



# “THE READOUT”

## Stanislaus Amateur Radio Association

JULY 2009

**2009 OFFICERS:**

<u>President:</u>	Rick Lopez KF6TEZ
<u>Vice President:</u>	Alton Carpenter KD6YWO
<u>Secretary:</u>	Davona Miiller KF6TSY
<u>Treasurer:</u>	Bob Kimball KC6TVE

### MEMBER SPOTLIGHT



#### KF6BPC JIM KATAOKA

This year has been a very special year for Jimmy. He joined the 80-year old club in June. Happy Birthday Jimmy! In this picture to the left – you find him making his famous bacon!



Jimmy became a technician plus May 31, 2000 and on December 29, 2005 he was granted his general. Jimmy has been very active in the SARA club and has been one of our VEC/Coordinators with LAUREL and W5YI. He was extremely instrumental in the Saturday night KD6YCB Memorial BBQ which we all still recognize today. Born in Santa Maria, CA – he was in the trucking business for thirty years plus. He also made boxes for pears, apricots, cherries, etc. for around ten years. He has really enjoyed helping with all the bike rides and continues supporting the club by being our official photographer! Thank you Jimmy for you many years of service to the SARA club.



# History Stanislaus Amateur Radio Association

By Bob Pinheiro, WA6ZLO

Sometime in 1975 Chet Jensen, W6XK, was in QSO with Dave Metts, WA6MNM who at the time lived in the Los Angeles area. During the conversation Dave mentioned that he was a broadcast engineer and inquired about any jobs in the Modesto area. Chet told Dave that Channel 19 in Modesto was looking for a Chief Engineer. Channel 19 was owned by Chester Smith and operated from studios on Iowa Ave west of Modesto. Their transmitter was located on Mt. Oso in the Coast Range Mountains west of Westley, CA.

Dave applied for the job and was hired. Shortly thereafter Dave hired his friend Chuck Dort, K6PSJ, as his assistance engineer.

Back in those days FCC regulations required close monitoring of remotely located transmitters that required Dave and Chuck to make weekly trips to Mt. Oso. Channel 19's transmitter was located in a small building constructed on the ridge just south of the South Peak of Mt. Oso. The elevation was right at 3,000 feet. A small tower was erected next to the building to hold the TV antenna.

To reach the top of Mt. Oso required Dave and Chuck, and other radio technicians, had to travel over what is known as the Ingram Creek road, a dusty rough private dirt road that made it's way from the beginning at Interstate highway 5 at the Westley off ramp the 13 miles to the top of Mt. Oso.

The road passed over the property of 3 different land owners, Ed Filbin and his family at the bottom, the Gerber family in the middle and the top which belonged to the Fisher family.

During their many trips to the top Dave and Chuck became well acquainted with the Paul Gerber and his son-in-law and at one point installed a CB radio system in their homes and vehicles for communications on their ranch which covered hundreds of acres in the area.

Dave and Chuck, both active hams at the time, were aware of the fact that Modesto did not have a 2 meter repeater. The only repeaters in this area at the time was the Stockton repeater, 146.88 MHz and the Turlock ARC repeater, WR6ALG, located on Mt. Bullion near Mariposa. They began thinking of putting on a repeater and what better place to put it than on Mt. Oso, the highest point in Stanislaus County at just over 3000 feet. As best I can recall this was late 1974 when they decided to go for it.

The first task was selecting a frequency pair in the 2M band, which was not going to be an easy task. Back in those days the 2 meter band was only 2 MHz wide, 146-148 Mhz. and the band was full in all most the entire state. After studying the problem for several weeks they decided that they should be able to use 146.73/13 which was a pair sanctioned to the Santa Rosa Amateur Radio Club in Sonoma County. Their thinking was that by pointing several beams directly at Modesto that the repeater would not interfere with Santa Rosa. They decided to go forward with the plan.

