

SAN DIEGO COUNTY, CALIFORNIA  
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After our success of last year in finding the incredible “Big Monday” pocket of pink tourmaline, we were unsure of what the future held for us at the Cryo-Genie mine. We spent a good part of the season this year complying with a virtual morass of government red tape. “We are here to help you”. After thousands of dollars and a hundred hours of training and paperwork, we were finally allowed to resume mining. The mining operation began anew early in August with myself, my brother Dana, Jim Clanin and Dave Kalamis comprising the mining crew. Living on the mine site can be rough and much time was spent building a kitchen facility and general improvements.

We began our efforts by extending our lower drift 12 feet into solid pegmatite in order to encounter the lower portion of the pocket zone, the Big Monday pocket. Jim Clanin and I had butted heads on which drift to extend, Jim’s preference being the lower drift and mine being the Big Monday extension. Jim’s idea was the one we decided on seeing that he was the one with the most underground experience. We spent almost all of the month of August drilling and blasting and mucking and drilling and blasting and mucking. You get the idea. It was enough to make a mining man crazy. Finally we began to see some signs of coarsening in the feldspars in the working face. This coupled with the steeply pitching line rock gave us hope that we might be coming upon the pocket zone. Our progress was very slow due to the multitude of cracks sheeting the rock we were trying to blast. We had to shoot holes as shallow as 14 inches in order to make slow progress through the rock. We kept the line rock as our footwall, it started to level out revealing the presence of small pockets in the western wall of the drift. The pockets were quite small and most contained nothing but quartz and feldspar and muscovite mica.

After encountering 6 small pockets, Dana and Dave found a pocket containing nice small tourmaline crystals measuring 1/4 inch across and 1 or 2 inches long. An edge of a larger blue green crystal was revealed and proved to be the termination of a squat tourmaline About 2 inches in diameter. This crystal was without a doubt the best green tourmaline that we had seen the mine produce. It was richly colored and very transparent. Several more smallish pockets were subsequently found these too contained some facet quality blue-green tourmaline.

Now we had 6 small pockets crossing the working face of the drift. We drilled some holes

below the pocket zone and shot them late in the day. The next morning we found a huge pile of debris at the working face of our drift. I would like to take this opportunity to remind you that we muck out all our spoils into 5-gallon buckets, which are then hand raised up to the wheelbarrow at the entrance. We have no mechanical devices in the mine besides our Holman jack-leg drill, so everything takes a little longer to do but ours is a true hands-on type of operation. After we removed the debris from the drift and barred down, our lamps revealed that the 6 pockets had become 3 pockets and a large amount of pocket material was exposed. Dana and Dave removed quite a lot of quartz and feldspar from the right side to reveal an ever-expanding pocket in the wall. The other side of the drift was worked and this soon became one expanding pocket as well. So here we were faced with 2 large mud filled pockets in the wall instead of 6 small ones. This was just the beginning of what may prove to be the greatest tourmaline find ever in San Diego County.

The whole crew pitched in and we worked the two pockets for the best part of 3 days. A large amount of quartz crystals and cleavelandite was removed from the pocket zone. Dana and Dave found ~30 lbs of excellent specimens crammed into the pocket on the right hand side of the drift. The quartz crystals that they took out were the best that we had found in the mine since the very early days of our work there – fine, sharp unetched crystals with good luster to about 4 lbs, seated upon a cleavelandite matrix, came from this pocket. We were forced to drill another round under the pocket zone so that we could get a better look at what we had uncovered. Jim drilled 8 holes below the pockets and we let her rip. This signaled the end of the working day and the weary miners went up to fix supper and hoist a few beers at day's end.

The next morning Dana, Dave and myself were up early to begin the days work. Upon arrival at the workings we found a great huge pile of muck waiting for us to remove. We looked over the pile and found that we had blown the best part of a new pocket right onto the muck pile. There was a great amount of specimen material including some small pink and green tourmaline scattered over the pile. We recovered 120 lbs of crystal specimens and mud from the floor and another 2 buckets of material from the pocket now exposed in the wall. Dana had to go and so did Jim. Dave and I spent the rest of the day mucking out. Before Dana left we did find our first pink tourmaline of the year, or at least portions thereof. A 4-inch tourmaline was in the wall and it was attached to matrix. Because the piece was so covered with mud, the pink tourmaline was all we could see; the attached matrix was not identifiable as to its shape or its species. At this time we found that the pocket extended further into the wall and we all had high hopes. After we removed all the blast debris from the mine, I began work on the pocket to the left, and in my haste to find more tourmaline, I dinged several nice quartz crystals in the process. From this portion of the pocket I removed 100 lbs. of mud containing pocket material and 40 lbs of quartz crystals. The pockets we had been working were getting bigger and seemed to be connected by a thick 4-inch layer of decomposed pink cleavelandite and pocket clays, and floater quartz crystals. Mixed in among all this were various colors of other

