



Ore-Cutts

Volume XXXVIII, Issue X

October, 2003

Ramblin' on the Ol' Ridge Route

By Dick and Bess Shields

When Sidney and Jack Kelley extended an invitation to join them on a special "Geologic Tour of the Ridge Route," we studied maps, packed supplies, then took a giant step backward in time. The original Ridge Route was constructed in 1915. Our journey was an adventure offering history lessons, pleasant company, and geologic facts about this active area.



Locations and highways on Ridge Route

We left Orcutt shortly after 7 a.m., and reached the Templin Highway offramp by 9:30 a.m. for the tour. Tim Elam, staff geologist of ChevronTexaco was our guide for the day. At our meeting site, fifteen carloads of rock-hounders set out to explore the old Ridge Route. Tim used his hand-drawn geomorphic map to explain the unique structural knot, or

intersecting of six structural junctures, that we would travel during the next six hours.

We would drive on the western crests of the ridge basin, exploring oceanic sediments, locating fluke casts, fish scales, and stromatolites. Gold was found as far back as 1842 in Piru Gorge, Castaic, and Bouquet Canyon, although black gold (oil) was negligible in the immediate Ridge Route area.

At the first stop, we learned that sediment in the basin is 7 miles thick in the 30 mile long by 12 mile wide valley between the San Gabriel Fault and the San Andreas Fault. The ridge basin is 10-12 million years old, and thick oceanic sediment are covered by younger freshwater lake deposits.



Tim and Pat Elam with geologic maps

The Liebre Mountains and San Gabriel Mountains are granitic ranges. Sediment in the basin has been uplifted in the last 2 million years due to subduction.

We observed sandstone with conglomeratic clasts, grey shale, and occasional alkaline sul-

fate deposits. A few small fossils (flake casts and fish scales) can be found in the shale. Oceanic sediment comprises the bottom layers, with lake deposits on the upper layers.

Slope turbidites (ten thousand years of peace, followed by 24 hours of watery terror) are found in sandstone deposits. These are caused by earthquakes, storms, etc., and are easily identifiable in the strata. Non-marine fluvial deltaic deposits occur on the east, while a calmer environment exists west of I-5.

Near National Forest Inn, the Liebre Mountains are to the east. We could see a dirt road past the old, private, Kelley farm at the edge of the basin thrust fault slope that would be a good day trip to Lake Hughes via this back door route.



Approaching Swede's Cut

Dramatic Swede's Cut is a 110' deep, and was dug out of the sheer mountainside. This was quite an engineering feat in 1914, and a remarkable accomplishment. This road united the two halves of California. Before the Ridge Route was constructed, one would travel to Mojave in order to reach Bakersfield. As we continue driving on the Ridge Route Formation, the San Gabriel Mountains are visible. Their white, sandstone uplifted fault block is now the condor sanctuary.

A view of all three historic routes, I-5, Highway 99, and the Old Ridge Route are visi-

ble from this spot. Violin Breccia to the west is located at the base of Frazier Mountain.

Optical illusions abound, and the high temperature causes mirages. The temperature was 95 degrees by mid-morning. Sediment beds dip to the north and appear as if their deposits were laid down at different angles (it's a mind/eye trick).

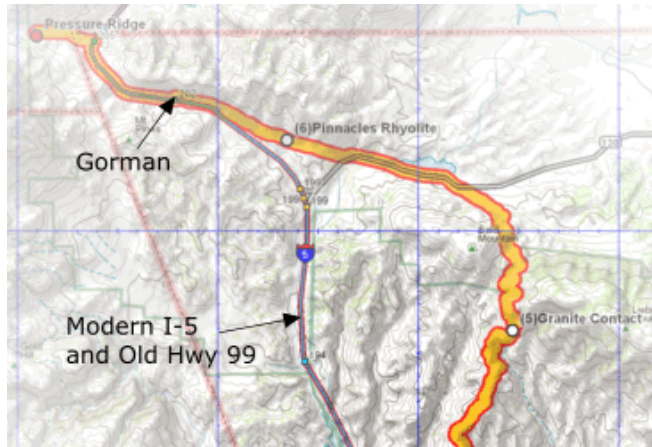
Scarp areas are visible to the east, and are from recent pipeline digs. Pyramid Lake to Castaic Lake is the route of the LA water system, and can also be seen from this overlook.