Although they never got official permission, they decided they put a repeater inside the Channel 19 building on Mt. Oso and mount antennas on the side of the TV antenna tower. They started to gather and purchase the equipment need including several pieces of surplus equipment belonging to channel 19 that became part of a homebrew repeater. Dave and Chuck contributed many hours of their time and money on the project and on December 10, 1975, WR6AHQ/6 came on the air from Mt. Oso. In those days the FCC required repeaters to be licensed and assigned "WR----" calls. WR6AHQ belonged to Dave Metts and was licensed to a Southern California location. Thus the portable 6 designation was necessary for operation from Mt. Oso.

After several weeks of operation many local hams became aware of the machine and started to order crystals....yes crystals for their 2 meter rigs. I remember the most popular 2M handheld in those days was the Wilson walkie talkie.

Interest and usage of the repeater grew as time went by. After several months of operations Dave and Chuck decided that it was time for local hams to come together and support the machine. Area hams were invited to first meeting which was held on January 29, 1976 at the studios of radio station KBEE located at 13th and I streets next to the Modesto Bee building downtown Modesto. Chet Jensen was working there at the time and made the arrangements for the use of studio A for the evening.

As best I can recall there was around 35 local area hams there. Dave and Chuck explained what had been done and what they hoped to do in the way of improvements with help from the local hams. Dave and Chuck had selected the name Stanislaus Amateur Radio Group as the official name of the group. Donations were made by those in attendance to purchase equipment. It was decided to form a club in order to support the repeater and thus the beginning of the club. Within a few months the name of the club was changed to Stanislaus Amateur Radio Association and name selected by Dave and Chuck.

I don't have a real clear recollection of all the hams that were there for the first meeting but here are the ones I can remember.

W6KU Bob Huff. WA6OYP, Mel McCoy. Clyde Brasher, WB6QJU. Charlie Harding, K6SWW. Jack Smith, WA6OOX. Chet Jensen, W6XK. Cliff Price, W6ERE. Bob Pinheiro, WA6ZLO. Dave Metts, WA6MNM. Chuck Dort, K6PSJ. Jack Scanlon, W6OIN. Hugh Avary, W6CD. Don Butterfield, WA6QWY. Frank Wheeler, W6MMH. Tim Bosma, WB6UJD. Butch Miller, K6LRJ. Cliff Price, W6ERE. Tom Hedges, WB6DSK. Carl Cilker, WB6FZK. Sam Okuye, WB6NVR.

Dave was selected as the first President of the club. He, Chuck and Tim Bosma were named to the technical committee and with the funds by the group Dave and Chuck started to purchase equipment. The first purchase was for Andrews Hard-line to replace the used stuff they had initially installed. They then bought five or six Cushcraft beams which were eventually side mounted on the Channel 19 tower on Mt. Oso.

Records show that the group met on January 29, 1976 in the banquet room at the rear of Sambo's Pancake House at 926 McHenry Ave. Modesto. By that time the membership stood at 24 local hams and donations to that date totaled \$150. Donations were received from Joe Siebert Communications, Don Reichling, W6UGC, Frank Belcher, W6NKX, Jack Scanlon, W6OIN, Bob Pinheiro, WA6ZLO, Mel McCoy, WA6OYP, Chet and Karen Jensen, WA6JRZ and WA6GTC and Dan Cron, W6SBE. The next meeting was scheduled for February 17, 1976 at Sambo's.

The next record we have is of the March 6, 1976 at in the banquet room at the rear of Sambo's Pancake House 926 McHenry Ave in Modesto. I believe the group continued to meet at Sambo's and continued to grow. At that time membership was at 40.

In the meeting announcement for the May 19, 1976 meeting at Sambo's, the membership had grown to 30 and items to be discussed at the meeting included RACES, incorporation and bylaws. More slides of the repeater were shown.

In July of 1976 paid members was at 43 and the next meeting at Sambo's was on July 21, 1976. The main topic of discussion was touch-tone interfacing for the planned auto patch to be installed on the repeater. Additional donations were requested to fund 450 MHz equipment needed for the auto patch because no there were no telephone lines on Mt. Oso.