minerals, also dozens and dozens of pink and green doubly terminated tourmaline pencils measuring from 2 inches to 4 inches in length. Most if not all were broken into sections, as is so common in most tourmaline pockets. The following day we hauled up 12 buckets from pocket # 3, 6 buckets and 2 boxes of wrapped crystals from the #2 pocket. Jim Clanin arrived the next day and we jack-hammered the area around the ceiling, producing a huge pile of debris. The rest of the day was devoted to touring several friends and associates through the mine, and we did not get a whole lot more done work-wise. A great time was had by all!

On the following day work began again in earnest. We mucked out 65 buckets in the morning shift. Working the ever-expanding pocket zone (it had taken up nearly the whole drift) we found that the central pocket was 5 feet across and 3 feet thick with a huge dome in the ceiling of the pocket. At this point the pocket was the size of the top of a Volkswagen bug. Two feet of material suspended in mud stuck out like a tongue into the drift. The next morning I had to leave for our mine near Reno, Nevada, so I went down that evening to have one last look at the pocket zone. The large tongue that had been projecting into the drift was now laying all over the floor so I scooped it up, wrapping some specimens and then left with giant feldspar and quartz specimens hanging up in the pocket. I packed up my gear and headed back to the office in Tustin feeling like something great was about to happen. I had just returned to the office when the telephone rang and it was Jim telling me I had left to soon. "There is a big tourmaline in the wall", he said, "did you see it?" I told him that I had not noticed anything at all. So I left on my trip with my head in the clouds but my butt on the drivers seat.

I spent 10 days away from the mine. During that time there was plenty going on at the Cryo-Genie. Dr. Anthony Kampf and his crew from LA County Museum of Natural History came up to see the pocket. Dana supervised the affair and a great time was had by all. They were allowed to dig some of the crystals and specimens, this was a thrill for all. Many fine quartz matrix pieces came out on that day and on the ensuing days, Dana, Jim, and Dave removed over 1,000 pounds of giant microcline, quartz and cleavelandite specimens. Minor tourmaline was recovered at this time. No more large tourmalines were found but the one crystal that J.C. had told me about on the telephone was very fine – a doubly terminated crystal 9 inches long and 3 inches wide tapering to 1 and 1/2 inches at the end, The crystal was the typical tapering crystal that seems to be the signature type found at the Cryo-Genie mine.

I returned to the mine on the 21<sup>st</sup> day of September from my trip to Nevada. I was amazed at the huge amount of material that had been recovered from the now diminishing pocket. We had a tour set up for that day, and Jim and Dave had the mine set up beautifully. When they took me in to see what had been done I was truly amazed. The floor was so clean that it looked like a well-manicured lawn. The fellows had put in more lighting and had highlighted the large demonstration pocket in the man way. The mine looked more like a museum than a workplace. The tour went off without a hitch and everyone had a great time. We had 2 friends down from

northern California working in the pocket during the tour so that the tourists got to see the pocket being worked.

The next day Al Baldwin and myself went down to the mine while Dana and Dave worked on the faithful jeep that keeps us in water and fuel in its never ceasing roll as camp mule. Al and I took out 9 buckets of pocket material and several large quartz and cleavelandite plates from the pocket. Some of the plates weighed more than 50 lbs. The pocket was rising fast and seemed as if it might be pinching off in the center portion. It kept going off to the left and right forming 2 lobes off of the main structure. Over the next couple of days we found more and more great quartz matrix specimens as the pocket started expanding to the right. On the right the pocket seemed to be getting bigger and Dave found a nice 3 inch tourmaline about 1/2 inch across. This crystal was in the pink decomposed "cake" at the bottom of the pocket.