Calcium carbonate nodules, called stromatolites, are algae fossils (like a dirty water coral with bulbous bodies). These are beautiful buff, and tan colors. Sodium, feldspar and potassium caused the relatively young formations 6 million years ago. (Minnesota stromatolites are more colorful, and are 3 billion years old). Oncolites (small algae nodules) abound at this spot.



Southern portion of Old Ridge Route

Our lunch stop was at Reservoir Hill, and provided Tim with another teaching opportunity. Tim explained the four major types of faults. Each can be observed along the next part of our journey. Tim passed around his personal field guide, and we were amazed at the depth of research which has been done on this area. We hope to pick his brain at a later date about pectin beds, violin breccia, diamichite, adamellite, oncolites, and anaclyme locations he scribbled alongside his more formal notes.



Northern Portion of Old Ridge Route

Tim discussed the BIG QUAKE of 1857, and the smaller brother in 1960 (only magnitude 5). We are overdue for another big one to relieve the stress in this active area. At Wallace Creek in the 1857 quake, the plates moved over 30'. Another actively moving plate can be seen at Avenue S on Highway 14 in Palmdale (tectonic pressure ridge). A third example of shifting is along Gorman Post Road, just to the east of greater, downtown Gorman.



Noting granite as we crossed the boundary of the North American Plate

As we proceeded north after our lunch stop, we left the Pacific plate (where rocks are mainly sedimentary), and entered the North American plate (where rocks are mainly granitic). At "Granite Contact" on our map, quartz diorite

dominates to the north, and sedimentary occurs on the south side of fault. Tim showed us examples of rock shearing, and calcium magnesium silicate with epidote. Looking northwest, the light colored basin materials are sedimentary deposits of Hungry Valley. Sandberg Weather Station area lies just over the hill north of here.

Our next stop was at the Gorman Post Road area. We learned that materials on the west side of the fault at The Pinnacles, and remnants of the same formation on Gorman Post Road on the east side of the San Andreas fault were originally one rhyolitic mass, and have been offset over 175 miles.



Pinnacles Rhyolite formation near Gorman

At our last stop, we traveled through Gorman to a hill overlooking Frazier Park. Frazier Mountain is a structural knot which is being dramatically raised. We stood on a pressure ridge, and observed sag ponds to the south, and sand/gravel deposits to the north (cast offs from San Emigdio and Tecuya Mountains). This is a confusing area. The Garlock fault cuts to the east from this point and Big Pine fault begins to the west. Big Pine and Garlock faults were once connected, but the San Andreas Fault has forced the two sections to separate. Both Frazier Mountain (on the Pacific Plate), and Tecuya Mountain (on the North American Plate) are confused and don't know what to do but go UP.

We found porphyritic granodiorite (the German term is gneiss), feldspar, quartz, biotite mica, and float (geologic trash) at this location.

An excellent river terrace can be found to the south on a plateau behind the local High School.

After the tour we stopped by the Historical Society Museum and Gift Shop, and purchased a copy of Huell Houser's video on the Ridge Route which was recently shown on PBS. We meandered home through Lake of the Woods, along steep ridge tops with breath-taking views, following a northwesterly direction until we met Highway 166 near the Carrizo Plains National Monument southern entrance.

There will be another Geological Tour and a special springtime Botanical Tour in 2004 in addition to the regularly scheduled Historical Tours. For further information on tours, and the Historical Society, check out: <http://www.frazmtn.com/~rrchs/mainie.html> and <http://www.ridgeroute.com/>.

Care to join us this spring for a jaunt over the Ridge Route? The area is open to the public year-round (except in bad weather) and you do need an "Adventure Pass." It's really back-country, so bring water, food, and first aid. Happy hunting,
Love, Bess & Dick

Santa Lucia Rockhounds Shine at Paso Robles Show

By Bess Shields

If you missed the Gem Show in Paso Robles, you missed a really good time! The dealers were friendly, prices were reasonable, and the silent auction had great rough material. The barbecue was excellent as usual, the demonstrators answered all of our questions, and the displays were awesome.