A one page newsletter was published in early September 1976 announcing the next meeting of the group was set for September 22, 1976 at Sambo's. The announcements indicated that an auction was being planned to bring in more funds and an election of officers would take place. Weekly nets were established about this time on Wednesday nights at 8 PM.

I could not find any more records after September 22, 1976 until the first club newsletter was printed on December 1, 1977.

In the spring of 1977 friction developed between Dave and Chuck and some of the officers of the club over the operation of the repeater. The club wanted more input into purchases and changes. As I recall additional problems revolved around access to Mt. Oso. The friction heated to the point that unscheduled meeting of club officers and members and Dave and Chuck was held at the Sundial Restaurant on McHenry. At this meeting Dave and Chuck invited the son-in-law of land owner Paul Gerber. All I can remember about the meeting was that Dave and Chuck were very unhappy at the developments and told the club that they (Chuck and Dave) were the only ones authorized to use the road to Mt. Oso and specifically that portion that passed over the Gerber Ranch and Gerber's son-in-law confirmed the information.

Relations with Dave and Chuck from this point on deteriorated rapidly which led to Dave and Chuck deciding to severe relations with the club and they shut down the repeater and removed it from Mt. Oso on May 15, 1977. It was at this time that Dave left Channel 19 and accepted a job with McClatchy Broadcasting in Sacramento. The hard-line, beams and a few other items which had been purchased with club money were delivered to my home by Dave and Chuck and dropped off.

I asked Dave if the club could purchase the repeater itself. He was willing to sell the repeater with the exception of the transmitter. He said he had another transmitter which he would install in the system if the club was agreeable.

A meeting of club officers was held and it was decided to purchase the modified repeater from Dave and try to put it back on the air on Mt. Oso. I was asked to handle the negotiations. Dave was contacted in Sacramento and agreed to sell the machine for \$200.



The club borrowed \$100 from Mel McCoy, WA6OYP and \$100 from Bob Huff, W6KU in order to make the purchase. On May 28, 1977, Tim Bosma, WB6UJD and I drove to Sacramento in Tim's van and picked up the repeater.

We knew it was going to be difficult to get the machine back on Mt. Oso because of the access problem over Gerber's property. It became apparent that Dave and Chuck had created a less than favorable impression of the club in the eyes of Paul Gerber and his son-in-law and securing permission to use the road over their property was going to be a big obstacle.

In the interim it was decided to install the machine in Tim's, WB6UJD, garage which was done when we got back from Sacramento on May 28, 1977. It was hooked to a Ringo Ranger on the roof of his garage off El Vista Ave. near Scenic. Needless to say, the coverage was very limited. I remember the machine was down more than it was up. It kept burning up the 6146's in the transmitter final. If I recall correctly, Jack Scanlon, W6OIN, became our club technician about that time. He was a two-way radio tech at the time.

The repeater operated from Tim's garage for a week when we got permission to install the repeater at the tallest building in Modesto at the time, the Reed Center at 12th and J streets in downtown Modesto. This was made possible with the help of a gentleman named Ray Thompson. I don't recall how we met Ray, but as it turned out he became a strong supporter of the club.

The tower being the highest point in Modesto was the best low-level site in the City at the time. Elevation was around 150 feet. The roof of the tower was crawling with commercial 2-way radio antennas. The tower was owned by the George Reed family and Ray was hired to manage the leasing of spots in the penthouse and space on the tower for antennas. Ray was kind enough to give us a spot at no charge. We also learned that Ray also managed the Fisher property which included the top of Mt Oso.

We explained to Ray our situation and desire to return to Mt. Oso. He said that he could give us permission to cross the Fisher property and later offered us a small shack to put the repeater in. He said that there two other landowners whose permission we would need in order to use the Ingram Creek access road. Ed Filbin owned the property at the mouth of the road and Paul Gerber had the section in the middle.