Dana and Jim went home leaving Dave and myself to start the new work week. We mucked out 25 buckets of debris from the working face and raised up another 10 buckets of pocket material stored from the week before. We also took up some wrapped specimens from the left side back wall of the pocket. The back left was rising and pinching out so we concentrated our work on the right side. Laura Hightower from the university at San Bernardino came up to take some photographs for their archives and we removed a very large quartz plate from the top front of the pocket so she could get a pocket-to-cleaning table photo diary. We took the monster plate up to the cleaning table and washed it off. The plate was 99% quartz crystals and the finest we had seen from this pocket. All of the crystals on the plate were leaning over at an angle of 30 degrees and they all were lined up parallel to one another. The following day would be the start of some thing really big but none of us knew that as we retired for the night.

Remarkable things happen every day and most go by unnoticed. In the next 4 days the crew at the mine would have an unexpected but certainly not unnoticed experience that would remind us all that there is still magic in the world and that if you really are willing to work to make your dreams come true then remarkable things will happen to you.

We started work early down in the mine the next morning mucking out the remaining debris and working around the pocket margins. There was a lot of mud below the portion of the pocket from which we had removed the giant quartz group. Soon we were able to get out 2 matrix specimens of quartz and cleavelandite. As we removed the mud from another smaller matrix, I reached into the mud, pulling out piece of material next to it." Well surprise me" ,said the old gentleman rabbit. There in my hand was a 3- by 4-inch tourmaline crystal.

The tourmaline was similar to the crystals that we had found in the first pocket, the difference being that this was a squat, almost equant crystal. It had the typical multiple crystals surrounding the outside and a slight taper but it was one of the rare singly terminated crystals

found in the mine in recent times. Jon Page was up and witnessed the whole thing with his digital camera, so now the tourmaline is captured in its awakening for posterity. We all celebrated that night and Jon went home late.

The following morning Dave and I were back down in the mine working the margins of the pocket. We do much more work around these pockets than in them because of the tenacious clays that fill them to the walls. It is impossible to remove the crystals without being able to see what they may be attached to. We removed a few upside-down quartz crystals and a couple of balls of cleavelandite. Just below these, the magic digging stick popped out a loose mud-covered object. Another piece of tourmaline? Yes, it was, and the nice section of a large tourmaline lying in the mud just below it looked to be 6 inches long and 3 inches thick. We moved a couple of very large matrix pieces that had made their home on top of the mud covering the remaining section of tourmaline. This effort revealed that there was more to the giant crystal that lay before us. We cleaned up around it and wrapped up the piece that we had removed earlier, making sure to retrieve all the mud and unknowns. We went up to call Dana and tell him the good news. He said he would be up the next day, so we knocked off for the day and had an early supper accompanied by a wonderful pink tourmaline sunset. We had a big one in the pocket and sweet dreams were had by all.

The next morning September 26, 2002, Dana and Cindy, myself, and Dave were crowded into the giant pocket. Dana worked the left side of the pocket removing large pieces of the septa separating the two sides of the pocket. We covered the tourmaline with mud and paper maché and spent hours slowly removing all the loose rock from the pocket lining. There was a giant quartz matrix hanging down from the ceiling and I spent several hours working around it, then being unable to move it there it stayed. We worked around a great large slab of cleavelandite. It was removed and proved to be covered with crystals. I then worked my way around the bottom of the pocket just below the tourmaline and loosened the whole block with a pry bar. This effort freed the mass of tourmaline, mud and matrix. Dana carefully removed the large mass from its resting place, and I swept all the leavings into a bucket because it might contain that one little piece to make it complete. Dave took the mass and moved it out of the pocket. I followed him down and we removed a small amount of mud so we could see it. It was giant, huge, big and it looked to be at least 8 by 4 inches in dimension. The tourmaline may weigh 6 lbs. or more. We removed another big crystal that had been exposed, measuring at least 6 by 3 inches, and another lay in the mud before us. What a day it had been. We left wearily as the bat flew in, thus giving the pocket its name. [editor's note: the pocket actually got its name from the acronym B.A.T., which is short for "Big Ass Tourmaline": D. Gochenour, pers comm, 2003].