Some of the most memorable displays were:

- Sadie Symens' Prizewinning display of fossils (President's award)
- Cliff Brewen's arrowheads and agates
- George and Ida Covert, "Identifying Fossil Woods"
- Don and Sylvia Nasholm's gorgeous silver-work

- Mary Caparone's intricate jewelry
- Pete Duckworth's local area jaspers
- Wayne Mills' soapstone pieces
- H Ralph Lawless's arrowheads and tools
- Jim Mills & Beth Myers, "Petrified Wood Knots"



Sadie Symens' Exhibit at Paso Robles

Dick took over the old bank vault for a big fluorescent display including some nice specimens from the local area contributed by Santa Lucia club members. I didn't see much of him all weekend as he was teaching fluorescent basics to young and old alike. He did show me the prize he won as the second most popular exhibit. Of course, his trophy fluoresces! (He wonders if Barbara Bilyeu's first place trophy does too!)

We are fortunate to have good rockhound neighbors up north. They invite us to their neck-of-the-woods to party and show off our wares. We can hardly wait to attend their Gem Show in 2004!

Check our OMS web site at <http://omsinc.org> or send email to oms@ix.netcom.com.

Debbie's Sunshine Reports

Frank Sausa is home recovering from triple bypass heart surgery. Kay Vollmer is home and doing well. Both are able to receive visitors, and phone calls would brighten their day.

Watch this space next month for Paul Patrick's big story. It's an honor for us to have an internationally recognized expert in gem trees as a member of our club!

Orcutt Mineral Society

Board Meeting

Mussel Senior Center, Santa Maria CA

2 September, 2003

Call to Order at 7:05 p.m. by President Wayne Mills. Board members present were Sharon Duncan, Debbie and Bill Hood, Wes Lingerfelt, Wayne Mills, Sylvia Nasholm, Marshall Reeves, Geary Sheffer, and Bess Shields. Guests were Dick Shields, Immediate Past President, and Lucky Virgin.

Trip reports: Sharon Duncan reported on her "pumpkin rock" from Avila Beach, and the Barker Ranch/Slack Canyon minerals.

Treasurer's Report was read by Wes Lingerfelt, and accepted as read.

Minutes of the previous Board Meeting were approved as published.

Committee Reports:

Adopt-a-Highway: Marshall Reeves reminded us of the September 20th Highway Cleanup, and coffee at Omelets & More. Dick Shields stated that the field trip to Ralph Bishop's collection will follow at 11:00 a.m. or so.

Bulletin (Ore-Cutts): Bess Shields reported that the Ore-Cutts has been mailed and emailed.

Library, Books, Videos: Wayne Mills recently purchased Dinosaurs of California by Richard Hilton, and is willing to loan it out to members.

Refreshments: Wayne reported that cake and cupcakes will be baked by Maida Williams, Nasholms, Meryl Austin, and Shields for the meeting next week.

Sheriff: Bill Hood needs temporary nametags, and donations are being solicited.

Sunshine: Debbie Hood reported that Kay Vollmer is still recovering with physical therapy for a hip injury. Wayne Mills had knee surgery, and is on the mend.

Correspondence:

(Show fliers, exchange bulletins, and notices announced under correspondence are at the front table following the business portion of the meeting, and during refreshment time, for members to view.)

- *Tule Smoke Signals* from Tule Gem & Mineral Club.
- Sun Valley Indian School newsletter.
- *The Agatizer* newsletter from South Bay (Torrance) Club.
- *Metal Stone & Glass* magazine, Autumn 2003.

Old / unfinished business:

1. Wayne reminds us about the following upcoming Gem Shows:
 - Paso Robles Show, September 20 & 21.
 - Trona Show, October 10 through 12.
 - Jade Festival, October 10-12.
 - Cayucos Show, October 18-19.
2. Dick Shields described the September field trip plans for the Morro Bay, Cayucos, and Avila Beach outing. John McCabe from the Paso Robles club may accompany us.
3. Wayne announced that Camp Paradise has two spots left in the first session. Reservations can be made through "LA Rocks".
4. Bess Shields reminded members that 50 extra lanyards will be sold at the sign-in table at the General Meetings for \$5.00

each. Other OMS paraphernalia is also available at the General Meetings as you sign in.