Around this time I contacted Chester Smith, owner of Channel 19, to ask permission to put the repeater back in his building on Mt. Oso if we could secure the rights to use the road. Chester said that he was not aware of the fact the repeater had been in his building. We gave him the information on how it all began. After hearing the details Chester gave us permission to return the repeater to the building. He pointed out the problem with access and wished us luck in securing the road usage rights.

It was about this time that the club got caught up in events, which we had nothing to do with, that prevented us from gaining access to Mt. Oso for nearly 4 years. The event was a feud which developed between Ed Filbin, the landowner at the beginning of the Mt. Oso road and Paul Gerber. The feud was started by Filbin and his father who wanted to charge everyone crossing their property to access the Mt. Oso road a fee. Many words and hard feeling had already been exchanged.

The main gate accessing the road had several locks on it placed there by various users of the road. In addition to the Gerber's and Ray Thompson (Fisher property manager) several two-way radio companies who serviced radio equipment on Mt. Oso had locks on the gates.

As tensions escalated the Filbins began cutting locks off the gate and replacing them with their own locks hoping to force the issue. This infuriated the Gerbers and radio techs and further escalated situation. The situation at times involved tacks and nails being placed on the roadway which resulted in many flat tires and at one point firearms being brandished by the Filbins.

Needless to say, this was not the time to be asking for permission to use the road. The mess ended up in a lawsuit being filed by Gerber and others against Filbin. Within weeks of the suit being filed, a temporary injunction was issued by a Superior County Judge in Stanislaus County. An injunction is a temporary legal procedure used by the courts to in essence "put a lid" on the problem until the matter can be heard in court which could take 2 years or more in civil cases. In the injunction the Judge ordered that Filbin not interfere with the rights of Gerber or the radio techs to use the road. He ordered that those people who had been legally using the road at the time of the lawsuit be allowed to continue to use the road without interference from the Filbins. He ordered that NO NEW traffic would be allowed to use the road. This point caught us.

Gerber was ordered to oil the dirt road twice a year to keep down dust which was one of the things that the Filbins objected to in the first place. As a result of all this, we knew we were going to be off Mt. Oso for the duration of the dispute.

As luck would have it, in the summer of 1977, radio station KTRB in Modesto were making plans to upgrade their FM station, KHOP, and had purchased property on Black Butte Mountain just West of Tracy off Coral Hollow Rd. The elevation was just over 1,000 feet. With the help of Cal Purviance, K6BII, Cliff Price, W6ERE, retired employees of KTRB and Randy Hill, KTRB's chief engineer at the time, permission was obtained to install our repeater at their new Black Butte site and mount our antennas on their 380 foot tower to be erected at the site.

The repeater was moved from the Sealy Tower to Black Butte on December 3, 1977. A crew of SARA members help with mounting the Cushcraft beams on the side KHOP's tower. Other members installed the repeater. Late that afternoon the job was finished. Because the PG&E had not installed the electricity yet, the club brought along a generator which was fired up to power the repeater. The repeater was on the air for a couple of hours before closing up shop late that afternoon.

On December 12, 1977 the power was connected to Black Butte and the repeater was on the air on 13/73.

Before we could put the repeater on the air we needed a repeater license. The club did not have one, and the FCC had put a freeze on issuing anymore at that time. Having severed relations with Dave Metts we could no longer use WR6AHQ.

I don't remember who suggested it, but a suggestion was made to ask the Turlock Amateur Radio Club for help. SARA asked TARC for permission to use their repeater license to cover our repeater. TARC was very helpful to us and granted the request. Their repeater call, WR6ALG with a portable 6 attached.

The technical problems with the old tube type repeater continued on Black Butte with many failures. It was around this time the club began thinking about ways to gather the funds to buy a new solid state repeater. The first effort in this regard came on April 29, 1978 when the club held its first auction an Elk's Lodge on McHenry Ave. It was a huge success bringing in over \$750. The second club auction was held on October 21, 1978 at the Empire Community Center. Grady, K6IXA, was the auctioneer for both events. Much of the surplus equipment we sold had been donated to us by radio station KTRB. Just over \$600 was raised.