Jim Clanin called the next morning saying that his sister Helen would be coming up the next day and would be bringing along her video crew. She had been up the week before, and they

had done some video work on the mine and interviewed Jim. We waited around the rest of the day before the crew arrived (it's a long way from Huntington Beach). We cleaned up around the pocket and cleaned off the last visible tourmaline in the pocket. On the following day we all got an early start with the film crew. We were trying to remove a second large matrix from the roof of the pocket, but it was taking an extra long time to do so. We finally managed to move some of the plates that made access to the tourmaline possible. When I was finally able to remove a tourmaline crystal, we found it to be broken. We were however afforded the opportunity to show that the crystals had areas within them that showed gem potential. After Helen and her crew had departed, we started the night shift with Steve Knox and Al and Mary Rose. Steve and Al spent three hours working their way around the giant matrix, which finally we were able to remove. Just beneath the matrix in the mud were those telltale pieces of black tourmaline that have signaled the presence of pink tourmaline below. Al searched through the mud producing more black tourmaline and lots quartz crystals with cleavelandite. Mary came down to tell Al and his son Eric that it was time to go home. We all left reluctantly and went back up to camp. The Rose's left and Dana and I talked until it was time for bed.

This is the story of the "Jolly Pink Roger". Dana and I got up early, convinced we could find more tourmaline in the pocket, so down we went to the mine. We inspected the pocket for a while and Dana said that we would have to be very careful. There was a lot of sorting and labeling to be done on the pocket material from the previous day. This was something that only I could do because I was the one charged with keeping track of things. In the excitement of the last couple of days the buckets and boxes had gone unlabeled. So while Dana and Cindy worked on the pocket I did my duties. They were soon joined by Dave. Cindy and Dave were employed in digging all around the pockets outer walls. I went up to check on camp and make sure all was secure while

the others slaved away in the giant pocket. Paul Duval and Kevin Cross arrived with a new video camera. As we were walking to the mine Al Rose and his wife and their son Eric pulled up the road. We had lunch (which was served by Eric) and headed down to the mine to see what may have transpired in our absence. Kevin was dutifully filming and Paul was narrating away as is his fort . We interlopers sat down in the haulage way talking when it got suddenly very quiet. Dana called out and asked me to come and give him a hand at the pocket. I really did not expect what happened next. As I got up to the pocket face, there sat Dave perched on the edge of the pocket with a great pile of mud and crystals in his lap. The crystals were tourmalines fabulous, wonderful giant tourmalines. The biggest tourmalines that we had seen ever. "Expletive" I said "Holy Expletive" as I reached up to receive the bundle from "Dr. Dave, Pocket Midwife." Backing it out of the pocket with Kevin following with the tape running, I brought the baby out to the light of the haul way. Collective gasps went out as I removed the wrapping of newspaper that we had applied at the pocket. There before us were several giant tourmalines sticking out of the pile of mud and cleavelandite. It was difficult to tell just how big the crystals were – 6 inches? or 8 inches? Paul brought a stray piece of the

largest crystal, 10 inches? It was hard to say but these were giant well-crystallized beauties, the rarest of the rare. We all sat there dumbfounded in total silence. The mine had surprised us again. We carefully wrapped up the “baby” and placed it in a tub along with the mud and debris in which it had lain. This was carefully brought to the surface for transport to the cleaning shop some 30 miles away. The remaining material was removed from the pocket and loaded into 5-gallon buckets. There were quite a few large pieces covered with mud that were wrapped up. It was not possible to see what might be hidden because of the sticky clays covering them.

We returned to camp emotionally drained but full of adrenaline at the same time. We watched Kevin’s video of the pocket removal. It was astounding, with the scene of the delivery by Dave and then Kevin following me down to the haul way accompanied by shouts and exclamations. A woman’s voice yelling for a bucket to set the bundle on, the whole scene was like a maternity ward. After the excitement of the day we were all ready for some food and beers. I left with Jon Page for Anza to pick up the food for the catered meal that would be served for 60 people that would be coming to the mine for their tour on Saturday. We were hosting the tour for our benefactors from the Gem and Mineral Council of the Los Angeles County Museum.

