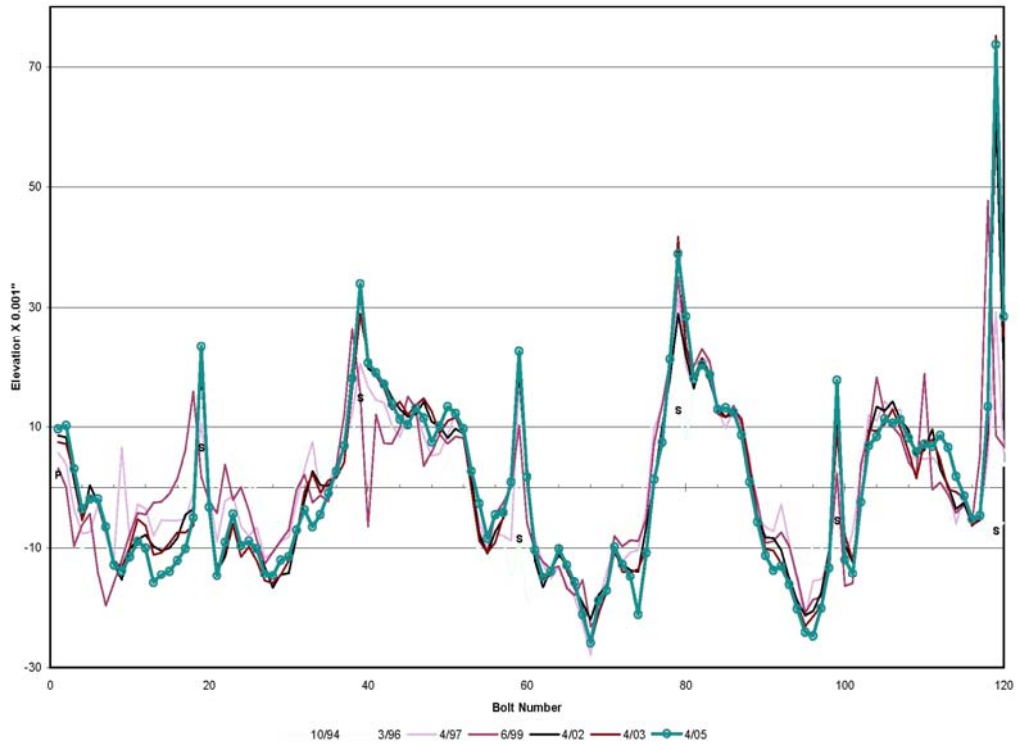


A tremendous amount of corrosion repair was accomplished. Much more work is still needed.



Site techs have done a great job removing vulchem and painting rail clips and splices. Overall the rail is in good condition.

St Croix Az Rail Elevations
First Order Tilt Removed



It appears the rail splice at bolt # 119 the failing.