In May of 1978 the club purchased its first liability insurance policy and started the process to incorporate the club. Gil Goularte, W6SQR, in Turlock was most helpful with this process. He introduced us to a local attorney who was kind enough to prepare the incorporation papers at no charge to the club. The October 5, 1978 READOUT indicated that the papers were filed with the State in the fall of 1978.

Meanwhile the interference problems with Santa Rosa continued to plague us and the feelings between the two clubs were less than desirable.

Sometime in May 1978 the FCC deregulated their repeater operation rules and eliminated the requirement for individual repeater licenses. The club applied for a club license at that time and was issued WD6EJF. Under the new rules the club call with the RPT identifier was assigned to the repeater.

In March of 1978 the club borrowed \$700 from Mel McCoy, WA6OYP and Bob Huff, W6KU and together with donations and monies received from our two auctions the order for our new solid state machine was place. The Spectrum Communications repeater was ordered and received in July of 1978. It was promptly installed on Black Butte Mountain on 146.13 MHz. The installation crew included Les Lester, W6LHQ; Charlie Mendoza, K6JFS; Jim Cupp, WD6CYZ and myself.

It was around this time that the FCC added 2 more KHz to the bottom portion of the 2 meter repeater band (146.00 to 144.00) that made available more repeater pairs. The club discussed applying for one of the pairs and on June 1, 1978 the club voted to switch to 145.39 MHz we applied for the pair and a sanction from the Northern Amateur Relay Council (NARRC) was received (#409) for the pair. On October 15, 1978 the club switched to the new pair. Jack Scanlon, W6OIN, did the technical work including the retuning of the duplexer which proved to be a bear.

Although the Black Butte site was better than what we had, it still was not as good as Mt. Oso. The walkie-talkie coverage in Modesto was not good and the site did not look well to areas south of Turlock.

Not knowing if the club would ever get back on Mt. Oso we decided to seek other possibilities. We had established a good relationship with the County at which time had a vault on Mt. Rushing just East of Knights Ferry. We asked permission to operate a repeater from there. We learned that the county was leasing the spot and access to it from the California Department of Forestry and they had been involved in a dispute with the land owner regarding access and rent issues. These issues were never satisfactorily resolved and we were denied access.

Several club members were active at that time in the club's history and were responsible for the strides we made. They included: W6KU, Bob Huff; WA6SHV, Lee MacKenzie; Denny Stewart, WA6OEC. Mel McCoy, WA6OYP. Cliff Price, W6ERE. Jack Scanlon, W6OIN. Les Lester, W6LHQ. Pat Patterson, K6AYA. Leo Nepote, K6AYA. Mac MacKenzie, W6QDL. LaVonne Scanlon, WB6PJY. Gil Goulart, W6SQR. Ray Olive, WA6OQF. Rudy Lundquist, W6SM. Chet Jensen, W6XK. Charlie Mendoza, K6JFS. Grady Williams, K6IXA. Ray Hildreth, WD6CEV, Bob Crawford. Dave Carlton, WD6EZL. Dan Cron, W6SBE. Allen Woods, WA6OYF. Jim Cupp, WD6CYZ. Bill Dalton, W6FIQ. Don Butterfield, WA6QWY. Larry Manning, WD6CMI, Cal Purviance, K6BII and Bob Pinheiro, WA6ZLO.

In 1980 our fortunes improved when Bill Pietz, W6AFS, joined the club. Bill had just retired from the Bureau of Reclamation and had been living in Tracy. He moved to Modesto to help care for his aging in-laws. Bill mentioned that the Bureau had a radio vault on Mt. Oso and felt that they may be receptive to allowing SARA to place our repeater in their vault which could be used as a back in case of an emergency.

Although we knew that even if permission was received we were still faced with the problem of access over the Ingram Creek Road. The club voted to pursue the site. AFS paved the way and after a lengthy period of negotiations, permission was granted by the Bureau to use the site on June 17, 1982. The club signed a 10 year contract which specifically stated that the matter of access to Mt. Oso was entirely up to SARA to obtain. WA6ZLO was working on the access problem.