New business:

1. Wayne asked for volunteers to serve on the Nominating Committee. Lucky Virgin will head the committee, and will announce other committee members at the General Meeting next week.
2. Wes Lingerfelt and Sylvia Nasholm will locate nominees for the "Golden Bear" award.
3. Wes discussed the "unbudgeted income" amount in the Treasurer's Report. About 1/2 of the amount was from the sale of used OMS equipment in the club locker. There was discussion about purchasing genie units and all-in-one units to be rented out for use by OMS members. The Board is preparing a set of operating rules for use of the equipment. An update will be held at the September General Meeting.

The September Program is being presented by Ralph Bishop, and is about "Rock Treatments". Members are asked to bring their favorite crystals to share.

Meeting was adjourned at 8:25 p.m. by President Mills.

Respectfully submitted,

Bess Shields, Secretary, OMS

Orcutt Mineral Society

General Meeting

Minami Center, Santa Maria CA

9 September, 2003

Call to Order at 7:05 p.m. by President Wayne Mills.

Invocation was given by Bess Shields on "In Our Hearts". Flag Salute was led by Wayne Mills.

Fred Summerson reported that 27 members, and 1 guest were present. Guest was Elaine Von Achen.

Treasurer's Report was read by Wes Lingerfelt, and accepted as read. The final Gem Show Report was accepted as read.

Minutes of the previous Board Meeting were approved as read.

Committee Reports:

Breakfast: Dick Shields reminded members of the OMS Monthly Breakfast at The Girl's on Saturday, September 27th at 8:30 a.m.

Bulletin (Ore-Cutts): Dick Shields stressed that this is our bulletin, a place to share information, and articles from members are appreciated.

CFMS: Wes Lingerfelt will represent our club at the Annual CFMS Business Meeting in Fresno on November 8th. CFMS is seeking a secretary candidate.

Field Trips, Safety: Dick Shields announced that there will be a field trip to Avila Beach this weekend. There will be an "Old Ridge Route" field trip with ChevronTexaco staff geologist, Tim Elam on September 27th. Contact Dick for further information. In October we will visit Gaviota and Refugio beaches. Elaine Von Achen's brother will be inviting us to his ranch for collecting (fossils, serpentine, and actinolite).

Refreshments: Thank you to Lingerfelts, Christine Clason, Vic Jonas, and Shields for cakes tonight.

Sheriff: Bill Hood reported that since there were still no paper nametags available, this will be another "no fines night".

Sunshine: Debbie Hood reported that Kay Vollmer will be going home to recuperate on Friday.

Correspondence:

(Show fliers, exchange bulletins, and notices announced under correspondence are at the front table following the business portion of the meeting, and during refreshment time, for members to view.)

- Tule Smoke Signals newsletter from Tule Gem & Mineral Club.
- Dinny's Doins newsletter.
- Sun Valley Indian School newsletter.
- Lapidarian newsletter from Santa Cruz Mineral & Gem Club.
- The Agatizer newsletter from South Bay (Torrance) Club.
- Rockhound Notes newsletter.
- Rocky Review newsletter from Conejo Gem & Mineral Club.
- Rockonteur newsletter from Santa Lucia Rockhounds Club.
- Pick & Shovel newsletter from San Geronio Mineral & Gem Club.
- BLM publication, "Public Rewards from Public Lands".
- Oxnard Gem & Mineral invitation to display at their show on November 1 and 2.
- Invitation to the 12th Annual Jade Festival on October 10th through 12th .
- Acknowledgement of donation to the CFMS Endowment Fund in memory of Linda Virgin.
- Invitation to the "CFMS Field Trip, South" on October 17-19 at Cady Mountains/Afton Canyon area.
- Geological Society of America correspondence.

Old / unfinished business:

Wayne Mills opened a discussion about the possibility of OMS purchasing Genie and All-You-Need lapidary machines for use by club members. He polled members to see if the interest exists. Further information will be presented at the General Meeting next month.

New business:

Sylvia Nasholm announced that Jerry and Lois Harr donated two pieces of jewelry to be given to the Kitchen Crew volunteers. After drawing numbers, Ken Kreh and Elaine Von Achen were announced as the winners.

"The Big Show" lists were circulated, and participants in the 2003 Gem Show were asked to contribute comments about how we can improve next year's Gem Show.

Lucky Virgin is chairman of the Election Committee. He will be assisted by Sharon Duncan and Bill Hood. Candidates will be presented at the October General Meeting, and nominations will also be taken from the floor. We will vote on the 2004 Board at the November General Meeting.