The next day (Friday) we all met at the cleaning yard. The whole crew was there including Dana, Jim, Dave, Paul Duval, Kevin Cross and his daughter Cassandra, Jim’s sister Helen, Al and Betty Ordway, Jon Page, and myself. We began washing off the mud from the crystals that we had found the day before. The tourmaline began to show through the mud, sparkling in the morning sun. The first thing we noticed was the incredible emerald green of the crystal terminations. There were several very large doubly terminated crystals with green ends, as well as many gleaming gem quality pink and green “pencil” tourmalines. It was an incredible sight to see all those beautiful giant tourmalines lying there becoming more and more beautiful as the clinging clays dissolved. Jim was washing off some of the matrix specimens we had taken out of the ceiling of the pocket and in doing so he revealed a wonderful cleavelandite ball that supported a pink tourmaline with a blue green termination. The specimen had it all, quartz, tourmaline and lepidolite, all in perfect condition, no dings, no damage, just a classic specimen of great beauty and rarity. The tourmaline was 3 inches across in one direction and 2 1/2 inches in the other, its termination shaped like a slice of pie. The blue and pink body made it as outstanding a piece as I have ever seen. A short time later we found another fine cleavelandite with a 1-1/2 inch by 1-inch tourmaline crystal on one side. This one was bi-colored as well. It was more than we could have hoped to find. We did not know that we had found these pieces until they showed up on the cleaning table. As we washed off the beautiful crystal treasure we were reminded that we had just had our second once-in-a-lifetime find. The feelings of awe and amazement that we all felt would be brought forth again and again as the crystals on the tables lost their clay coating. The tourmalines were even more wonderful than the specimens that had been found the year before in the Big Monday pocket. One of these proved to be really quite a

surprise. It was broken into three pieces that fit perfectly back together. The crystal measured nearly 10 inches long and 5 inches across its termination from which sprang another tapering tourmaline that was 5 inches long and 1-1/2 inches wide at the top. Dana dubbed the crystal the "Chief" because it was The Chief in many ways. Another large crystal named by Paul Duval the "Jolly Pink Roger" was named in honor of the large "Jolly Green Giant" tourmaline that had been found in Newry, Maine, in the previous century. As we gazed upon the treasure before our eyes we wondered what incredible beauties still remained in the buckets waiting on the cleaning table. The best was yet to come!

When you finally get a chance to uncover a find like we had, one's head is full of wonder. I was so amazed at what I was seeing that my emotions were all over the map. Lust, greed, jealousy, and envy each played their part in the montage of emotion. I wanted them all to be mine! As soon as I came to my senses, I heard Jim calling me over to the table. He was washing off a piece of matrix and showing just beneath the clay and mud was a tourmaline. Together we carefully removed the mud from the cleavelandite ball house that housed the tourmaline. A very large and fine tourmaline began to poke its head from the clay. It grew larger and it soon showed itself to be the "The Crowning Glory" of the Cryo-Genie. Here before me was the specimen that I had always dreamed of finding. The classic beer can on cleavelandite, it was a truly magnificent sight to see. The tourmaline was 5 inches tall and 3 inches wide, it was tucked neatly into a snow-white mound of undamaged cleavelandite. The color of this fantastic tourmaline was a rich pink and it had a blue/green cap  $\frac{1}{2}$  inch thick. The crystal was totally without damage, only a slight layer of late-stage pocket clays obscured the top of the crystal. Now I must tell that this was the crowning glory of the pocket. I have only seen a few specimens to equal this one. I was so high from the onrush of admiration and joy that it was many minutes before I could stop exclaiming "Oh my look at this wow wow wow, et cetera. Everyone agreed that the totally unexpected treasure was indeed the best thing that one could hope to find. What a day: we have found 3 fine specimens that we did not even know we had mined. We had cleaned from the mud the largest tourmaline crystals that have been documented to come from California. The whole thing was on film and that was a coup in itself, because this had never been done before.

After all the excitement we parted for our various destinations with our heads full of tourmaline visions and that night with tourmaline dreams. A lot of work still remains to be done. The cleaning of the specimens and the reassembly of some will take months. In the mean time, some mining will go on until we use up the last of the explosives and then Dana will close down operations for a while, then resume after the Tucson Show in February. So, the saga of the Cryo-Genie mine goes on and everyone waits with anticipation for the next great pocket.





Figure 1 Ken (left) and Dana (right) Gochenour holding two of the large tourmaline crystals recovered from the Cryo Genie.



Figure 2.



Figure 3.



Figure 4