It was sometime during the summer of 1982 that the lawsuit involving Ingram Creek Road was settled out of court by those involved. By this time, as mentioned, we had secured permission from 2 of the 3 land owners to cross their property. I don't recall the exact date, but sometime in the summer of 1982 I called Paul Gerber and asked to meet with him and talk to him about the access. He agreed and Bob Huff, W6KU and I met Mr. Gerber at his ranch in the canyon. He was pleasant to us and asks questions about the club and our intentions. He seemed to be more receptive and the end of the meeting but he would either say no or yes to our request. I also recall sending him a letter asking permission and never received a response.

After this meeting the club discussed the situation and conferred with Ray Thompson for his perspective. Ray, who had known Mr. Gerber for many years prior to this time, suggested that we had nothing to lose by going ahead and use the road. He felt that in the absence of a definitive "no" from Mr. Gerber that he probably would not object. We decided to go for it and we never had any problems.

In early 1982 the club began discussions on putting on a 220 MHz repeater. On August 25 of that year the order was placed for a new solid state Spectrum repeater. The club secured a sanction from NAARC of operation on 223.68 MHz the machine arrived on November 5, 1982. There was a problem with the repeater self-oscillating and it had to be returned to the factory. The machine was repaired by the factory and sent back to us. It was installed in the Bureau of Reclamation building on Mt. Oso. On January 2, 1983. In the meantime the 2 meter repeater continued to operate from Black Butte when the 220 machine was installed on Mt. Oso. Funds to purchase the machine came from a raffle the club conducted. The grand prize was a .357 Magnum Colt Python firearm. We made over \$3,000 on that raffle alone.

We began using the Ingram Creek road in conjunction with the 220 machine in the Bureau of Reclamation vault.

In October of 1983 we had the opportunity to purchase a new Hamtronics 2 meter repeater and a Wacom duplexer from N6DXB in Stockton who was going to put on a packet repeater and changed his mind. We got a good buy. The thinking was we could use it as a backup repeater to the Spectrum.

Shortly after deciding to use the Ingram Creek road again, Ray Thompson offered the club free space and electricity in one of his buildings on the eastern face of Mt. Oso. The building was a small building constructed of particle board with a tin corrugated roof. There was a 50 ft Rohn next to the building. It sat in the spot where our present day repeater is located today.

The club decided to put the Hamtronics repeater on the air from the Thompson site. The thinking at the time was we did not want to put all of our "eggs", so-to-speak, in one basket on Mt. Oso in case we lost access again. Therefore we decided to keep the main Spectrum