Wayne thanked everyone for bringing in their display materials tonight.

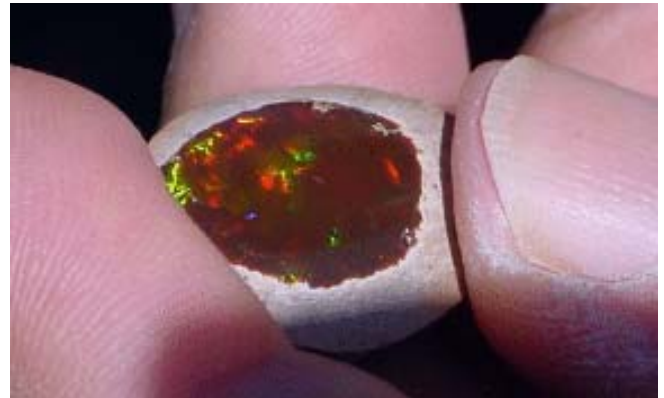
Following the break for refreshments, Ralph Bishop presented a talk about "Rocks that are Casts". Ralph donated one Ethiopian Opal to the raffle, which will be raffled at next month's General Meeting.

The October display topic is "Rocks you have collected on Field Trips this year."

Meeting was adjourned at 9:05 p.m. by President Mills. Respectfully submitted, Bess Shields, Secretary, OMS

October General Meeting

If you would like to be an active member of the Board of Directors, please contact Lucky Virgin, Sharon Duncan, or Bill Hood. Nominations will be taken at the October General Meeting. Elections will be held at the November General Meeting, and Installation of Officers will occur at the Annual Christmas Party on December 6th.



Win an opal like this at the raffle in this month's general meeting

Attend the October general meeting where Ralph Bishop's donated Ethiopian opal is being raffled off!

Official Stuff

OMS Purpose

Founded in 1958, and is named after William Orcutt, a geologist and civil engineer who worked in the Santa Maria Valley as a district manager for Union Oil Company in 1888. In 1889, Orcutt discovered the fossil wealth of the La Brea Tar Pits, one of the most significant fossil finds in paleontological history. The Society is a non-profit club, dedicated to stimulating an interest in rocks and minerals. The club offers educational programs, field trips, youth activities, and other opportunities for families and individuals to pursue an interest in collecting and lapidary treatment of rocks, fossils, gems, minerals, and other facets of Earth Sciences. In addition, a goal of this Society is to promote good fellowship and proper ethics in pursuit of the society's endeavors. Operating rules have been set forth to guide the Officers and members of the Society in accomplishing these purposes. Affiliations: Califor-

nia Federation of Mineralogical Societies and American Federation of Mineralogical Societies.



OMS Logo

A rock saw cutting a piece of stone was selected when the first bulletin, *ORE-CUTTS* (namesake, William Orcutt) was first published in 1966. Member Helen Azevedo was the first editor.

2003 OMS Elected Officers

President	Wayne Mills	(805) 481-3495
President Elect	Debbie Hood	(805) 481-6860
Secretary	Bess Shields	(805) 937-0357
Treasurer	Wes Lingerfelt	(805) 929-3788
Immediate Past President	Dick Shields	(805) 937-0357
CFMS Representative	Wes Lingerfelt	(805) 929-3788

2003 OMS Board Members

Geary Sheffer	(805) 925-8009
Sylvia Nasholm	(805) 481-0923
Bill Hood	(805) 481-6860
Sharon Duncan	(805) 929-2209
Marshall Reeves	(805) 733-2775

Ore-Cutts Editors

Dick and Bess Shields	(805) 937-0357
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Webmasters

Dick Shields	(805) 937-0357
Wes Lingerfelt	(805) 929-3788

Web Sites of Note:

October 2003

Oilfield Glossary:

<http://www.glossary.oilfield.SLB.com>

Waucoba Geologic Site:

<http://mojave.topcities.com/dv/wsgeology.htm>

Geologic timeline:

<http://www.ucmp.berkeley.edu/help/timeform.html>

Fossils from Kettleman Hills:

<http://mywebpage.netscape.com/inyo1/kf/kettleman.html>

"What kind of rock is that?" from Cuesta College:

<http://www.cuesta.edu/deptinfo/geology/chert.htm>

San Andreas Fault System:

<http://www.johnmartin.com/earthquakes/eqsafs/>

Collection of the Geode Kid:

<http://www.zianet.com/geodekid/collecti.htm>

Speleogenesis Glossary:

<http://genet3.ibtm.tuwien.ac.at/glossary/>

American Federation of Mineralogical Societies:

<http://www.amfed.org/>

California Federation of Mineralogical Societies:

<http://www.cfmsinc.org/>

October 2003 Calendar

Tuesday October 07, 2003 7:00 PM - 8:30 PM	OMS Board Meeting -- Mussell Senior Center. All members are welcome at this business meeting.
Saturday October 11, 2003 8:00 AM - 5:00 PM	Field Trip to Gaviota and Refugio Beaches -- Meet at Mussell Senior Center Parking Lot. Entrance fee required for an all-day pass covering both parks. Bring a lunch and bottled water.
Tuesday October 14, 2003 7:00 PM - 9:00 PM	OMS General Meeting -- Mussell Senior Center <ul style="list-style-type: none"> • Program: Wayne Mills on "Mining Minnesota." • Display: Rocks you've collected from Field Trips this year. • Refreshment: Pies
Saturday October 25, 2003 8:30 AM - 9:30 AM	Monthly OMS Breakfast -- Baker's Square, Santa Maria Restaurant, Breakfast location alternates between Baker's Square in Santa Maria and The Girl's in Arroyo Grande. Call Dick Shields at 937-0357 for details.

November 2003 Calendar

Tuesday November 06, 2003 7:00 PM - 8:30 PM	OMS Board Meeting -- Mussell Senior Center. All members are welcome at this business meeting.
Tuesday November 11, 2003 7:00 PM - 9:00 PM	OMS General Meeting -- Mussell Senior Center <ul style="list-style-type: none"> • Program: Debbie Hood on "Getting Wrapped Up in Wirewrap" • Display: Best cabochon (bring 1-4) • Refreshment: Cookies
Saturday November 15, 2003 8:00 AM - 10:00 AM	OMS Highway Cleanup -- Intersection of Hwy 101 and Hwy 166 After the cleanup we are congregating at Ralph Bishop's (see below). Contact Marshall Reeves at 733-2775 for details.

Saturday November 15, 2003 11:00 AM - 2:00 PM	Field Trip to Ralph Bishop's Collection -- Meet at Mussell Senior Center Parking Lot after Highway Cleanup Ralph has been known to accept cookies, brownies, or lemon bars. After all, he's talking, not digging.
Saturday November 22, 2003 8:30 AM - 9:30 AM	Monthly OMS Breakfast – Girl's Restaurant, Arroyo Grande. Breakfast location alternates between Baker's Square in Santa Maria and The Girl's in Arroyo Grande. Call Dick Shields at 937-0357 for details.

What the heck's going on here?



We didn't mean for this newsletter to drag on and on, so we'll cover this story next month...needless to say, Wes and Ralph are behind it!

December 2003 Calendar	
Tuesday December 02, 2003 7:00 PM - 8:30 PM	OMS Board Meeting -- Mussell Senior Center. All members are welcome at this business meeting.
Saturday December 6, 2003 11:30 AM – 2:30 PM	Annual Meeting at Maria del Sol -- Maria del Sol, Santa Maria <ul style="list-style-type: none"> • Buffet Luncheon • Awards • Installation of Officers • "Sweet Adelines" Christmas Performance Bring canned goods and donations for the Abused Children Fund Call Bill and Debbie Hood at 481-6860 for details.
Saturday December 20, 2003 09:00 AM – 5:00 PM	Field trip to Santa Agueda Creek -- Meet at Mussell Senior Center Parking Lot Franciscan formation chert, brecciated jasper, and agates. Bring a lunch or eat later in Los Olivos, Solvang, or Santa Ynez.
Saturday December 27, 2003 8:30 AM - 9:30 AM	Monthly OMS Breakfast – Baker's Square, Santa Maria Restaurant, Breakfast location alternates between Baker's Square in Santa Maria and The Girl's in Arroyo Grande. Call Dick Shields at 937-0357 for details.

Orcutt Mineral Society P.O. Box 106 Santa Maria, CA 93456

ADDRESS CORRECTION REQUESTED