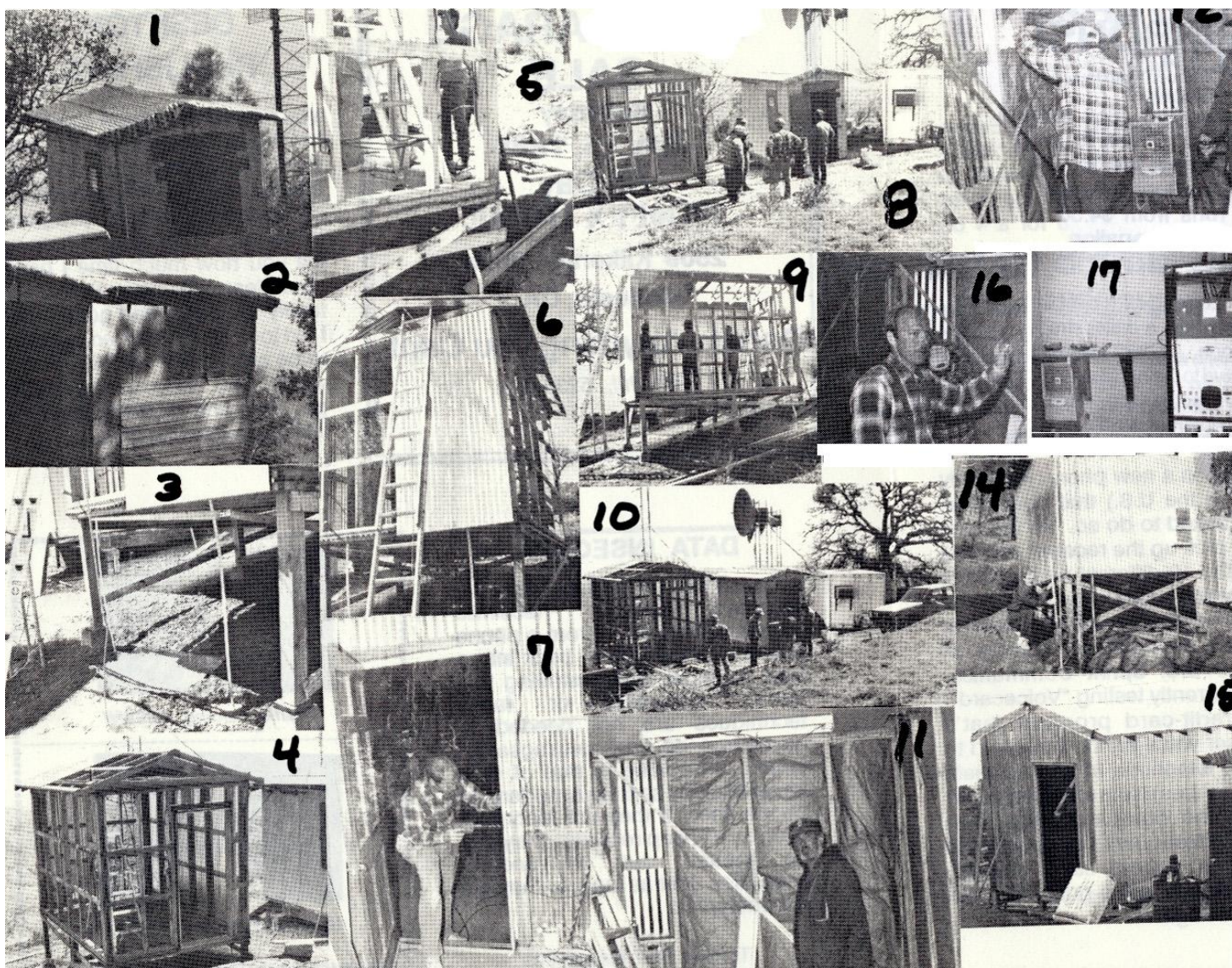


repeater installed on Black Butte until we saw how things went on Mt. Oso. The Hamtronics repeater was installed on October 15, 1983. The antenna, an Isopole, was mounted on the adjacent tower.

So, at this point in our history we had out 220 machines operating in the Bureau of Reclamation site and the 2 meter backup machine in the Thompson building about 200 yards down the eastside of Mt. Oso at about 3300 feet and our main 2 meter machine on Black Butte.

It wasn't until April 7, 1985 the club moved the Spectrum 2M repeater from Black Butte to Mt. Oso and relinquished the site on Black Butte. It was housed in the old particle board tin roof shack provided free of charge, including the electricity, by Ray Thompson.

Late in 1988 the club acquired an old cargo box (bread delivery) with the idea of transporting it to Mt. Oso to house the 2 meter machine. Ray Thompson's building was in bad shape at the time. We later changed our minds and decided to build a new building next to the old one. SARA member Don Fink, N6GGB, of Tracy drew up the plans and led the crew in constructing the building which is still in use today. Shortly after the nice new building. With much more space. Was finished the club elected to move the 220 Machine down from the Bureau of Reclamation site to the new building. The packet repeater stayed in the Bureau's building at that time operating on 145.07. Sometime around 1996 the club obtained our 440 repeater and put it on the air on Mt. Oso.







Hello to all who did not make it to Field Day! This is Tom K6THM and it was my first Field day. I had a great time and learned so much. I was truly impressed by the various antennas, the torpedo that Mark, WB6BJN, used was great and he was very impressive with his 155 contacts..... and the one he made from Washington where the other stations used 4 watts as he said.



Above is one of the fires we enjoyed along with KG6JXZ set up and my gear. I also was amazed at Gene's 136 contacts (272 points - CW counts as 2 points per contact because they are harder to get) on CW. Ed, KF6FIR, had that great 160 meter wire. I went out at the end and found the "Verizon Phone Booth!!!"

I hope to have my own station next time and antenna and do either 15 or 20 meters. The site was great and it was sort of roughing it except for Paul's W6UHF's blender issue and movie night. I am truly happy to be a ham and to be a part of such a close and friendly group.

In closing some of you may have heard of my "tape measure Yagi." Well I guess it worked to well I seemed to get signals all around it must have had some gain to it!! If I was in some kind of shape other than round! I might have had a chance of beating Davona KF6TSY on the fox hunt. Thanks to all of you and 73!



# The New Mut In Town



*W6UHF putting the move on Jack (KI6KQQ's dog)*

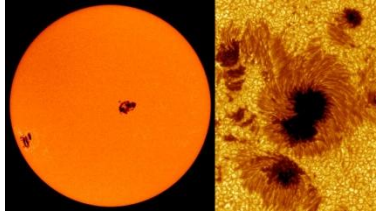


July 13, 2009 Modesto North Rotary Ride  
*John and Linda getting orders from Lew for another big ride!*



# WHERE HAVE ALL THE SUNSPOTS GONE?

By Anthony R Wood (Philadelphia Inquirer)



The sun is the focus of a deepening mystery. Solar scientists want to know: Why is the sun so quiet? So-called sunspots, intense solar storms that eject mass amounts of energy and darken the solar surface, have been all but missing the past two years. Typically, the more spot, the more energy the sun gives off.

What effect this might have on world climate is unclear. Earth's atmosphere and the sun have had a long and complex relationship, and scientists acknowledge they still are not sure precisely what goes on between them. But the changes in the deceptively volatile star evidently do have some impact on the planet's weather.

Sunspots have been tied to everything for droughts to wine vintages to the sinking of the Titanic. A sunspot lull correlated with the Little Ice Age, from the 14th through 19<sup>th</sup> centuries. Recently, the sun has been ever-so-subtly weaker than usual. Last year, 266 days were spot-free, and not a single spot was detected in August, said David Hathaway, a NASA expert in Huntsville, Ala. "The current minimum is now the longest we have seen," said Ken Tapping, a scientist with the Penticton, Canada, Herzberg Institute of Astrophysics, which has tracked sunspots since 1947.

NASA is forecasting the sun's activity will pick up before the end of the year. "However, We are now getting into new territory," Tapping said. The solar lull was supposed to have ended months ago. Sunspots typically follow 11-year cycles of lull. But 11 years is a rough range. Cycles can vary from nine to 14 years. Tapping cautions against reading too much into recent observations.

No one has figured how to isolate the effects of solar variations from other forces that drive the climate system, such as volcanic ash and seesawing temperatures in the tropical Pacific Ocean. Although the sun is by no means a steady star, the range of change in solar output is on the order of 0.2 percent, the experts say.

Fred House, a solar energy specialist at Drexel University, says the total wattage beamed at the top of the atmosphere over a square meter is equivalent to about 13 100-watt light bulbs directed at a card table. Remove 0.2 percent of that wattage, and you'd probably still be able to see the cards. How such tiny changes work their way into the climate system is "the million-dollar question," Tapping says.

# HAMCRAM

**One day license class and exam!**

**July 18, 2009**

**8 AM to 5 PM**

**County Emergency Communications Center  
Logistics Room  
3705 Oakdale Rd. - Modesto, CA 95357**



# SARA CLUB MEETING

**JULY 21, 2009**

**7:30 p.m.**

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**County Emergency Communications Center  
Logistics Room  
3705 Oakdale Rd. - Modesto, CA 95357**